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# Education Goals

These capacity and goal statements of the Kentucky Education Reform Act of 1990, as found in Kentucky Revised Statute (KRS) 158.645 and KRS 158.6451, are the basis for instructional programs in Kentucky public schools. All students shall have the opportunity to acquire the following capacities and learning goals:

- Communication skills necessary to function in a complex and changing civilization
- Knowledge to make economic, social and political choices
- Understanding of governmental processes as they affect the community, the state and the nation
- Sufficient self-knowledge and knowledge of their mental health and physical wellness
- Sufficient grounding in the arts to enable each student to appreciate their cultural and historical heritage
- Sufficient preparation to choose and pursue their life's work intelligently
- Skills to enable students to compete favorably with students in other states and other parts of the world

Furthermore, schools shall

- expect a high level of achievement from all students.
- develop their students' abilities to:
  - use basic communication and mathematics skills for purposes and situations they will encounter throughout their lives
  - apply core concepts and principles from mathematics, science, arts and humanities, social studies, English/language arts, health, mathematics, practical living, including, physical education, to situations they will encounter throughout their lives
  - become self-sufficient individuals
  - become responsible members of a family, work group or community as well as an effective participant in community service
  - think and solve problems in school situations and in a variety of situations they will encounter in life
  - connect and integrate experiences and new knowledge from all subject matter fields with what students have previously learned and build on past learning experiences to acquire new information through various media sources
- increase student attendance rates
- reduce dropout and retention rates
- reduce physical and mental health barriers to learning
- be measured on the proportion of students who make a successful transition to work, postsecondary education and the military

# Legal Base

The following Kentucky Revised Statutes (KRS) and Kentucky Administrative Regulations (KAR) provide a legal base for this publication:

**KRS 156:160 Promulgation of administrative regulations by the Kentucky Board of Education**

With the advice of the Local Superintendents Advisory Council, the Kentucky Board of Education shall promulgate administrative regulations establishing standards that public school districts shall meet in student, program, service and operational performance. These regulations shall comply with the expected outcomes for students and schools set forth in KRS 158:6451.

Administrative regulations shall be promulgated for:

- Courses of study for the different grades and kinds of common schools; and
- The minimum requirements for high school graduation.

**704 KAR 3:305 Minimum high school graduation requirements**

This administrative regulation establishes the minimum high school graduation requirements necessary for entitlement to a public high school diploma, including the requirements for the graduating class of 2012.

**704 KAR 3:304 Required program of studies**

This administrative regulation adopts into law the *Program of Studies for Kentucky Schools Primary - 12*, dated April 2006.

# Scope and Purpose

Preparation of Kentucky's students for the demands of the 21st Century requires districts and schools to prepare every student for successful transition to post-secondary education, work and the community. The *Program of Studies for Kentucky Schools Primary-12* helps ensure that all students throughout Kentucky are provided with common content and have opportunities to learn at high levels. The document provides administrators, teachers, parents and other stakeholders in local school districts with a basis for establishing and/or revising standards-based curricula and instruction for public schools.

The instructional programs for Kentucky's public schools emphasize the development of students' abilities to acquire, apply and integrate knowledge, skills, and understandings in real-life contexts and to problem-solve, make decisions, and think critically and creatively. They assist students in connecting learning to the world beyond the classroom by exploring and investigating real issues and problems of communities, states, the nation, and the world. Well-designed curriculum and instruction recognizes the diversity of students and how children learn, construct knowledge and acquire skills and concepts of the disciplines. The curriculum and instruction incorporate an understanding of students' families, cultures and communities and draw on these understandings to create a rich context and environment for learning. Curriculum and instruction are culturally responsive and provide for the diversity of students to assure that all students in Kentucky public schools have the opportunity to learn (time, support, access, equity, resources, and quality educational design and practices) at high levels. Schools provide appropriate supports and accommodations to facilitate student learning and preparation for the 21st century.

The purpose of the *Program of Studies* is to outline the **minimum** content standards required for all students before graduating from Kentucky public high schools. This document specifies the content standards for the required credits for high school graduation and the primary, intermediate and middle level content standards leading up to these requirements.

Schools and school districts are also responsible for coordinating curricula across grade levels and among schools within districts. A coordinated curricular approach ensures that all students have opportunities to achieve *Kentucky's Learning Goals and Academic Expectations* and the content standards. It also provides for a thoughtful continuum of content and skills across grade levels while assuring the teaching and learning of all content in the *Program of Studies*. Districts and schools are accountable for making sure that each student's education program includes the minimum content standards as specified in the *Program of Studies* and provides the student with the opportunity to learn the standards. Schools provide individual supports for learning that are essential for students to access the curriculum, achieve at high levels and maximize successful transition to postsecondary. Schools have the flexibility in how to organize (e.g., discipline based, integrated, interdisciplinary, applied, or occupational/technical approaches) the standards for instruction to best meet the needs of students in the schools and districts and how to deliver instruction.

## Organization of the Program of Studies

This document contains the following sections: Introduction, Preschool Education, Primary Education, Intermediate Education, Secondary Education with specific sections for Middle Education and High School Education, Career and Technical Education and Additional Curriculum Guidelines. Each section (e.g., Primary, Intermediate, Secondary, etc.) begins with general information followed by the minimum content standards for each content area. Each content area (i.e., mathematics, science, social studies, English Language arts, etc.) subsection begins with an introduction to the content area, followed by the charts by grade levels that specify the required minimum content that all students shall have the opportunity to learn. The content is based on Kentucky's learning goals, academic expectations, national and international standards and input from education professional organizations, teachers, administrators, higher education, the business community and parents.

Learning Goal 1 (Basic Communication and mathematics Skills) and Goal 2 (Application of Core Concepts) are cited most often within this document. These two goals provide the basic academic skills and content for what Kentucky high school graduates should know when they exit public school. However, the skills identified in the other goals are equally important. Goal 5 (Think and Solve Problems) and Goal 6 (Connect and Integrate Knowledge) provide students with strategies for lifelong learning and are embedded in the specific content areas. They are also reflected in the Inquiry and Research section for each content area.

The Academic Expectations within each of these four goals (Goals 1, 2, 5 and 6) are referenced throughout the content descriptions in the *Program of Studies*.

Although Goal 3 (Developing Self-Sufficiency) and Goal 4 (Responsible Group Membership) are not being assessed on a statewide level, the Kentucky Board of Education expects all educators, school boards and councils, parents and students to give continued emphasis to the development of responsible group membership and personal self-sufficiency because of the importance of these skills and attributes in the workplace and the larger community. Goals 3 and 4 and the Academic Expectations for these goals are included below:

**Goal 3: Students shall develop their abilities to become self-sufficient individuals.**

**Academic Expectations for Goal 3**:

**3.1** Students demonstrate positive growth in self-concept through appropriate tasks or projects.
**3.2** Students demonstrate the ability to maintain a healthy lifestyle.
**3.3** Students demonstrate the ability to be adaptable and flexible through appropriate tasks or projects.
**3.4** Students demonstrate the ability to be resourceful and creative.
**3.5** Students demonstrate self-control and self discipline.
**3.6** Students demonstrate the ability to make decisions based on ethical values.
**3.7** Students demonstrate the ability to learn on one's own.

**Goal 4: Students shall develop their abilities to become responsible members of a family, work group, or community, including demonstrating effectiveness in community service.**

**Academic Expectations for Goal 4:**

**4.1** Students effectively use interpersonal skills.
**4.2** Students use productive team membership skills.
**4.3** Students individually demonstrate consistent, responsive, and caring behavior.
**4.4** Students demonstrate the ability to accept the rights and responsibilities for self and others.
**4.5** Students demonstrate an understanding of, appreciation for, and sensitivity to a multi-cultural and world view.
**4.6** Students demonstrate an open mind to alternative perspectives.

Under each Big Idea are several statements of Enduring Knowledge that represent overarching generalizations and understandings linked to the Big Ideas of the Discipline. The statements of Enduring Knowledge represent the desired results for learning – the focus of the learning and what knowledge students will be able to explain or apply. They can be used to frame development of courses, units of study or lessons plans. These understandings are "enduring" in that they have one or more of the attributes listed below (adapted from Understanding by Design, Wiggins& McTighe, 1998). Enduring Understandings:

- Have enduring value to learn beyond the test, the classroom or the school year (e.g., understanding what acts of citizenship really mean)
- Are at the heart of the discipline ("doing" the subject, such as understanding use of artifacts to interpret history)
- Uncovers abstract, complex or misunderstood ideas (e.g., understanding that having liberty comes with responsibilities) and/or
- Imply that in order to master related facts and skills means having a "grasp" of the underlying concepts (e.g., identifying geographic features in order to interpret events or conflicts)

Following the section for Enduring Knowledge-Understandings are skills and concepts related both to the Big Idea and Enduring Knowledge-Understandings. The Skills and Concepts describe the ways that students will demonstrate their learning. Literacy and technology connections are embedded in this section, as appropriate to learning the skills, concepts and understandings. Schools are expected to incorporate reading, writing, Speaking, Listening and Observing, inquiry research and technology in all content areas.

It is the belief of the Kentucky Board of Education that the *Program of Studies for Kentucky Schools Primary-12* frames the critical standards necessary to prepare Kentucky students for successful transition to postsecondary options and the changing workplace and world of the 21st Century. Schools and districts are responsible for translating these standards into practice.

# PRESCHOOL EDUCATION

# Preschool Education

For many students, the preschool program is their introduction to the educational environment. Preschool education programs are available in Kentucky for all 4-year-old children who are eligible for free lunch; all 3- and 4-year-old children with disabilities, regardless of income; and other 4-year-old children as placements are available. The preschool program is designed to be developmentally appropriate for young children.

“Developmentally appropriate” is defined in Kentucky law to mean that the program focuses on the child’s physical, intellectual, social and emotional development, including interpersonal, intrapersonal and socialization skills. Intellectual skills are promoted by encouraging children to solve problems, initiate activities and learn through active explorations.

The preschool curriculum addresses early-learning standards that are integrated into a variety of activities within an environment that supports optimal development for the whole child. A major focus of the preschool program is language development – listening, speaking and becoming familiar with books. As they are developmentally ready, children begin to explore and learn about writing, letters and sounds, and mathematics concepts. Teachers promote child learning and development by embedding assessment activities within the curriculum and daily schedule.

The preschool curriculum supports a daily balance of large and small group activities, indoors and outdoors, that are designed to provide individual and group instruction to meet the needs of all children. Child-initiated and teacher-supported play is encouraged through the use of a variety of learning centers and areas in the classroom that allow students to participate in art, block building, cooking, gross motor activities, dramatic play, language arts/library, using manipulative materials, mathematics/problem solving, multimedia activities, music and science/social studies.

# ELEMENTARY EDUCATION

# PRIMARY EDUCATION

# Primary Education

The primary program is that part of the Kentucky education system in which children are enrolled from the time they begin elementary school until they are ready to enter the fourth grade. The critical attributes of the primary program include developmentally appropriate practices, multi-age and multi-ability classrooms, continuous progress, authentic assessment, qualitative reporting methods, professional teamwork and positive parent involvement.

The primary curriculum is grounded in these critical attributes. It provides opportunities for students to learn basic skills, social behaviors (e.g., working with others, taking turns) and skills students must acquire to be successful in school (e.g., study skills, organization). Teachers use an integrated approach to curriculum and instructional design, addressing the intellectual, social, emotional, aesthetic and physical needs of young children to provide optimum learning environments.

Content charts included in this document for the primary program are not arranged sequentially by grade. Rather, they include the minimum content students need to be successful as they transition to fourth grade.

**Program of Studies – Inquiry and Research – Primary**

Embedded within each content area are Inquiry and Research standards.

## Big Idea: Inquiry and Research

The Big Idea for Inquiry and Research states: the inquiry process is an authentic method of learning that includes activities such as self-selecting topics, formulating authentic questions, gathering information, researching resources, crafting experiments, observing, interviewing, evaluating information, analyzing and synthesizing data, and communicating findings and conclusions. The information-gathering stage is a self-directed process that is owned by the engaged learner. Individually and collaboratively, students work for a particular purpose, such as to discuss a text, solve a problem, make a decision, reach new understandings, and/or create products.

**Academic Expectations**

**5.1** Students use critical thinking skills such as analyzing, prioritizing, categorizing, evaluating, and comparing to solve a variety of problems in real-life situations.
**5.2** Students use creative thinking skills to develop or invent novel, constructive ideas or products.
**5.3** Students organize information to develop or change their understanding of a concept.
**5.4** Students use a decision-making process to make informed decisions among options.
**5.5** Students use problem-solving processes to develop solutions to relatively complex problems.
**6.1** Students connect knowledge and experiences from different subject areas.
**6.2** Students use what they already know to acquire new knowledge, develop new skills, or interpret new experiences.
**6.3** Students expand their understanding of existing knowledge by making connections with new knowledge, skills, and experiences.
**1.1** Students use reference tools such as dictionaries, almanacs, encyclopedias, and computer reference programs and research tools such as interviews and surveys to find the information they need to meet specific demands, explore interests, or solve specific problems.
**2.37** Students demonstrate skills and work habits that lead to success in future schooling and work.

**Enduring Knowledge – Understandings**

*Students will understand that*

- the inquiry process is used to investigate topics or questions important to the researcher. Questions are redefined throughout the learning process. The researcher may revise the question, refine a line of query, or go in a direction that the original question did not anticipate.
- many methods of and sources for investigation exist, including interview, observation, survey, viewing, experimenting, and critical reading. The ability to synthesize meaning is the creative spark that forms new knowledge.
- inquiry integrates elements and processes of reading, writing, research, creative and critical thinking, and logic, and involves communicating findings through a product.
- collaboration involves sharing new ideas with others. Shared knowledge is a community-building process, and the meaning of research/investigation takes on greater relevance in the context of the learner's society. Comparing notes, discussing conclusions, and sharing experiences are all examples of this process in action.
- reflection is ongoing and integral to the inquiry and research processes and involves taking the time to look back at the question, the research strategy, and the conclusions made. The learner evaluates, makes observations, and possibly makes new decisions.

# PRIMARY ARTS AND HUMANITIES

# Program of Studies – Arts and Humanities – Primary

The arts and humanities program in the primary level centers on an exploration of the art forms of dance, drama/theatre, music and visual arts. Emphasis should be placed on exposing students to a variety of arts through active experiences in all four art forms. This exploration includes a beginning of literacy development in the arts content areas, simple analysis and critique of the arts, and active creating and performing in the arts.

Students should have the opportunity to learn about the arts in the context of creating and performing. As students create and perform, they learn that the arts are basic to human communication and that they can use the arts to communicate specific meaning through their choices in the use of various arts elements and principles of design.

The arts and humanities content standards at the primary level are directly aligned with Kentucky's broad standards called the **Academic Expectations**. The **Academic Expectations** are directly related to the *National Standards for Arts Education (1994)*.

Arts and humanities grade level content standards are organized around five “Big Ideas” that are important to the arts disciplines. The five big ideas in arts and humanities are: Structures in the Arts, Humanity in the Arts, Purposes for Creating the Arts, Processes in the Arts and Interrelationships Among the Arts. The Big Ideas are conceptual organizers for arts and humanities and are similar at each grade level to ensure students have multiple opportunities throughout their school careers to develop skills and concepts linked to each Big Idea.

Under each Big Idea are statements of Enduring Knowledge/Understandings that represent overarching generalizations linked to the Big Ideas of the arts and humanities. The understandings represent the desired results - what learning will focus upon and what knowledge students will be able to explain or apply. Understandings can be used to frame development of units of study and lesson plans.

Skills and Concepts describe ways that students demonstrate their learning and are specific to each grade level. The skills and concepts for arts and humanities are fundamental to arts literacy and proficiency, and build on prior learning.

The three arts processes of creating, performing and responding to the arts provide a basis for deep understanding and appreciation of the arts. In the processes of creating and performing, a variety of technologies are employed, ranging from primitive technologies to cutting edge electronic and digital technologies.

**Creating** involves planning and creating new music, dance, drama/theatre or visual arts, or it may involve improvising in music, dance or drama/theatre. Improvising is the composing of new music, reciting/acting new dramatic material, or creating new dance movements on the spur of the moment.

**Performing** is limited to the performing arts of music, dance and drama/theatre. Performing involves presenting previously created works for an audience. Although the process of performing involves following a creative plan conceived by a composer, playwright or choreographer, there is still opportunity for creative interpretations in the performance.

**Responding** to the arts involves responses on multiple levels. The arts are a tool for communication and are capable of delivering meaning through literal and emotional content. Responding to the emotional content of artworks involves actually feeling the emotion(s) set forth by the creator. Responding can also involve intellectual analysis of works of art in regard to their design, effectiveness and quality.

**Academic Expectations** 2.25 and 2.26 bring forward the study of the humanities in the arts. The arts reflect time, place and society and offer a mirror to the human experience. The powerful communication qualities of the arts also enable them to be a factor that can drive the human experience. Study of historical and cultural contexts in the arts is an essential and integral part of instruction across all the art forms and across all grade levels.

Primary level students should have the opportunity to experience the arts of various cultures around the world, but specific study should focus on influences in the early history of America and the United States, specifically Native American arts, West African arts, Appalachian arts; how the arts are part of these cultures and purposes they have served in those cultures. Students will also study European arts that influenced arts in the American Colonial period.

## Big Idea: Structure in the Arts

Understanding of the various structural components of the arts is critical to the development of other larger concepts in the arts. Structures that artists use include elements and principles of each art form, tools, media and subject matter that impact artistic products, and specific styles and genre that provide a context for creating works. It is the artist's choice of these structural components in the creative process that results in a distinctively expressive work. Students make choices about how to use structural organizers to create meaningful works of their own. The more students understand, the greater their ability to produce, interpret, or critique artworks from other artists, cultures and historical periods.

**Academic Expectations**

**1.12** Students speak using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.
**1.13** Students make sense of ideas and communicate ideas with the visual arts.
**1.14** Students make sense of ideas and communicate ideas with music.
**1.15** Students make sense of and communicate ideas with movement.
**2.23** Students analyze their own and others' artistic products and performances using accepted standards.

**Primary Enduring Knowledge – Understandings**

*Students will understand that*

- the elements of music, dance, and drama are intentionally applied in creating and performing.
- the elements and principles of design of visual art are intentionally applied in creating works of art.
- responding to or critiquing works of art involves an understanding of elements, principles and structures appropriate to each area of the arts.
- existing and emerging technologies can inspire new applications of structural components.

**Primary Skills and Concepts – Music**

*Students will*

- begin to recognize and identify elements of music (rhythm, tempo, melody, harmony, form, timbre, dynamics) using musical terminology
- use the elements of music while performing, singing, playing instruments, moving, listening, reading music, writing music, and creating music independently and with others
- listen to and explore how changing elements results in different musical effects
- recognize, describe and compare various styles of music (spirituals, game songs, folk songs, work songs, lullabies, patriotic, bluegrass)

**Primary Skills and Concepts – Dance**

*Students will*

- begin to recognize and identify elements of dance (space, time, force) and basic dance forms using dance terminology
- use the elements of dance in creating, copying and performing patterns of movement independently and with others
- observe, describe and demonstrate locomotor (e.g. walk, run, skip, gallop) and nonlocomotor (e.g. bend, stretch, twist, swing) movements

## Big Idea: Structure in the Arts – Continued

**Primary Skills and Concepts – Drama/Theatre**
*Students will*

- begin to recognize and identify elements of drama (literary, technical, performance) using drama/theatre terminology
- use the elements of drama in creating and performing dramatic works independently and with others
- observe, describe and apply creative dramatics (improvisation, mimicry, pantomime, role playing and story telling) in a variety of situations
- explore a variety of dramatic works (e.g., theater, dramatic media – film, television)

**Primary Skills and Concepts – Visual Arts**
*Students will*

- begin to recognize and identify elements of art (line, shape, form, texture, color) and principles of design (emphasis, pattern, balance, contrast) using visual art terminology
- use the elements of art and principles of design in creating artworks independently and with others
- explore, describe and compare elements of art (e.g., line, shape, form, texture, primary and secondary colors, color schemes) and principles of design (e.g., focal point, pattern, balance, contrast) in two and three dimensional artworks

## Big Idea: Humanity in the Arts

The arts reflect the beliefs, feelings, and ideals of those who create them. Experiencing the arts allows one to experience time, place and/or personality. By experiencing the arts of various cultures, students can actually gain insight into the beliefs, feelings and ideas of those cultures. Students also have the opportunity to experience how the arts can influence society through analysis of arts in their own lives and the arts of other cultures and historical periods. Studying the historical and cultural stylistic periods in the arts offers students an opportunity to understand the world past and present, and to learn to appreciate their own cultural heritage. Looking at the interrelationships of multiple arts disciplines across cultures and historical periods is the focus of humanities in the arts.

**Academic Expectations**

**2.24** Students have knowledge of major works of art, music, and literature and appreciate creativity and the contributions of the arts and humanities.

**2.25** In the products they make and the performances they present, students show that they understand how time, place, and society influence the arts and humanities such as languages, literature, and history.

**2.26** Through the arts and humanities, students recognize that although people are different, they share some common experiences and attitudes.

**Primary Enduring Knowledge – Understandings**

*Students will understand that*

- the arts are powerful tools for understanding human experiences both past and present.
- the arts help us understand others' (often very different) ways of thinking, working, and expressing ourselves.
- the arts play a major role in the creation and defining of cultures and building civilizations.

**Primary Skills and Concepts – Music**

*Students will*

- begin to associate music they listen to or perform with specific cultures (Native American, Appalachian, West African); describe in simple terms how the music reflects the cultures
- begin to associate music they listen to or perform with the Colonial American period in history; describe in simple terms how the music reflects the Colonial American time period
- begin to describe the music of specific cultures using music terminology

**Primary Skills and Concepts – Dance**

*Students will*

- begin to associate dances they observe or perform with specific cultures (Native American, Appalachian, West African); describe in simple terms how dances reflect the cultures
- begin to associate dances they observe or perform with the Colonial American period in history; describe in simple terms how dances reflect the Colonial American time period
- begin to describe the dance of specific cultures using dance terminology

**Primary Skills and Concepts – Drama/Theatre**

*Students will*

- begin to associate folktales, legends, or myths they experience or perform with specific cultures (Native American, Appalachian, West African); describe in simple terms how literature and oral tradition reflect the cultures
- begin to associate folktales, legends, or myths they experience or perform with the Colonial American period in history; describe in simple terms how literature and oral tradition reflect the Colonial American time period
- begin to describe folktales, legends, or myths of specific cultures using drama/theatre terminology

## Big Idea: Humanity in the Arts – Continued

**Primary Skills and Concepts – Visual Arts**
*Students will*

- begin to associate artworks they experience or create with specific cultures (Native American, Appalachian, West African); describe in simple terms how the art of these cultures reflects the cultures
- begin to associate artworks they experience or create with the Colonial American period in history; describe in simple terms how the art of the American Colonies reflects the Colonial American time period
- begin to describe artworks of specific cultures using visual art terminology

## Big Idea: Purposes for Creating the Arts

The arts have played a major role throughout the history of humans. As the result of the power of the arts to communicate on a basic human level, they continue to serve a variety of purposes in society. The arts are used for artistic expression to portray specific emotions or feelings, to tell stories in a narrative manner, to imitate nature and to persuade others. The arts bring meaning to ceremonies, rituals, celebrations and commemorations. Additionally, they are used for recreation and to support recreational activities. Students experience the arts in a variety of roles through their own creations and performances and through those of others. Through their activities and observations, students learn to create arts and use them for a variety of purposes in society.

**Academic Expectations**

**1.12** Students speak using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.
**1.13** Students make sense of ideas and communicate ideas with the visual arts.
**1.14** Students make sense of ideas and communicate ideas with music.
**1.15** Students make sense of and communicate ideas with movement.
**2.26** Through the arts and humanities, students recognize that although people are different, they share some common experiences and attitudes.

**Primary Enduring Knowledge – Understandings**

*Students will understand that*

- the arts fulfill a variety of purposes in society (e.g., to present issues and ideas, to entertain, to teach or persuade, to design, plan and beautify).
- the arts have value and significance for daily life. They provide personal fulfillment, whether in career settings, avocational pursuits, or leisure.
- the arts provide forms of nonverbal communication that can strengthen the presentation of ideas and emotions.

**Primary Skills and Concepts – Music**

*Students will*

- begin to develop an awareness of the purposes for which music is created (e.g., ceremonial, recreational, artistic expression)
- listen to and perform music created to fulfill a variety of specific purposes

**Primary Skills and Concepts – Dance**

*Students will*

- begin to develop an awareness of the purposes for which dance is created (e.g., ceremonial, recreational, artistic expression)
- observe and perform dance created to fulfill a variety of specific purposes

**Primary Skills and Concepts – Drama/Theatre**

*Students will*

- begin to develop an awareness of the purposes for which dramatic works are created (e.g., sharing the human experience, passing on tradition and culture, recreational, artistic expression)
- observe and perform dramatic works created to fulfill a variety of specific purposes

**Primary Skills and Concepts – Visual Arts**

*Students will*

- begin to develop an awareness of the purposes for which artworks are created (e.g., ceremonial, artistic expression, narrative, functional)
- create new and experience artworks designed to fulfill a variety of specific purposes

## Big Idea: Processes in the Arts

There are three distinctive processes involved in the arts. These processes are creating new works, performing works for expressive purposes and responding to artworks. Each process is critical and relies on others for completion. Artists create works to express ideas, feelings or beliefs. The visual arts capture a moment in time while the performing arts (music, dance, drama/theatre) are performed for a live audience. The audience responds to the artistic expressions emotionally and intellectually based on the meaning of the work. Each process enhances understanding, abilities, and appreciation of others. Students involved in these processes over time will gain a great appreciation for the arts, for artists past and present and for the value of artistic expression.

**Academic Expectations**

**1.12** Students speak using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.
**1.13** Students make sense of ideas and communicate ideas with the visual arts.
**1.14** Students make sense of ideas and communicate ideas with music.
**1.15** Students make sense of and communicate ideas with movement.
**2.22** Students create works of art and make presentations to convey a point of view.
**2.25** In the products they make and the performances they present, students show that they understand how time, place, and society influence the arts and humanities such as languages, literature, and history.

**Primary Enduring Knowledge – Understandings**

*Students will understand that*

- there are three distinct processes for involvement in the arts; creating new artworks, performing works previously created and responding to artworks and performances.
- full understanding and appreciation of the arts requires some degree of involvement in all three processes.
- openness, respect for work and an understanding of how artists apply elements and principles of design in creating and performing are personal attitudes and skills that enhance enjoyment of the observer.
- existing and emerging technologies can extend the reach of the art form to new audiences.

**Primary Skills and Concepts – Music**

*Students will*

- be actively involved in creating and performing music alone and with others
- begin to learn how to use knowledge of the elements of music and music terminology to describe and critique their own performances and the performances of others
- identify possible criteria for evaluating music (e.g., skill of performers, originality, emotional impact, variety, interest)
- demonstrate behavior appropriate for observing the particular context and style of music being performed; discuss opinions with peers in a supportive and constructive way

**Primary Skills and Concepts – Dance**

*Students will*

- be actively involved in creating and performing dance alone and with others
- begin to learn how to use knowledge of the elements of dance and dance terminology to describe and critique their own performances and the performances of others
- identify possible criteria for evaluating dance (e.g., skill of performers, originality, emotional impact, variety, interest)
- demonstrate behavior appropriate for observing the particular context and style of dance being performed; discuss opinions with peers in a supportive and constructive way

## Big Idea: Processes in the Arts – Continued

**Primary Skills and Concepts – Drama/Theatre**
*Students will*

- be actively involved in creating and performing dramatic works
- begin to learn how to use knowledge of the elements of drama and drama terminology to describe and critique their own performances and the performances of others
- identify possible criteria for evaluating dramatic works (e.g., skill of performers, originality, emotional impact, variety, interest)
- demonstrate behavior appropriate for observing the particular context and style of dramatic works being performed; discuss opinions with peers in a supportive and constructive way

**Primary Skills and Concepts – Visual Arts**
*Students will*

- be actively involved in creating artworks
- begin to learn how to use knowledge of the elements and principles of art and art terminology to describe and critique their own work and the work of others
- identify possible criteria for evaluating visual arts (e.g., skill of artist, originality, emotional impact, variety, interest)
- demonstrate behavior appropriate for observing the particular context and style of visual arts being viewed; discuss opinions with peers in a supportive and constructive way
- describe personal responses to artwork; explain why there might be different responses to specific works of art

## Big Idea: Interrelationships Among the Arts

The arts share commonalities in structures, purposes, creative processes, and their ability to express ideals, feelings and emotions. Studying interrelationships among the arts enables students to get a broad view of the expressiveness of the art forms as a whole, and helps to develop a full appreciation of the arts as a mirror of human kind.

**Academic Expectations**

**1.12** Students speak using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.
**1.13** Students make sense of ideas and communicate ideas with the visual arts.
**1.14** Students make sense of ideas and communicate ideas with music.
**1.15** Students make sense of and communicate ideas with movement.
**2.22** Students create works of art and make presentations to convey a point of view.
**2.25** In the products they make and the performances they present, students show that they understand how time, place, and society influence the arts and humanities such as languages, literature, and history.
**2.26** Through the arts and humanities, students recognize that although people are different, they share some common experiences and attitudes.

**Primary Enduring Knowledge – Understandings**

*Students will understand that*

- the arts are basic forms of human communication.
- music, dance, drama and visual art created in common cultures and/or common historical periods tend to reflect common attitudes, ideas, beliefs, and feelings.
- the arts provide forms of non-verbal communication that can strengthen the presentation of ideas and emotions.
- the modes of thinking and methods of the arts disciplines can be used to illuminate situations in other disciplines that require creative solutions.

**Primary Skills and Concepts – Arts**

*Students will*

- begin to recognize that common terms are used in various arts (e.g., tempo in dance and music)
- begin to notice communication of common themes or ideas across different art forms
- identify and explain connections between and among different art forms from the same culture or from the same time period
- begin to identify commonalities between the arts and other subjects taught in the school (e.g., observation skills in visual arts and science, historical and cultural perspectives in the arts and social studies, shape in visual art and mathematics, dance and a healthy lifestyle, fractions in music notation and mathematics, reading music and reading words, composing music and writing)
- communicate common meaning through creating and performing in the four art forms

# PRIMARY ENGLISH LANGUAGE ARTS

# Program of Studies – English/Language Arts – Primary

The English/Language Arts (ELA) content standards at the primary level are directly aligned with Kentucky's **Academic Expectations**. ELA standards are organized around Big Ideas in reading, writing, speaking, listening and observing that are important to the discipline of English/Language Arts. The Big Ideas are conceptual organizers for ELA and are similar throughout the primary level to ensure that students have multiple opportunities throughout their school careers to develop skills and concepts linked to the Big Ideas.

Under each Big Idea are statements of Enduring Knowledge/Understandings that represent overarching generalizations linked to the Big Ideas of ELA. The understandings represent the desired results--what learning will focus upon and what knowledge students will be able to explain or apply. Understandings can be used to frame the development of units of study and lesson plans.

Skills and Concepts describe ways that students demonstrate their learning and are specific to primary. The skills and concepts for ELA are fundamental to the reading, writing, speaking, listening and observing processes. Lessons should offer students a wide range of experiences with print and non-print materials that have literary and informational purposes and allow for an integrated program.

**Reading**: The five Big Ideas of Reading in Primary are Forming a Foundation for Reading, Developing an Initial Understanding, Interpreting Text, Reflecting and Responding to Text, and Demonstrating a Critical Stance. Primary students must be exposed to a variety of texts designed to build a wide range of reading experiences with print and non-print materials to develop an understanding of texts, of themselves, and of different cultures. The complexity of literary and informational texts selected for instruction should be appropriate for the individual primary student. Reading instruction should focus on before, during and after reading strategies to aid in student comprehension of texts. Students should have the resources to develop the language skills they need to pursue life’s goals and to participate fully as informed, productive members of society.

**Writing**: ELA standards in writing are divided in the four Big Ideas of Writing Content, Structure, Conventions and Process. Students are required to write using the criteria for effective writing included in these Big Ideas. The central idea of the writing standards is *effective communication*. Students use writing-to-learn and writing-to-demonstrate-learning strategies to make sense of their reading and learning experiences. Additionally, students will write in authentic forms for authentic purposes and audiences.

**Speaking, Listening and Observing**: These standards emphasize that speaking, listening and observing are fundamental processes which people use to express, explore and learn about ideas. The contexts of these communication functions include one-to one conversations, small group discussions, large audiences and meetings, and interactions with media.

The **Academic Expectations** for ELA are:

**1.1** Students use reference tools such as dictionaries, almanacs, encyclopedias, and computer reference programs and research tools.

**1.2** Students make sense of the variety of materials they read.

**1.3** Students make sense of the various things they observe.

**1.4** Students make sense of the various messages to which they listen.

**1.11** Students write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.

**1.12** Students speak using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.

**5.1** Students use critical thinking skills such as analyzing, prioritizing, categorizing, evaluating, and comparing to solve a variety of problems in real-life situations.

## Big Idea: Forming a Foundation (Reading)

Forming a foundation requires readers to develop and apply basic reading skills and strategies across genres to read and understand texts at the appropriate grade level. This involves reading a variety of texts at the word, sentence, and connected text level across all content areas.

**Academic Expectations**

**1.1** Students use reference tools such as dictionaries, almanacs, encyclopedias, and computer reference programs and research tools.
**1.2** Students make sense of the variety of materials they read.
**1.3** Students make sense of the various things they observe.
**1.4** Students make sense of the various messages to which they listen.

**Primary Enduring Knowledge – Understandings**

*Students understand that*

- knowing how letters are linked to sounds to form letter-sound correspondence and spelling patterns can help determine unfamiliar words while reading.
- fluency involves reading orally and silently with speed, accuracy, proper phrasing and expression while attending to text features (e.g., punctuation, italics).
- developing breadth of vocabulary improves reading comprehension and involves applying knowledge of word meanings and word relationships. The larger the reader's vocabulary the easier it is to make sense of text.
- many words have multiple meanings. Knowledge of syntax/language structure, semantics/meaning, context cues, and the use of resources can help in identifying the intended meaning of words and phrases as they are used in text.

## Big Idea: Forming a Foundation (Reading) – Continued

**Primary Skills and Concepts**
*Students will*

- demonstrate an understanding of concepts of print, phonological awareness, and word identification strategies by:
  - distinguishing between printed letters and words, following text (e.g., one-to-one match of spoken words to print), finding key parts of books; identifying purposes of capitalization, punctuation, and text features (e.g., boldface type, italics, indentations) to make meaning of the text
  - recognizing, isolating, and combining sounds to make words, identifying syllables and parts of words (prefixes, suffixes)
  - reading high-frequency/grade-appropriate words with automaticity, identifying and reading single and multi-syllabic words using knowledge of sounds, word structure, syllable types, and word patterns
  - producing rhyming words and recognize pairs of rhyming words
  - recognizing irregularly spelled words and such spelling patterns as diphthongs, special vowel spellings and common word endings
  - using onsets (in a word, the sound of the letter or letters preceding the first vowel – <u>s</u>it) and rimes (the first vowel and remaining part of the word – s<u>it</u>) to create new words that include blends and digraphs
- apply context and self-correction strategies while reading (e.g., using pictures, syntax, predictive language to predict upcoming words and text, monitoring own reading, self-correcting, confirming meaning, adjusting pace of reading or rereading to acquire meaning, previewing text selections)
- read grade-appropriate material – orally and silently - with accuracy and fluency
- use a variety of reading strategies to understand words, word meanings, and texts to develop breadth of vocabulary:
  - formulate questions to guide reading (before, during and after reading)
  - apply word recognition strategies (e.g., phonetic principles, context clues, structural analysis) to determine pronunciations or meanings of words in passages
  - use context clues to identify the correct meaning as the word is used
  - apply knowledge of synonyms, antonyms, homonyms/homophones, or compound words to assist comprehension
  - apply the meanings of common prefixes or suffixes to comprehend unfamiliar words
  - organize words by categories (e.g., water is a liquid), functions (e.g., water is for drinking), or features (e.g., water flows)
- use resources (e.g., picture dictionaries, dictionaries, glossaries) to determine correct spelling of words and to identify multiple meanings of words and content-specific meanings of words

## Big Idea: Developing an Initial Understanding (Reading)

Developing an initial understanding of text requires readers to consider the text as a whole or in a broader perspective. Texts (including multicultural texts) encompass literary and informational texts (expository, persuasive, procedural texts and documents). Strategies for gaining a broad or literal understanding of print texts can also be applied to non-print texts (e.g., digital, environmental).

**Academic Expectations**

**1.1** Students use reference tools such as dictionaries, almanacs, encyclopedias, and computer reference programs and research tools.
**1.2** Students make sense of the variety of materials they read.
**1.3** Students make sense of the various things they observe.
**1.4** Students make sense of the various messages to which they listen.

**Primary Enduring Knowledge – Understandings**

*Students will understand that*

- reading a wide range of print and non-print texts builds an understanding of texts, of themselves, and of different cultures.
- different purposes to read include reading to acquire new information and reading for personal fulfillment. Among these texts are plays, fiction and non-fiction, classic and contemporary works.
- the use of comprehension strategies enhances understanding of text.
- different types of texts place different demands on the reader. Understanding text features and structures, and characteristics associated with different genres (including print and non-print) facilitate the reader's ability to make meaning of the text.

**Primary Skills and Concepts**

*Students will*

- use comprehension strategies (e.g., using prior knowledge, predicting, generating clarifying and literal questions, constructing sensory images, locating and using text features) while reading, listening to, or viewing literary and informational texts
- use text structure cues (e.g., sequence, description, compare/contrast) to aid in comprehension
- describe explicitly stated cause and effect relationships
- distinguish between fiction and non-fiction texts
- identify unfamiliar words and specialized vocabulary
- make inferences based on what is read; make and check predictions
- demonstrate understanding of literary elements and literary passages/texts:
  - identify and describe characters, major events/plot, setting or problem/solution
  - identify characteristics (e.g., beginning-middle-end, rhyme, dialogue) of different types of literary texts (e.g., stories, poems, plays, fairy tales)
- demonstrate understanding of structure and features of informational passages/texts:
  - locate key ideas, facts or details
  - use information from text to state and support the central/main idea
  - identify text features (e.g., title, bold print) of different types of informational texts (e.g., lists, recipes, directions, children's magazines, dictionaries)
  - read and use functional messages encountered in daily life
  - use information from texts to accomplish a specific task or to answer questions
  - use text features and visual information (e.g., pictures, maps, charts, graphs, timelines, visual organizers) to understand text

## Big Idea: Interpreting Text (Reading)

Interpreting text requires readers to extend their initial impressions to develop a more complete understanding of what is read. This involves linking information across parts of a text, as well as focusing on specific information. Texts encompass literary and informational texts (expository, persuasive, and procedural texts and documents). Strategies for interpreting print texts can also be applied to non-print texts (e.g., digital, environmental).

**Academic Expectations**

**1.1** Students use reference tools such as dictionaries, almanacs, encyclopedias, and computer reference programs and research tools.
**1.2** Students make sense of the variety of materials they read.
**1.3** Students make sense of the various things they observe.
**1.4** Students make sense of the various messages to which they listen.

**Primary Enduring Knowledge – Understandings**

*Students will understand that*

- interpretations of text involve linking information within and across parts of a text and determining importance of the information presented.
- references from texts provide evidence to support conclusions, the information presented, or the author's perspective.
- authors make intentional choices that are designed to produce a desired effect on the reader.

## Big Idea: Interpreting Text (Reading) – Continued

**Primary Skills and Concepts**
*Students will*

- use comprehension strategies while reading, listening to, or viewing literary and informational texts (e.g., using prior knowledge, previewing text selections, making predictions, generating questions, constructing sensory images, using text features, making connections, determining importance of information)
- use text structure cues (e.g., sequence, compare/contrast) to aid in comprehension
- identify author's purpose (e.g., to entertain, to inform, to persuade)
- discuss why an author might have chosen to use particular language (e.g., words, phrases)
- examine relationships between earlier and later parts of a text and how these parts make sense together
- summarize a variety of reading passages by selecting the main ideas and main events or key points
- discuss the message of the text
- record and organize ideas found within texts to show understanding (e.g., charting, mapping)
- demonstrate understanding of literary elements and literary passages/texts:
  - identify traits of main characters, interpret possible motives, and explain a character's actions
  - trace characters and plot across multiple episodes
  - identify problems and explain how conflicts are resolved
  - recognize author's craft as appropriate to genre (e.g., figurative language/imagery, rhyme)
- demonstrate understanding of informational passages/texts:
  - distinguish between informative or persuasive passages
  - identify commonly used persuasive techniques (e.g., emotional appeal, testimonial)
  - identify an author's opinion
  - use evidence from the text to state central /main idea and details that support them
  - use text references to support conclusions based on what is read, for example, an author's opinion about a subject
  - distinguish between facts and opinions found in texts
  - identify information in a passage supported by facts
- pose questions and use a variety of print and non-print resources to find information to answer them
- understand and interpret the concepts and relationships described in a text
- evaluate information from multiple sources by determining necessary information and interpreting findings

## Big Idea: Reflecting and Responding to Text (Reading)

Reflecting and responding to text requires readers to connect knowledge from the text with their own background knowledge and experience. The focus is on how the text relates to personal knowledge.

**Academic Expectations**

**1.1** Students use reference tools such as dictionaries, almanacs, encyclopedias, and computer reference programs and research tools.
**1.2** Students make sense of the variety of materials they read.
**1.3** Students make sense of the various things they observe.
**1.4** Students make sense of the various messages to which they listen.

**Primary Enduring Knowledge – Understandings**

*Students will understand that*

- making connections involves thinking beyond the text and applying the text to a variety of situations. Connections may be expressed as comparisons, analogies, inferences, or the synthesis of ideas.
- references from texts provide evidence of applying ideas and making text-to-self, text-to-text, and text-to-world connections.
- reading a wide range of literature by different authors, and from many time periods, cultures, and genres, builds an understanding of the extent of human experience.

**Primary Skills and Concepts**

*Students will*

- use comprehension strategies (e.g., using prior knowledge, predicting, generating clarifying and literal questions, constructing sensory images, locating and using text features) while reading, listening to, or viewing literary and informational texts
- self-select texts based on personal interests
- generate a personal response to what is read, listened to or viewed:
  - relate stories or texts to prior knowledge, personal experiences, other texts, or ideas
  - provide text references/evidence to support connections made between text-to-self, text-to-text, or text-to-world
- read personal and other classmates writing
- extend the story (e.g., through discussion, role play, writing)
- voluntarily read aloud and to others, signaling a sense of themselves as a reader
- demonstrate participation in a literate community by sharing and responding to ideas and connections through writing and focused discussions about text

## Big Idea: Demonstrating a Critical Stance (Reading)

Demonstrating a critical stance requires readers to consider the text objectively in order to evaluate its quality and appropriateness. It involves a range of tasks, including critical evaluation, comparing and contrasting, and understanding the impact of features, such as irony, humor, and organization. Knowledge of text content and structure is important.

**Academic Expectations**

**1.1** Students use reference tools such as dictionaries, almanacs, encyclopedias, and computer reference programs and research tools.
**1.2** Students make sense of the variety of materials they read.
**1.3** Students make sense of the various things they observe.
**1.4** Students make sense of the various messages to which they listen.
**5.1** Students use critical thinking skills such as analyzing, prioritizing, categorizing, evaluating, and comparing to solve a variety of problems in real-life situations.

**Primary Enduring Knowledge – Understandings**

*Students will understand that*

- reading is a process that includes applying a variety of strategies to comprehend, interpret, and evaluate texts.
- references from texts provide evidence to support judgments made about why and how the text was developed, considering the content, organization and form.
- determining the usefulness of text for a specific purpose, evaluating language and textual elements, and analyzing the author's style are all ways to critically examine texts.

**Primary Skills and Concepts**

*Students will*

- use comprehension strategies while reading, listening to, or viewing literary and informational texts (e.g., using prior knowledge, previewing text selections, making predictions, generating questions, constructing sensory images, using text features, making connections, determining importance of information)
- explain how text features are used to organize information for clarity or usefulness
- identify the organizational pattern used (e.g., description, sequence, cause/effect, compare/contrast) to understand the passage
- evaluate what is read, based on the author's purpose, message, word choice/language use, sentence variety, content or use of literary elements
- compare books by the same author, or books about the same theme or topic

## Big Idea: Writing Content

To communicate effectively, students should be able to write for a variety of authentic purposes and audiences in a variety of forms, connecting to prior knowledge and the students' understanding of the content. In their writing, students should be able to create a focused purpose and controlling idea and develop ideas adequately considering the purpose, audience and form.

**Academic Expectations**

**1.11** Students write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.

**Primary Enduring Knowledge – Understandings**

*Students will understand that*

- there are many reasons for all primary students to write, including writing-to-learn, writing-to-demonstrate learning, and writing for authentic purposes and audiences.
- different forms of writing are appropriate for different purposes and audiences across the content areas and have different features (e.g., journals, narratives, procedures).
- to be effective, writing must be a sufficiently developed, coherent unit of thought to address the needs of the intended audience.
- writing can be used to make meaning of one's own experience, as well as of other information/ ideas.

**Primary Skills and Concepts**

*Students will*

- write to learn by applying strategies effectively (e.g., learning logs, reflections)
- write to demonstrate learning and understanding of content knowledge (e.g., journals, exit/admit slips)
- write for a variety of authentic purposes and audiences:
  - communicate about personal experiences
  - communicate through authentic literary forms to make meaning about the human condition
  - communicate through authentic transactive purposes for writing (e.g. informing, describing, explaining)
  - communicate reflectively
  - recognize and address needs of intended audience
  - adjust the writing style (formal, informal) for intended audience
- communicate purpose, focus, and controlling ideas authentic to the writer
- develop ideas that are logical, justified and suitable for a variety of purposes, audiences and forms of writing (e.g., beginning with meaningful drawings, symbols and letters, and moving to use of appropriate written language—words/labels, phrases, sentences, paragraphs and whole texts)
- select and incorporate ideas or information (e.g., from reading or other learning), explaining reflections or related connections (e.g., identifying relationships and own experiences, offering support for conclusions, organizing prior knowledge about a topic)
- communicate understanding of ideas or events
- provide sufficient details for clear understanding
- use and sustain suitable voice or tone

## Big Idea: Writing Structure

To communicate effectively, students should be able to apply knowledge of language and genre structures to organize sentences, paragraphs and whole pieces logically and coherently.

**Academic Expectations**

**1.11** Students write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.

**Primary Enduring Knowledge – Understandings**

*Students will understand that*

- sentences must be complete and clear. Variety in sentence structure helps to engage the reader and make meaning more clear. Sometimes, unconventional sentence structure is appropriate for an intended effect upon the reader.
- different types of structures (e.g., paragraphs, stanzas) are appropriate for different purposes, audiences and different forms of writing. Paragraphs maintain focus on one central idea.
- structural elements such as context, meaningful order of ideas, transitional words/phrases and conclusions all help make meaning clear for the reader.

**Primary Skills and Concepts**

*Students will*

- use complete and correct sentences of various structures and lengths (e.g. simple, compound) to enhance meaning throughout a piece of writing; apply unconventional sentence structures to achieve intended effect on audience
- develop analytical structures appropriate to purpose (e.g., sequence, problem/solution, description, question/answer)
- establish a context for the reader and a controlling idea in the introduction; arrange ideas in meaningful order; and have an effective conclusion
- create paragraphs that maintain focus on one central idea; apply paragraph structures (block and indented) consistently
- use a variety of transitional words/phrases (e.g. time, order of sequence)
- incorporate text features (e.g., numbering, pictures, labels, diagrams, charts, shape in poetry) to enhance clarity and meaning

## Big Idea: Writing Conventions

To communicate effectively, students should be able to apply knowledge of language conventions and have control over standard grammar and usage. Students should be able to choose precise language appropriate to the purpose.

**Academic Expectations**

**1.11** Students write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.

**Primary Enduring Knowledge – Understandings**

*Students will understand that*

- writers need to choose their language with care, depending on the content, purpose and audience.
- language should be concise and precise. Strong verbs and nouns, concrete details and sensory language help make meaning clear to the reader.
- standard grammar and usage are important in making meaning clear to the reader; nonstandard grammar may be used for intended effect.
- writers need to use correct spelling, punctuation and capitalization.
- writers need to document sources /give credit for the ideas of others.

**Primary Skills and Concepts**

*Students will*

- choose precise and descriptive language for clarity and its effect on the reader (words with multiple meanings, strong nouns and verbs, concrete and sensory details, figurative language – similes)
- use specialized content vocabulary and words used for specific contexts, as needed
- apply correct grammar skills (e.g., complete sentences, various sentence structures, subject/verb agreement); mechanics (e.g., capitalization, punctuation); and usage (e.g., to/too/two; there/their)
- use grade-appropriate spelling (beginning with pictures/marks/signs that represent print and moving to correct beginning and ending sounds, to developmental spelling, to correct spelling in final drafts)
- use resources (e.g., picture dictionary, word wall) to correct spelling in final drafts
- document ideas from outside sources (e.g., citing authors or titles within the text)
- write legibly (e.g., print, cursive) leaving space between letters in a word, words in a sentence and words at the end of the edges of the paper

## Big Idea: Writing Process

To communicate effectively, students should engage in the various stages of the writing process including focusing, prewriting, drafting, revising, editing, publishing and reflecting. The writing process is recursive; different writers engage in the process differently and proceed through the stages at different rates.

**Academic Expectations**

**1.11** Students write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.

**Primary Enduring Knowledge – Understandings**

*Students will understand that*

- the writing process is a helpful tool in constructing and demonstrating meaning of content (whether personal expressive, literary, academic or practical) through writing.
- the stages are sometimes recursive (e.g., In the process of revising, a writer sometimes returns to earlier stages of the process).
- writers work through the process at different rates. Often, the process is enhanced by conferencing with others.

**Primary Skills and Concepts**

*Students will*

- focus: establish and maintain a controlling idea on a selected topic
- prewrite:
  - determine the most appropriate form to meet needs of purpose and audience
  - generate ideas to support and develop controlling idea (e.g., webbing, free writes, researching print and non-print sources, interviewing, observing, imagining and creating novel ideas)
  - organize and present ideas by taking notes and summarizing
- draft:
  - determine how, when and whether to use visuals (e.g., illustrations, diagrams) in addition to written text
  - logically incorporate information
- revise:
  - reflect on own writing
  - confer with peers and other writing conferencing partners to critically analyze one's own work and the work of others
  - confer to determine where to add, delete, rearrange, define/redefine or elaborate content so that writing is clear for intended audience, then make revisions
  - make sure paragraphs are supported appropriately with relevant details and that sentences are in sequential order; develop introductions and conclusions
- edit for appropriate language usage, sentence structure, spelling, capitalization, punctuation and appropriate documentation of sources
- publish
  - produce products for intended audience
  - present final work in a neat, legible form and share with intended audience
- reflect and evaluate personal progress and skills in writing

## Big Idea: Speaking, Listening, and Observing

Speaking, listening and observing are fundamental processes which people use to express, explore and learn about ideas. The functions of speaking, listening and observing include gathering and sharing information, persuading others, expressing and understanding ideas, and selecting and critically analyzing messages. The contexts of these communication functions include one-to one conversations, small group discussions, large audiences, and meetings and interactions with media.

**Academic Expectations**

**1.3** Students make sense of the various messages they observe.
**1.2** Students make sense of the variety of materials they read.
**1.4** Students make sense of the various messages to which they listen.
**1.11** Students write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.
**1.12** Students speak using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.

**Primary Enduring Knowledge – Understandings**

*Students will understand that*

- communication, both formal and informal, is an interpretive process that integrates listening, observing, reading, writing and speaking with confidence. Different levels of discourse are appropriate for different contexts, occasions, purposes and audiences.
- regardless of the topic, the context or the intended audience, students need to be able to communicate ideas effectively. Effective communication involves verbal and nonverbal techniques to enhance or emphasize content. These techniques aid the listener's ability to interpret the information.
- language usage is related to successful communication; language patterns and vocabulary transmit culture and affect meaning.
- observation involves interpreting and constructing meaning. By viewing in context, students infer, construct meaning, draw conclusions and form opinions about the world around them.

## Big Idea: Speaking, Listening, and Observing – Continued

**Primary Skills and Concepts**

*In formal speaking situations, students will*

- create oral presentations that
  - are appropriate for the purpose (e.g., to inform, persuade, entertain), audience, context and occasion
  - use appropriate details to support ideas
  - maintain a consistent focus
  - organize ideas in a coherent, meaningful way including an introduction and a conclusion that are appropriate to audience and purpose
- apply delivery techniques
  - both verbal (e.g., tone, volume, rate, articulation, pacing) and nonverbal (e.g., gestures, facial expressions, eye contact)
  - avoid distracting delivery behaviors (e.g. excessive verbal pauses, fidgeting)
  - use language appropriate to audience; use specialized content vocabulary as needed
  - adhere to standard guidelines for grammar, usage, mechanics or use non-standard language for effect when appropriate (e.g., word plays, slang, similes)
  - choose language for its effect on the audience (e.g., strong nouns, active verbs, concrete and sensory details, figurative language)
- use visual aids, media and tools of technology to support oral communication
- give credit to sources used (e.g., identifying authors, titles)

*In informal speaking situations, students will*

- give spoken instructions to perform specific tasks
- ask and respond to questions as a way to participate in class discussions
- play a variety of roles in group discussions (e.g., discussion leader, facilitator, responder)
- use different voice level, phrasing and intonation for different situations (e.g., small group settings, discussions)

*When listening, students will*

- follow spoken instructions to perform specific tasks
- identify specific information (e.g., main idea, supporting details)
- respond to information appropriately/respectfully in a variety of ways (e.g., summarizing orally, taking useful notes, organizing and recording that which is meaningful and useful)
- follow the organization of a presentation
- interpret the effectiveness of verbal and nonverbal delivery techniques, including visual cues
- build on the ideas of others and contribute appropriate information or ideas
- use self-evaluations and feedback from teachers/peers to improve presentations

*When observing, students will*

- evaluate media messages
- discuss the role of media in focusing attention and in forming opinion
- interpret a variety of techniques used to influence or appeal to a particular audience (e.g., persuasive techniques, appealing elements in commercials)
- identify visual and auditory cues (e.g., slow motion, music to create mood, sound effects) that enhance the message

# PRIMARY MATHEMATICS

# Program of Studies – Mathematics – Primary

The primary level mathematics program includes strong literacy connections, active and hands-on work with concrete materials and appropriate technologies. Primary level problem solving, mathematical communication, connections, mathematical reasoning and multiple representations should be a part of the mathematics curriculum. The use of these techniques enhances and extends students' mathematics skills. Accuracy is an integral part of the mathematics program.

Students should have opportunities to work individually and in groups of varying size and composition in order to conduct investigations, process information and discuss important mathematical concepts. Students must have regular opportunities to share their ideas with others and to solve problems generated as a result of their learning experiences.

The mathematics content standards at the primary level are directly aligned with Kentucky's **Academic Expectations**. Mathematics standards are organized around five “Big Ideas” that are important to the discipline of mathematics. The five big ideas in mathematics are: Number Properties and Operations, Measurement, Geometry, Data Analysis and Probability and Algebraic Thinking. The Big Ideas are conceptual organizers for mathematics and are similar at each grade level to ensure students have multiple opportunities throughout the students’ school careers to develop skills and concepts linked to the Big Ideas.

Under each Big Idea are statements of Enduring Knowledge/Understandings that represent overarching generalizations linked to the Big Ideas of mathematics. The understandings represent the desired results – what learning will focus upon and what knowledge students will be able to explain or apply. Understandings can be used to frame development of units of study and lesson plans.

Skills and Concepts describe ways that students demonstrate their learning and are specific to each grade level. The skills and concepts for mathematics build on prior learning and are fundamental to mathematical literacy and mathematical power.

Effectively implementing the Program of Studies requires a common understanding of the process standards below.

**Problem solving** involves developing and applying strategies to problems from everyday and mathematical situations and evaluating the solutions relative to the original problem situation.

**Mathematical communication** includes manipulatives (concrete materials), visual representations and diagrams that relate language to mathematical symbols in speaking, reading, writing and listening.

**Mathematical connections** include:

- understanding how one concept relates to other concepts and procedures (e.g., the link between fractions and decimals)
- understanding how one concept relates to another (e.g., the link between area in geometry and in measurement)
- understanding how a mathematical concept relates to other disciplines (e.g., the link between graphing in statistics and in social studies).

**Mathematical reasoning** includes recognizing patterns and relationships and using models, known facts and mathematical properties to explain and justify thinking.

**Multiple representations** allow students to be able to recognize common mathematical structures across different contexts. In the primary program, students most often use representations to reason about objects and actions they can perceive directly.

**Academic Expectation** 1.5-1.9 (Students use mathematical ideas and procedures to communicate, reason, and solve problems.) is infused throughout the mathematics instruction P-12 and is integral to the content and instruction across all grade levels.

**Academic Expectation** 1.16 (Students will use computers and other kinds of technology to collect, organize, and communicate information and ideas.) is an essential and integral part of instruction across the content and the mathematics Program of Studies.

## Big Idea: Number Properties and Operations

Whole number sense and addition and subtraction are key concepts and skills developed in early childhood. Students build on their number sense and counting sense to develop multiplication and division. They move flexibly and fluently through basic number facts, operations and representations. Their understanding of the base-10 number system expands to include decimals. They examine various meanings and models of fractions. They explore data, perform measurements and examine patterns as part of the development process for number and operations, using other mathematics strands to enrich number. Elementary number encompasses computational fluency with whole numbers, relationships between decimals and fractions and techniques for reasonable estimations.

**Academic Expectations**

**2.7** Students understand number concepts and use numbers appropriately and accurately.
**2.8** Students understand various mathematical procedures and use them appropriately and accurately.

**Primary Enduring Knowledge – Understandings**

*Students will understand that*

- numbers, ways of representing numbers, relationships between numbers and number systems are means of representing real-world quantities.
- meanings of and relationships among operations provide tools necessary to solve realistic problems encountered in everyday life.
- computing fluently and making reasonable estimates increases the ability to solve realistic problems encountered in everyday life.

**Primary Skills and Concepts – Number Sense**

*Students will*

- read, write, count and model whole numbers 0-10,000, developing an understanding of place value for ones, tens, hundreds, thousands and ten thousands
- apply multiple representations (e.g., drawings, manipulatives, base-10 blocks, number lines, expanded form, symbols) to describe and compare whole numbers and fractions (e.g., halves, thirds, fourths) in mathematical and real-world problems
- order groups of objects according to quantity
- order, compare and understand the relative magnitude of numbers from 0-10,000, using the symbols <, >, =, including the use of physical and visual models for smaller numbers
- develop beginning fractional concepts (e.g., dividing an object into equal parts and naming the equal parts [e.g., halves, thirds, fourths])
- expand fraction concepts (e.g., whole to part and part to whole; one-half is larger than one-fourth)
- be introduced to and use decimals to represent money

## Big Idea: Number Properties and Operations – Continued

**Primary Skills and Concepts – Estimation**
*Students will*

- explore appropriate estimation procedures for different situations
- apply and describe appropriate strategies for estimating quantities of objects and computational results

**Primary Skills and Concepts – Number Operations**
*Students will*

- develop an understanding of the concepts of addition and subtraction using physical objects and concrete materials
- explore and develop an understanding of the concepts of multiplication and division using physical models
- develop part-whole relations using numbers (e.g., 3+2=5, 1+4=5)
- explore and solve two-digit addition and subtraction problems through the use of manipulatives
- explore and develop factor-factor-product (e.g., 2x3=6) using manipulatives. (e.g., hundreds charts, base-10 blocks, arrays)
- multiply whole numbers through 10 x 10
- relate division facts to multiplication facts (e.g., using factor-factor-product)
- solve multi-digit addition and subtraction problems that contain numerals and symbols
- add common fractions with like denominators using manipulatives
- add and subtract decimals using money
- use mental math, pencil-and-paper methods, calculators and/or computers to explore mathematical concepts and to assist with computation in problem solving situations

**Primary Skills and Concepts – Properties of Numbers and Operations**
*Students will*

- explore, develop and use the concepts of multiples
- skip-count forwards and backwards by 2s, 5s, 10s and 100s, using manipulatives, mental math and written and electronic means to communicate understanding
- explore, develop and use the concepts of odd and even numbers
- explore and use of properties of numbers for written and mental computation (e.g., 4+7+6 could be mentally regrouped as 4+6+7 using the commutative property of addition)

## Big Idea: Measurement

Students translate from measuring using nonstandard units to using standard units of measurement. They identify measurable attributes of objects, estimate and measure weight, length, perimeter, area, angles, temperature, time and money. They convert units within the same measurement system.

**Academic Expectations**

**2.10** Students understand measurement concepts and use measurements appropriately and accurately.
**2.11** Students understand mathematical change concepts and use them appropriately and accurately.

**Primary Enduring Knowledge – Understandings**

*Students will understand that*

- measurable attributes of objects and the units, systems and processes of measurement are powerful tools for making sense of the world around them.
- measurements are determined by using appropriate techniques, tools and formulas.
- for each situation, there is an appropriate degree of accuracy in measurement.

**Primary Skills and Concepts – Measuring Physical Attributes**

*Students will*

- apply standard units to measure length (inches and centimeters), weight (pounds), time (hours, half-hours, quarter-hours, five- and one-minute intervals), money (coins and bills) and temperature (Fahrenheit and Celsius)
- use nonstandard units to measure and compare the length, weight, area or volume of familiar objects
- use standard units of measurement to identify, describe and compare measurable attributes of objects (e.g., length, weight, volume) and make estimates using appropriate units of measurement
- choose and use appropriate tools for specific measurement tasks
- sort/classify or compare and order objects by shape, size and color (e.g., attribute blocks)
- estimate weight, length, perimeter, area, angle and time using appropriate units of measurement
- explore concepts of perimeter and area of rectangles using manipulatives
- identify, compare and order amounts of money using coins and bills and use correct symbols for money
- combine coins and bills to make a given amount and make change up to a dollar
- relate time to daily activities, tell time to the hour, half-hour, quarter-hour, five minutes and one minute and determine elapsed time

**Primary Skills and Concepts – Systems of Measurement**

*Students will*

- determine equivalent U.S. customary measurements
- describe, define, give examples of and use to solve real-world and/or mathematical problems both nonstandard and standard (U.S. Customary, metric) units of measurement to include length, time, money, temperature (Fahrenheit and Celsius) and weight

## Big Idea: Geometry

Students explore and find basic geometric elements and terms, two-dimensional shapes and three-dimensional objects. They find and use symmetry. They move two-dimensional figures in a plane and explore congruent and similar figures.

**Academic Expectation**

**2.8** Students understand various mathematical procedures and use them appropriately and accurately.
**2.9** Students understand space and dimensionality concepts and use them appropriately and accurately.

**Primary Enduring Knowledge – Understandings**

*Students will understand that*

- characteristics and properties of two-dimensional figures and three-dimensional objects describe the world and are used to develop mathematical arguments about geometric relationships and to evaluate the arguments of others.
- representational systems, including coordinate geometry, are means for specifying locations and describing spatial relationships and are organizers for making sense of the world around them.
- transformations and symmetry are used to analyze real-world situations (e.g., art, nature, construction and scientific exploration).
- visualization, spatial reasoning and geometric relationships model real-world situations.

**Primary Skills and Concepts – Shapes and Relationships**

*Students will*

- identify, describe, model, draw, compare and classify two-dimensional figures and three-dimensional objects using elements, attributes and properties
- explore the relationships among two-dimensional figures and three-dimensional objects (e.g., using virtual manipulatives)
- identify and describe congruent figures in real-world and/or mathematical situations
- investigate and solve real-world problems using the elements, attributes and properties of basic two-dimensional figures and three-dimensional objects
- identify, draw and represent line segments and angles
- determine if simple shapes are congruent

**Primary Skills and Concepts – Transformations of Shapes**

*Students will*

- determine lines of symmetry in simple shapes and identify and describe symmetrical two-dimensional figures
- examine examples of line symmetry in real-world situations and apply one line of symmetry to construct simple geometric designs, using graphic, technological or concrete models/manipulatives to communicate understanding
- explore flips, slides and turns with physical models
- identify images from flips (reflections), slides (translations) and turns (rotations) in a plane

**Primary Skills and Concepts – Coordinate Geometry**

*Students will*

- locate points and figures on a grid representing a positive coordinate system

## Big Idea: Data Analysis and Probability

Students pose questions, plan and collect data, organize and display data and interpret displays of data. They generate outcomes for simple probability activities, determine fairness of probability games and explore likely and unlikely events.

**Academic Expectations**

**2.7** Students understand number concepts and use numbers appropriately and accurately.
**2.8** Students understand various mathematical procedures and use them appropriately and accurately.
**2.13** Students understand and appropriately use statistics and probability.

**Primary Enduring Knowledge – Understandings**

*Students will understand that*

- quantitative literacy is a necessary tool to be an intelligent consumer and citizen.
- the collection, organization, interpretation and display of data can be used to answer questions.
- the choice of data display can affect the visual message communicated.
- inferences and predictions from data are used to make critical and informed decisions.
- probability can be used to make decisions or predictions or to draw conclusions.

**Primary Skills and Concepts – Data Representations**

*Students will*

- make a graph using concrete manipulatives and read data displayed on a concrete graph
- display, read and compare data on student-invented graphs
- read, display, compare and interpret student-collected data
- display, read and compare data on a pictograph and bar graph
- display data in line plots
- analyze and make inferences from data displays (drawings, tables/charts, tally tables, pictographs, bar graphs, circle graphs, line plots, two-circle Venn diagrams)
- use technology to organize and display data collected from student investigations

**Primary Skills and Concepts – Experiments and Samples**

*Students will*

- pose questions to generate data
- use data from student investigations to make predictions or draw simple conclusions
- use tools (including technology when appropriate) to organize and display student-collected data

**Primary Skills and Concepts – Probability**

*Students will*

- explore chance through games and events
- compare likely and unlikely outcomes
- explore basic concepts of probability through simple experiments

## Big Idea: Algebraic Thinking

Students explore and examine patterns and develop rules to go with patterns. They generate input-output for functions and create tables to analyze functions. Students use number sentences with missing values.

**Academic Expectations**

**2.8** Students understand various mathematical procedures and use them appropriately and accurately.
**2.11** Students understand mathematical change concepts and use them appropriately and accurately.
**2.12** Students understand mathematical structure concepts including the properties and logic of various mathematical systems.

**Primary Enduring Knowledge – Understandings**

*Students will understand that*

- patterns, relations and functions are tools that help explain or predict real-world phenomena.
- numerical patterns can be written as rules that generate the pattern.
- algebra represents mathematical situations and structures for analysis and problem solving (e.g., finding the missing value in open sentences).
- real-world situations can be represented using mathematical models to analyze quantitative relationships.
- functions are used to analyze change in various contexts and model real-world phenomena.

**Primary Skills and Concepts – Patterns, Relations and Functions**

*Students will*

- identify and describe patterns in real life and in numerical and geometric situations
- reproduce and extend patterns using manipulatives
- use pictures or words to create, reproduce, extend and explain patterns of shapes, objects, movements, sounds and numbers
- recognize and extend simple number patterns
- explore input-output machines (e.g., function machines) and solve simple function machine tasks
- use calculators to explore how constant addition produces a pattern and can be expressed as a rule for a pattern

**Primary Skills and Concepts – Variables, Expressions and Operations**

*Students will*

- explore unknowns and open sentences to express relationships
- create stories about mathematical sentences with missing values

**Primary Skills and Concepts – Equations and Inequalities**

*Students will*

- solve simple equations (e.g., 1 + 1 = [ ]; [ ] - 2 = 7)
- solve simple inequalities (e.g., [ ] < 6)
- solve for unknowns in simple open sentences
- read and create story problems to represent mathematical sentences with missing values
- use manipulatives, numbers and/or symbols to model real-world situations with simple number sentences

# PRIMARY
# PRACTICAL LIVING
## (HEALTH AND PHYSICAL EDUCATION)

# Program of Studies – Practical Living – Primary

Students in the primary health education program develop an understanding of the body functions as well as behaviors and decisions that will foster life-long health. Health literacy is assuming responsibility for personal health throughout the life cycle as related to good nutrition and personal health habits, sound safety practices, violence avoidance, and the use of refusal skills. Health education at this level enables students to acquire the knowledge, skills, and practices that should be a part of their daily routine throughout life.

Physical education addresses both health-related and skill-related components that promote enhanced health behaviors and increase responsible decision-making. Physical education uses physical activity as a means to help students acquire skills, fitness, knowledge, and attitudes that contribute to their optimal development and well-being.

Primary level physical education assists in the development of children's motor and fitness skills. Developing fundamental movement patterns is the focus of the physical education curriculum at the primary level. While developing fundamental skill patterns, the students will begin to learn key movement concepts that help them perform in a variety of educational games and dances. Students in the primary grades learn to move through space with objects and other individuals. They will learn how their bodies react to vigorous physical activity. Students will learn to use safe practices, cooperate with and respect others and follow classroom rules. Experiences in physical education will help develop a positive attitude for leading a healthy, active lifestyle.

The Health and Physical Education content standards at the primary level are directly aligned with Kentucky's **Academic Expectations.** The Health and Physical Education standards are organized around five "Big Ideas" that are important to the discipline of health and physical education. These big ideas are: Personal Wellness, Nutrition, Safety, Psychomotor Skills and Lifetime Physical Wellness. The Big Ideas are conceptual organizers for health and physical education and are the same at each grade level. This ensures students have multiple opportunities throughout their school careers to develop skills and concepts linked to the Big Ideas.

Under each Big Idea are statements of Enduring Knowledge/Understandings that represent overarching generalizations linked to health and physical education. The understandings represent the desired results- what learning will focus upon and what knowledge students will be able to explain or apply. Understandings can be used to frame development of units of study and lessons plans.

Skills and Concepts describe the ways that students demonstrate their learning and are specific to each grade level. The skills and concepts for health and physical education are fundamental to health literacy and build on prior learning.

The health and physical education program provides a connection to Kentucky's Learning Goals 3 (self-sufficient individuals) and Learning Goal 4 (responsible group member), which are included in Kentucky statue, but they are not included in the state's academic assessment program. These connections provide a comprehensive link between essential content, skills and abilities important to learning. In addition Learning Goal 5 (think and solve problems) and Learning Goal 6 (connect and integrate knowledge) are addressed in health and physical education.

All physical education courses taught in the state of Kentucky must be in compliance with the Federal Special Education Law and Title IX and shall not include practice for or participation in interscholastic athletics.

## Big Idea: Personal Wellness (Health Education)

Wellness is maximum well-being, or total health. Personal Wellness is a combination of physical, mental, emotional, spiritual and social well-being. It involves making choices and decisions each day that promote an individual's physical well-being, the prevention of illnesses and diseases, and the ability to remain, physically, mentally, spiritually, socially and emotionally healthy.

**Academic Expectations**

**2.29** Students demonstrate skills that promote individual well-being and healthy family relationships.
**2.31** Students demonstrate the knowledge and skills they need to remain physically healthy and to accept responsibility for their own physical well-being.
**2.32** Students demonstrate strategies for becoming and remaining mentally and emotionally healthy.
**3.2** Students demonstrate the ability to maintain a healthy lifestyle.
**4.1** Students effectively use interpersonal skills.
**4.4** Students demonstrate the ability to accept the rights and responsibilities for self and others.
**5.1** Students use critical thinking skills such as analyzing, prioritizing, categorizing, evaluating, and comparing to solve a variety of problems in real-life situations.
**5.4** Students use a decision-making process to make informed decisions among options.

**Primary Enduring Knowledge – Understandings**

*Students will understand that*

- individuals have a responsibility to maintain a healthy lifestyle.
- changes are normal and each individual is unique in the growth and development process.
- responsibility to others enhances social interactions skills.
- media and use of technology (e.g., television, computers, MP3 Players, electronic/arcade games) can influence personal health.
- behavioral choices affect physical, mental, emotional and social well-being and can have positive or negative consequences on one's health.
- positive health habits can help prevent injuries and the spreading of diseases to self and others.

**Primary Skills and Concepts – Personal and Physical Health**

*Students will*

- demonstrate awareness of the concept of responsibility to oneself and others
- identify relationships between personal health behaviors and individual well-being
- describe how the family, physical and social environments influence personal health
- recognize indicators of mental/emotional, social, and physical health during childhood
- explain why growth and development are unique to each individual
- describe how diet, exercise, and rest affect the body

## Big Idea: Personal Wellness (Health Education) – Continued

**Primary Skills and Concepts – Social, Metal and Emotional Health**
*Students will*

- demonstrate social interaction skills by:
  - using etiquette, politeness, sharing and other positive social interaction skills
  - working and playing collaboratively in large and small groups
  - using appropriate means to express needs, wants and feelings
  - describing characteristics needed to be a responsible friend and family member
  - practicing attentive listening skills that build and maintain healthy relationships
  - identifying the differences between verbal and nonverbal communication
  - identifying social interaction skills that enhance individual health
- explain how an individual's attitude can affect one's personal health
  - social health: getting along with others, serving as team members
  - emotional health: expressing feelings, self-concept
- define and identify ways to manage stress (e.g., exercise, drawing/writing/talking about feelings)

**Primary Skills and Concepts – Family and Community Health**
*Students will*

- describe ways technology and media influence:
  - family
  - feelings and thoughts
  - physical, social, and emotional health

**Primary Skills and Concepts – Communicable, Non-Communicable and Chronic Diseases Prevention**
*Students will*

- identify and practice personal health habits (e.g., hand washing, care of teeth and eyes, covering coughs and sneezes, sun protection) which affect self and others in the prevention and spread of disease
- describe the reasons for regular visits to health care providers

**Primary Skills and Concepts – Alcohol, Tobacco and Other Drugs**
*Students will*

- identify the differences between the use/misuse of alcohol, tobacco and other drugs and the effects they have on the body

## Big Idea: Nutrition (Health Education)

Proper nutrition is critical to good health. To maintain a healthy weight, good dietary habits and physical activity are essential. Nutritious foods are necessary for growth, development and maintenance of healthy bodies.

**Academic Expectations**

**2.30** Students evaluate consumer products and services and make effective consumer decisions.
**2.31** Students demonstrate the knowledge and skills they need to remain physically healthy and to accept responsibility for their own physical well-being.
**3.2** Students will demonstrate the ability to maintain a healthy lifestyle.
**3.5** Students will demonstrate self-control and self-discipline.
**5.1** Students use critical thinking skills such as analyzing, prioritizing, categorizing, evaluating, and comparing to solve a variety of problems in real-life situations.
**5.4** Students use decision-making process to make informed decisions among options.

**Primary Enduring Knowledge – Understandings**

*Students will understand that*

- proper nutrition is essential to growth and development.
- nutrients provide energy for daily living.
- resources are available to assist in making nutritional choices.

**Primary Skills and Concepts**

*Students will*

- explain why foods are needed by the body (growth, energy)
- identify the six nutrients
- investigate the role of the digestive system in nutrition
- describe the reasons why an individual needs to eat breakfast
- identify the food groups and the recommended number of daily servings to be eaten from each group
- apply the decision-making process in making healthful food choices

## Big Idea: Safety (Health Education)

Accidents are a major cause of injury and death to children and adolescents. Unintentional injuries involving motor vehicles, falls, drowning, fires, firearms, and poisons can occur at home, school and work. Safe behavior protects a person from danger and lessens the effects of harmful situations.

**Academic Expectations**

**2.3** Students demonstrate the knowledge and skills they need to remain physically healthy and to accept responsibility for their own physical well-being.
**2.33** Students demonstrate the skills to evaluate and use services and resources available in their community.
**3.2** Students will demonstrate the ability to maintain a healthy lifestyle.
**4.3** Students individually demonstrate consistent, responsive, and caring behavior.
**4.4** Students demonstrate the ability to accept the rights and responsibilities for self and others.
**5.1** Students use skills such as analyzing, prioritizing, categorizing, evaluating and comparing to solve a variety of problems in real-life situations.
**5.4** Students use a decision-making process to make informed decisions among-options.

**Primary Enduring Knowledge – Understandings**

*Students will understand that*

- safety practices and procedures help prevent injuries and provide a safe environment.
- community resources are available to assist in hazardous situations.

**Primary Skills and Concepts**

*Students will*

- explain and practice safety rules/procedures for crossing streets, riding in cars/buses, loading/unloading buses, and using playground equipment
- identify and explain how to help prevent injuries at home and at school (e.g., seat belts, helmets, knee pads)
- explain and demonstrate school and home safety procedures (e.g., tornado, fire, earthquake drills)
- demonstrate awareness of how to avoid danger (e.g., fires, strangers)
- identify procedures and practices for obtaining emergency assistance and information (e.g., fire department, police department, poison control, ambulance service, when to call 911)
- identify the available health and safety agencies in a community and the services they provide (e.g., health department, fire department, police, ambulance services)

## Big Idea: Psychomotor Skills (Physical Education)

Cognitive information can be used to understand and enhance the development of motor skills such as movement sequences and patterns. Individuals who understand their bodies and how to perform various movements will be safer and more productive in recreation and work activities. Development of psychomotor skills contributes to the development of social and cognitive skills.

**Academic Expectations**

**2.31** Students demonstrate the knowledge and skills they need to remain physically healthy and to accept responsibility for their own physical well-being.
**2.34** Students perform physical movements skills effectively in a variety of settings.
**2.35** Students demonstrate knowledge and skills that promote physical activity and involvement in physical activity throughout lives.
**4.1** Students effectively use interpersonal skills.

**Primary Enduring Knowledge – Understandings**

*Students will understand that*

- spatial awareness, motor skills and movement patterns are needed to perform a variety of physical activities.
- movement concepts, principles and strategies apply to the learning and performance of physical activities.

**Primary Skills and Concepts**

*Students will*

- demonstrate fundamental motor skills (e.g., locomotor, non-locomotor, object manipulation) and movement concepts(e.g., body control, space awareness)
- demonstrate fundamental motor skill aspects of performance
- utilize fundamental motor skills and movement concepts to create movement sequences
- demonstrate the contrast between slow and fast movements while traveling
- demonstrate relationships (e.g., over, under, front and back, side-by-side, leading and following) with other people and objects
- define the role personal and general space has in movement
- work in group settings without physically interfering with others
- develop basic manipulative skills (e.g., throwing, catching, kicking, striking)

## Big Idea: Lifetime Physical Wellness (Physical Education)

Lifetime Wellness is health-focused. The health-related activities and content utilized are presented to help students become more responsible for their overall health status and to prepare each student to demonstrate knowledge and skills that promote physical activity throughout their lives. Physical education uses physical activity as a means to help students acquire skills, fitness, knowledge and attitudes that contribute to their optimal development and well-being. Physical, mental, emotional, and social health is strengthened by regular involvement in physical activities.

**Academic Expectations**

**2.31** Students demonstrate the knowledge and skills they need to remain physically healthy and to accept responsibility for their own physical well-being.
**2.34** Students perform physical movements skills effectively in a variety of settings.
**2.35** Students demonstrate knowledge and skills that promote physical activity and involvement in physical activity throughout lives.
**3.1** Students demonstrate positive growth in self-concept through appropriate tasks or projects.
**3.2** Students demonstrate the ability to maintain a healthy lifestyle.
**3.7** Students demonstrate the ability to learn on one's own.
**4.2** Students use productive team membership skills.

**Primary Enduring Knowledge – Understandings**

*Students will understand that*

- physical activity provides opportunities for social interaction, challenges, and fun.
- participation in regular physical activity has physical, mental, and social benefits.
- practice is a basic component for improving sport skills.
- rules impact effective participation in physical activities.
- personal and social behavior that shows respect to self and others impacts enjoyment and safety in physical activity settings.
- regular participation in health-related, physical activity supports the goals of fitness and a healthier lifestyle throughout life.

**Primary Skills and Concepts**

*Students will*

- identify likes and dislikes connected with participating in sports and physical activities (e.g., enjoyment, challenge, maintaining fitness, teamwork)
- identify benefits gained from regular participation in physical activities and describe activities that will promote a physically active lifestyle
- identify the physiological and psychological changes in the body during physical activity
- participate in daily physical activity during and after school
- explain the importance of practice for improving performance in games and sports for individuals
- when participating in a variety of physical activities and games:
  - explain why rules are used (e.g., safety, fairness)
  - differentiate between positive and negative behaviors (e.g., waiting your turn vs. pushing in line, honesty vs. lying)
  - practice cooperation strategies with partners and small groups
- demonstrate and describe the concept of sportsmanship (e.g., rules, fair play) in regard to games and activities
- identify and explain how spectator behaviors influence the safety and enjoyment of sports and games
- explore and identify a variety of physical activities that enhance the health related fitness components

# PRIMARY SCIENCE

# Program of Studies – Science – Primary

The science program at the primary level should provide opportunities for students to think and work like scientists. Students must be provided multiple opportunities to observe and experience the world around them in order to develop scientific conceptions and abilities necessary to do scientific inquiry. These abilities include: (1) asking a question about objects, organisms and events in the environment, (2) planning and conducting a simple investigation/fair test, (3) using simple equipment and tools to gather data and extend the senses, (4) using data to construct a reasonable explanation and (5) communicating investigations and explanations.

Students should have opportunities to work individually and in groups of varying size and composition in order to conduct investigations, process information and discuss/debate important scientific concepts. Students must have regular opportunities to share their ideas with others and to test questions they generate as a result of their learning experiences.

In our technologically advanced society, information gathering must extend beyond the classroom walls and must involve a variety of credible sources. Scientists also place a high value on accurate record keeping and open communication of findings. The science classroom should mirror this by emphasizing multiple, varied and consistent methods of documenting and communicating learning.

The scientific content standards at the primary level are directly aligned with Kentucky's **Academic Expectations**. Science standards are organized around seven “Big Ideas” that are important to the discipline of science. These Big Ideas are: Structure and Transformation of Matter, Motion and Forces, The Earth and the Universe, Unity and Diversity, Biological Change, Energy Transformations and Interdependence. The Big Ideas are conceptual organizers for science and are the same at each grade level. This ensures students have multiple opportunities throughout their school careers to develop skills and concepts linked to the Big Ideas.

Under each Big Idea are statements of Enduring Knowledge/Understandings that represent overarching generalizations linked to the Big Ideas of science. The understandings represent the desired results - what learning will focus upon and what knowledge students will be able to explain or apply. Understandings can be used to frame development of units of study and lesson plans.

Skills and Concepts describe ways that students demonstrate their learning and are specific to each grade level. The skills and concepts for science are fundamental to scientific literacy, scientific inquiry and build on prior learning.

Effectively implementing the Program of Studies requires a common understanding of some of the terms referenced throughout this document. These terms include:

> **Investigate/Explore-** compile a variety of information through hands-on experiences (utilizing process skills such as measuring, observing, questioning, classifying, predicting and inferring) and/or consult a variety of print and non-print media in order to formulate conclusions and/or gather evidence/data.
>
> **Experiment/Test-** conduct a scientifically valid and controlled investigation, collecting and analyzing data. Use findings and conclusions to form logical explanations and openly share.

**Research**- consult a variety of credible sources of information to gain knowledge, answer questions and support conclusions and explanations.

**Model-** represent a phenomenon or concept. Models are often conceptual in nature and the term ‘model’ does not always imply a physical product.

## Big Idea: Structure and Transformation of Matter (Physical Science)

A basic understanding of matter is essential to the conceptual development of other big ideas in science. In the elementary years of conceptual development, students will be studying properties of matter and physical changes of matter at the macro level through direct observations, forming the foundation for subsequent learning. The use of models (and an understanding of their scales and limitations) is an effective means of learning about the structure of matter. Looking for patterns in properties is also critical to comparing and explaining differences in matter.

**Academic Expectations**

**2.1** Students understand scientific ways of thinking and working and use those methods to solve real-life problems.

**2.2** Students identify, analyze, and use patterns such as cycles and trends to understand past and present events and predict possible future events.

**2.4** Students use the concept of scale and scientific models to explain the organization and functioning of living and nonliving things and predict other characteristics that might be observed.

**Primary Enduring Knowledge – Understandings**

*Students will understand that*

- objects are made of one or more materials and investigating the properties of those materials helps in sorting and describing them.
- tools such as thermometers, magnifiers, rulers and balances can give more information about objects than can be obtained by just making observations.
- things can be done to materials to change some of their properties, but not all materials respond the same way to what is done to them.
- water can be a liquid, solid, or gas and can go back and forth from one form to another.
- in science, it is often helpful to work with a team and to share findings with others. All team members should reach their own individual conclusions, however, about what the findings mean.

**Primary Skills and Concepts**

*Students will*

- use senses to observe and describe properties of material objects (color, size, shape, texture, flexibility, magnetism)
- use appropriate tools (e.g., balance, metric ruler, thermometer, graduated cylinder) to measure and record length, width, volume, temperature and mass of material objects and to answer questions about objects and materials
- investigate the physical properties of water as a solid, liquid and gas
- classify water and other matter using one or more physical properties
- observe and predict the properties of material objects
- work with others to investigate questions about properties of materials, documenting and communicating observations, designs, procedures and results

## Big Idea: Motion and Forces (Physical Science)

Whether observing airplanes, baseballs, planets, or people, the motion of all bodies is governed by the same basic rules. In the elementary years of conceptual development, students need multiple opportunities to experience, observe, and describe (in words and pictures) motion, including factors (e.g., pushing, pulling) that affect motion.

**Academic Expectations**

**2.1** Students understand scientific ways of thinking and working and use those methods to solve real-life problems.

**2.2** Students identify, analyze, and use patterns such as cycles and trends to understand past and present events and predict possible future events.

**2.3** Students identify and analyze systems and the ways their components work together or affect each other.

**Primary Enduring Knowledge – Understandings**

*Students will understand that*

- things move in many different ways (e.g., fast and slow, back and forth, straight, zig zag, etc.).
- forces (pushes or pulls) can cause objects to start moving, go faster, slow down, or change the direction they are going.
- the position of an object can be described by locating it relative to another object or the background.
- vibration is a type of motion that is responsible for making sound.
- magnetism is a force that can make some things move without touching them.
- discovering patterns through investigation/observation allows predictions, based on that evidence, to be made about future events.

**Primary Skills and Concepts**

*Students will*

- identify points of reference/reference objects in order to describe the position of objects
- observe and describe (e.g., using words, pictures, graphs) the change in position over time (motion) of an object
- make qualitative (e.g., hard, soft, fast, slow) descriptions of pushes/pulls and motion
- use tools (e.g., timer, meter stick, balance) to collect data about the position and motion of objects in order to predict changes resulting from pushes and pulls
- explore differences in sounds (high and low pitch) produced by vibrations (e.g., making musical instruments that have moving parts that vibrate to produce sound)
- observe interactions of magnets with other magnets and with other matter (e.g., magnets have a force that can make some things move without touching them; larger size of a magnet does not have to mean it has greater force) in order to make generalizations about the behavior of magnets
- use standard units of measurement (e.g., meters, inches, seconds) during investigations to evaluate/compare results
- ask questions about motion, magnetism and sound and use a variety of print and non-print sources to gather and synthesize information

## Big Idea: The Earth and the Universe (Earth/Space Science)

The Earth system is in a constant state of change. These changes affect life on earth in many ways. Development of conceptual understandings about processes that shape the Earth begin at the elementary level with understanding what Earth materials are and that change occurs. At the heart of elementary students' initial understanding of the Earth's place in the universe is direct observation of the Earth-sun-moon system. Students can derive important conceptual understandings about the system as they describe interactions resulting in shadows, moon phases, and day and night. The use of models and observance of patterns to explain common phenomena is essential to building a conceptual foundation and supporting ideas with evidence at all levels.

**Academic Expectations**

**2.1** Students understand scientific ways of thinking and working and use those methods to solve real-life problems.

**2.2** Students identify, analyze, and use patterns such as cycles and trends to understand past and present events and predict possible future events.

**2.3** Students identify and analyze systems and the ways their components work together or affect each other.

**Primary Enduring Knowledge – Understandings**

*Students will understand that*

- people use a variety of earth materials for different purposes because of their different properties. All products that people use somehow come from the Earth.
- some events in nature have a repeating pattern. Weather changes from day to day, but things such as temperature or precipitation tend to be similar (high, medium or low) in the same months every year.
- the sun, moon and stars appear to move slowly across the sky at different speeds and we can see patterns in their movement with careful observation.
- the sun can only be seen in the daytime. The moon can sometimes be seen during the day and sometimes be seen at night and its shape changes in a predictable pattern.
- observable interactions of the sun, moon and the Earth can be used to identify the apparent pattern of their movement.
- raising questions about the Earth and the Universe and seeking answers to some of them (by careful observation and/or investigation) is what science is all about.

**Primary Skills and Concepts**

*Students will*

- use senses and scientific tools (e.g., hand lens/magnifier, metric ruler, balance, etc.) to observe, describe and classify earth materials (solid rocks, soils, water and air) using their physical properties
- explore how earth materials are used for certain things because of their properties
- observe weather conditions and record weather data over time using appropriate tools (e.g., thermometer, wind vane, rain gauge, etc.)
- use weather data to describe weather conditions and make simple predictions based on patterns observed (e.g., daily, weekly, seasonal patterns)
- observe the locations and real or apparent movements of the sun and the moon
- investigate evidence of interaction between the sun and the Earth (e.g., shadows, position of sun relative to horizon) to support inferences about movements in the Earth/Sun system
- communicate observations, investigations and conclusions orally and with written words, charts and diagrams

## Big Idea: Unity and Diversity (Biological Science)

All matter is comprised of the same basic elements, goes through the same kinds of energy transformations, and uses the same kinds of forces to move. Living organisms are no exception. Elementary students begin to observe the macroscopic features of organisms in order to make comparisons and classifications based upon likenesses and differences. Looking for patterns in the appearance and behavior of an organism leads to the notion that offspring are much like the parents, but not exactly alike. Emphasis at every level should be placed upon the understanding that while every living thing is composed of similar small constituents that combine in predictable ways, it is the subtle variations within these small building blocks that account for both the likenesses and differences in form and function that create the diversity of life.

**Academic Expectations**

**2.1** Students understand scientific ways of thinking and working and use those methods to solve real-life problems.

**2.2** Students identify, analyze, and use patterns such as cycles and trends to understand past and present events and predict possible future events.

**2.3** Students identify and analyze systems and the ways their components work together or affect each other.

**Primary Enduring Knowledge – Understandings**

*Students will understand that*

- most living things need water, food and air, while nonliving things can continue to exist without any requirements.
- plants and animals have features that help them live in different environments.
- some animals are alike in the way they look and in the things they do, and others are very different from one another.
- the offspring all living things are very much like their parents, but not exactly alike.
- organisms may not be able to survive if some of their parts are missing.

**Primary Skills and Concepts**

*Students will*

- describe the basic needs of organisms and explain how these survival needs can be met only in certain environments
- identify the characteristics that define a habitat
- investigate adaptations that enable animals and plants to grow, reproduce and survive (e.g., movements, body coverings, method of reproduction)
- analyze structures of plants and animals to make inferences about the types of environments for which they are suited
- use scientific tools (e.g., hand lens/magnifier, metric ruler, balance) to observe and make comparisons of organisms; and to classify organisms using one or more of their external characteristics (e.g., body coverings, body structures)
- analyze and compare a variety of plant and animal life cycles in order to uncover patterns of growth, development, reproduction and death of an organism
- ask questions that can be investigated, plan and conduct ‘fair tests,’ and communicate (e.g., write, draw, speak, multi-media) findings to others

## Big Idea: Biological Change (Biological Science)

The only thing certain is that everything changes. Elementary students build a foundational knowledge of change by observing slow and fast changes caused by nature in their own environment, noting changes that humans and other organisms cause in their environment, and observing fossils found in or near their environment.

**Academic Expectations**

**2.1** Students understand scientific ways of thinking and working and use those methods to solve real-life problems.

**2.2** Students identify, analyze, and use patterns such as cycles and trends to understand past and present events and predict possible future events.

**2.6** Students understand how living and nonliving things change over time and the factors that influence the changes.

**Primary Enduring Knowledge – Understandings**

*Students will understand that*

- fossils found in Earth materials indicate that organisms and environmental conditions may have been different in the past.
- living things are found almost everywhere on our planet, but organisms living in one place may be different from those found somewhere else.
- some changes are so slow or so fast that they are hard to see.
- things change in some ways and stay the same in some ways.

**Primary Skills and Concepts**

*Students will*

- identify and describe evidence of organisms that no longer exist (fossils)
- examine fossils/representations of fossils and make comparisons between organisms that lived long ago and organisms of today (e.g., compare a fern to a fossil of a fern-like plant)
- make inferences about the basic environments represented by fossils found in earth materials (e.g., fossils of fish skeletons represent an aquatic environment)
- investigate and describe occurrences in the environment that illustrate change (e.g., erosion, earthquakes, weather phenomena, human intrusion)
- compare fossils, plants and animals from similar environments in different geographic locations
- describe in words, pictures and/or measurements, changes that occur quickly (e.g., puddles forming from rain, cutting hair, burning paper) and changes that occur more slowly (e.g., hair growing, water evaporating in an open container, growing in height), noting the factors that influence the change

## Big Idea: Energy Transformations (Unifying Concepts)

Energy transformations are inherent in almost every system in the universe—from tangible examples at the elementary level, such as heat production in simple earth and physical systems to more abstract ideas beginning at middle school, such as those transformations involved in the growth, dying and decay of living systems. The use of models to illustrate the often invisible and abstract notions of energy transfer will aid in conceptualization, especially as students move from the macroscopic level of observation and evidence (primarily elementary school) to the microscopic interactions at the atomic level (middle and high school levels).

**Academic Expectations**

**2.1** Students understand scientific ways of thinking and working and use those methods to solve real-life problems.

**2.2** Students identify, analyze, and use patterns such as cycles and trends to understand past and present events and predict possible future events.

**2.3** Students identify and analyze systems and the ways their components work together or affect each other.

**2.4** Students use the concept of scale and scientific models to explain the organization and functioning of living and nonliving things and predict other characteristics that might be observed.

**Primary Enduring Knowledge – Understandings**

*Students will understand that*

- energy makes things move, grow or work. Everything that changes uses energy to make those changes happen. Sometimes evidence of these changes can be seen, but not always.
- almost all kinds of food that animals eat can be traced back to plants. Food chains/webs are useful models of these relationships.
- the sun warms the air, land and water, and lights the Earth.
- light can be observed to determine how it travels and how it interacts with different materials (e.g. reflects, is absorbed, passes through).
- electricity can only flow when it has a closed path (circuit) to follow. Closed electric circuits can produce light and sound.

**Primary Skills and Concepts**

*Students will*

- identify examples and sources of energy
- create or interpret sketches, diagrams, 3-dimensional constructions and concept maps as models that can be used to represent things that can be seen, cannot be seen, or cannot be seen easily or in their entirety
- observe, illustrate and explain basic relationships of plants and animals in an ecosystem (e.g., use simple food chains and webs to explain how plants and animals get food/energy to live and grow)
- observe and describe evidence of the sun providing light and heat to the Earth
- demonstrate open and closed circuits using batteries, bulbs and wires and analyze models of basic electrical circuits in order to determine whether a simple circuit is open or closed
- investigate light traveling in a straight line until striking an object by observing the shapes of the shadows that are produced
- explore a variety of models (e.g., food chains, webs, circuit diagrams) to infer whether the representation is complete or only part of the actual event/object

## Big Idea: Interdependence (Unifying Concepts)

It is not difficult for students to grasp the general notion that species depend on one another and on the environment for survival. But their awareness must be supported by knowledge of the kinds of relationships that exist among organisms, the kinds of physical conditions that organisms must cope with, the kinds of environments created by the interaction of organisms with one another and their physical surroundings, and the complexity of such systems. Elementary learners need to become acquainted with ecosystems that are easily observable to them by beginning to study the habitats of many types of local organisms. Students begin to investigate the survival needs of different organisms and how the environment affects optimum conditions for survival.

**Academic Expectations**

**2.1** Students understand scientific ways of thinking and working and use those methods to solve real-life problems.

**2.2** Students identify, analyze, and use patterns such as cycles and trends to understand past and present events and predict possible future events.

**2.3** Students identify and analyze systems and the ways their components work together or affect each other.

**2.4** Students use the concept of scale and scientific models to explain the organization and functioning of living and nonliving things and predict other characteristics that might be observed.

**Primary Enduring Knowledge – Understandings**

*Students will understand that*

- the world has many different environments. Distinct environments support the lives of different types of organisms.
- when the environment changes, some plants and animals survive and reproduce, and others die or move to new locations.

**Primary Skills and Concepts**

*Students will*

- identify the characteristics of an ecosystem
- observe, document and explain how organisms depend on their environments
- describe and explain how the environment can be affected by the organisms living there
- describe how changes in an environment might affect plants' and animals' ability to survive
- ask questions that can be explored using a variety of appropriate print and non-print resources (e.g., why certain plants can not survive in a particular area; why some animals are endangered or extinct; why some areas are 'protected')

# PRIMARY
# SOCIAL STUDIES

# Program of Studies – Social Studies – Primary

The social studies program in primary includes connections to literature, active, hands-on work with concrete materials and appropriate technologies. Although the social studies program for primary is divided into five areas, each area is designed to interact with the others in an integrated fashion. Because of this integration, students are able to develop broad conceptual understandings in social studies. This style of learning reflects the developmental nature of children.

The primary purpose of social studies is to help students develop the ability to make informed decisions as citizens of a culturally diverse, democratic society in an interdependent world. The skills and concepts found throughout this document reflect this purpose by promoting the belief that students must develop more than an understanding of social studies content. They must also be able to apply the content perspectives of several academic fields of the social studies to personal and public experiences. By stressing the importance of both content knowledge and its application, the social studies curriculum in Kentucky provides a framework that prepares students to become productive citizens.

The social studies content standards at the primary level are directly aligned with Kentucky's **Academic Expectations**. Social Studies standards are organized around five “Big Ideas” that are important to the discipline of social studies. The five Big Ideas in social studies are: Government and Civics, Cultures and Societies, Economics, Geography and Historical Perspective. The Big Ideas, which are more thoroughly explained in the pages that follow, are conceptual organizers that are the same at each grade level. This consistency ensures students have multiple opportunities throughout their school careers to develop skills and concepts linked to the Big Ideas.

Under each Big Idea are statements of Enduring Knowledge/Understandings that represent overarching generalizations linked to the Big Ideas of social studies. The understandings represent the desired results - what learning will focus upon and what knowledge students will be able to explain or apply. Understandings can be used to frame development of units of study and lesson plans.

Skills and concepts describe ways that students demonstrate their learning and are specific to each grade level. The skills and concepts for social studies are fundamental to social studies literacy and build on prior learning.

The social studies program includes strong literacy connections, active hands-on work with concrete materials, and appropriate technologies. The social studies curriculum includes and depends on a number of different types of materials such as textbooks, non-fiction texts, biographies, autobiographies, journals, maps, newspapers, photographs and primary documents. Higher order thinking skills, such as compare, explain, analyze, predict, construct and interpret, are all heavily dependent on a variety of literacy skills and processes. For example, in social studies students must be able to understand specialized vocabulary, identify and comprehend key pieces of information within texts, determine what is fact and what is opinion, relate information across texts, connect new information to prior knowledge and synthesize the information to make meaning.

## Big Idea: Government and Civics

The study of government and civics equips students to understand the nature of government and the unique characteristics of American democracy, including its fundamental principles, structure and the role of citizens. Understanding the historical development of structures of power, authority and governance and their evolving functions in contemporary U.S. society and other parts of the world is essential for developing civic competence. An understanding of civic ideals and practices of citizenship is critical to full participation in society and is a central purpose of the social studies.

**Academic Expectations**

**2.14** Students understand the democratic principles of justice, equality, responsibility, and freedom and apply them to real-life situations.

**2.15** Students can accurately describe various forms of government and analyze issues that relate to the rights and responsibilities of citizens in a democracy.

**Primary Enduring Knowledge – Understandings**

*Students will understand that*

- local governments are formed to establish order, provide security and accomplish common goals.
- citizens of local communities have certain rights and responsibilities in a democratic society.
- local communities promote the basic principles (e.g., liberty, justice, equality, rights, responsibilities) of a democratic form of government.

**Primary Skills and Concepts**

*Students will*

- demonstrate (e.g., speak, draw, write) an understanding of the nature of government:
  - explain basic functions (to establish order, to provide security and accomplish common goals) of local government
  - explore and give examples of the services (e.g., police and fire protection, maintenance of roads, snow removal, garbage pick-up)
  - investigate how the local government pays for services (by collecting taxes from people who live there)
  - explain the reasons for rules in the home and at school; and compare rules (e.g., home, school) and laws in the local community
  - investigate the importance of rules and laws and give examples of what life would be like without rules and laws (home, school, community)
- explore personal rights and responsibilities:
  - explain, demonstrate, give examples of ways to show good citizenship at school and in the community (e.g., recycling, picking up trash)
  - describe the importance of civic participation and locate examples (e.g., donating canned food to a class food drive) in current events/news
- use a variety of print and non-print sources (e.g., stories, books, interviews, observations) to identify and describe basic democratic ideas (e.g., liberty, justice, equality, rights, responsibility)

## Big Idea: Cultures and Societies

Culture is the way of life shared by a group of people, including their ideas and traditions. Cultures reflect the values and beliefs of groups in different ways (e.g., art, music, literature, religion); however, there are universals connecting all cultures. Culture influences viewpoints, rules and institutions in a global society. Students should understand that people form cultural groups throughout the United States and the World, and that issues and challenges unite and divide them.

**Academic Expectations**

**2.16** Students observe, analyze, and interpret human behaviors, social groupings, and institutions to better understand people and the relationships among individuals and among groups.

**2.17** Students interact effectively and work cooperatively with the many ethnic and cultural groups of our nation and world.

**Primary Enduring Knowledge – Understandings**

*Students will understand that*

- culture is a system of beliefs, knowledge, institutions, customs/traditions, languages and skills shared by a group of people.
- cultures develop social institutions (e.g., government, economy, education, religion, family) to structure society, influence behavior, and respond to human needs.
- interactions among individuals and groups assume various forms (e.g., compromise, cooperation, conflict, competition).
- a variety of factors promote cultural diversity in a community.
- an understanding and appreciation of the diverse complexity of cultures is essential to interact effectively and work cooperatively with the many diverse ethnic and cultural groups of today.

**Primary Skills and Concepts**

*Students will*

- develop an understanding of the nature of culture:
  - explore and describe cultural elements (e.g., beliefs, traditions, languages, skills, literature, the arts)
  - investigate diverse cultures using print and non-print sources (e.g., stories, books, interviews, observations)
- investigate social institutions (e.g., schools) in the community
- describe interactions (e.g., compromise, cooperation, conflict, competition) that occur between individuals/groups
- describe and give examples of conflicts and conflict resolution strategies

## Big Idea: Economics

Economics includes the study of production, distribution, and consumption of goods and services. Students need to understand how their economic decisions affect them, others and the nation as a whole. The purpose of economic education is to enable individuals to function effectively both in their own personal lives and as citizens and participants in an increasingly connected world economy. Students need to understand the benefits and costs of economic interaction and interdependence among people, societies and governments.

**Academic Expectations**

**2.18** Students understand economic principles and are able to make economic decisions that have consequences in daily living.

**Primary Enduring Knowledge – Understandings**

*Students will understand that*

- the basic economic problem confronting individuals and groups in our community today is scarcity; as a result of scarcity economic choices and decisions must be made.
- a variety of fundamental economic concepts (e.g., supply and demand, opportunity cost) impact individuals, groups and businesses in the community today.
- economic institutions are created to help individuals, groups and businesses in the community accomplish common goals.
- markets enable buyers and sellers to exchange goods and services.
- production, distribution and consumption of goods and services in the community have changed over time.
- individuals, groups and businesses in the community demonstrate interdependence as they make economic decisions about the use of resources (e.g., natural, human, capital) in the production, distribution, and consumption of goods and services.

**Primary Skills and Concepts**

*Students will*

- develop an understanding of the nature of limited resources and scarcity:
  - investigate and give examples of resources
  - explain why people cannot have all the goods and services they want
  - solve economic problems related to prioritizing resources, saving, loaning and spending money
  - explore differences between limited natural resources and limited human resources
- investigate banks in the community and explain how they help people (e.g., loan money, save money)
- compare ways people in the past/present acquired what they needed, using basic economic terms related to markets (e.g., goods, services, profit, consumer, producer, supply, demand, buyers, sellers, barter)
- describe and give examples of production, distribution and consumption of goods and services in the community

## Big Idea: Geography

Geography includes the study of the five fundamental themes of location, place, regions, movement and human/environmental interaction. Students need geographic knowledge to analyze issues and problems to better understand how humans have interacted with their environment over time, how geography has impacted settlement and population, and how geographic factors influence climate, culture, the economy and world events. A geographic perspective also enables students to better understand the past and present and to prepare for the future.

**Academic Expectations**

**2.19** Students recognize and understand the relationship between people and geography and apply their knowledge in real-life situations.

**Primary Enduring Knowledge – Understandings**

*Students will understand that*

- the use of geographic tools (e.g., maps, globes, charts, graphs) and mental maps help to locate places, recognize patterns and identify geographic features.
- patterns emerge as humans move, settle and interact on Earth's surface and can be identified by examining the location of physical and human characteristics, how they are arranged and why they are in particular locations.
- people depend on, adapt to, and/or modify the environment to meet basic needs. Human actions modify the physical environment and in turn, the physical environment limits and/or promotes human activities.

**Primary Skills and Concepts**

*Students will*

- develop an understanding of patterns on the Earth's surface using a variety of geographic tools (e.g., maps, globes, charts, graphs):
  - locate and describe familiar places at school and the community
  - create maps that identify the relative location of familiar places and objects (e.g., school, neighborhood)
  - identify major landforms (e.g., continents, mountain ranges) and major bodies of water (e.g., oceans, rivers)
- investigate the Earth's surface using print and non-print sources (e.g., books, magazines, films, Internet, geographic tools):
  - locate and describe places (e.g., local environments, different habitats) using their physical characteristics (e.g., landforms, bodies of water)
  - identify and explain patterns of human settlement in different places
- compare ways people and animals modify the physical environment to meet their basic needs (e.g., clearing land to build homes versus building nests and burrows as shelters)
- recognize how technology helps people move, settle, and interact in the world

## Big Idea: Historical Perspective

History is an account of events, people, ideas and their interaction over time that can be interpreted through multiple perspectives. In order for students to understand the present and plan for the future, they must understand the past. Studying history engages students in the lives, aspirations, struggles, accomplishments, and failures of real people. Students need to think in an historical context in order to understand significant ideas, beliefs, themes, patterns and events, and how individuals and societies have changed over time in Kentucky, the United States and the World.

**Academic Expectations**

**2.20** Students understand, analyze, and interpret historical events, conditions, trends, and issues to develop historical perspective.

**Primary Enduring Knowledge – Understandings**

*Students will understand that*

- history is an account of human activities that is interpretive in nature. A variety of tools (e.g., primary and secondary sources) are needed to understand historical events.
- history is a series of connected events shaped by multiple cause-effect relationships, tying past to present.
- history has been impacted by significant individuals and groups.

**Primary Skills and Concepts**

*Students will*

- develop an understanding of the nature of history using a variety of tools (e.g., primary and secondary sources, family mementoes, artifacts, Internet, diaries, timelines, maps):
  - examine the past (of selves and the community)
  - distinguish among past, present and future people, places, events
  - explain why people move and settle in different places; explore the contributions of diverse groups
- use print and non-print sources (e.g., stories, folktales, legends, films, magazines, Internet, oral history):
  - investigate and give examples of factual and fictional accounts of historical events
  - explore and give examples of change over time (e.g., transportation, clothing, communication, technology, occupations)
- investigate the significance of patriotic symbols, patriotic songs, patriotic holidays and landmarks (e.g., the flag of the United States, the song “My Country, ‘Tis of Thee,” the Fourth of July, Veterans’ Day, the Statue of Liberty)

# PRIMARY TECHNOLOGY

# Program of Studies – Technology – Primary

Technology use in the 21st century has become a vital component of all aspects of life. For students in Kentucky to be contributing citizens, they must receive an education that incorporates technology literacy at all levels. Technology literacy is the ability of students to responsibly use appropriate technology to communicate, solve problems, and access, manage, integrate, evaluate, and create information to improve learning in all subject areas and to acquire lifelong knowledge and skills in the 21st century. The Technology Program of Studies provides a framework for integrating technology into all content areas. It reflects the basic skills required for each student to be competitive in the global economy.

For students to gain the technology competencies, it is essential that they have access to technology during the school day in all grade levels. Instruction should provide opportunities for students to gain and demonstrate technology skills that build primary through grade 12.

The technology content standards should be integrated into each curricular discipline. The purpose of integrating technology is to help students make useful connections between what they learn in each content area and the real world. Technology knowledge, concepts and skills should be interwoven into lessons or units and taught in partnership with other content areas. Technology lends itself to curriculum integration and team teaching. Technology can enhance learning for all students, and for some it is essential for access to learning.

The technology content standards are organized by grade spans: primary, intermediate, middle, and high. The technology program of studies at the primary level includes beginning competencies related to technology literacy. Students are involved in the use of technology for communicating and collaborating with others and in developing ideas and opinions. Students interact with developmentally appropriate applications (e.g., interactive books, graphic organizers, reading and writing assistants, mathematical and scientific tools). Through this experience, students gain a positive view of technology as tools for learning.

The technology content standards at the primary grade span are directly aligned with Kentucky's **Academic Expectations**. Technology standards are organized around three Big Ideas that are important to the discipline of technology. The three Big Ideas in technology are: **1) Information, Communication and Productivity; 2) Safety and Ethical/Social Issues;** and **3) Research, Inquiry/Problem-Solving and Innovation**. The Big Ideas are conceptual organizers for technology. Each grade level span ensures students have multiple opportunities throughout their school careers to develop skills and concepts linked to the Big Ideas.

Under each Big Idea are statements of *Enduring Knowledge/Understandings* that represent overarching generalizations linked to the Big Ideas of Technology. The understandings represent the desired results--what learning will focus upon and what knowledge students will be able to explain or apply. *Understandings* can be used to frame development of units of study and lesson plans.

*Skills and Concepts* describe ways that students demonstrate their learning and are specific to each grade level span. The skills and concepts for technology are fundamental to technology literacy, safe use and inquiry.

## Big Idea: Information, Communication and Productivity

Students demonstrate a sound understanding of the nature and operations of technology systems. Students use technology to learn, to communicate, to increase productivity and become competent users of technology. Students manage and create effective oral, written and multimedia communication in a variety of forms and contexts.

**Academic Expectations**

**1.11** Students write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.
**1.16** Students use computers and other kinds of technology to collect, organize, and communicate information and ideas.
**3.3** Students demonstrate the ability to be adaptable and flexible through appropriate tasks or projects.
**6.1** Students connect knowledge and experiences from different subject areas.
**6.3** Students expand their understanding of existing knowledge by making connections with new knowledge, skills and experiences.

**Primary Enduring Knowledge – Understandings**

*Students will understand that*

- technology is used in all content areas to support directed and independent learning.
- appropriate terminology, computer operations and applications assist in gaining confidence in the use of technology.
- technology requires proper care and maintenance to be used effectively.
- technology is used to communicate in a variety of ways.

**Primary Skills and Concepts – Information**

*Students will*

- investigate different technology devices and systems (e.g., computer processor unit, monitor, keyboard, disk drive, printer, mouse, digital cameras, interactive white boards)
- use and care for technology (e.g., computers, cell phones, digital cameras, scanners, multimedia) at home, school and community
- use appropriate technology terms (e.g., hardware, software, CD, hard drive)
- demonstrate proper keyboarding techniques, optimal posture and correct hand placement (e.g., left hand for left side keys and right hand for right side keys, special keys such as space bar, enter/return, backspace, shift, delete)

**Primary Skills and Concepts – Communication**

*Students will*

- use technology to communicate in a variety of modes (e.g., recordings, speech to text, print, media)
- participate in group projects and learning activities using technology communications

**Primary Skills and Concepts – Productivity**

*Students will*

- explain how information can be published and presented in different formats
- create a variety of tasks using technology devices and systems to support authentic learning

## Big Idea: Safety and Ethical/Social Issues

Students understand safe and ethical/social issues related to technology. Students practice and engage in safe, responsible and ethical use of technology. Students develop positive attitudes toward technology use that supports lifelong learning, collaboration, personal pursuits and productivity.

**Academic Expectations**

**2.17** Students interact effectively and work cooperatively with the many ethnic and cultural groups of our nation and world.
**3.6** Students demonstrate the ability to make decisions based on ethical values.
**4.3** Students individually demonstrate consistent, responsive and caring behavior.
**4.4** Students demonstrate the ability to accept the rights and responsibilities for self and others.
**4.5** Students demonstrate an understanding of, appreciation for, and sensitivity to a multi-cultural and world view.

**Primary Enduring Knowledge – Understandings**

*Students will understand that*

- responsible and ethical use of technology is necessary to ensure safety.
- technology enhances collaboration to contribute to a learning community.
- acceptable technology etiquette is essential to respectful social interactions and good citizenship.
- technology is used in jobs and careers to support the needs of the community.
- assistive technology supports learning to ensure equitable access to a productive life.

**Primary Skills and Concepts – Safety**

*Students will*

- explain the importance of safe Internet use (e.g., iSafe skills)
- use safe behavior when using technology

**Primary Skills and Concepts – Ethical Issues**

*Students will*

- use responsible and ethical behavior in using technology
- adhere to the Acceptable Use Policy (AUP) as well as other state and federal laws

**Primary Skills and Concepts – Social Issues**

*Students will*

- work cooperatively with peers, family members and others when using technology
- collaborate with peers, family members and others when using technology
- explain how technology is used in jobs and careers

## Big Idea: Research, Inquiry/Problem-Solving and Innovation

Students understand the role of technology in research and experimentation. Students engage technology in developing solutions for solving problems in the real world. Students will use technology for original creation and innovation.

**Academic Expectations**

**1.1** Students use reference tools such as dictionaries, almanacs, encyclopedias, and computer reference programs and research tools such as interviews and surveys to find the information they need to meet specific demands, explore interests, or solve specific problems.
**2.3** Students identify and analyze systems and the ways their components work together or affect each other.
**5.1** Students use critical thinking skills such as analyzing, prioritizing, categorizing, evaluating, and comparing to solve a variety of problems in real-life situations.
**5.2** Students use creative thinking skills to develop or invent novel, constructive ideas or products.
**5.4** Students use a decision-making process to make informed decisions among options.
**5.5** Students use problem-solving processes to develop solutions to relatively complex problems.
**6.1** Students connect knowledge and experiences from different subject areas.

**Primary Enduring Knowledge – Understandings**

*Students will understand that*

- technology assists in gathering, organizing and evaluating information from a variety of sources to answer an essential question.
- technology is used to analyze real world data and support critical thinking skills through inquiry/problem-solving in order to produce results and make informed decisions.

**Primary Skills and Concepts – Research**

*Students will*

- use teacher-directed Internet sources as a resource for information
- use electronic resources to access and retrieve information

**Primary Skills and Concepts – Inquiry/Problem-solving**

*Students will*

- gather technology information/data and use for problem solving in all content areas
- describe at least one strategy for problem solving while using technology (e.g., inquiry/problem-solving software, troubleshooting technology issues)

**Primary Skills and Concepts – Innovation**

*Students will*

- use technology for original creations/innovation in classroom
- express creativity both individually and collaboratively using technology

# PRIMARY VOCATIONAL STUDIES

# Program of Studies – Vocational Studies – Primary

The vocational studies program in the primary level develops an awareness of careers. This awareness includes the purpose of having a job, concepts of consumer decision-making, saving money, and connections between work and learning. The challenge is to empower students to make a connection between school and the world of work and to be productive citizens.

The primary level provides appropriate opportunities for students to be involved in activities designed to develop an appreciation of work and an awareness of self and jobs/careers. They should examine the relationship between school studies and work; this will enable them to make vital connections that will give meaning to their learning. Elementary students should begin to develop work habits, study skills, team skills and set short-term goals.

The vocational studies program at the primary level includes active, hands-on work with concrete materials and appropriate technologies. Although the vocational studies program for primary level is divided into five areas, each area is designed to interact with the others in an integrated fashion. Because of this integration, students are able to develop broad conceptual understandings in vocational studies. All content teachers are responsible for providing instruction in the Vocational Studies area.

The vocational studies content standards at the primary level are directly aligned with Kentucky's **Academic Expectations.** The vocational studies standards are organized around five "Big Ideas" that are important to the discipline of vocational studies. These big ideas are: Consumer Decisions, Financial Literacy, Career Awareness/Exploration/Planning, Employability Skills, and Communication/Technology. The Big Ideas are conceptual organizers for vocational studies and are the same at each grade level. This ensures students have multiple opportunities throughout their school career to develop skills and concepts linked to the Big Ideas.

Under each Big Idea are statements of Enduring Knowledge/Understandings that represent overarching generalizations linked to the Big Ideas of vocational studies. The understandings represent the desired results- that focus on learning, and the knowledge students will have to explain or apply. Understandings can be used to frame development of units of study and lessons plans.

Skills and concepts describe the ways that students demonstrate their learning and are specific to each grade level. The skills and concepts for vocational studies are fundamental to career awareness and builds on prior learning.

Academic Expectations 2.36 and 2.37 bring forward the career awareness in Vocational Studies. Vocational Studies provide a connection to Kentucky Learning Goal 3 (become self-sufficient individual) and Learning Goal 4 (become a responsible group members). These connections provide a comprehensive link between essential content, skills and abilities important to learning.

## Big Idea: Consumer Decisions

Individual and families need to make consumer decisions due to the numerous products/services on the market, multiple advertising techniques, and the need to make responsible financial management decisions. Accessing and assessing consumer information, comparing and evaluating products and services, provides basis for making effective consumer decisions. Consumer decisions influence the use of resources and the impact they have on the community and environment.

**Academic Expectations**

**2.30** Students evaluate consumer products and services and make effective consumer decisions.
**2.33** Students demonstrate the skills to evaluate and use services and resources available in their community.
**5.4** Students use a decision-making process to make informed decisions among options.

**Primary Enduring Knowledge – Understandings**

*Students will understand that*

- basic economic concepts are important for consumer decision-making.
- consumer decisions are influenced by economic and social factors.
- consumer actions (e.g., reusing, reducing, recycling) influence the use of resources and impact the environment.

**Primary Skills and Concepts**

*Students will*

- develop an understanding of how consumer decisions are influenced by economic and social factors by:
  - recognizing that consumers are people whose wants are satisfied by using goods and services
  - recognizing that producers are people who make goods and provide services
  - describing the steps in making consumer decisions
  - identifying the difference between wants and needs (e.g., food, clothing, and shelter) and the relationship to consumer decisions
  - describing major factors (e.g., price, quality, features) to consider when making consumer decisions
  - defining barter, giving examples of bartering (e.g., trading baseball cards with each other), and explaining how money makes it easier for people to get things they want
  - recognizing the relationship between supply and demand and the dependence one has on others to provide for wants and needs
  - identifying the ways friends may influence your decisions when making purchases
  - recognizing how media and advertising affect consumer decisions
- investigate media advertisements and newspaper stories that influence consumer decisions
- explore and use technology to access information as a consumer
- describe how consumer actions (e.g., reusing, reducing, recycling) influence the use of resources and impact the environment by:
  - describing some community activities that promote healthy environments

## Big Idea: Financial Literacy

Financial literacy provides knowledge so that students are responsible for their personal economic well-being. As consumers, individuals need economic knowledge as a base for making financial decisions impacting short and long term goals throughout one's lifetime. Financial literacy will empower students by providing them with the skills and awareness needed to establish a foundation for a future of financial responsibility and economic independence.

**Academic Expectations**

**2.30** Students evaluate consumer products and services and make effective consumer decisions.
**2.33** Students demonstrate the skills to evaluate and use services and resources available in their community.
**5.4** Students use a decision-making process to make informed decisions among options.

**Primary Enduring Knowledge – Understandings**

*Students will understand that*

- financial decisions impact the achievement of short and long-term goals.
- saving money is a component of financial decision-making.

**Primary Skills and Concepts**

*Students will*

- identify goals pertaining to money that might affect individuals and families
- investigate different ways to save money (e.g., piggy bank, local bank, savings bonds)

## Big Idea: Career Awareness, Exploration, Planning

Career awareness, exploration and planning gives students the opportunity to discover the various career areas that exist and introduce them to the realities involved with the workplace. Many factors need to be considered when selecting a career path and preparing for employment. Career awareness, exploration and planning will enable students to recognize the value of education and learn how to plan for careers. The relationship between academics and jobs/careers will enable students to make vital connections that will give meaning to their learning.

**Academic Expectations**

**2.36** Students use strategies for choosing and preparing for a career.
**2.37** Students demonstrate skills and work habits that lead to success in future schooling and work.
**5.4** Students use a decision-making process to make informed decision among options.

**Primary Enduring Knowledge – Understandings**

*Students will understand that*

- people need to work to meet basic needs.
- the connection between work and learning can influence one's future job/career.

**Primary Skills and Concepts**

*Students will*

- communicate the concepts of work and career
- examine and group careers found in the community
- identify that people need to work (e.g., chores, jobs, employment) to meet basic needs (e.g., food, clothing, shelter)
- describe the different job opportunities are available in the community
- explain different jobs/careers that use what they learn in school (e.g., mathematics, reading/writing, science, social studies) impacts future jobs/careers

## Big Idea: Employability Skills

Employability skills will focus on student's competencies with their work habits and academic/technical skills that will impact an individual's success in school and workplace. School-to-work transition skills will help students develop interpersonal skills and positive work habits.

**Academic Expectations**

**2.36** Students use strategies for choosing and preparing for a career.
**2.37** Students demonstrate skills and work habits that lead to success in future schooling and work.
**3.6** Students demonstrate the ability to make decisions based on ethical values.
**4.1** Students effectively use interpersonal skills.
**4.2** Students use productive team membership skills.

**Primary Enduring Knowledge – Understandings**

*Students will understand that*

- interpersonal skills are needed to be a responsible friend, family and team member.
- attitudes and work habits contribute to success at home, school and work.

**Primary Skills and Concepts**

*Students will*

- identify how interpersonal skills are needed to be a responsible friend, family and team member by:
  - identifying ways to cooperate at both home and school
  - learning the importance of working with others in groups
  - demonstrating how to work cooperatively by contributing ideas, suggestions and efforts
- describe how attitudes and work habits contribute to success at home, school and work by:
  - describing study skills needed in the school
  - describing how attitude can impact an individual's performance at school
  - learning how to follow routines (e.g., rules, schedules, directions) with minimal supervision
- describe the importance of working hard and efficiently (e.g., taking pride in one's work, being on task)
- examine potential job/careers in the community

## Big Idea: Communication/Technology

Special communication/technology skills are needed for success in schooling and in the workplace. Students will be able to express information and ideas using a variety of technologies in various ways.

**Academic Expectations**

**1.16** Students use computers and other kinds of technology to collect, organize, and communicate information and ideas.

**2.37** Students demonstrate skills and work habits that lead to success in future schooling and work.

**Primary Enduring Knowledge – Understandings**

*Students will understand that*

- technology in school and the workplace can enhance learning and provide access to information and resources.
- communication skills are essential for jobs/careers.

**Primary Skills and Concepts**

*Students will*

- explore how technology is used in different jobs/careers
- investigate how technology in school and at work enhances learning and provide access to information and resources by:
  - identifying technology tools (e.g., electronic games, phones, computers) that are used in homes and schools
- identify ways written communication skills are used at school and in the workplace

# INTERMEDIATE EDUCATION

# Intermediate Education

The intermediate grades, most often viewed as grades four and five, build upon the integrated approach to curriculum that begins in a student's primary years. The intermediate program sets high expectations for all students through a rigorous curriculum that focuses on *Kentucky's Learning Goals*, *Academic Expectations* and the developmental characteristics of pre-adolescent children.

The fourth-grade program continues to address the intellectual, social, emotional, aesthetic and physical needs of fourth-grade students, thereby supporting their successful transition from the primary program. The fifth-grade program provides a continuation and extension of learning from the primary and fourth-grade programs and prepares student for transition to the middle level program.

Content charts included in this document for the intermediate level are arranged sequentially by grade. However, it is the prerogative of school councils to reorganize the content into a format that best meets the needs of the school's students. This allows schools the opportunity to create integrated, interdisciplinary or multidisciplinary programs.

**Program of Studies – Inquiry and Research – Intermediate**

Embedded within each content area are Inquiry and Research standards.

## Big Idea: Inquiry and Research

The Big Idea for Inquiry and Research states: the inquiry process is an authentic method of learning that includes activities such as self-selecting topics, formulating authentic questions, gathering information, researching resources, crafting experiments, observing, interviewing, evaluating information, analyzing and synthesizing data, and communicating findings and conclusions. The information-gathering stage is a self-directed process that is owned by the engaged learner. Individually and collaboratively, students work for a particular purpose, such as to discuss a text, solve a problem, make a decision, reach new understandings, and/or create products.

**Academic Expectations**

**5.1** Students use critical thinking skills such as analyzing, prioritizing, categorizing, evaluating, and comparing to solve a variety of problems in real-life situations.
**5.2** Students use creative thinking skills to develop or invent novel, constructive ideas or products.
**5.3** Students organize information to develop or change their understanding of a concept.
**5.4** Students use a decision-making process to make informed decisions among options.
**5.5** Students use problem-solving processes to develop solutions to relatively complex problems.
**6.1** Students connect knowledge and experiences from different subject areas.
**6.2** Students use what they already know to acquire new knowledge, develop new skills, or interpret new experiences.
**6.3** Students expand their understanding of existing knowledge by making connections with new knowledge, skills, and experiences.
**1.1** Students use reference tools such as dictionaries, almanacs, encyclopedias, and computer reference programs and research tools such as interviews and surveys to find the information they need to meet specific demands, explore interests, or solve specific problems.
**2.37** Students demonstrate skills and work habits that lead to success in future schooling and work.

**Enduring Knowledge – Understandings**

*Students will understand that*

- the inquiry process is used to investigate topics or questions important to the researcher. Questions are redefined throughout the learning process. The researcher may revise the question, refine a line of query, or go in a direction that the original question did not anticipate.
- many methods of and sources for investigation exist, including interview, observation, survey, viewing, experimenting, and critical reading. The ability to synthesize meaning is the creative spark that forms new knowledge.
- inquiry integrates elements and processes of reading, writing, research, creative and critical thinking, and logic, and involves communicating findings through a product.
- collaboration involves sharing new ideas with others. Shared knowledge is a community-building process, and the meaning of research/investigation takes on greater relevance in the context of the learner's society. Comparing notes, discussing conclusions, and sharing experiences are all examples of this process in action.
- reflection is ongoing and integral to the inquiry and research processes and involves taking the time to look back at the question, the research strategy, and the conclusions made. The learner evaluates, makes observations, and possibly makes new decisions.

# INTERMEDIATE ARTS AND HUMANITIES

# Program of Studies – Arts and Humanities – Fourth Grade

The arts and humanities program in the fourth grade continues to center on an exploration of the art forms of dance, drama/theatre, music and visual arts. Emphasis should be placed on exposing students to a variety of arts through active experiences in all four art forms. This exploration includes a beginning of literacy development in the arts content areas, basic level analysis and critique of the arts, and active creating and performing in the arts.

Students should have the opportunity to learn about the arts in the context of creating and performing. As students create and perform, they learn that the arts are basic to human communication and that they can use the arts to communicate specific meaning through their choices in the use of various arts elements and principles of design.

The arts and humanities content standards at the fourth grade level are directly aligned with Kentucky's broad standards called the **Academic Expectations**. The **Academic Expectations** are directly related to the *National Standards for Arts Education (1994)*.

Arts and humanities grade level content standards are organized around five “Big Ideas” that are important to the arts disciplines. The five big ideas in arts and humanities are: Structures in the Arts, Humanity in the Arts, Purposes for Creating the Arts, Processes in the Arts and Interrelationships Among the Arts. The Big Ideas are conceptual organizers for arts and humanities and are similar at each grade level to ensure students have multiple opportunities throughout their school careers to develop skills and concepts linked to each Big Idea.

Under each Big Idea are statements of Enduring Knowledge/Understandings that represent overarching generalizations linked to the Big Ideas of the arts and humanities. The understandings represent the desired results - what learning will focus upon and what knowledge students will be able to explain or apply. Understandings can be used to frame development of units of study and lesson plans.

Skills and concepts describe ways that students demonstrate their learning and are specific to each grade level. The skills and concepts for arts and humanities are fundamental to arts literacy and proficiency, and build on prior learning.

The three arts processes of creating, performing and responding to the arts provide a basis for deep understanding and appreciation of the arts. In the processes of creating and performing, a variety of technologies are employed, ranging from primitive technologies to cutting edge electronic and digital technologies.

**Creating** involves planning and creating new music, dance, drama/theatre or visual arts, or it may involve improvising in music, dance or drama/theatre. Improvising is the composing of new music, reciting/acting new dramatic material, or creating new dance movements on the spur of the moment.

**Performing** is limited to the performing arts of music, dance and drama/theatre. Performing involves presenting previously created works for an audience. Although the process of performing involves following a creative plan conceived by a composer, playwright or choreographer, there is still opportunity for creative interpretations in the performance.

**Responding** to the arts involves responses on multiple levels. The arts are a tool for communication and are capable of delivering meaning through literal and emotional content.

Responding to the emotional content of artworks involves actually feeling the emotion(s) set forth by the creator. Responding can also involve intellectual analysis of works of art in regard to their design, effectiveness and quality.

**Academic Expectations** 2.25 and 2.26 bring forward the study of the humanities in the arts. The arts reflect time, place and society and offer a mirror to the human experience. The powerful communication qualities of the arts also enable them to be a factor that can drive the human experience. Study of historical and cultural contexts in the arts is an essential and integral part of instruction across all the art forms and across all grade levels.

Fourth grade students should have the opportunity to experience the arts of various cultures around the world, but specific study should focus on influences in the early history of America and the United States, specifically Native American arts, West African arts, Appalachian arts; how the arts are part of these cultures and purposes they have served in those cultures. Students will also study European arts that influenced arts in the American Colonial period.

**Social studies content has a definitive focus on Kentucky history and culture during the fourth grade, so a heavier emphasis on the arts of Kentucky, as well as Appalachian arts and folk arts can be incorporated in the fourth grade arts and humanities curriculum.*

## Big Idea: Structure in the Arts

Understanding of the various structural components of the arts is critical to the development of other larger concepts in the arts. Structures that artists use include elements and principles of each art form, tools, media and subject matter that impact artistic products, and specific styles and genre that provide a context for creating works. It is the artist's choice of these structural components in the creative process that results in a distinctively expressive work. Students make choices about how to use structural organizers to create meaningful works of their own. The more students understand, the greater their ability to produce, interpret, or critique artworks from other artists, cultures, and historical periods.

**Academic Expectations**

**1.12** Students speak using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.
**1.13** Students make sense of ideas and communicate ideas with the visual arts.
**1.14** Students make sense of ideas and communicate ideas with music.
**1.15** Students make sense of and communicate ideas with movement.
**2.23** Students analyze their own and others' artistic products and performances using accepted standards.

**Grade 4 Enduring Knowledge – Understandings**

*Students will understand that*

- the elements of music, dance and drama are intentionally applied in creating and performing.
- the elements and principles of design of visual art are intentionally applied in creating works of art.
- responding to or critiquing works of art involves an understanding of elements, principles, and structures appropriate to each area of the arts.
- existing and emerging technologies can inspire new applications of structural components.

**Grade 4 Skills and Concepts – Music**

*Students will*

- recognize and identify elements of music (rhythm, tempo, melody, harmony, form, timbre, dynamics) using musical terminology
- use the elements of music while performing, singing, playing instruments, moving, listening, reading music, writing music and creating music independently and with others
- listen to and explore how changing different elements results in different musical effects
- recognize, describe and compare various styles of music (spirituals, game songs, folk songs, work songs, lullabies, patriotic, bluegrass)

**Grade 4 Skills and Concepts – Dance**

*Students will*

- recognize and identify elements of dance (space, time, force) and basic dance forms using dance terminology
- use the elements of dance in creating, copying and performing patterns of movement independently and with others
- observe, describe and demonstrate locomotor (e.g. walk, run, skip, gallop) and nonlocomotor (e.g. bend, stretch, twist, swing) movements

## Big Idea: Structure in the Arts – Continued

**Grade 4 Skills and Concepts – Drama/Theatre**
*Students will*

- recognize and identify elements of drama (literary, technical, performance) using drama/theatre terminology
- use the elements of drama in creating and performing dramatic works independently and with others
- observe, describe and apply creative dramatics (improvisation, mimicry, pantomime, role playing and story telling) in a variety of situations
- explore a variety of dramatic works (e.g., theater and dramatic media – film, television)

**Grade 4 Skills and Concepts – Visual Arts**
*Students will*

- recognize and describe elements of art (line, shape, form, texture, color) and principles of design (emphasis, pattern, balance, contrast) using visual art terminology
- use the elements of art and principles of design in creating artworks independently and with others
- explore, describe and compare elements of art (e.g., line, shape, form, texture, primary and secondary colors, color schemes) and principles of design (e.g., focal point, pattern, balance, contrast) in two and three dimensional artworks
- identify a variety of subject matter (e.g., landscape, portrait, still life)

## Big Idea: Humanity in the Arts

The arts reflect the beliefs, feelings, and ideals of those who create them. Experiencing the arts allows one to experience time, place and/or personality. By experiencing the arts of various cultures, students can actually gain insight into the beliefs, feelings and ideas of those cultures. Students also have the opportunity to experience how the arts can influence society through analysis of arts in their own lives and the arts of other cultures and historical periods. Studying the historical and cultural stylistic periods in the arts offers students an opportunity to understand the world past and present, and to learn to appreciate their own cultural heritage. Looking at the interrelationships of multiple arts disciplines across cultures and historical periods is the focus of humanities in the arts.

**Academic Expectations**

**2.24** Students have knowledge of major works of art, music, and literature and appreciate creativity and the contributions of the arts and humanities.

**2.25** In the products they make and the performances they present, students show that they understand how time, place, and society influence the arts and humanities such as languages, literature, and history.

**2.26** Through the arts and humanities, students recognize that although people are different, they share some common experiences and attitudes.

**Grade 4 Enduring Knowledge – Understandings**

*Students will understand that*

- the arts are powerful tools for understanding human experiences both past and present.
- the arts help us understand others' (often very different) ways of thinking, working and expressing ourselves.
- the arts play a major role in the creation and defining of cultures and building civilizations.

**Grade 4 Skills and Concepts – Music**

*Students will*

- associate music they listen to or perform with specific cultures (Native American, Appalachian, West African); describe in simple terms how the music reflects the cultures
- associate music they listen to or perform with the Colonial American period in history; describe in simple terms how the music reflects the Colonial American time period
- describe the music of specific cultures using music terminology

**Grade 4 Skills and Concepts – Dance**

*Students will*

- associate dances they observe or perform with specific cultures (Native American, Appalachian, West African); describe in simple terms how dances reflect the cultures
- associate dances they observe or perform with the Colonial American period in history; describe in simple terms how dances reflect the Colonial American time period
- describe the dance of specific cultures using dance terminology

**Grade 4 Skills and Concepts – Drama/Theatre**

*Students will*

- associate story telling, myths, legends, or folktales they experience or perform with specific cultures (Native American, Appalachian, West African); describe how literature and oral tradition reflect the cultures
- associate folktales, legends, or myths they experience or perform with the Colonial American period in history; describe how literature and oral tradition reflect the Colonial American time period
- describe story telling, myths, legends, or folktales of specific cultures using drama/theatre terminology

## Big Idea: Humanity in the Arts – Continued

**Grade 4 Skills and Concepts – Visual Arts**
*Students will*

- associate artworks they experience or create with specific cultures (Native American, Appalachian, West African); describe in simple terms how the art of these cultures reflects the cultures
- associate artworks they experience or create with the Colonial American period in history; describe how the art of the American Colonies reflects the Colonial American time period (e.g., European influences in American visual art)
- describe artworks of specific cultures using visual art terminology

## Big Idea: Purposes for Creating the Arts

The arts have played a major role throughout the history of humans. As the result of the power of the arts to communicate on a basic human level, they continue to serve a variety of purposes in society. The arts are used for artistic expression to portray specific emotions or feelings, to tell stories in a narrative manner, to imitate nature and to persuade others. The arts bring meaning to ceremonies, rituals, celebrations and commemorations. Additionally, they are used for recreation and to support recreational activities. Students experience the arts in a variety of roles through their own creations and performances and through those of others. Through their activities and observations, students learn to create arts and use them for a variety of purposes in society.

**Academic Expectations**

**1.12** Students speak using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.
**1.13** Students make sense of ideas and communicate ideas with the visual arts.
**1.14** Students make sense of ideas and communicate ideas with music.
**1.15** Students make sense of and communicate ideas with movement.
**2.22** Students create works of art and make presentations to convey a point of view.
**2.26** Through the arts and humanities, students recognize that although people are different, they share some common experiences and attitudes.

**Grade 4 Enduring Knowledge – Understandings**

*Students will understand that*

- the arts fulfill a variety of purposes in society (e.g., to present issues and ideas, to entertain, to teach or persuade, to design, plan and beautify).
- the arts have value and significance for daily life. They provide personal fulfillment, whether in career settings, avocational pursuits, or leisure.
- the arts provide forms of nonverbal communication that can strengthen the presentation of ideas and emotions.

**Grade 4 Skills and Concepts – Music**

*Students will*

- identify purposes for which music is created (e.g., ceremonial, recreational, artistic expression)
- listen to and perform music created to fulfill a variety of specific purposes

**Grade 4 Skills and Concepts – Dance**

*Students will*

- identify purposes for which dance is created (e.g., ceremonial, recreational, artistic expression)
- observe and perform dance created to fulfill a variety of specific purposes

**Grade 4 Skills and Concepts – Drama/Theatre**

*Students will*

- identify purposes for which dramatic works are created (e.g., sharing the human experience, passing on tradition and culture, recreational, artistic expression)
- observe and perform dramatic works created to fulfill a variety of specific purposes

**Grade 4 Skills and Concepts – Visual Arts**

*Students will*

- identify purposes for which artworks are created (e.g., ceremonial, artistic expression, narrative, functional)
- create new and experience artworks designed to fulfill a variety of specific purposes

## Big Idea: Processes in the Arts

There are three distinctive processes involved in the arts. These processes are creating new works, performing works for expressive purposes, and responding to artworks. Each process is critical and relies on others for completion. Artists create works to express ideas, feelings, or beliefs. The visual arts capture a moment in time while the performing arts (music, dance, drama/theatre) are performed for a live audience. The audience responds to the artistic expressions emotionally and intellectually based on the meaning of the work. Each process enhances understanding, abilities, and appreciation of others. Students involved in these processes over time will gain a great appreciation for the arts, for artists past and present, and for the value of artistic expression.

**Academic Expectations**

**1.12** Students speak using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.
**1.13** Students make sense of ideas and communicate ideas with the visual arts.
**1.14** Students make sense of ideas and communicate ideas with music.
**1.15** Students make sense of and communicate ideas with movement.
**2.22** Students create works of art and make presentations to convey a point of view.
**2.25** In the products they make and the performances they present, students show that they understand how time, place, and society influence the arts and humanities such as languages, literature, and history.

**Grade 4 Enduring Knowledge – Understandings**

*Students will understand that*

- there are three distinct processes for involvement in the arts; creating new artworks, performing works previously created, and responding to artworks and performances.
- full understanding and appreciation of the arts requires some degree of involvement in all three processes.
- openness, respect for work, and an understanding of how artists apply elements and principles of design in creating and performing are personal attitudes and skills that enhance enjoyment of the observer.
- existing and emerging technologies can extend the reach of the art form to new audiences.

**Grade 4 Skills and Concepts – Music**

*Students will*

- be actively involved in creating and performing music alone and with others
- use knowledge of the elements of music and music terminology to describe and critique their own performances and the performances of others
- identify possible criteria for evaluating music (e.g., skill of performers, originality, emotional impact, variety, interest)
- demonstrate behavior appropriate for observing the particular context and style of music being performed; discuss opinions with peers in a supportive and constructive way

**Grade 4 Skills and Concepts – Dance**

*Students will*

- be actively involved in creating and performing dance alone and with others
- perform traditional folk dances, square dances, and ethnic dances. (Native American, West African/African-American, Early American and folk)
- use knowledge of the elements of dance and dance terminology to describe and critique their own performances and the performances of others
- identify possible criteria for evaluating dance (e.g., skill of performers, originality, emotional impact, variety, interest)
- demonstrate behavior appropriate for observing the particular context and style of dance being performed; discuss opinions with peers in a supportive and constructive way

## Big Idea: Processes in the Arts – Continued

**Grade 4 Skills and Concepts – Drama/Theatre**
*Students will*

- be actively involved in creating and performing dramatic works
- use knowledge of the elements of drama and drama terminology to describe and critique their own performances and the performances of others
- identify possible criteria for evaluating dramatic works (e.g., skill of performers, originality, emotional impact, variety, interest)
- demonstrate behavior appropriate for observing the particular context and style of dramatic works being performed; discuss opinions with peers in a supportive and constructive way

**Grade 4 Skills and Concepts – Visual Arts**
*Students will*

- be actively involved in creating artworks
- use knowledge of the elements and principles of art and art terminology to describe and critique their own work and the work of others
- identify possible criteria for evaluating visual (e.g., skill of artist, originality, emotional impact, variety, interest)
- demonstrate behavior appropriate for observing the particular context and style of the artwork being viewed; discuss opinions with peers in a supportive and constructive way
- describe personal responses to artwork; explain why there might be different responses to specific works of art

## Big Idea: Interrelationships Among the Arts

The arts share commonalities in structures, purposes, creative processes, and their ability to express ideals, feelings and emotions. Studying interrelationships among the arts enables students to get a broad view of the expressiveness of the art forms as a whole, and helps to develop a full appreciation of the arts as a mirror of human kind.

**Academic Expectations**

**1.12** Students speak using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.
**1.13** Students make sense of ideas and communicate ideas with the visual arts.
**1.14** Students make sense of ideas and communicate ideas with music.
**1.15** Students make sense of and communicate ideas with movement.
**2.22** Students create works of art and make presentations to convey a point of view.
**2.25** In the products they make and the performances they present, students show that they understand how time, place, and society influence the arts and humanities such as languages, literature, and history.
**2.26** Through the arts and humanities, students recognize that although people are different, they share some common experiences and attitudes.

**Grade 4 Enduring Knowledge – Understandings**

*Students will understand that*

- the arts are basic forms of human communication.
- music, dance, drama and visual art created in common cultures and/or common historical periods tend to reflect common attitudes, ideas, beliefs and feelings.
- the arts provide forms of non-verbal communication that can strengthen the presentation of ideas and emotions.
- the modes of thinking and methods of the arts disciplines can be used to illuminate situations in other disciplines that require creative solutions.

**Grade 4 Skills and Concepts – Arts**

*Students will*

- recognize that common terms are used in various arts (e.g., tempo in dance and music)
- identify communication of common themes or ideas across different art forms
- identify and explain connections between and among different art forms from the same culture or from the same time period
- describe commonalities between the arts and other subjects taught in the school (e.g., observation skills in visual arts and science, historical and cultural perspectives in the arts and social studies, shape in visual art and mathematics, dance and a healthy lifestyle, fractions in music notation and mathematics, reading music and reading words, composing music and writing)
- communicate common meaning through creating and performing in the four art forms

# Program of Studies – Arts and Humanities – Fifth Grade

The arts and humanities program in the fifth grade continues to center on an exploration of the art forms of dance, drama/theatre, music and visual arts. Emphasis should be placed on exposing students to a variety of arts through active experiences in all four art forms. This exploration includes a beginning of literacy development in the arts content areas, basic level analysis and critique of the arts, and active creating and performing in the arts.

Students should have the opportunity to learn about the arts in the context of creating and performing. As students create and perform, they learn that the arts are basic to human communication and that they can use the arts to communicate specific meaning through their choices in the use of various arts elements and principles of design.

The arts and humanities content standards at the fifth grade level are directly aligned with Kentucky's broad standards called the **Academic Expectations**. The **Academic Expectations** are directly related to the *National Standards for Arts Education (1994)*.

Arts and humanities grade level content standards are organized around five “Big Ideas” that are important to the arts disciplines. The five big ideas in arts and humanities are: Structures in the Arts, Humanity in the Arts, Purposes for Creating the Arts, Processes in the Arts and Interrelationships Among the Arts. The Big Ideas are conceptual organizers for arts and humanities and are similar at each grade level to ensure students have multiple opportunities throughout their school careers to develop skills and concepts linked to each Big Idea.

Under each Big Idea are statements of Enduring Knowledge/Understandings that represent overarching generalizations linked to the Big Ideas of the arts and humanities. The understandings represent the desired results - what learning will focus upon and what knowledge students will be able to explain or apply. Understandings can be used to frame development of units of study and lesson plans.

Skills and concepts describe ways that students demonstrate their learning and are specific to each grade level. The skills and concepts for arts and humanities are fundamental to arts literacy and proficiency, and build on prior learning.

The three arts processes of creating, performing and responding to the arts provide a basis for deep understanding and appreciation of the arts. In the processes of creating and performing, a variety of technologies are employed, ranging from primitive technologies to cutting edge electronic and digital technologies.

**Creating** involves planning and creating new music, dance, drama/theatre or visual arts, or it may involve improvising in music, dance or drama/theatre. Improvising is the composing of new music, reciting/acting new dramatic material, or creating new dance movements on the spur of the moment.

**Performing** is limited to the performing arts of music, dance and drama/theatre. Performing involves presenting previously created works for an audience. Although the process of performing involves following a creative plan conceived by a composer, playwright or choreographer, there is still opportunity for creative interpretations in the performance.

**Responding** to the arts involves responses on multiple levels. The arts are a tool for communication and are capable of delivering meaning through literal and emotional content.

Responding to the emotional content of artworks involves actually feeling the emotion(s) set forth by the creator. Responding can also involve intellectual analysis of works of art in regard to their design, effectiveness and quality.

**Academic Expectations** 2.25 and 2.26 bring forward the study of the humanities in the arts. The arts reflect time, place and society and offer a mirror to the human experience. The powerful communication qualities of the arts also enable them to be a factor that can drive the human experience. Study of historical and cultural contexts in the arts is an essential and integral part of instruction across all the art forms and across all grade levels.

Fifth grade students should have the opportunity to experience the arts of various cultures around the world, but specific study should focus on influences in the early history of America and the United States, specifically Native American arts, West African arts, Appalachian arts; how the arts are part of these cultures and purposes they have served in those cultures. Students will also study European arts that influenced arts in the American Colonial period.

**Social studies content has a definitive focus on the American Colonial Period in the fifth grade, so a heavier emphasis on the arts of this period can be incorporated in the fifth grade arts and humanities curriculum.*

## Big Idea: Structure in the Arts

Understanding of the various structural components of the arts is critical to the development of other larger concepts in the arts. Structures that artists use include elements and principles of each art form, tools, media and subject matter that impact artistic products and specific styles and genre that provide a context for creating works. It is the artist's choice of these structural components in the creative process that results in a distinctively expressive work. Students make choices about how to use structural organizers to create meaningful works of their own. The more students understand, the greater their ability to produce, interpret, or critique artworks from other artists, cultures, and historical periods.

**Academic Expectations**

**1.12** Students speak using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.
**1.13** Students make sense of ideas and communicate ideas with the visual arts.
**1.14** Students make sense of ideas and communicate ideas with music.
**1.15** Students make sense of and communicate ideas with movement.
**2.23** Students analyze their own and others' artistic products and performances using accepted standards.

**Grade 5 Enduring Knowledge – Understandings**

*Students will understand that*

- the elements of music, dance and drama are intentionally applied in creating and performing.
- the elements and principles of design of visual art are intentionally applied in creating works of art.
- responding to or critiquing works of art involves an understanding of elements, principles and structures appropriate to each area of the arts.
- existing and emerging technologies can inspire new applications of structural components.

**Grade 5 Skills and Concepts – Music**

*Students will*

- recognize and identify elements of music (rhythm, tempo, melody, harmony, form, timbre, dynamics) using musical terminology
- use the elements of music while performing, singing, playing instruments, moving, listening, reading music, writing music and creating music independently and with others
- listen to and explore how changing different elements results in different musical effects
- recognize, describe and compare various styles of music (spirituals, game songs, folk songs, work songs, lullabies, patriotic, bluegrass)

**Grade 5 Skills and Concepts – Dance**

*Students will*

- analyze and explain the use of elements of dance (space, time, force) and basic dance forms using dance terminology
- use the elements of dance in creating, copying and performing patterns of movement independently and with others
- observe, describe and demonstrate locomotor (e.g. walk, run, skip, gallop) and nonlocomotor (e.g. bend, stretch, twist, swing) movements
- apply principles of movement (e.g., balance, initiation of movement, weight shift) when observing, creating and performing movement skills

## Big Idea: Structure in the Arts – Continued

**Grade 5 Skills and Concepts – Drama/Theatre**
*Students will*

- describe and compare elements of drama (literary, technical, performance) using drama/theatre terminology
- use the elements of drama in creating and performing dramatic works independently and with others
- observe, describe and apply creative dramatics (improvisation, mimicry, pantomime, role playing and story telling) in a variety of situations
- describe and explain characters, relationships among characters and settings as related to a script, a scenario, or classroom dramatization
- explore a variety of dramatic works (e.g., theater and dramatic media – film, television, electronic media)

**Grade 5 Skills and Concepts – Visual Arts**
*Students will*

- recognize and describe elements of art (line, shape, form, texture, color) and principles of design (emphasis, pattern, balance, contrast) using visual art terminology
- use the elements of art and principles of design in creating artworks independently and with others
- explore, describe and compare elements of art (e.g., line, shape, form, texture, primary and secondary colors, color schemes/groups) and principles of design (e.g., focal point, pattern, balance, contrast) in a variety of 2 and 3 dimensional artworks
- apply organizational structures and describe what makes them effective or not effective in communicating ideas

## Big Idea: Humanity in the Arts

The arts reflect the beliefs, feelings and ideals of those who create them. Experiencing the arts allows one to experience time, place and/or personality. By experiencing the arts of various cultures, students can actually gain insight into the beliefs, feelings and ideas of those cultures. Students also have the opportunity to experience how the arts can influence society through analysis of arts in their own lives and the arts of other cultures and historical periods. Studying the historical and cultural stylistic periods in the arts offers students an opportunity to understand the world past and present, and to learn to appreciate their own cultural heritage. Looking at the interrelationships of multiple arts disciplines across cultures and historical periods is the focus of humanities in the arts.

**Academic Expectations**

**2.24** Students have knowledge of major works of art, music, and literature and appreciate creativity and the contributions of the arts and humanities.

**2.25** In the products they make and the performances they present, students show that they understand how time, place, and society influence the arts and humanities such as languages, literature, and history.

**2.26** Through the arts and humanities, students recognize that although people are different, they share some common experiences and attitudes.

**Grade 5 Enduring Knowledge – Understandings**

*Students will understand that*

- the arts are powerful tools for understanding human experiences both past and present.
- the arts help us understand others' (often very different) ways of thinking, working, and expressing ourselves.
- the arts play a major role in the creation and defining of cultures and building civilizations.

**Grade 5 Skills and Concepts – Music**

*Students will*

- associate music they listen to or perform with specific cultures (Native American, Appalachian, West African); describe how the music reflects the cultures
- associate music they listen to or perform with the Colonial American period in history; describe how the music reflects the Colonial American time period (e.g. work songs, patriotic songs, folk music; European influences)
- describe distinguishing characteristics of the music of specific cultures using music terminology (e.g., polyrhythms in African music not in Native American)

**Grade 5 Skills and Concepts – Dance**

*Students will*

- associate dances they observe or perform with specific cultures (Native American, Appalachian, West African); describe how dances reflect the cultures (e.g., hunting dances from Native American and West African cultures)
- associate dances they observe or perform with the Colonial American period in history; describe how dances reflect the Colonial American time period (e.g., social dances, square dancing)
- describe the dance of specific cultures using dance terminology

## Big Idea: Humanity in the Arts – Continued

**Grade 5 Skills and Concepts – Drama/Theatre**
*Students will*

- associate folktales, legends or myths they experience or perform with specific cultures (Native American, Appalachian, West African); describe how the literature and oral traditions reflect the cultures
- associate folktales, legends, or myths they experience or perform with the Colonial American period in history; describe how the literature and oral traditions reflect the Colonial American time period
- describe folktales, legends, or myths of specific cultures using drama/theatre terminology
- use print and non-print sources to explore, describe and compare themes, characters, and situations in dramas from different cultures

**Grade 5 Skills and Concepts – Visual Arts**
*Students will*

- associate artworks they experience or create with specific cultures (Native American, Appalachian, West African); describe how the art of these cultures reflects the culture
- associate artworks they experience or create with the Colonial American period in history; describe how the art of the American Colonies reflects the Colonial American time period (e.g., European influences in American visual art)
- describe artworks of specific cultures using visual art terminology
- compare distinguishing characteristics of artworks from different cultures and time periods

## Big Idea: Purposes for Creating the Arts

The arts have played a major role throughout the history of humans. As the result of the power of the arts to communicate on a basic human level, they continue to serve a variety of purposes in society. The arts are used for artistic expression to portray specific emotions or feelings, to tell stories in a narrative manner, to imitate nature and to persuade others. The arts bring meaning to ceremonies, rituals, celebrations and commemorations. Additionally, they are used for recreation and to support recreational activities. Students experience the arts in a variety of roles through their own creations and performances and through those of others. Through their activities and observations, students learn to create arts and use them for a variety of purposes in society.

**Academic Expectations**

**1.12** Students speak using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.
**1.13** Students make sense of ideas and communicate ideas with the visual arts.
**1.14** Students make sense of ideas and communicate ideas with music.
**1.15** Students make sense of and communicate ideas with movement.
**2.22** Students create works of art and make presentations to convey a point of view.
**2.26** Through the arts and humanities, students recognize that although people are different, they share some common experiences and attitudes.

**Grade 5 Enduring Knowledge – Understandings**

*Students will understand that*

- the arts fulfill a variety of purposes in society (e.g., to present issues and ideas, to entertain, to teach or persuade, to design, plan and beautify).
- the arts have value and significance for daily life. They provide personal fulfillment, whether in career settings, avocational pursuits or leisure.
- the arts provide forms of nonverbal communication that can strengthen the presentation of ideas and emotions.

**Grade 5 Skills and Concepts – Music**

*Students will*

- describe and compare multiple purposes for which music is created to fulfill (ceremonial, recreational, artistic expression)
- create new, listen to, choose and perform music to fulfill a variety of specific purposes

**Grade 5 Skills and Concepts – Dance**

*Students will*

- describe and compare multiple purposes for which dance is created (ceremonial, recreational, artistic expression)
- create new, observe, choose and perform dance to fulfill a variety of specific purposes

**Grade 5 Skills and Concepts – Drama/Theatre**

*Students will*

- describe and compare multiple purposes for which dramatic works are created (sharing the human experience, passing on tradition and culture, recreational, artistic expression)
- create or write new, observe, choose and perform dramatic works to fulfill a variety of specific purposes

**Grade 5 Skills and Concepts – Visual Arts**

*Students will*

- describe and compare multiple purposes for which artworks are created (ceremonial, artistic expression, narrative, functional)
- create new, choose and experience artworks created to fulfill a variety of specific purposes

## Big Idea: Processes in the Arts

There are three distinctive processes involved in the arts. These processes are creating new works, performing works for expressive purposes, and responding to artworks. Each process is critical and relies on others for completion. Artists create works to express ideas, feelings or beliefs. The visual arts capture a moment in time while the performing arts (music, dance, drama/theatre) are performed for a live audience. The audience responds to the artistic expressions emotionally and intellectually based on the meaning of the work. Each process enhances understanding, abilities and appreciation of others. Students involved in these processes over time will gain a great appreciation for the arts, for artists past and present and for the value of artistic expression.

**Academic Expectations**

**1.12** Students speak using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.
**1.13** Students make sense of ideas and communicate ideas with the visual arts.
**1.14** Students make sense of ideas and communicate ideas with music.
**1.15** Students make sense of and communicate ideas with movement.
**2.22** Students create works of art and make presentations to convey a point of view.
**2.25** In the products they make and the performances they present, students show that they understand how time, place, and society influence the arts and humanities such as languages, literature, and history.

**Grade 5 Enduring Knowledge – Understandings**

*Students will understand that*

- there are three distinct processes for involvement in the arts; creating new artworks, performing works previously created and responding to artworks and performances.
- full understanding and appreciation of the arts requires some degree of involvement in all three processes.
- openness, respect for work, and an understanding of how artists apply elements and principles of design in creating and performing are personal attitudes and skills that enhance enjoyment of the observer.
- existing and emerging technologies can extend the reach of the art form to new audiences.

**Grade 5 Skills and Concepts – Music**

*Students will*

- be actively involved in creating, notating, improvising and performing simple melodies (melodic shape/contour, meter), alone and with others
- sing and play simple rhythmic or tonal patterns by reading music notation, alone, and in small and large ensembles
- use knowledge of the elements of music and music terminology to describe and critique their own performances and the performances of others
- identify possible criteria for evaluating music (e.g., skill of performers, originality, emotional impact, variety, interest)
- demonstrate behavior appropriate for observing the particular context and style of music being performed; discuss opinions with peers in a supportive and constructive way

## Big Idea: Processes in the Arts – Continued

**Grade 5 Skills and Concepts – Dance**
*Students will*

- be actively involved in creating and performing dance (incorporating the elements of dance: space, time and force) alone and with others
- perform traditional folk dances, square dances and ethnic dances (Native American, West African/African-American, Early American and folk)
- use knowledge of the elements of dance and dance terminology to describe and critique their own performances and the performances of others
- identify possible criteria for evaluating dance (e.g., skill of performers, originality, emotional impact, variety, interest)
- demonstrate behavior appropriate for observing the particular context and style of dance being performed; discuss opinions with peers in a supportive and constructive way

**Grade 5 Skills and Concepts – Drama/Theatre**
*Students will*

- be actively involved in creating, improvising and performing dramatic works using elements of drama (Literary, Technical, Performance)
- use a variety of resources (e.g., research, peers, technology) to write, refine, and record dialogue and action
- use knowledge of the elements of drama and drama terminology to describe and critique their own performances and the performances of others
- identify possible criteria for evaluating dramatic works (e.g., skill of performers, originality, emotional impact, variety, interest, technical requirements: lighting, sound, scenery, costumes)
- demonstrate behavior appropriate for observing the particular context and style of dramatic works being performed; discuss opinions with peers in a supportive and constructive way

**Grade 5 Skills and Concepts – Visual Arts**
*Students will*

- be actively involved in selecting media, techniques, and processes for creating artworks applying the elements of art and principles of design
- use knowledge of the elements and principles of art and art terminology to describe and critique their own work and the work of others
- identify possible criteria for evaluating visual (e.g., skill of artist, originality, emotional impact, variety, interest)
- demonstrate behavior appropriate for observing the particular context and style of the artwork being viewed; discuss opinions with peers in a supportive and constructive way
- describe personal responses to artwork; explain why there might be different responses to specific works of art (e.g., personal experience, interest, medium used, effectiveness of message)

## Big Idea: Interrelationships Among the Arts

The arts share commonalities in structures, purposes, creative processes, and their ability to express ideals, feelings and emotions. Studying interrelationships among the arts enables students to get a broad view of the expressiveness of the art forms as a whole, and helps to develop a full appreciation of the arts as a mirror of human kind.

**Academic Expectations**

**1.12** Students speak using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.
**1.13** Students make sense of ideas and communicate ideas with the visual arts.
**1.14** Students make sense of ideas and communicate ideas with music.
**1.15** Students make sense of and communicate ideas with movement.
**2.22** Students create works of art and make presentations to convey a point of view.
**2.25** In the products they make and the performances they present, students show that they understand how time, place, and society influence the arts and humanities such as languages, literature, and history.
**2.26** Through the arts and humanities, students recognize that although people are different, they share some common experiences and attitudes.

**Grade 5 Enduring Knowledge – Understandings**

*Students will understand that*

- the arts are basic forms of human communication.
- music, dance, drama and visual art created in common cultures and/or common historical periods tend to reflect common attitudes, ideas, beliefs and feelings.
- the arts provide forms of non-verbal communication that can strengthen the presentation of ideas and emotions.
- the modes of thinking and methods of the arts disciplines can be used to illuminate situations in other disciplines that require creative solutions.

**Grade 5 Skills and Concepts – Arts**

*Students will*

- define common terms used in various arts (e.g., tempo in dance and music)
- explain communication of common themes or ideas across different art forms
- identify and explain connections between and among different art forms from the same culture or from the same time period
- describe commonalities between the arts and other subjects taught in the school (e.g., observation skills in visual arts and science, historical and cultural perspectives in the arts and social studies, shape in visual art and mathematics, dance and a healthy lifestyle, fractions in music notation and mathematics, composing music and writing)
- communicate common meaning through creating and performing in the four art forms

# INTERMEDIATE ENGLISH LANGUAGE ARTS

# Program of Studies – English/Language Arts – Fourth Grade

The English/Language Arts (ELA) content standards at the fourth grade level are directly aligned with Kentucky's **Academic Expectations**. ELA standards are organized around Big Ideas in reading, writing, speaking, listening and observing that are important to the discipline of English/Language Arts. The Big Ideas are conceptual organizers for ELA and are similar at each grade level to ensure that students have multiple opportunities throughout their school careers to develop skills and concepts linked to the Big Ideas.

Under each Big Idea are statements of Enduring Knowledge/Understandings that represent overarching generalizations linked to the Big Ideas of ELA. The understandings represent the desired results--what learning will focus upon and what knowledge students will be able to explain or apply. Understandings can be used to frame the development of units of study and lesson plans.

Skills and concepts describe ways that students demonstrate their learning and are specific to each grade level. The skills and concepts for ELA are fundamental to the reading, writing, speaking, listening and observing processes. Lessons should offer students a wide range of experiences with print and non-print materials that have literary and informational purposes that allow for integrated, interdisciplinary or multidisciplinary programs.

**Reading**: The five Big Ideas of Reading in fourth grade are Forming a Foundation for Reading, Developing an Initial Understanding, Interpreting Text, Reflecting and Responding to Text, and Demonstrating a Critical Stance. Fourth grade students must be exposed to a variety of texts designed to build a wide range of reading experiences with print and non-print materials to develop an understanding of texts, of themselves, and of different cultures. The complexity of literary and informational (expository, persuasive, and procedural texts and documents) texts selected for instruction should be appropriate for fourth grade students. Reading instruction should focus on before, during and after reading strategies to aid in comprehension of texts. Students should have the resources to develop the language skills they need to pursue life's goals and to participate fully as informed, productive members of society.

**Writing**: ELA standards in writing are divided into the four Big Ideas of Writing Content, Structure, Conventions and Process. Students are required to write using the criteria for effective writing included in these Big Ideas. The central idea of the writing standards is *effective communication*. Students use writing-to-learn and writing-to-demonstrate-learning strategies to make sense of their reading and learning experiences. Additionally, students will write in authentic forms for authentic purposes and audiences.

**Speaking, Listening and Observing**: These standards emphasize that speaking, listening and observing are fundamental processes which people use to express, explore and learn about ideas. The contexts of these communication functions include one-to one conversations, small group discussions, large audiences and meetings, and interactions with media.

The **Academic Expectations** for ELA are:

**1.1** Students use reference tools such as dictionaries, almanacs, encyclopedias, and computer reference programs and research tools.
**1.2** Students make sense of the variety of materials they read.
**1.3** Students make sense of the various things they observe.
**1.4** Students make sense of the various messages to which they listen.
**1.11** Students write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.
**1.12** Students speak using appropriate forms, conventions, and styles to communicate ideas and ideas to different audiences for different purposes.
**5.1** Students use critical thinking skills such as analyzing, prioritizing, categorizing, evaluating, and comparing to solve a variety of problems in real-life situations.

## Big Idea: Forming a Foundation (Reading)

Forming a foundation requires readers to develop and apply basic reading skills and strategies across genres to read and understand texts at the appropriate grade level. This involves reading a variety of texts at the word, sentence, and connected text level across all content areas.

**Academic Expectations**

**1.1** Students use reference tools such as dictionaries, almanacs, encyclopedias, and computer reference programs and research tools.
**1.2** Students make sense of the variety of materials they read.
**1.3** Students make sense of the various things they observe.
**1.4** Students make sense of the various messages to which they listen.

**Grade 4 Enduring Knowledge – Understandings**

*Students will understand that*

- knowing how to apply phonetic principles, context clues, structural analysis, and spelling patterns can help determine unfamiliar words while reading.
- fluency involves reading orally and silently with speed, accuracy, and proper phrasing and expression, while attending to text features (e.g., punctuation, italics).
- developing breadth of vocabulary improves reading comprehension and involves applying knowledge of word meanings and word relationships. The larger the reader's vocabulary, the easier it is to make sense of text.
- many words have multiple meanings. Knowledge of syntax/language structure, semantics/meaning, context cues, and the use of resources can help in identifying the intended meaning of words and phrases as they are used in text.

**Grade 4 Skills and Concepts**

*Students will*

- read high-frequency/grade-appropriate words with automaticity in connected text; read multi-syllabic words using knowledge of sounds, word structure, syllable types, and word patterns; and identify the purpose of capitalization, punctuation, and text features (e.g., boldface type, italics, indentations) to make meaning of a variety of texts
- apply context and self-correction strategies while reading
- read grade-appropriate material--orally and silently--with accuracy and fluency
- use a variety of reading strategies to understand vocabulary and texts:
  - formulate questions to guide reading (before, during and after reading)
  - apply word recognition strategies (e.g., phonetic principles, context clues, structural analysis) to determine pronunciations or meanings of words in passages
  - apply knowledge of synonyms, antonyms, homonyms/homophones, compound words, or differences in meaning to assist comprehension
  - identify syllables and parts of words (e.g., prefixes, suffixes, base words); apply the meanings of common prefixes or suffixes to comprehend unfamiliar words
  - describe words in terms of categories (e.g., water is a liquid), functions (e.g., water is for drinking), or features (e.g., water flows)
  - scan to find specific key information (e.g., dates, places); skim to get the general meaning of a passage
- use resources (e.g., dictionaries, glossaries, thesauruses) to determine correct spellings of words, to identify multiple meanings of words, content-specific meanings of words, and precise use of vocabulary

## Big Idea: Developing an Initial Understanding (Reading)

Developing an initial understanding of text requires readers to consider the text as a whole or in a broader perspective. Texts (including multicultural texts) encompass literary and informational texts (expository, persuasive, and procedural texts and documents). Strategies for gaining a broad or literal understanding of print texts can also be applied to non-print texts (e.g., digital, environmental).

**Academic Expectations**

**1.1** Students use reference tools such as dictionaries, almanacs, encyclopedias, and computer reference programs and research tools.
**1.2** Students make sense of the variety of materials they read.
**1.3** Students make sense of the various things they observe.
**1.4** Students make sense of the various messages to which they listen.

**Grade 4 Enduring Knowledge – Understandings**

*Students will understand that*

- reading a wide range of print and non-print texts builds an understanding of texts, of themselves, and of different cultures.
- different purposes to read include reading to acquire new information and reading for personal fulfillment.
- the use of comprehension strategies greatly enhances understanding of text. Among these texts include fiction, non-fiction, classic and contemporary works.
- different types of texts place different demands on the reader. Understanding text features and structures, and characteristics associated with different genres (including print and non-print) facilitates the reader's ability to make meaning of the text.

## Big Idea: Developing an Initial Understanding (Reading) – Continued

**Grade 4 Skills and Concepts**
*Students will*

- use comprehension strategies(e.g., using prior knowledge, predicting, generating clarifying and literal questions, constructing sensory images, locating and using text features) while reading, listening to, or viewing literary and informational texts
- use text structure cues (e.g., sequence, chronology, compare/contrast, description) to aid in comprehension
- describe explicitly stated cause and effect relationships
- distinguish between fiction and non-fiction texts
- identify unfamiliar words and specialized vocabulary (words/terms needed to understand content)
- paraphrase and summarize (e.g., to show relationships, relative importance of information) and sequence major events or steps in a process if appropriate
- make text-based inferences; make and check predictions
    - demonstrate understanding of literary elements and literary passages/texts:
    - identify and describe characters ,major events/plot, setting or problem/solution
    - make and check predictions
    - identify characteristics of different types of literary texts (e.g., stories, poems, plays, fairy tales, folktales, historical fiction, realistic fiction)
- demonstrate understanding of informational passages/texts:
    - locate key ideas, information, facts, or details
    - use information to state and support central/main idea or to interpret the meaning of specialized vocabulary (words and terms specific to understanding the content)
    - identify text features (e.g., table of contents, bold and italicized print, headings, index, transitional words/phrases) of different types of informational texts (e.g., directions, invitations, children's magazines, dictionaries, encyclopedias, content trade books)
    - read and use functional messages encountered in daily life
    - use information from text to accomplish a specific task or answer questions
    - use visual information (e.g., maps, charts, graphs , timelines, visual organizers) to understand texts

## Big Idea: Interpreting Text (Reading)

Interpreting text requires readers to extend their initial impressions to develop a more complete understanding of what is read. This involves linking information across parts of a text, as well as focusing on specific information. Texts (including multicultural texts) encompass literary and informational texts (expository, persuasive, and procedural texts and documents). Strategies for interpreting print texts can also be applied to non-print texts (e.g., digital, environmental).

**Academic Expectations**

**1.1** Students use reference tools such as dictionaries, almanacs, encyclopedias, and computer reference programs and research tools.
**1.2** Students make sense of the variety of materials they read.
**1.3** Students make sense of the various things they observe.
**1.4** Students make sense of the various messages to which they listen.

**Grade 4 Enduring Knowledge – Understandings**

*Students will understand that*

- interpretations of text involve linking information across parts of a text and determining importance of the information presented.
- references from texts provide evidence to support conclusions about the message, the information presented, or the author's perspective.
- authors make intentional choices that are designed to produce a desired effect on the reader.

**Grade 4 Skills and Concepts**

*Students will*

- use comprehension strategies while reading, listening to, or viewing literary and informational texts
- use text structure cues (e.g., chronology, cause/effect, compare/contrast, description, logical/sequential) to aid comprehension
- use text references to explain author's purpose, author's message, supporting evidence or logical predictions
- record and organize ideas to show understanding of central ideas and interrelationships (e.g., charting, mapping, webbing)
- demonstrate understanding of literary elements and literary passages/texts:
  - explain a character's actions and interpret possible motives based on a passage
  - identify problems and explain how conflicts are resolved
  - recognize author's craft as appropriate to genre (e.g., figurative language, exaggeration)
- demonstrate understanding of informational passages/texts:
  - distinguish between informative or persuasive passages
  - identify commonly used persuasive techniques (e.g., emotional appeal, testimonial, bandwagon, expert opinion)
  - use evidence/references from the text to state central/main idea and details that support them
  - distinguish between facts and opinions found in texts
  - identify information in a passage that is supported by facts
  - explain the purposes of text features in different types of informational texts

## Big Idea: Reflecting and Responding to Text (Reading)

Reflecting and responding to text requires readers to connect knowledge from the text with their own background knowledge and experience. The focus is on how the text relates to personal knowledge. Texts encompass print and non-print literary and informational texts.

**Academic Expectations**

**1.1** Students use reference tools such as dictionaries, almanacs, encyclopedias, and computer reference programs and research tools.
**1.2** Students make sense of the variety of materials they read.
**1.3** Students make sense of the various things they observe.
**1.4** Students make sense of the various messages to which they listen.

**Grade 4 Enduring Knowledge – Understandings**

*Students will understand that*

- making connections involves thinking beyond the text and applying the text to a variety of situations. Connections may be expressed as comparisons, analogies, inferences, or the synthesis of ideas.
- references from texts provide evidence of applying ideas and making text-to-self, text-to-texts, and texts-to-real world connections.
- reading a wide range of literature by different authors, and from many time periods, cultures, and genres, builds an understanding of the extent of human experience.

**Grade 4 Skills and Concepts**

*Students will*

- use comprehension strategies while reading, listening to, or viewing literary and informational texts to make connections
- self-select texts based on personal interests
- generate a personal response to what is read, listened to or viewed:
  - relate stories or texts to prior knowledge, personal experiences, other texts, or ideas
  - provide text references/evidence to support connections made between text-to-self, text-to-texts, or texts-to-world
- read a range of texts by the same author, about the same subject, or from the same genre in order to respond and make connections (text-to-self, text-to-text, text-to-world)
- demonstrate participation in a literate community by sharing and responding to ideas and connections with others through writing and focused discussions about texts

## Big Idea: Demonstrating a Critical Stance (Reading)

Demonstrating a critical stance requires readers to consider the text objectively in order to evaluate its quality and appropriateness. It involves a range of tasks, including critical evaluation, comparing and contrasting, and understanding the impact of features, such as irony, humor, and organization. Knowledge of text content and structure is important.

**Academic Expectations**

**1.1** Students use reference tools such as dictionaries, almanacs, encyclopedias, and computer reference programs and research tools.
**1.2** Students make sense of the variety of materials they read.
**1.3** Students make sense of the various things they observe.
**1.4** Students make sense of the various messages to which they listen.
**5.1** Students use critical thinking skills such as analyzing, prioritizing, categorizing, evaluating, and comparing to solve a variety of problems in real-life situations.

**Grade 4 Enduring Knowledge – Understandings**

*Students will understand that*

- reading is a process that includes applying a variety of strategies to comprehend, interpret and evaluate texts, showing evidence of responsible interpretations of texts and examining texts critically.
- references from texts provide evidence to support judgments made about why and how the text was developed, considering the content, organization and form.
- determining the usefulness of text for a specific purpose, evaluating language and textual elements, and analyzing the author's style are all ways to critically examine texts.
- all citizens need to critically consider messages provided through a variety of media in order to make informed decisions.

**Grade 4 Skills and Concepts**

*Students will*

- explain how text features organize information for clarity or for usefulness
- identify the organizational pattern used (e.g., sentence lengths and structures, paragraphs in prose, verses in poems, sequence, description) and describe how understanding the structure helps to understand the text
- evaluate what is read, based on the author's word choice, sentence variety, content or use of literary elements
- form and support judgments/opinions about central ideas
- connect information within and across texts
- evaluate the accuracy of information presented in texts
- evaluate connections among evidences and inferences
- evaluate the quality of evidence used to support or oppose an argument
- analyze or evaluate the use of persuasive or propaganda techniques
- recognize faulty reasoning and false premises in an argument

## Big Idea: Writing Content

To communicate effectively, students should be able to write for a variety of authentic purposes and audiences in a variety of forms connecting to prior knowledge and the students' understanding of the content. In their writing, students should be able to create a focused purpose and controlling idea and develop ideas adequately considering the purpose, audience and form.

**Academic Expectations**

**1.11** Students write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.

**Grade 4 Enduring Knowledge – Understandings**

*Students will understand that*

- there are many reasons for students to write including writing-to-learn, writing-to-demonstrate learning and writing for authentic purposes and audiences.
- different forms of writing are appropriate for different purposes and audiences across the content areas and have different features (e.g., journals, narratives, articles, open response answers).
- to be effective, writing must be a sufficiently developed, coherent unit of thought to address the needs of the intended audience.
- writing can be used to make meaning of one's own experience, as well as of other information/ ideas.

**Grade 4 Skills and Concepts**

*Students will*

- write to learn by applying strategies effectively (e.g., learning logs, reflections)
- write to demonstrate learning and understanding of content knowledge (e.g., journals, summaries)
- write for a variety of authentic purposes and audiences:
  - communicate about personal experiences and relationships
  - communicate through authentic literary forms to make meaning about the human condition
  - communicate through authentic transactive purposes for writing (e.g. informing, describing, explaining, persuading)
  - analyze and communicate reflectively about literacy goals
  - analyze and address needs of intended audience
  - adjust the writing style (formal, informal) for intended audience
- communicate purpose, focus and controlling ideas authentic to the writer
- develop ideas that are logical, justified and suitable for a variety of purposes, audiences and forms of writing
- select and incorporate ideas or information (e.g., from research or reading), explaining reflections or related connections (e.g., identifying relationships or one's own experiences, offering support for conclusions, organizing prior knowledge about a topic)
- communicate understanding of ideas or events from different viewpoints
- provide sufficient details for clear understanding
- use and sustain suitable voice or tone

## Big Idea: Writing Structure

To communicate effectively, students should be able to apply knowledge of language and genre structures to organize sentences, paragraphs and whole pieces logically and coherently.

**Academic Expectations**

**1.11** Students write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.

**Grade 4 Enduring Knowledge – Understandings**

*Students will understand that*

- sentences must be complete and clear. Variety in sentence structure helps to engage the reader and make meaning more clear. Sometimes, unconventional sentence structure is appropriate for an intended effect upon the reader.
- different types of structures are appropriate for different purposes, audiences and different forms of writing. Paragraphs and whole texts must be unified and coherent.
- structural elements such as context, meaningful order of ideas, transitional elements and conclusion all help make meaning clear for the reader.

**Grade 4 Skills and Concepts**

*Students will*

- use complete and correct sentences of various structures and lengths (e.g., simple, compound, complex) to enhance meaning throughout a piece of writing; apply unconventional sentence structures to achieve intended effect on audience
- develop analytical structures appropriate to purpose (e.g., sequence, problem/solution, description, question/answer, cause/effect, compare/contrast, chronology)
- establish a context for the reader and a controlling idea in the introduction; develop the piece sufficiently, arranging ideas in meaningful order; and conclude effectively
- create unified and coherent paragraphs; apply paragraph structures (block and indented) consistently
- use a variety of transitional words/phrases (e.g., time, order of sequence) and/or transitional elements (e.g., white space)
- apply organizational devices (e.g., foreshadowing, flashback) to achieve intended effect on audience
- incorporate text features (e.g., numbering, bullets, white space, pictures, labels, diagrams, charts, shape in poetry) to enhance clarity and meaning

## Big Idea: Writing Conventions

To communicate effectively, students should be able to apply knowledge of language conventions and have control over standard grammar and usage. Students should be able to choose precise language appropriate to the purpose.

**Academic Expectations**

**1.11** Students write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.

**Grade 4 Enduring Knowledge – Understandings**

*Students will understand that*

- writers need to choose their language with care, depending on the content, purpose and audience.
- language should be concise and precise. Strong verbs and nouns, concrete details and sensory language help make meaning clear to the reader.
- standard grammar and usage are important in making meaning clear to the reader; non-standard grammar may be used for intended effect.
- writers need to use correct spelling, punctuation and capitalization.
- writers need to document sources/give credit for the ideas of others.

**Grade 4 Skills and Concepts**

*Students will*

- choose precise and descriptive language for clarity, richness and/or its effect on the reader (words with multiple meanings, words that imply different shades of meaning, strong nouns and verbs, concrete and sensory details, figurative language – simple metaphors)
- use specialized content vocabulary and words used for specific contexts, as needed
- apply correct grammar skills (e.g., complete sentences, various sentence structures, subject/ verb agreement); mechanics (e.g., capitalization, punctuation); and usage (e.g., among/between; accept/except)
- use resources (e.g., dictionary, glossary) and apply knowledge of spelling rules to correct spelling in final drafts
- use resources (e.g., word processing programs, handbooks) to adhere to standard guidelines for grammar, usage and mechanics
- document ideas used from outside sources (e.g., citing authors or titles within the text; listing sources) when paraphrasing or summarizing

## Big Idea: Writing Process

To communicate effectively, students should engage in the various stages of the writing process including focusing, prewriting, drafting, revising, editing, publishing and reflecting. The writing process is recursive; different writers engage in the process differently and proceed through the stages at different rates.

**Academic Expectations**

**1.11** Students write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.

**Grade 4 Enduring Knowledge – Understandings**

*Students will understand that*

- the writing process is a helpful tool in constructing and demonstrating meaning of content (whether personal expressive, literary, academic or practical) through writing.
- the stages are sometimes recursive (e.g., In the process of revising, a writer sometimes returns to earlier stages of the process).
- writers work through the process at different rates. Often, the process is enhanced by conferencing with others.

**Grade 4 Skills and Concepts**

*Students will*

- focus: establish and maintain a controlling idea on a selected topic
- prewrite:
  - determine the most appropriate form to meet needs of purpose and audience
  - generate ideas to support and develop controlling idea (e.g., journaling, webbing, freewriting, researching print and non-print sources, note-taking, interviewing, observation, surveying, imagining and creating novel ideas)
  - organize and present ideas by taking notes, quoting, paraphrasing, summarizing
- draft:
  - determine how, when and whether to use visuals (e.g., illustrations, charts, diagrams) in addition to written text
  - logically introduce and incorporate quotes
- revise:
  - reflect on own writing
  - confer with peers and other writing conferencing partners to critically analyze one's own work and the work of others
  - confer to determine where to add, delete, rearrange, define/redefine or elaborate content so that writing is coherent and effective for intended audience, then make revisions
  - identify and develop topic sentences, making sure ideas are supported appropriately with relevant details and that sentences are in sequential order; insert new sentences and delete unnecessary ones; develop effective introductions and conclusions; eliminate redundant words; choose the most specific words available
- edit for appropriate language usage, sentence structure, spelling, capitalization, punctuation and proper documentation of sources
- publish to produce products for intended audience:
  - present written material using basic software programs and graphics when developmentally appropriate (e.g., charts, tables)
  - present final work in a neat, legible form
- reflect and evaluate personal progress and skills in writing

## Big Idea: Speaking, Listening, and Observing

Speaking, listening and observing are fundamental processes which people use to express, explore and learn about ideas. The functions of speaking, listening and observing include gathering and sharing information, persuading others, expressing and understanding ideas, and selecting and critically analyzing messages. The contexts of these communication functions include one-to one conversations, small group discussions, large audiences and meetings, and interactions with media.

**Academic Expectations**

**1.2** Students make sense of the variety of materials they read.
**1.3** Students make sense of the various messages they observe.
**1.4** Students make sense of the various messages to which they listen.
**1.11** Students write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.
**1.12** Students speak using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.

**Grade 4 Enduring Knowledge – Understandings**

*Students will understand that*

- communication, both formal and informal, integrates listening, observing/viewing, reading, writing and speaking with confidence. Different levels of discourse are appropriate for different contexts, occasions, purposes and audiences.
- regardless of the topic, the context or the intended audience, students need to be able to communicate ideas effectively. Effective communication involves verbal and nonverbal techniques to enhance or emphasize content. These techniques aid the listener's ability to interpret the information.
- language usage is related to successful communication; language patterns and vocabulary transmit culture and affect meaning.
- observation involves interpreting and constructing meaning. By viewing context, students infer, construct meaning, draw conclusions and form opinions about the world around them.

## Big Idea: Speaking, Listening, and Observing – Continued

**Grade 4 Skills and Concepts**

*In formal speaking situations, students will*

- create oral presentations that
  - are appropriate for the purpose (e.g., to inform, persuade, entertain), audience, context and occasion
  - support judgment with sound evidence and appropriate details
  - maintain a consistent focus
  - exhibit a logical structure appropriate to audience, context and purpose
  - organize ideas in a coherent, meaningful way including an introduction and a conclusion
  - choose language for its effect on the audience (e.g., strong nouns, active verbs, concrete and sensory details)
- apply delivery techniques
  - both verbal (e.g., tone, volume, rate, articulation, pacing) and nonverbal (e.g., gestures, facial expressions, eye contact)
  - avoid distracting delivery behaviors (e.g. excessive verbal pauses, fidgeting)
  - use language appropriate to audience; use specialized content vocabulary as needed
  - adhere to standard guidelines for grammar, usage, mechanics or use non-standard language for effect when appropriate (e.g., word plays, familiar idioms, similes)
- use visual aids, media and tools of technology to support oral communication
- document ideas from outside sources (e.g., citing authors, titles, websites)

*In informal speaking situations, students will*

- give spoken instructions to perform specific tasks
- ask and respond to questions as a way to enrich class discussions
- play a variety of roles in group discussions (e.g., discussion leader, facilitator, responder)
- use different voice level, phrasing, and intonation for different situations (e.g., small and large group settings, discussions)

*When listening, students will*

- follow spoken instructions to perform specific tasks
- identify specific information (e.g., main idea, supporting details)
- respond to information appropriately/respectfully in a variety of ways (e.g., summarizing orally, taking useful notes, organizing and recording that which is meaningful and useful)
- follow the organization of a presentation and recognize the speaker's use of transitions
- interpret and evaluate the effectiveness of verbal and nonverbal delivery techniques, including visual cues
- build on the ideas of others and contribute relevant information or ideas
- use self-evaluations and feedback from teachers and peers to improve presentations

*When observing, students will*

- use a variety of criteria (e.g., accuracy, effectiveness, relevance of facts) to evaluate media
- evaluate the role of media in focusing attention and in forming opinion
- interpret a variety of techniques used in advertising
- identify visual and auditory cues (e.g., slow motion, music to create mood, sound effects) to enhance the message or understand context

# Program of Studies – English/Language Arts – Fifth Grade

The English/Language Arts (ELA) content standards at the fifth grade level are directly aligned with Kentucky's **Academic Expectations**. ELA standards are organized around Big Ideas in reading, writing, speaking, listening and observing that are important to the discipline of English/Language Arts. The Big Ideas are conceptual organizers for ELA and are similar at each grade level to ensure that students have multiple opportunities throughout their school careers to develop skills and concepts linked to the Big Ideas.

Under each Big Idea are statements of Enduring Knowledge/Understandings that represent overarching generalizations linked to the Big Ideas of ELA. The understandings represent the desired results--what learning will focus upon and what knowledge students will be able to explain or apply. Understandings can be used to frame the development of units of study and lesson plans.

Skills and concepts describe ways that students demonstrate their learning and are specific to each grade level. The skills and concepts for ELA are fundamental to the reading, writing, speaking, listening and observing processes. Lessons should offer students a wide range of experiences with print and non-print materials that have literary and informational purposes that allow for integrated, interdisciplinary or multidisciplinary programs.

**Reading**: The five Big Ideas of Reading in fifth grade are Forming a Foundation for Reading, Developing an Initial Understanding, Interpreting Text, Reflecting and Responding to Text, and Demonstrating a Critical Stance. Fifth grade students must be exposed to a variety of texts designed to build a wide range of reading experiences with print and non-print materials to develop an understanding of texts, of themselves, and of different cultures. The complexity of literary and informational (expository, persuasive, and procedural texts and documents) texts selected for instruction should be appropriate for fifth grade students. Reading instruction should focus on before, during and after reading strategies to aid in student comprehension of texts. Students should have the resources to develop the language skills they need to pursue life's goals and to participate fully as informed, productive members of society.

**Writing**: ELA standards in writing are divided into the four Big Ideas of Writing Content, Structure, Conventions and Process. Students are required to write using the criteria for effective writing included in these Big Ideas. The central idea of the writing standards is *effective communication*. Students use writing-to-learn and writing-to-demonstrate-learning strategies to make sense of their reading and learning experiences. Additionally, students will write in authentic forms for authentic purposes and audiences.

**Speaking, Listening and Observing**: These standards emphasize that speaking, listening and observing are fundamental processes which people use to express, explore and learn about ideas. The contexts of these communication functions include one-to one conversations, small group discussions, large audiences and meetings, and interactions with media.

The **Academic Expectations** for ELA are:

**1.1** Students use reference tools such as dictionaries, almanacs, encyclopedias, and computer reference programs and research tools.
**1.2** Students make sense of the variety of materials they read.
**1.3** Students make sense of the various things they observe.
**1.4** Students make sense of the various messages to which they listen.
**1.11** Students write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.
**1.12** Students speak using appropriate forms, conventions, and styles to communicate ideas and ideas to different audiences for different purposes.
**5.1** Students use critical thinking skills such as analyzing, prioritizing, categorizing, evaluating, and comparing to solve a variety of problems in real-life situations.

## Big Idea: - Forming a Foundation (Reading)

Forming a foundation requires readers to develop and apply basic reading skills and strategies across genres to read and understand texts at the appropriate grade level. This involves reading a variety of texts at the word, sentence, and connected text level across all content areas.

**Academic Expectations**

**1.1** Students use reference tools such as dictionaries, almanacs, encyclopedias, and computer reference programs and research tools.
**1.2** Students make sense of the variety of materials they read.
**1.3** Students make sense of the various things they observe.
**1.4** Students make sense of the various messages to which they listen.

**Grade 5 Enduring Knowledge – Understandings**

*Students will understand that*

- knowing how to apply phonetic principles, context clues, structural analysis, and spelling patterns can help determine unfamiliar words while reading.
- fluency involves reading orally and silently with speed, accuracy, proper phrasing and expression, while attending to text features (e.g., punctuation, italics).
- developing breadth of vocabulary improves reading comprehension and involves applying knowledge of word meanings and word relationships. The larger the reader's vocabulary, the easier it is to make sense of text.
- many words have multiple meanings. Knowledge of syntax/language structure, semantics/meaning, context cues, and the use of resources can help in identifying the intended meaning of words and phrases as they are used in text.

**Grade 5 Skills and Concepts**

*Students will*

- read grade-appropriate texts with automaticity; read multi-syllabic words using knowledge of sounds, word structure, syllable types, and word patterns; and explain the purpose of capitalization, punctuation, and text features (e.g., boldface type, italics, indentations) to make meaning of a variety of texts
- apply context and self-correction strategies while reading
- read grade-appropriate material --orally and silently --with accuracy and fluency
- use a variety of reading strategies to understand vocabulary and texts:
  - formulate questions to guide reading (before, during and after reading)
  - apply word recognition strategies (e.g., phonetic principles, context clues, structural analysis) to determine pronunciations or meanings of words in passages
  - apply knowledge of synonyms, antonyms, homonyms/homophones, compound words, or differences in meaning to assist comprehension
  - identify syllables and parts of words (e.g., prefixes, suffixes, base words) and apply the meanings to comprehend unfamiliar words
  - describe words in terms of categories (e.g., water is a liquid), functions (e.g., water is for drinking), or features (e.g., water flows)
  - scan to find specific key information (e.g., dates, places); skim to get the general meaning of a passage
- use resources (e.g., dictionaries, glossaries, thesauruses) to identify multiple meanings of words, content-specific meanings of words, and precise use of vocabulary

## Big Idea: Developing an Initial Understanding (Reading)

Developing an initial understanding of text requires readers to consider the text as a whole or in a broader perspective. Texts (including multicultural texts) encompass literary and informational texts including expository, persuasive, and procedural texts and documents. Strategies for gaining a broad or literal understanding of print texts can also be applied to non-print texts (e.g., digital, environmental).

**Academic Expectations**

**1.1** Students use reference tools such as dictionaries, almanacs, encyclopedias, and computer reference programs and research tools.
**1.2** Students make sense of the variety of materials they read.
**1.3** Students make sense of the various things they observe.
**1.4** Students make sense of the various messages to which they listen.

**Grade 5 Enduring Knowledge – Understandings**

*Students will understand that*

- reading a wide range of print and non-print texts builds an understanding of texts, of themselves, and of different cultures.
- different purposes to read include reading to acquire new information and reading for personal fulfillment. Among these texts are plays, fiction and non-fiction, classic and contemporary works.
- the use of comprehension strategies enhances understanding of text.
- different types of texts place different demands on the reader. Understanding text features and structures, and characteristics associated with different text genres (including print and non-print) facilitate the reader's ability to make meaning of the text.

## Big Idea: Developing an Initial Understanding (Reading) – Continued

**Grade 5 Skills and Concepts**
*Students will*

- use comprehension strategies (e.g., using prior knowledge, predicting, generating clarifying, literal and inferential questions, constructing sensory images, locating and using text features) while reading, listening to, or viewing literary and informational texts
- use text structure cues (e.g., chronology, cause/effect, compare/contrast, description, classification, logical/sequential) to aid in comprehension
- describe explicitly stated cause and effect relationships
- distinguish between fiction and non-fiction texts
- identify meanings of unfamiliar words and specialized vocabulary (words/terms needed to understand content)
- paraphrase and summarize (e.g., to show relationships, relative importance of information), or sequence major events or steps in a process if appropriate
- make text-based inferences; make and check predictions
- demonstrate understanding of literary elements and literary passages/texts:
  - describe characters and character traits, major events/plot, setting or problem/solution
  - make and check predictions
  - identify characteristics of different types of literary texts (e.g., stories, poems, plays, folktales, historical fiction, realistic fiction, mysteries)
- demonstrate understanding of informational passages/texts:
  - locate key ideas, information, facts or details
  - use information to state and support central/main idea
  - identify text features (e.g., table of contents, bold and italicized print, headings, index, transitional words/phrases) of different types of informational texts (e.g., directions, invitations, children's magazines, dictionaries, encyclopedias, content trade books)
  - read and use functional messages encountered in daily life
  - use information from text to accomplish a specific task or answer questions
  - use text features and visual information to understand texts

## Big Idea: Interpreting Text (Reading)

Interpreting text requires readers to extend their initial impressions to develop a more complete understanding of what is read. This involves linking information across parts of a text, as well as focusing on specific information. Texts (including multicultural texts) encompass literary texts and informational texts including expository, persuasive, and procedural texts and documents. Strategies for interpreting print texts can also be applied to non-print texts (e.g., digital, environmental).

**Academic Expectations**

**1.1** Students use reference tools such as dictionaries, almanacs, encyclopedias, and computer reference programs and research tools.
**1.2** Students make sense of the variety of materials they read.
**1.3** Students make sense of the various things they observe.
**1.4** Students make sense of the various messages to which they listen.

**Grade 5 Enduring Knowledge – Understandings**

*Students will understand that*

- interpretations of text involve linking information across parts of a text and determining importance of the information presented.
- references from texts provide evidence to support conclusions drawn about the message, the information presented, or the author's perspective.
- authors make intentional choices that are designed to produce a desired effect on the reader.

**Grade 5 Skills and Concepts**

*Students will*

- use comprehension strategies while reading, listening to, or viewing literary and informational texts
- use text structure cues (e.g., chronology, cause/effect, compare/contrast, description, logical/sequential) to aid comprehension
- use text references to identify and explain author's purpose, author's message (implied or stated), or arguments and supporting evidence
- record and organize ideas to show understanding of central ideas and interrelationships (e.g., charting, mapping, graphic organizers, outlining)
- demonstrate understanding of literary elements and literary passages/texts:
  - explain a character's actions and interpret possible motives based on a passage
  - identify problems and explain how conflicts are resolved
  - identify use of author's craft as appropriate to genre (e.g., rhyme, alliteration, sensory images, simile, description, dialogue)
- demonstrate understanding of informational passages/texts:
  - distinguish between informative or persuasive passages
  - identify use of persuasive techniques (e.g., emotional appeal, testimonial, bandwagon, expert opinion)
  - use evidence/references from the text to state central/main idea and details that support them
  - distinguish between facts and opinions found in texts
  - identify information in a passage that is supported by facts
  - explain the purposes of text features in different types of informational texts

## Big Idea: Reflecting and Responding to Text (Reading)

Reflecting and responding to text requires readers to connect knowledge from the text with their own background knowledge and experience. The focus is on how the text relates to personal knowledge.

**Academic Expectations**

**1.1** Students use reference tools such as dictionaries, almanacs, encyclopedias, and computer reference programs and research tools.
**1.2** Students make sense of the variety of materials they read.
**1.3** Students make sense of the various things they observe.
**1.4** Students make sense of the various messages to which they listen.

**Grade 5 Enduring Knowledge – Understandings**

*Students will understand that*

- making connections involves thinking beyond the text and applying the text to a variety of situations. Connections may be expressed as comparisons, analogies, inferences, or the synthesis of ideas.
- references from texts provide evidence of applying ideas and making text-to-self, text-to-texts, and texts-to-real world connections.
- reading a wide range of literature by different authors, and from many time periods, cultures, and genres, builds an understanding of the extent of human experience.

**Grade 5 Skills and Concepts**

*Students will*

- use comprehension strategies while reading, listening to, or viewing literary and informational texts to make connections
- self-select texts based on with personal interests
- generate a personal response to what is read, listened to or viewed:
  - relate texts to prior knowledge, personal experiences, other texts, or ideas
  - provide text references/evidence to support connections made between text-to-self, text-to-texts, or text-to-world
- read a wide range of texts, including texts by the same author, about the same subject, or from the same genre in order to respond and make connections ( text-to-self, text-to-text, text-to-world)
- demonstrate participation in a literate community by sharing and responding to ideas and connections with others through writing and focused discussions about texts

## Big Idea: Demonstrating a Critical Stance (Reading)

Demonstrating a critical stance requires readers to consider the text objectively in order to evaluate its quality and appropriateness. It involves a range of tasks, including critical evaluation, comparing and contrasting, and understanding the impact of features, such as irony, humor, and organization. Knowledge of text content and structure is important.

**Academic Expectations**

**1.1** Students use reference tools such as dictionaries, almanacs, encyclopedias, and computer reference programs and research tools.
**1.2** Students make sense of the variety of materials they read.
**1.3** Students make sense of the various things they observe.
**1.4** Students make sense of the various messages to which they listen.
**5.1** Students use critical thinking skills such as analyzing, prioritizing, categorizing, evaluating, and comparing to solve a variety of problems in real-life situations.

**Grade 5 Enduring Knowledge – Understandings**

*Students will understand that*

- reading is a process that includes: applying a variety of strategies to comprehend, interpret and evaluate texts; showing evidence of responsible interpretations of texts and examining texts critically.
- references from texts provide evidence to support judgments made about why and how the text was developed considering the content, organization and form.
- determining the usefulness of text for a specific purpose, evaluating language and textual elements, and analyzing the author's style are all ways to critically examine texts.
- all citizens need to critically consider messages provided through a variety of media in order to make informed decisions.

**Grade 5 Skills and Concepts**

*Students will*

- explain how text features organize information for clarity or for usefulness
- evaluate what is read based on the author's word choice, sentence variety, content or use of literary elements
- form and support judgments/opinions about central ideas
- identify the organizational pattern used (e.g., sentence lengths and structures, paragraphs in prose, verses in poems, transitional devices, transitional cues) and describe how understanding the structure helps to understand the text
- make connections and synthesize information within and across texts
- evaluate the accuracy of information presented in texts
- evaluate connections among evidences and inferences
- evaluate the quality of evidence used to support or oppose an argument
- analyze or evaluate the use of persuasive or propaganda techniques
- recognize faulty reasoning and false premises in an argument

## Big Idea: Writing Content

To communicate effectively, students should be able to write for a variety of authentic purposes and audiences in a variety of forms connecting to prior knowledge and the students' understanding of the content. In their writing, students should be able to create a focused purpose and controlling idea and develop ideas adequately considering the purpose, audience and form.

**Academic Expectations**

**1.11** Students write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.

**Grade 5 Enduring Knowledge – Understandings**

*Students will understand that*

- there are many reasons for students to write including writing-to-learn, writing-to-demonstrate learning and writing for authentic purposes and audiences.
- different forms of writing are appropriate for different purposes and audiences across content areas and have different features (e.g. journals, on-demand responses, narratives, articles).
- to be effective, writing must be a sufficiently developed, coherent unit of thought to address the needs of the intended audience.
- writing can be used to make meaning of one's own experience, as well as of other information/ ideas.

**Grade 5 Skills and Concepts**

*Students will*

- write to learn by applying strategies effectively (e.g., learning logs, grammar notebooks)
- write to demonstrate learning and understanding of content knowledge (e.g., on-demand responses, open-responses, expository reports)
- write for a variety of authentic purposes and audiences:
  - communicate about the significance of personal experiences and relationships
  - communicate through authentic literary forms to make meaning about the human condition
  - communicate through authentic transactive purposes for writing (e.g. informing, describing, explaining, persuading, analyzing)
  - analyze and communicate reflectively about literacy goals
  - analyze and address needs of intended audience
  - adjust the writing style (formal, informal) for intended audience
- communicate purpose, focus, and controlling idea authentic to the writer
- develop ideas that are logical, justified and suitable for a variety of purposes, audiences and forms of writing
- select and incorporate ideas or information (e.g., from research or reading), explaining reflections or related connections (e.g., identifying relationships and own experiences, offering support for conclusions, organizing prior knowledge about a topic)
- communicate understanding of ideas or events from different viewpoints
- provide sufficient details for clear understanding
- use and sustain suitable voice or tone

## Big Idea: Writing Structure

To communicate effectively, students should be able to apply knowledge of language and genre structures to organize sentences, paragraphs and whole pieces logically and coherently.

**Academic Expectations**

**1.11** Students write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.

**Grade 5 Enduring Knowledge – Understandings**

*Students will understand that*

- sentences must be complete and clear. Variety in sentence structure helps to engage the reader and make meaning more clear. Sometimes, unconventional sentence structure is appropriate for an intended effect upon the reader.
- different types of structures are appropriate for different purposes, audiences and different forms of writing. Paragraphs and whole texts must be unified and coherent.
- structural elements such as context, meaningful order of ideas, transitional elements and conclusion all help make meaning clear for the reader.

**Grade 5 Skills and Concepts**

*Students will*

- use complete and correct sentences of various structures and lengths (e.g., simple, compound, complex) to enhance meaning throughout a piece of writing; apply unconventional sentence structures to achieve intended effect on audience
- develop analytical structures appropriate to purpose (e.g., sequence, problem/solution, description, question/answer, cause/effect, compare/contrast, chronology)
- establish a context for the reader and a controlling idea in the introduction; develop the piece sufficiently, arranging ideas in meaningful order; and conclude effectively
- create unified and coherent paragraphs; apply paragraph structures (block and indented) consistently and appropriately
- use a variety of transitions ( e.g., time, order of sequence) and/or transitional elements (e.g., white space, ellipses) effectively
- apply organizational devices (e.g., foreshadowing, flashback) to achieve intended effect on audience
- incorporate text features (e.g., numbering, bullets, subheadings, white space, pictures, labels, diagrams, charts, embedded visuals, shape in poetry) to enhance clarity and meaning

## Big Idea: Writing Conventions

To communicate effectively, students should be able to apply knowledge of language conventions and have control over standard grammar and usage. Students should be able to choose precise language appropriate to the purpose.

**Academic Expectations**

**1.11** Students write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.

**Grade 5 Enduring Knowledge – Understandings**

*Students will understand that*

- writers need to choose their language with care, depending on the content, purpose and audience.
- language should be concise and precise. Strong verbs and nouns, concrete details and sensory language help make meaning clear to the reader.
- standard grammar and usage are important in making meaning clear to the reader; non-standard grammar may be used for intended effect.
- writers need to use correct spelling, punctuation and capitalization.
- writers need to document sources/give credit for the ideas of others.

**Grade 5 Skills and Concepts**

*Students will*

- choose precise and descriptive language for clarity, richness and/or its effect on the reader (words with multiple meanings, words that imply different shades of meaning strong nouns and verbs, concrete and sensory details, figurative language – simple metaphors, personification)
- use specialized content vocabulary and words used for specific contexts, as needed
- apply correct grammar skills (e.g., complete sentences, various sentence structures, subject and verb agreement, pronoun antecedent agreement); mechanics (e.g., capitalization, punctuation); and usage (e.g., can/may, choose/chose)
- apply non-standard language for intended effect appropriate to purpose
- use resources (e.g., dictionary, glossary, word processing programs) and apply knowledge of spelling rules to correct spelling in final drafts
- use resources (e.g., word processing programs, handbooks) to adhere to standard guidelines for grammar, usage and mechanics
- document ideas used from outside sources (e.g., citing authors or titles within the text; listing sources) when paraphrasing, summarizing, quoting or using graphics

## Big Idea: Writing Process

To communicate effectively, students should engage in the various stages of the writing process including focusing, prewriting, drafting, revising, editing, publishing and reflecting. The writing process is recursive; different writers engage in the process differently and proceed through the stages at different rates.

**Academic Expectations**

**1.11** Students write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.

**Grade 5 Enduring Knowledge – Understandings**

*Students will understand that*

- the writing process is a helpful tool in constructing and demonstrating meaning of content (whether personal expressive, literary, academic or practical) through writing.
- the stages are sometimes recursive (e.g., in the process of revising, a writer sometimes returns to earlier stages of the process).
- writers work through the process at different rates. Often, the process is enhanced by conferencing with others.

**Grade 5 Skills and Concepts**

*Students will*

- focus: establish and maintain a controlling idea on a selected topic
- prewrite:
  - determine the most appropriate form to meet needs of purpose and audience
  - generate ideas to support and develop controlling idea (e.g., journaling, webbing, free writes, researching print and non-print sources, note-taking, interviewing, observation, surveying, imagining and creating novel ideas)
  - organize and present ideas by taking notes, quoting, paraphrasing, summarizing
- draft:
  - determine how, when and whether to use visuals (e.g., illustrations, charts, diagrams, photographs) or technologies (e.g., digital images) in addition to written communication
  - logically introduce and incorporate quotes
- revise:
  - reflect on own writing
  - confer with peers and other writing conferencing partners to critically analyze one's own work and the work of others
  - confer to determine where to add, delete, rearrange, define/redefine or elaborate content so that writing is coherent and effective for intended audience, then make revisions
  - identify and develop topic sentences, making sure ideas are supported appropriately with relevant details and that sentences are in sequential order; insert new sentences and delete unnecessary ones; develop effective introductions and conclusions; eliminate redundant words; choose most specific words
- edit for appropriate language usage, sentence structure, spelling, capitalization, punctuation and proper documentation of sources
- publish to produce products for intended audience:
  - present written material using basic software programs and graphics when developmentally appropriate (e.g., charts, tables)
  - present final work in a neat, legible form
- reflect and evaluate personal progress and skills in writing

## Big Idea: Speaking, Listening and Observing

Speaking, listening and observing are fundamental processes which people use to express, explore and learn about ideas. The functions of speaking, listening and observing include gathering and sharing information, persuading others, expressing and understanding ideas, and selecting and critically analyzing messages. The contexts of these communication functions include one-to one conversations, small group discussions, large audiences and meetings, and interactions with media.

**Academic Expectations**

**1.2** Students make sense of the variety of materials they read.
**1.3** Students make sense of the various messages they observe.
**1.4** Students make sense of the various messages to which they listen.
**1.11** Students write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.
**1.12** Students speak using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.

**Grade 5 Enduring Knowledge – Understandings**

*Students will understand that*

- communication, both formal and informal, is an interpretative process that integrates listening, observing, reading, writing and speaking with confidence. Different levels of discourse are appropriate for different contexts, occasions, purposes and audiences.
- regardless of the topic, the context or the intended audience, students need to be able to communicate ideas effectively. Effective communication involves verbal and nonverbal techniques to enhance or emphasize content. These techniques aid the listener's ability to interpret the information.
- language usage is related to successful communication; language patterns and vocabulary transmit culture and affect meaning.
- observation involves interpreting and constructing meaning. By viewing context, students infer, construct meaning, draw conclusions and form opinions about the world around them.

## Big Idea: Speaking, Listening and Observing – Continued

**Grade 5 Skills and Concepts**

*In formal speaking situations, students will*

- create oral presentations that
  - are appropriate for the purpose (e.g., to inform, persuade, entertain), audience, context and occasion
  - support judgment with sound evidence and appropriate details
  - maintain a consistent focus
  - exhibit a logical structure appropriate to audience, context and purpose
  - organize ideas in a coherent, meaningful way including an introduction and a conclusion
  - choose language for its effect on the audience (e.g., strong nouns, active verbs, concrete and sensory details, figurative language)
- apply delivery techniques
  - both verbal (e.g., tone, volume, rate, articulation, pacing) and nonverbal (e.g., gestures, facial expressions, eye contact)
  - avoid distracting delivery behaviors (e.g. excessive verbal pauses, fidgeting)
  - use language appropriate to audience; use specialized content vocabulary as needed
  - adhere to standard guidelines for grammar, usage, mechanics or use non-standard language for effect when appropriate (e.g., word plays, familiar idioms, similes)
- use visual aids, media and tools of technology to support oral communication
- document ideas from outside sources (e.g., citing authors, titles, websites)

*In informal speaking situations, students will*

- give spoken instructions to perform specific tasks
- ask and respond to questions as a way to enrich class discussions
- play a variety of roles in group discussions (e.g., discussion leader, facilitator, responder)
- use different voice level, phrasing and intonation for different situations (e.g., small and large group settings, discussions)

*When listening, students will*

- follow spoken instructions to perform specific tasks
- identify specific information (e.g., main idea, supporting details)
- respond to information appropriately/respectfully in a variety of ways (e.g., summarizing orally, taking useful notes, organizing and recording that which is meaningful and useful)
- follow the organization of a presentation and recognize the speaker's use of transitions
- interpret and evaluate the effectiveness of verbal and nonverbal delivery techniques, including visual cues
- build on the ideas of others and contribute relevant information or ideas
- use self-evaluations and evaluations from teachers and peers to improve presentations

*When observing, students will*

- use a variety of criteria (e.g., accuracy, effectiveness, relevance of facts) to evaluate media
- evaluate the role of media in focusing attention and in forming opinion
- interpret a variety of techniques used in advertising
- identify visual and auditory cues (e.g., slow motion, music to create mood, sound effects) to enhance the message or understand context

# INTERMEDIATE MATHEMATICS

# Program of Studies – Mathematics – Fourth Grade

The mathematics program in grade four includes strong literacy connections, active and hands-on work with concrete materials and appropriate technologies. Grade four problem solving, mathematical communication, connections, mathematical reasoning and multiple representations should be a part of the mathematics curriculum. The use of these techniques enhances and extends students' mathematics skills. Accuracy is an integral part of the mathematics program.

Students should have opportunities to work individually and in groups of varying size and composition in order to conduct investigations, process information and discuss important mathematical concepts. Students must have regular opportunities to share their ideas with others and to solve problems generated as a result of their learning experiences.

The mathematics content standards at the fourth grade level are directly aligned with Kentucky's **Academic Expectations**. Mathematics standards are organized around five “Big Ideas” that are important to the discipline of mathematics. The five big ideas in mathematics are: Number Properties and Operations, Measurement, Geometry, Data Analysis and Probability and Algebraic Thinking. The Big Ideas are conceptual organizers for mathematics and are similar at each grade level to ensure students have multiple opportunities throughout the students’ school careers to develop skills and concepts linked to the Big Ideas.

Under each Big Idea are statements of Enduring Knowledge/Understandings that represent overarching generalizations linked to the Big Ideas of mathematics. The understandings represent the desired results – what learning will focus upon and what knowledge students will be able to explain or apply. Understandings can be used to frame development of units of study and lesson plans.

Skills and Concepts describe ways that students demonstrate their learning and are specific to each grade level. The skills and concepts for mathematics are fundamental to mathematical literacy, mathematical power and build on prior learning.

Effectively implementing the Program of Studies requires a common understanding of the process standards below.

**Problem solving** includes developing and applying strategies to problems from everyday and mathematical situations and evaluating the solutions relative to the original problem situation.

**Mathematical communication** includes concrete materials, visual representations and diagrams that relate language to mathematical symbols in speaking, reading, writing and listening to mathematical ideas.

**Mathematical connections** include:

- relating concepts to other concepts and procedures (e.g., fraction, decimal)
- relating concepts of one mathematical topic to another (e.g., geometry, measurement)
- relating concepts of a mathematical topic to other disciplines (e.g., statistics, social studies).

**Mathematical reasoning** includes recognizing patterns and relationships and using models, known facts and mathematical properties to explain and justify thinking.

**Multiple representations** allow students to be able to recognize common mathematical structures across different contexts. In elementary school, students most often use representations to reason about objects and actions they can perceive directly.

**Academic Expectation** 1.5-1.9 (Students use mathematical ideas and procedures to communicate, reason and solve problems.) is infused throughout the mathematics instruction P-12 and is integral to the content and instruction across all grade levels.

**Academic Expectation** 1.16 (Students will use computers and other kinds of technology to collect, organize and communicate information and ideas.) is an essential and integral part of instruction across the content and the mathematics Program of Studies.

## Big Idea: Number Properties and Operations

Whole number sense and addition and subtraction are key concepts and skills developed in early childhood. Students build on their number sense and counting sense to develop multiplication and division. They move flexibly and fluently through basic number facts, operations and representations. Their understanding of the base-10 number system expands to include decimals. They examine various meanings and models of fractions. They explore data, perform measurements and examine patterns as part of the development process for number and operations, using other mathematics strands to enrich number. Elementary number encompasses computational fluency with whole numbers, relationships between decimals and fractions and techniques for reasonable estimations.

**Academic Expectations**

**2.7** Students understand number concepts and use numbers appropriately and accurately.

**2.8** Students understand various mathematical procedures and use them appropriately and accurately.

**Grade 4 Enduring Knowledge – Understandings**

*Students will understand that*

- numbers, ways of representing numbers, relationships between numbers and number systems are means of representing real-world quantities.
- meanings of and relationships among operations provide tools necessary to solve realistic problems encountered in everyday life.
- computing fluently and making reasonable estimates increases the ability to solve realistic problems encountered in everyday life.

**Grade 4 Skills and Concepts – Number Sense**

*Students will*

- apply multiple representations (e.g., drawings, manipulatives, base-10 blocks, number lines, expanded form, symbols) to represent whole numbers (0 to 1,000,000)
- read, write and model whole numbers from 0 to 1,000,000, developing place value for hundred thousands and millions
- order and compare numbers to 1,000,000 and understand their relative magnitude
- investigate and apply multiple representations of commonly used and equivalent fractions through twelfths (e.g., 1/2=3/6) and decimals through thousandths with manipulatives (e.g., drawings, manipulatives, base-10 blocks, number lines, expanded form, symbols)
- explore the use of simple ratios to describe problem situations
- explore the relationship between fractions, decimals and percents
- apply whole numbers, commonly used fractions and decimals to represent real-world problems
- explain how the base 10 number system relates to place value
- develop equivalent relationships between commonly used fractions, decimals and whole numbers (e.g., 1/2=0.5, 4/2=2, 2=2.0)
- graph a whole number, commonly used fraction or decimal on a number line

**Grade 4 Skills and Concepts – Estimation**

*Students will*

- explore appropriate estimation procedures for different situations
- apply and explain appropriate strategies for estimating quantities of objects and computational results

**Grade 4 Skills and Concepts – Number Operations**

*Students will*

- develop and apply computational procedures to add, subtract, multiply and divide whole numbers
- use manipulatives and/or diagrams to add and subtract fractions with a common denominator
- add and subtract decimals through thousandths

## Big Idea: Number Properties and Operations – Continued

**Grade 4 Skills and Concepts – Properties of Numbers and Operations**
*Students will*

- determine factors/multiples of a whole number
- skip-count forwards and backwards by 2s, 3s, 4s, 5s, 10s, 20s, 25s, 50s, 100s, 1,000s and 10,000s and use manipulatives, mental math and written and electronic means to communicate understanding
- identify and provide examples of odd and even numbers
- explore and use properties of numbers for written and mental computations (e.g., use commutative property of addition to rearrange addition such as change 12+4+8 to 12+8+4 to simplify the addition)

## Big Idea: Measurement

Students translate from measuring using nonstandard units to using standard units of measurement. They identify measurable attributes of objects, estimate and measure weight, length, perimeter, area, angles, temperature, time and money. They convert units within the same measurement system.

**Academic Expectations**

**2.10** Students understand measurement concepts and use measurements appropriately and accurately.
**2.11** Students understand mathematical change concepts and use them appropriately and accurately.

**Grade 4 Enduring Knowledge – Understandings**

*Students will understand that*

- there are two major measurement systems (U.S. Customary and metric) and either may be used to solve problems.
- measurable attributes of objects and the units, systems and processes of measurement are powerful tools for making sense of the world around them.
- appropriate techniques, tools and formulas are used to determine measurements.
- there is an appropriate degree of accuracy in measurement for each situation.

**Grade 4 Skills and Concepts – Measuring Physical Attributes**

*Students will*

- explore and compare non-standard and standard units for measuring angles
- relate time to days, weeks, months and years
- add and subtract time to solve problems
- read and record temperatures to the nearest degree
- measure and determine area and perimeter of a rectangle
- measure and determine perimeter of regular/irregular shapes
- choose and use appropriate tools (e.g., thermometer, scale, balance, clock, meter stick) for specific measurement tasks
- use measurements to describe and compare attributes of objects, including length, width, height, money (cost), temperature and weight, and sort and compare objects using attributes
- estimate weight, length, perimeter, area, angle measure and time using appropriate units of measurement

**Grade 4 Skills and Concepts – Systems of Measurement**

*Students will*

- convert units (e.g., linear, weight, money, time) within a measurement system (e.g., 2 feet = 24 inches)
- describe, define, give examples of and use to solve real-world and/or mathematical problems both nonstandard and standard (U.S. Customary, metric) units of measurement to include length, weight, time, money and temperature (˚F and ˚C)

## Big Idea: Geometry

Students explore and find basic geometric elements and terms, two-dimensional shapes and three-dimensional objects. They find and use symmetry. They move two-dimensional figures in a plane and explore congruent and similar figures.

**Academic Expectation**

**2.8** Students understand various mathematical procedures and use them appropriately and accurately.

**2.9** Students understand space and dimensionality concepts and use them appropriately and accurately.

**Grade 4 Enduring Knowledge – Understandings**

*Students will understand that*

- characteristics and properties of two-dimensional figures and three-dimensional objects describe the world and are used to develop mathematical arguments about geometric relationships and to evaluate the arguments of others.
- representational systems, including coordinate geometry, are means for specifying locations and describing spatial relationships and are organizers for making sense of the world around them.
- transformations and symmetry are used to analyze real-world situations (e.g., art, nature, construction and scientific exploration).
- shape and area are conserved during mathematical transformations (flips, slides and turns).
- visualization, spatial reasoning and geometric relationships model real-world situations.

**Grade 4 Skills and Concepts – Shapes and Relationships**

*Students will*

- analyze structures of geometric figures (e.g., points, rays, lines, segments, perpendicular lines, parallel lines, intersecting lines, angles)
- investigate geometric relationships (e.g., similarity, congruence) through manipulatives and drawings
- analyze attributes of two-dimensional figures (e.g., circle, triangles, squares, rectangles, trapezoids, rhombuses, pentagons, hexagons, octagons) and apply these attributes to solve real-world problems
- analyze attributes of basic three-dimensional objects (spheres, cones, cylinders, pyramids, cubes, triangular and rectangular prisms) and will apply these attributes to solve real-world problems

**Grade 4 Skills and Concepts – Transformations of Shapes**

*Students will*

- describe and provide examples of line symmetry in real-world situations; apply one or two lines of symmetry to construct a simple geometric design
- identify basic two-dimensional figures in different orientations using 90º rotations (turns) around a point of rotation, reflections (flips) and translations (slides) within a plane

**Grade 4 Skills and Concepts – Coordinate Geometry**

*Students will:*

- identify and graph ordered pairs on a positive coordinate system
- locate points on a grid

## Big Idea: Data Analysis and Probability

Students pose questions, plan and collect data, organize and display data and interpret displays of data. They generate outcomes for simple probability activities, determine fairness of probability games and explore likely and unlikely events.

**Academic Expectations**

**2.7** Students understand number concepts and use numbers appropriately and accurately.
**2.8** Students understand various mathematical procedures and use them appropriately and accurately.
**2.13** Students understand and appropriately use statistics and probability.

**Grade 4 Enduring Knowledge – Understandings**

*Students will understand that*

- quantitative literacy is a necessary tool to be an intelligent consumer and citizen.
- the collection, organization, interpretation and display of data can be used to answer questions.
- the choice of data display can affect the visual message communicated.
- inferences and predictions from data are used to make critical and informed decisions.
- probability can be used to make decisions or predictions or to draw conclusions.

**Grade 4 Skills and Concepts – Data Representations**

*Students will*

- explore line graphs to show change over time
- display, read and compare data on student-generated graphs
- pose questions and choose an appropriate method to collect, organize and display student-collected data to answer the questions
- analyze and make inferences from data displays (e.g., drawings, tables/charts, tally tables, pictographs, bar graphs, circle graphs, line plots, Venn diagrams)
- construct data displays (e.g., pictographs, bar graphs, line plots, Venn diagrams, tables)

**Grade 4 Skills and Concepts – Characteristics of Data**

*Students will*

- draw conclusions based on data
- develop the meaning and interpretation of the median, mode and range of a set of data
- determine the median, mode and range of a set of data
- compare two sets of data

**Grade 4 Skills and Concepts – Experiments and Samples**

*Students will*

- pose questions and collect, organize, interpret and display data to answer them

**Grade 4 Skills and Concepts – Probability**

*Students will*

- use a variety of appropriate manipulatives, graphics or symbols to determine the fairness of games and make predictions from the outcomes of simple probability experiments
- determine the likelihood of an event, expressed as a fraction
- describe and give examples of the probability of an unlikely event and a likely event
- use counting techniques and/or tables to explore probability experiments
- determine all possible outcomes of an activity with up to 12 possible outcomes

## Big Idea: Algebraic Thinking

Students explore and examine patterns and develop rules to go with patterns. They generate input-output for functions and create tables to analyze functions. Students use number sentences with missing values.

**Academic Expectations**

**2.8** Students understand various mathematical procedures and use them appropriately and accurately.

**2.11** Students understand mathematical change concepts and use them appropriately and accurately.

**2.12** Students understand mathematical structure concepts including the properties and logic of various mathematical systems.

**Grade 4 Enduring Knowledge – Understandings**

*Students will understand that*

- patterns, relations and functions are tools that help explain or predict real-world phenomena.
- numerical patterns can be written as rules that generate the pattern.
- algebra represents mathematical situations and structures for analysis and problem solving.
- real-world situations can be represented using mathematical models to analyze quantitative relationships.
- functions are used to analyze change in various contexts and model real-world phenomena. Functions can be written in words, as a symbolic sentence or in a table.

**Grade 4 Skills and Concepts – Patterns, Relations and Functions**

*Students will*

- represent, describe, analyze and/or formulate rules for number relationships or functions through a variety of methods (e.g., the use of variables, ordered pairs, lists in tables, plots on graphs and patterns)
- compare, contrast and/or extend patterns of numbers and shapes and sounds from real-world or mathematical situations

**Grade 4 Skills and Concepts – Variables, Expressions and Operations**

*Students will*

- explore unknowns and open sentences to express relationships
- write stories about mathematical sentences with missing values

**Grade 4 Skills and Concepts – Equations and Inequalities**

*Students will*

- solve simple equations (e.g., 4=7-[ ], 6+[ ]=10)
- solve simple inequalities (e.g., N+5> 14)
- apply number sentences to solve real-world problems
- read or create and solve story problems using mathematical sentences with missing values
- model real-world situations with simple number sentences using manipulatives, numbers and/or symbols

# Program of Studies – Mathematics – Fifth Grade

The mathematics program in grade five includes strong literacy connections, active and hands-on work with concrete materials and appropriate technologies. Grade five problem solving, mathematical communication, connections, mathematical reasoning and multiple representations should be a part of the mathematics curriculum. The use of these techniques enhances and extends students' mathematics skills. Accuracy is an integral part of the mathematics program.

Students should have opportunities to work individually and in groups of varying size and composition in order to conduct investigations, process information and discuss important mathematical concepts. Students must have regular opportunities to share their ideas with others and to solve problems generated as a result of their learning experiences.

The mathematics content standards at the fifth grade level are directly aligned with Kentucky's **Academic Expectations**. Mathematics standards are organized around five “Big Ideas” that are important to the discipline of mathematics. The five big ideas in mathematics are: Number Properties and Operations, Measurement, Geometry, Data Analysis and Probability and Algebraic Thinking. The Big Ideas are conceptual organizers for mathematics and are similar at each grade level to ensure students have multiple opportunities throughout the students’ school careers to develop skills and concepts linked to the Big Ideas.

Under each Big Idea are statements of Enduring Knowledge/Understandings that represent overarching generalizations linked to the Big Ideas of mathematics. The understandings represent the desired results – what learning will focus upon and what knowledge students will be able to explain or apply. Understandings can be used to frame development of units of study and lesson plans.

Skills and concepts describe ways that students demonstrate their learning and are specific to each grade level. The skills and concepts for mathematics are fundamental to mathematical literacy, mathematical power and build on prior learning.

Effectively implementing the Program of Studies requires a common understanding of the process standards below.

**Problem solving** includes developing and applying strategies to problems from everyday and mathematical situations and evaluating the solutions relative to the original problem situation.

**Mathematical communication** includes concrete materials, visual representations and diagrams that relate language to mathematical symbols in speaking, reading, writing and listening to mathematical ideas.

**Mathematical connections** include:

- relating concepts to other concepts and procedures (e.g., fraction, decimal)
- relating concepts of one mathematical topic to another (e.g., geometry, measurement)
- relating concepts of a mathematical topic to other disciplines (e.g., statistics, social studies).

**Mathematical reasoning** includes recognizing patterns and relationships and using models, known facts and mathematical properties to explain and justify thinking.

**Multiple representations** allow students to be able to recognize common mathematical structures across different contexts. In elementary school, students most often use representations to reason about objects and actions they can perceive directly.

**Academic Expectation** 1.5-1.9 (Students use mathematical ideas and procedures to communicate, reason, and solve problems.) is infused throughout the mathematics instruction P-12 and is integral to the content and instruction across all grade levels.

**Academic Expectation** 1.16 (Students will use computers and other kinds of technology to collect, organize, and communicate information and ideas.) is an essential and integral part of instruction across the content and the mathematics Program of Studies.

## Big Idea: Number Properties and Operations

Whole number sense and addition and subtraction are key concepts and skills developed in early childhood. Students build on their number sense and counting sense to develop multiplication and division. They move flexibly and fluently through basic number facts, operations and representations. Their understanding of the base-10 number system expands to include decimals. They examine various meanings and models of fractions. They explore data, perform measurements and examine patterns as part of the development process for number and operations, using other mathematics strands to enrich number. Elementary number encompasses computational fluency with whole numbers, relationships between decimals and fractions and techniques for reasonable estimations.

**Academic Expectations**

**2.7** Students understand number concepts and use numbers appropriately and accurately.

**2.8** Students understand various mathematical procedures and use them appropriately and accurately.

**Grade 5 Enduring Knowledge – Understandings**

*Students will understand that*

- numbers, ways of representing numbers, relationships between numbers and number systems are means of representing real-world quantities.
- meanings of and relationships among operations provide tools necessary to solve realistic problems encountered in everyday life.
- computing fluently and making reasonable estimates increases the ability to solve realistic problems encountered in everyday life.

**Grade 5 Skills and Concepts – Number Sense**

*Students will*

- read, write, model, order, compare (using relative magnitude) and apply multiple representations of whole numbers
- compare and apply the relative sizes of common and mixed fractions
- investigate multiple representations of equivalent fractions (e.g., $\frac{1}{2}=\frac{3}{6}$, $1\frac{1}{2}=\frac{3}{2}$) with manipulatives, drawings and fractional notation
- explore the use of simple ratios to describe problem situations
- explore, investigate, compare, relate and apply relationships among whole numbers, fractions, decimals and percents
- read, write, identify and compare decimals through ten-thousandths

**Grade 5 Skills and Concepts – Estimation**

*Students will*

- explore appropriate estimation procedures for different situations
- apply and explain appropriate strategies for estimating quantities of objects and computational results

## Big Idea: Number Properties and Operations – Continued

**Grade 5 Skills and Concepts – Number Operations**
*Students will*

- develop and apply computational procedures to add, subtract, multiply and divide whole numbers using basic facts and technology as appropriate
- add and subtract fractions with common denominators using manipulatives or symbolic notation
- add and subtract decimals through one-thousandths using manipulatives or symbolic notation
- extend multiplication to include one decimal place
- explore the effects of operations on numbers

**Grade 5 Skills and Concepts – Properties of Numbers and Operations**
*Students will*

- use factors to determine prime and composite numbers
- determine least common multiples
- skip-count forwards and backwards with fluency
- use properties of numbers for written and mental computation (e.g., combine commutative and associative properties to rearrange multiplication exercises such as 4x(7x5) which can be rearranged as (4x5)x7 to simplify the multiplication)

## Big Idea: Measurement

Students translate from measuring using nonstandard units to using standard units of measurement. They identify measurable attributes of objects, estimate and measure weight, length, perimeter, area, angles, temperature, time and money. They convert units within the same measurement system.

**Academic Expectations**

**2.10** Students understand measurement concepts and use measurements appropriately and accurately.

**2.11** Students understand mathematical change concepts and use them appropriately and accurately.

**Grade 5 Enduring Knowledge – Understandings**

*Students will understand that*

- there are two major measurement systems (U.S. Customary and metric) and either may be used to solve problems.
- measurable attributes of objects and the units, systems and processes of measurement are powerful tools for making sense of the world around them.
- appropriate techniques, tools and formulas are used to determine measurements.
- for each situation, there is an appropriate degree of accuracy in measurement.

**Grade 5 Skills and Concepts – Measuring Physical Attributes**

*Students will*

- measure and construct angles to the nearest degree
- use charts and tables to determine time schedules, work with time zones and estimate time
- apply standard units of measure to length, weight, temperature and liquid capacity
- choose and use appropriate tools (e.g., protractor, angle ruler, meter stick, ruler) for measurement tasks
- use measures to identify, describe, sort and compare attributes of objects
- use standard units to determine area and perimeter of triangles and rectangles and volume of rectangular prisms and apply these skills to solve real-world and mathematical problems
- estimate weight, length, perimeter, area and angles using appropriate units of measurement
- solve problems involving money

**Grade 5 Skills and Concepts – Systems of Measurement**

*Students will*

- relate and convert units (e.g., linear, volume, weight) within a measurement system (e.g., 125 cm = 1m 25 cm)
- convert units within the U.S. monetary system
- convert units of time and determine elapsed time
- describe, define, give examples of and use to solve real-world and/or mathematical problems both nonstandard and standard (U.S. Customary, metric) units of measurement to include length, time, money, temperature (˚F and ˚C) and weight

## Big Idea: Geometry

Students explore and find basic geometric elements and terms, two-dimensional shapes and three-dimensional objects. They find and use symmetry. They move two-dimensional figures in a plane and explore congruent and similar figures.

**Academic Expectation**

**2.8** Students understand various mathematical procedures and use them appropriately and accurately.

**2.9** Students understand space and dimensionality concepts and use them appropriately and accurately.

**Grade 5 Enduring Knowledge – Understandings**

*Students will understand that*

- characteristics and properties of two-dimensional figures and three-dimensional objects describe the world and are used to develop mathematical arguments about geometric relationships and to evaluate the arguments of others.
- representational systems, including coordinate geometry, are means for specifying locations and describing spatial relationships and are organizers for making sense of the world around them.
- transformations and symmetry are used to analyze real-world situations (e.g., art, nature, construction and scientific exploration).
- shape and area are conserved during mathematical transformations (flips, slides and turns). Scale conserves shape, but changes size.
- visualization, spatial reasoning and geometric relationships model real-world situations.

**Grade 5 Skills and Concepts – Shapes and Relationships**

*Students will*

- identify and model basic two-dimensional figures and three-dimensional objects by appearance and in different orientations (e.g., representations of different views of figures and objects)
- classify angles as acute, right, or obtuse
- describe and provide examples of basic geometric elements and terms and apply these elements to solve real-world problems
- describe and provide examples of basic two-dimensional figures and three-dimensional objects and apply these to solve real-world problems
- identify and describe congruent and similar figures in real-world or mathematical situations

**Grade 5 Skills and Concepts – Transformations of Shapes**

*Students will*

- describe and provide examples of line symmetry in real-world situations and apply line symmetry to construct simple geometric designs
- identify and draw basic two-dimensional shapes in different orientations using 90º rotations (turns) around a point of rotation, reflections (flips) and translations (slides) within a plane

**Grade 5 Skills and Concepts – Coordinate Geometry**

*Students will*

- identify and graph ordered pairs on a positive coordinate system
- locate points on a grid
- apply graphing in the coordinate system to solve real-world problems

## Big Idea: Data Analysis and Probability

Students pose questions, plan and collect data, organize and display data and interpret displays of data. They generate outcomes for simple probability activities, determine fairness of probability games and explore likely and unlikely events.

**Academic Expectations**

**2.7** Students understand number concepts and use numbers appropriately and accurately.
**2.8** Students understand various mathematical procedures and use them appropriately and accurately.
**2.13** Students understand and appropriately use statistics and probability.

**Grade 5 Enduring Knowledge – Understandings**

*Students will understand that*

- quantitative literacy is a necessary tool to be an intelligent consumer and citizen.
- the collection, organization, interpretation and display of data can be used to answer questions.
- the choice of data display can affect the visual message communicated.
- inferences and predictions from data are used to make critical and informed decisions.
- for a given set of data, the measures of central tendency (mean and median) can be different.
- probability can be used to make decisions or predictions, or to draw conclusions.

**Grade 5 Skills and Concepts – Data Representations**

*Students will*

- choose and use appropriate means to collect and represent data
- explore line graphs to show change over time
- pose questions and choose an appropriate method to collect, organize and display student-collected data to answer the questions
- analyze and make inferences from data displays (e.g., drawings, tables/charts, tally tables, pictographs, bar graphs, circle graphs, line plots, Venn diagrams, line graphs)
- use a variety of tools (e.g., graph paper, manipulatives, models, computer) to construct data displays (e.g., pictographs, bar graphs, line plots, line graphs, Venn diagrams, tables)

**Grade 5 Skills and Concepts – Characteristics of Data**

*Students will*

- draw conclusions and make predictions based on data
- develop the meaning and interpretation of the arithmetic mean (average) for numerical data
- determine the mean, median, mode and range of a set of data and use the results to answer questions about the set of data

**Grade 5 Skills and Concepts – Experiments and Samples**

*Students will*

- pose questions and collect, organize, display and interpret data to answer the questions
- explore how sample size affects the reliability of the data

**Grade 5 Skills and Concepts – Probability**

*Students will*

- determine the possible outcomes of simple probability experiments that are conducted by using manipulatives
- determine the likelihood of an event and represent that likelihood in numerical terms
- examine events and describe their probability as likely or unlikely
- use counting techniques, tree diagrams and tables to explore probability experiments
- determine all possible outcomes of an activity/event with up to 20 possible outcomes

## Big Idea: Algebraic Thinking

Students explore and examine patterns and develop rules to go with patterns. They generate input-output for functions and create tables to analyze functions. Students use number sentences with missing values.

**Academic Expectations**

**2.8** Students understand various mathematical procedures and use them appropriately and accurately.
**2.11** Students understand mathematical change concepts and use them appropriately and accurately.
**2.12** Students understand mathematical structure concepts including the properties and logic of various mathematical systems.

**Grade 5 Enduring Knowledge – Understandings**

*Students will understand that*

- patterns, relations and functions are tools that help explain or predict real-world phenomena.
- numerical patterns can be written as rules that generate the pattern.
- algebra represents mathematical situations and structures for analysis and problem solving.
- real-world situations can be represented using mathematical models to analyze quantitative relationships.
- functions are used to analyze change in various contexts and model real-world phenomena. Functions can be written in words, as a symbolic sentence, or in a table.

**Grade 5 Skills and Concepts – Patterns, Relations and Functions**

*Students will*

- create, recognize, extend, find and write rules for patterns
- generalize a rule for sets of ordered pairs
- describe input-output functions through pictures, tables and/or words
- construct tables to analyze functions based on real-world or mathematical situations

**Grade 5 Skills and Concepts – Variables, Expressions and Operations**

*Students will*

- explore unknowns and open sentences to express relationships
- represent real-world situations with mathematical sentences containing missing values
- use variables or missing values to model verbal descriptions of real-world situations

**Grade 5 Skills and Concepts – Equations and Inequalities**

*Students will*

- apply simple equations and simple inequalities to solve mathematical and/or real-world problems
- model real-world situations with simple number sentences using manipulatives, numbers, variables and/or symbols

# INTERMEDIATE PRACTICAL LIVING

## (HEALTH AND PHYSICAL EDUCATION)

# Program of Studies – Practical Living – Fourth Grade

The health program in the 4th grade should provide opportunities for students to build upon the knowledge, skills and practices learned in the primary health education program. Continued acquisition of health knowledge enables students to make a smooth transition to the middle grades and prepares them to assume more responsibility for their own health.

Health literacy in the 4th grade program further develops an understanding of the body functions as well as behaviors and decisions that foster life-long health. Students in 4th grade health education focus on responsibility for personal health throughout the life cycle as related to good nutritional health and safety practices, decision-making skills, disease prevention and benefits of exercise. Other topics included are community resources, prevention of violence and substance abuse.

Physical Education addresses both health-related and skill-related components that promote enhanced health behaviors and increase responsible decision-making. Physical Education uses physical activity as a means to help students acquire skills, fitness, knowledge and attitudes that contribute to their optimal development and well-being.

The 4$^{th}$ grade physical education program continues the development and refinement of motor skills and their application to various games, sports and other physical activities. Defining fitness skills and building positive attitudes toward lifetime physical fitness are some benefits derived from participation in the 4$^{th}$ grade physical education program. Students in intermediate level physical education develop and refine movement patterns, socially acceptable behavior and sportsmanship through participation in activities and games. They also learn the relationship between exercise, rest and nutrition to growth and development

The Health and Physical Education content standards at the 4$^{th}$ grade level are directly aligned with Kentucky's **Academic Expectations.** The Health and Physical Education standards are organized around five "Big Ideas" that are important to the discipline of health and physical education. These big ideas are: Personal Wellness, Nutrition, Safety, Psychomotor Skills and Lifetime Physical Wellness. The Big Ideas are conceptual organizers for health and physical education and are the same at each grade level. This ensures students have multiple opportunities throughout their school careers to develop skills and concepts linked to the Big Ideas.

Under each Big Idea are statements of Enduring Knowledge/Understandings that represent overarching generalizations linked to health and physical education. The understandings represent the desired results- what learning will focus upon and what knowledge students will be able to explain or apply. Understandings can be used to frame development of units of study and lessons plans.

Skills and concepts describe the ways that students demonstrate their learning and are specific to each grade level. The skills and concepts for health and physical education are fundamental to health literacy and build on prior learning.

The health and physical education program provides a connection to Kentucky's Learning Goals 3 (self-sufficient individuals) and Learning Goal 4 (responsible group member), which are included in Kentucky statue, but they are not included in the state's academic assessment program. These connections provide a comprehensive link between essential content, skills and abilities important to learning. In addition Learning Goal 5 (Think and Solve Problems) and Learning Goal 6 (Connect and Integrate Knowledge) are addressed in health and physical education.

All physical education courses taught in the state of Kentucky must be in compliance with the Federal Special Education Law and Title IX and shall not include practice for or participation in interscholastic athletics.

## Big Idea: Personal Wellness (Health Education)

Wellness is maximum well-being, or total health. Personal wellness is a combination of physical, mental, emotional, spiritual and social well-being. It involves making behavioral choices and decisions each day that promote an individual's physical well-being, the prevention of illnesses and diseases and the ability to remain, physically, mentally, spiritually, socially and emotionally healthy.

**Academic Expectations**

**2.29** Students demonstrate skills that promote individual well-being and healthy family relationships.
**2.31** Students demonstrate the knowledge and skills they need to remain physically healthy and to accept responsibility for their own physical well-being.
**2.32** Students demonstrate strategies for becoming and remaining mentally and emotionally healthy.
**3.2** Students demonstrate the ability to maintain a healthy lifestyle.
**4.1** Students effectively use interpersonal skills.
**4.4** Students demonstrate the ability to accept the rights and responsibilities for self and others.
**5.1** Students use critical thinking skills such as analyzing, prioritizing, categorizing, evaluating and comparing to solve a variety of problems in real-life situations.
**5.4** Students use a decision-making process to make informed decisions among options.

**Grade 4 Enduring Knowledge – Understandings**

*Students will understand that*

- responsibility to oneself promotes health enhancing behaviors.
- physical, emotional and social changes are normal and each individual is unique in the growth and development process.
- interpersonal skills and strategies can influence social, mental and emotional well-being and affect an individual's relationships.
- culture, media and use of technology (e.g., television, computers, MP3 Players, electronic/arcade games) can influence personal health.
- behavioral choices affect physical, mental, emotional and social well-being and can have positive or negative consequences on one's health.
- positive health habits prevent the spreading of diseases and injuries to self and others.
- self-management and coping strategies can enhance mental and emotional health.

**Grade 4 Skills and Concepts – Personal and Physical Health**

*Students will*

- describe the relationship between personal health behaviors and individual well-being
- explain the characteristics of mental/emotional, social and physical health
- explain and exhibit responsibility to oneself and others
- describe how individual behaviors and choices of diet, exercise and rest affect the body

**Grade 4 Skills and Concepts – Growth and Development**

*Students will*

- explain why growth and development are unique to each individual
- develop an awareness of the interrelatedness of body functions and the impact lifestyle choices has on body systems
- describe physical, social and emotional changes that occur during preadolescence

## Big Idea: Personal Wellness (Health Education) – Continued

**Grade 4 Skills and Concepts – Social, Mental and Emotional Health**
*Students will*

- demonstrate social interaction skills by:
  - using etiquette, politeness, sharing and other social interaction skills
  - working and playing collaboratively in large and small groups
  - using appropriate means to express needs, wants and feelings
  - distinguishing between verbal and nonverbal communication
  - describing characteristics needed to be a responsible friend and family member
  - identifying social interaction skills that enhance individual health
- describe how goal setting can lead to personal achievement
- identify and describe common social and emotional problems (aggression, anxiety, depression)
- demonstrate the ability to apply a decision-making process to solve health issues and health problems
- identify self-management and coping strategies (goal setting, refusal skills, decision making and time management) that enhance health

**Grade 4 Skills and Concepts – Family Health**
*Students will*

- describe how culture influences personal health behaviors
- describe ways technology and media influences thoughts, feelings and personal health
- explain how family traditions/values impact personal health practices
- explain how information from school and family influences health

**Grade 4 Skills and Concepts – Communicable, Non-Communicable and Chronic Diseases Prevention**
*Students will*

- describe symptoms and treatments of:
  - communicable diseases (cold, strep throat and chicken pox)
  - non-communicable diseases (asthma, heart disease, diabetes, skin cancer)
- demonstrate an understanding of how to maintain a healthy body by:
  - explaining how body systems work together (e.g., digestive, circulatory and respiratory systems)
  - listing body defenses that fight pathogens
  - describing ways pathogens from the environment enter the body
  - identifying and explaining behaviors that promote personal hygiene (e.g., the use of grooming products) or can affect self and others in the prevention and spread of disease (e.g., hand washing, care of teeth and eyes, covering coughs and sneezes, sun protection)
  - describing reasons for regular visits to health care providers

**Grade 4 Skills and Concepts – Alcohol, Tobacco and Other Drugs**
*Students will*

- demonstrate an understanding of the use and misuse of alcohol, tobacco and other drugs:
  - distinguish between the use and misuse of drugs, alcohol and tobacco and identify the effects each use might have on the body
  - describe their effects on physical, mental, emotional and social health (e.g., effects on family life)

## Big Idea: Nutrition (Health Education)

Proper nutrition is critical to good health. To maintain a healthy weight, good dietary habits and physical activity are essential. Nutritious foods are necessary for growth, development and maintenance of healthy bodies.

**Academic Expectations**

**2.30** Students evaluate consumer products and services and make effective consumer decisions.
**2.31** Students demonstrate the knowledge and skills they need to remain physically healthy and to accept responsibility for their own physical well-being.
**3.2** Students will demonstrate the ability to maintain a healthy lifestyle.
**3.5** Students will demonstrate self-control and self-discipline.
**5.1** Students use critical thinking skills such as analyzing, prioritizing, categorizing, evaluating and comparing to solve a variety of problems in real-life situations.
**5.4** Students use decision-making process to make informed decisions among options.

**Grade 4 Enduring Knowledge – Understandings**

*Students will understand that*

- proper nutrition is essential to growth and development.
- nutrients provide energy for daily living.
- resources are available to assist in making nutritional choices.

**Grade 4 Skills and Concepts**

*Students will*

- explain the role of the digestive system in nutrition
- describe the relationship between food choices in staying healthy
- explain how to use resources (e.g., Food Guide Pyramid (FGP), Dietary Guidelines for Americans) in making healthful food choices
- identify nutrients which are important to growth and development of healthy bodies
- identify and explain the nutritional information provided on food labels

## Big Idea: Safety (Health Education)

Accidents are a major cause of injury and death to children and adolescents. Unintentional injuries involving a motor vehicle, falls, drowning, fires, firearms and poisons can occur at home, school and work. Safe behavior protects a person from danger and lessens the effects of harmful situations.

**Academic Expectations**

**2.31** Students demonstrate the knowledge and skills they need to remain physically healthy and to accept responsibility for their own physical well-being.
**2.33** Students demonstrate the skills to evaluate and use services and resources available in their community.
**3.2** Students will demonstrate the ability to maintain a healthy lifestyle.
**4.3** Students individually demonstrate consistent, responsive and caring behavior.
**4.4** Students demonstrate the ability to accept the rights and responsibilities for self and others.
**5.1** Students use skills such as analyzing, prioritizing, categorizing, evaluating and comparing to solve a variety of problems in real-life situations.
**5.4** Students use a decision-making process to make informed decisions among-options.

**Grade 4 Enduring Knowledge – Understandings**

*Students will understand that*

- safety practices and procedures help to prevent injuries and provide a safe environment.
- community resources are available to assist in hazardous situations.

**Grade 4 Skills and Concepts**

*Students will*

- practice safety rules/procedures for crossing streets/highway, riding in cars and on buses and using playground equipment
- identify and explain ways to prevent injuries at home and at school (e.g., seat belts, helmets, knee pads, falls, poisonings) in a variety of situations
- explain and demonstrate school and home safety procedures (e.g., tornado, fire, earthquake drills)
- identify the effects injuries have on the body (e.g., skeletal system, skin, eyes)
- identify proper procedures (e.g., calling 911, Heimlich maneuver, stop, drop & roll, apply pressure) for dealing with a variety of emergency situations (e.g., choking, bleeding, burns)
- demonstrate awareness of how to avoid danger (e.g., fires, strangers) (e.g., through role plays, discussions, drawing)
- identify the available health and safety agencies in a community and the services they provide (e.g., health department, fire department, police, ambulance services)

## Big Idea: Psychomotor Skills (Physical Education)

Cognitive information can be used to understand and enhance the development of motor skills such as movement sequences and patterns. Individuals who understand their bodies and how to perform various movements will be safer and more productive in recreation and work activities. Development of psychomotor skills contributes to the development of social and cognitive skills.

**Academic Expectations**

**2.31** Students demonstrate the knowledge and skills they need to remain physically healthy and to accept responsibility for their own physical well-being.
**2.34** Students perform physical movements skills effectively in a variety of settings.
**2.35** Students demonstrate knowledge and skills that promote physical activity and involvement in physical activity throughout lives.
**4.1** Students effectively use interpersonal skills.

**Grade 4 Enduring Knowledge – Understandings**

*Students will understand that*

- spatial awareness, motor skills and movement patterns are needed to perform a variety of physical activities.
- movement concepts, principles and strategies apply to the learning and performance of physical activities.

**Grade 4 Skills and Concepts**

*Students will*

- demonstrate a variety of locomotor and combination skills in a movement pattern
- use non-locomotor, locomotor and combination skills to demonstrate movements in creative sequences and in simple patterned dances, games and other activities
- demonstrate a variety of non-locomotor, locomotor and combination skills while participating in different games and sports
- develop manipulative skills of throwing, catching, kicking and striking while developing motor skills (e.g., sliding, running, jumping) for use in games and other activities that lead to more complex games and sports (e.g., basketball, volleyball, soccer, softball)
- demonstrate and explain how movement patterns are influenced by space, force and time
- willingly try new movement and skills

## Big Idea: Lifetime Physical Wellness (Physical Education)

Lifetime wellness is health-focused. The health-related activities and content utilized are presented to help students become more responsible for their overall health status and to prepare each student to demonstrate knowledge and skills that promote physical activity throughout their lives. Physical education uses physical activity as a means to help students acquire skills, fitness, knowledge and attitudes that contribute to their optimal development and well-being. Physical, mental, emotional and social health is strengthened by regular involvement in physical activities.

**Academic Expectations**

**2.31** Students demonstrate the knowledge and skills they need to remain physically healthy and to accept responsibility for their own physical well-being.
**2.34** Students perform physical movements skills effectively in a variety of settings.
**2.35** Students demonstrate knowledge and skills that promote physical activity and involvement in physical activity throughout lives.
**3.1** Students demonstrate positive growth in self-concept through appropriate tasks or projects.
**3.2** Students demonstrate the ability to maintain a healthy lifestyle.
**3.7** Students demonstrate the ability to learn on one's own.
**4.2** Students use productive team membership skills.

**Grade 4 Enduring Knowledge – Understandings**

*Students will understand that*

- physical activity provides opportunities for social interaction, challenges and fun.
- participation in regular physical activity has physical, mental and social benefits.
- practice is a basic component for improving sport skills.
- rules impact the effective participation in physical activities.
- personal and social behavior that shows respect to self and others impacts enjoyment and safety in physical activity settings.
- regular participation in health-related, physical activity supports the goals of fitness and a healthier lifestyle throughout life.
- principles and techniques are used to improve physical fitness.

## Big Idea: Lifetime Physical Wellness (Physical Education) – Continued

**Grade 4 Skills and Concepts**
*Students will*

- identify likes and dislikes connected with participating in sports and physical activities; explain how physical activity provides opportunities for enjoyment, challenge, self-expression and social interaction
- identify and engage in physical activities that promote physical fitness and health
- describe the potential positive and negative (e.g., injury) effects of regular participation in moderate to vigorous physical activities
- participate in daily physical activity during and after school
- relate the concept of practice to the importance of learning new skills; explain why repeated appropriate practice contributes to increased skill development
- when participating in a variety of physical activities and games:
  - explain basic rules needed to make games fair
  - identify the need for rules in social settings and choose appropriate behaviors
  - demonstrate cooperation with partners and small groups
- demonstrate and apply the concept of sportsmanship (e.g., complying with rules, responding appropriately) in games, sports and physical activities
- explain how rules of play and sportsmanship for spectators and participants during games or activities can make them safe and enjoyable
- identify and participate in activities to enhance the health related fitness components (e.g., aerobic capacity/cardio-respiratory endurance, muscular endurance, muscular strength and flexibility)
- identify the components of fitness (muscular strength, muscular endurance, flexibility, body composition, cardio-respiratory endurance); describe the meaning of F.I.T.T. Principle (Frequency, Intensity, Type, Time)

# Program of Studies – Practical Living – Fifth Grade

The health program in the 5th grade should provide opportunities for students to build upon the knowledge, skills and practices learned in the fourth grade health education program. Continued acquisition of health knowledge enables students to make a smooth transition to the middle grades and prepares them to assume more responsibility for their own health.

Health literacy in the 5th grade program further develops an understanding of the body functions as well as behaviors and decisions that foster life-long health. Students in 5th grade health education focus on responsibility for personal health throughout the life cycle as related to good nutritional health and safety practices, decision-making skills, disease prevention and benefits of exercise. Other topics included are community resources, prevention of violence and substance abuse.

Students in 5th grade apply movement principles and concepts to enhance their movement performance, personal fitness and game strategy and tactics. They develop proficiency in games and dance. Students demonstrate specialized skills alone, with a partner or in a small group. They access and use resources to improve personal fitness as they exhibit a physically active lifestyle. Students continue to develop responsible personal and social behaviors as they work with others in safe and respectful ways.

Students in the 5th grade program are actively engaged in physical activity with developmentally appropriate instruction for effective learning to take place. The major goal for physical education at this level is to inspire children to be active for life.

The Health and Physical Education content standards at the 5$^{th}$ grade level are directly aligned with Kentucky's **Academic Expectations**. The Health and Physical Education standards are organized around five "Big Ideas" that are important to the discipline of health and physical education. These big ideas are: Personal Wellness, Nutrition, Safety, Psychomotor Skills and Lifetime Physical Wellness. The Big Ideas are conceptual organizers for health and physical education and are the same at each grade level. This ensures students have multiple opportunities throughout their school careers to develop skills and concepts linked to the Big Ideas.

Under each Big Idea are statements of Enduring Knowledge/Understandings that represent overarching generalizations linked to health and physical education. The understandings represent the desired results - what learning will focus upon and what knowledge students will be able to explain or apply. Understandings can be used to frame development of units of study and lessons plans.

Skills and concepts describe the ways that students demonstrate their learning and are specific to each grade level. The skills and concepts for health and physical education are fundamental to health literacy and build on prior learning.

The health and physical education program provides a connection to Kentucky's Learning Goals 3 (self-sufficient individuals) and Learning Goal 4 (responsible group member), which are included in Kentucky statue, but they are not included in the state's academic assessment program. These connections provide a comprehensive link between essential content, skills and abilities important to learning. In addition Learning Goal 5 (think and solve problems) and Learning Goal 6 (connect and integrate knowledge) are addressed in health and physical education.

All physical education courses taught in the state of Kentucky must be in compliance with the Federal Special Education Law and Title IX and shall not include practice for or participation in interscholastic athletics.

## Big Idea: Personal Wellness (Health Education)

Wellness is maximum well-being or total health. Personal wellness is a combination of physical, mental, emotional, spiritual and social well-being. It involves making behavioral choices and decisions each day that promote an individual's physical well-being, the prevention of illnesses and diseases and the ability to remain, physically, mentally, spiritually, socially and emotionally healthy.

**Academic Expectations**

**2.29** Students demonstrate skills that promote individual well-being and healthy family relationships.
**2.31** Students demonstrate the knowledge and skills they need to remain physically healthy and to accept responsibility for their own physical well-being.
**2.32** Students demonstrate strategies for becoming and remaining mentally and emotionally healthy.
**3.2** Students demonstrate the ability to maintain a healthy lifestyle.
**4.1** Students effectively use interpersonal skills.
**4.4** Students demonstrate the ability to accept the rights and responsibilities for self and others.
**5.1** Students use critical thinking skills such as analyzing, prioritizing, categorizing, evaluating and comparing to solve a variety of problems in real-life situations.
**5.4** Students use a decision-making process to make informed decisions among options.

**Grade 5 Enduring Knowledge – Understandings**

*Students will understand that*

- maintaining a healthy lifestyle is an individual's responsibility.
- physical, emotional and social changes are normal in the growth and development process.
- social interaction skills can influence an individual's physical, mental and emotional health and affect relationships.
- physical, social, mental and emotional health are impacted by the environment, lifestyle, family history, peers and other factors.
- culture, media and use of technology (e.g., television, computers, MP3 Players, electronic/arcade games) can influence personal health.
- behavioral choices affect physical, mental, emotional and social well-being and can have positive or negative consequences on one's health.
- positive health habits prevent the spreading of diseases and injuries to self and others.
- self-management and coping strategies can enhance mental and emotional health.
- a variety of resources are available to inform, treat and counsel individuals with physical, mental, social and emotional health needs.

**Grade 5 Skills and Concepts – Personal and Physical Health**

*Students will*

- explain the importance of assuming responsibility for personal health behaviors
- determine health goals by identifying personal strengths and weakness
- describe how individual behaviors and choices of diet, exercise and rest affect the body

**Grade 5 Skills and Concepts – Growth and Development**

*Students will*

- explain the concept of maturity as it relates to physical, social and emotional development
- describe physical, social and emotional changes that occur during preadolescence

## Big Idea: Personal Wellness (Health Education) – Continued

**Grade 5 Skills and Concepts – Social, Mental and Emotional Health**
*Students will*

- demonstrate social interaction skills by:
  - using appropriate means to express needs, wants and feelings
  - using effective social interaction skills (e.g., listening, cooperation, making friends, empathy)
  - recommending ways to avoid or reduce stressful situations/harmful behaviors in relationships (e.g. bullying, peer pressure, conflict)
- demonstrate the ability to apply a decision-making process to solve health issues and health problems
- identify common social and emotional problems (aggression, anxiety, depression)
- identify self-management and coping strategies (goal setting, refusal skills, decision making and time management) that enhance health

**Grade 5 Skills and Concepts – Family and Community Health**
*Students will*

- analyze how personal health, health behaviors and use of health services can be influenced by:
  - family traditions/values
  - technology and media messages
  - cultural beliefs
  - physical and social environments
  - information from peers

**Grade 5 Skills and Concepts – Communicable, Non-Communicable and Chronic Disease Prevention**
*Students will*

- demonstrate an understanding of diseases by:
  - describing symptoms and treatments of communicable diseases (cold, strep throat, chicken pox)
  - describing symptoms and treatments of non-communicable diseases (asthma, heart disease, diabetes, skin cancer)
- investigate family history, environment, lifestyle and other risk factors related to the cause or prevention of disease and other health problems
- demonstrate an understanding of how to maintain a healthy body by:
  - explaining how body systems work together (e.g., digestive, circulatory and respiratory systems)
  - describing ways pathogens from the environment enter the body and body defenses that fight pathogens
  - identifying and explaining behaviors that promote personal hygiene (e.g., the use of grooming products) or can affect self and others in the prevention and spread of disease (e.g., hand washing, care of teeth and eyes, covering coughs and sneezes, sun protection)
  - describing reasons for regular visits to health care providers

**Grade 5 Skills and Concepts – Alcohol, Tobacco and Other Drugs**
*Students will*

- demonstrate an understanding of the use and misuse of alcohol, tobacco and other drugs by:
  - distinguishing between the use and misuse of drugs, alcohol and tobacco and identify the effects each use might have on the body
  - describing their effects on physical, mental, emotional and social health (e.g., effects on family life)
  - identifying illegal drugs (inhalants, marijuana, stimulants, depressants) and describing how their usage affects the body systems
  - identifying resources available to individuals seeking treatment or counseling for negative behaviors or addictions

## Big Idea: Nutrition (Health Education)

Proper nutrition is critical to good health. To maintain a healthy weight, good dietary habits and physical activity are essential. Nutritious foods are necessary for growth, development and maintenance of healthy bodies.

**Academic Expectations**

**2.30** Students evaluate consumer products and services and make effective consumer decisions.
**2.31** Students demonstrate the knowledge and skills they need to remain physically healthy and to accept responsibility for their own physical well-being.
**3.2** Students will demonstrate the ability to maintain a healthy lifestyle.
**3.5** Students will demonstrate self-control and self-discipline.
**5.1** Students use critical thinking skills such as analyzing, prioritizing, categorizing, evaluating and comparing to solve a variety of problems in real-life situations.
**5.4** Students use decision-making process to make informed decisions among options.

**Grade 5 Enduring Knowledge – Understandings**

*Students will understand that*

- proper nutrition is essential to growth and development.
- nutrients provide energy for daily living.
- resources are available to assist in making nutritional choices.

**Grade 5 Skills and Concepts**

*Students will*

- provide examples of foods that are sources of the six nutrients (protein, carbohydrates, fats, minerals, vitamins, water)
- identify the role of nutrients and food sources which are important in the growth and development of healthy bodies
- interpret and explain the recommendations of national resources (e.g., Food Guide Pyramid (FGP), Dietary Guidelines for Americans) in making healthful food choices
- explain the role of the digestive system in nutrition
- explain how the nutritional information provided on food labels impacts dietary choices

## Big Idea: Safety (Health Education)

Accidents are a major cause of injury and death to children and adolescents. Unintentional injuries involving a motor vehicle, falls, drowning, fires, firearms and poisons can occur at home, school and work. Safe behavior protects a person from danger and lessens the effects of harmful situations.

**Academic Expectations**

**2.31** Students demonstrate the knowledge and skills they need to remain physically healthy and to accept responsibility for their own physical well-being
**2.33** Students demonstrate the skills to evaluate and use services and resources available in their community
**3.2** Students will demonstrate the ability to maintain a healthy lifestyle
**4.3** Students individually demonstrate consistent, responsive and caring behavior
**4.4** Students demonstrate the ability to accept the rights and responsibilities for self and others
**5.1** Students use skills such as analyzing, prioritizing, categorizing, evaluating and comparing to solve a variety of problems in real-life situations
**5.4** Students use a decision-making process to make informed decisions among-options

**Grade 5 Enduring Knowledge – Understandings**

*Students will understand that*

- safety practices and procedures help to prevent injuries and provide a safe environment.
- community and state resources are available to assist in hazardous situations.
- proper procedures must be used in emergency situations.

**Grade 5 Skills and Concepts**

*Students will*

- explain and practice safety rules/procedures for crossing streets/highway, riding in cars and on buses and using playground equipment
- identify and explain ways to prevent injuries at home and at school (e.g., seat belts, helmets, knee pads, falls, poisonings) for a variety of situations
- demonstrate school and home safety procedures (e.g., tornado, fire, earthquake drills)
- explain and demonstrate the effects injuries have on the body (e.g., skeletal system, skin, eyes)
- describe proper procedures (e.g., calling 911, Heimlich maneuver, stop, drop & roll, apply pressure) for dealing with a variety of emergency situations (e.g., choking, bleeding, burns and broken bones)
- explain safety practices (e.g., use of seatbelts/helmets/life vests) for dealing with a variety of health hazards (e.g., crossing the street, talking to strangers, dealing with threatening situations) while at home, school and play
- describe how to avoid dangerous situations involving strangers, fires and internet safety
- identify the available community and state health and safety agencies and the services they provide (e.g., health department, fire department, state police, hospital transport services)
- access and use reliable resources on safety guidelines for avoiding injuries and dangerous situations

## Big Idea: Psychomotor Skills (Physical Education)

Cognitive information can be used to understand and enhance the development of motor skills such as movement sequences and patterns. Individuals who understand their bodies and how to perform various movements will be safer and more productive in recreation and work activities. Development of psychomotor skills contributes to the development of social and cognitive skills.

**Academic Expectations**

**2.31** Students demonstrate the knowledge and skills they need to remain physically healthy and to accept responsibility for their own physical well-being.
**2.34** Students perform physical movements skills effectively in a variety of settings.
**2.35** Students demonstrate knowledge and skills that promote physical activity and involvement in physical activity throughout lives.
**4.1** Students effectively use interpersonal skills.

**Grade 5 Enduring Knowledge – Understandings**

*Students will understand that*

- spatial awareness, motor skills and movement patterns are needed to perform a variety of physical activities.
- movement concepts, principles and strategies apply to the learning and performance of physical activities.

**Grade 5 Skills and Concepts**

*Students will*

- demonstrate a variety of locomotor and combination skills in a movement pattern
- use non-locomotor, locomotor and combination skills to demonstrate movements in creative sequences and in simple patterned dances, games and other activities
- demonstrate a variety of non-locomotor, locomotor and combination skills while participating in different games and sports
- develop manipulative skills of throwing, catching, kicking and striking while developing motor skills (e.g., sliding, running, jumping) for use in games and other activities that lead to more complex games and sports (e.g., football, volleyball, soccer, softball)
- demonstrate and explain how movement patterns are influenced by space, force and time

## Big Idea: Lifetime Physical Wellness (Physical Education)

Lifetime wellness is health-focused. The health-related activities and content utilized are presented to help students become more responsible for their overall health status and to prepare each student to demonstrate knowledge and skills that promote physical activity throughout their lives. Physical education uses physical activity as a means to help students acquire skills, fitness, knowledge and attitudes that contribute to their optimal development and well-being. Physical, mental, emotional and social health is strengthened by regular involvement in physical activities.

**Academic Expectations**

**2.31** Students demonstrate the knowledge and skills they need to remain physically healthy and to accept responsibility for their own physical well-being.
**2.34** Students perform physical movements skills effectively in a variety of settings.
**2.35** Students demonstrate knowledge and skills that promote physical activity and involvement in physical activity throughout lives.
**3.1** Students demonstrate positive growth in self-concept through appropriate tasks or projects.
**3.2** Students demonstrate the ability to maintain a healthy lifestyle.
**3.7** Students demonstrate the ability to learn on one's own.
**4.2** Students use productive team membership skills.

**Grade 5 Enduring Knowledge – Understandings**

*Students will understand that*

- physical activity provides opportunities for social interaction, challenges, and fun.
- participation in regular physical activity has physical, mental and social benefits.
- practice is a basic component for improving sport skills.
- rules impact the effective participation in physical activities.
- personal and social behavior that shows respect to self and others impacts enjoyment and safety in physical activity settings.
- regular participation in health-related, physical activity supports the goals of fitness and a healthier lifestyle throughout life.
- fitness principles and techniques are used to improve/maintain physical health.

## Big Idea: Lifetime Physical Wellness (Physical Education) – Continued

**Grade 5 Skills and Concepts**
*Students will*

- explain how physical activity provides opportunities for enjoyment, challenge, self-expression and social interaction
- explore a variety of physical activities in order to determine like and dislikes of games, sports and other activities
- identify and explain health benefits that result from regular participation in physical activity
- describe how physical activity is related to emotion/mental health
- participate in daily physical activity during and after school
- investigate the role of practice for successful participation in physical activity; explain why repeated appropriate practice contributes to increased skill development
- investigate personal skill proficiency through a variety of tasks and explain why some skills are more developed than others
- when participating in a variety of physical activities and games:
  - explain the need for rules in social settings
  - recognize and use appropriate safety principles, rules, procedures and etiquette
- demonstrate appropriate behaviors of sportsmanship, cooperation, teamwork and conflict resolution in physical activity settings
- explain how rules of play and sportsmanship for spectators and participants during games and/or activities make them safe and enjoyable
- describe and demonstrate the health related fitness components (muscular strength, muscular endurance, flexibility, body composition, cardio respiratory endurance)
- explain the meaning of F.I.T.T. Principle (Frequency, Intensity, Type, Time) as it relates to fitness
- identify lifetime physical activities (e.g., biking, swimming) that meet requirements for improving fitness

# INTERMEDIATE SCIENCE

# Program of Studies – Science – Fourth Grade

The science program in the fourth grade should provide opportunities for students to think and work like scientists. Students must be provided multiple opportunities to observe and experience the world around them in order to develop scientific conception and abilities necessary to do scientific inquiry. These abilities include: (1) asking a question about objects, organisms and events in the environment, (2) planning and conducting a simple investigation/fair test, (3) using simple equipment and tools to gather data and extend the senses, (4) using data to construct a reasonable explanation and (5) communicating investigations and explanations.

Students should have opportunities to work individually and in groups of varying size and composition in order to conduct investigations, process information and discuss/debate important scientific concepts. Students must have regular opportunities to share their ideas with others and to test questions they generate as a result of their learning experiences.

In our technologically advanced society, information gathering must extend beyond the classroom walls and must involve a variety of credible sources. Scientists also place a high value on accurate record keeping and open communication of findings. The science classroom should mirror this by emphasizing multiple, varied and consistent methods of documenting and communicating learning.

The scientific content standards at the fourth grade level are directly aligned with Kentucky's **Academic Expectations**. Science standards are organized around seven “Big Ideas” that are important to the discipline of science. These big ideas are: Structure and Transformation of Matter, Motion and Forces, The Earth and the Universe, Unity and Diversity, Biological Change, Energy Transformations and Interdependence. The Big Ideas are conceptual organizers for science and are the same at each grade level. This ensures students have multiple opportunities throughout their school careers to develop skills and concepts linked to the Big Ideas.

Under each Big Idea are statements of Enduring Knowledge/Understandings that represent overarching generalizations linked to the Big Ideas of science. The understandings represent the desired results - what learning will focus upon and what knowledge students will be able to explain or apply. Understandings can be used to frame development of units of study and lesson plans.

Skills and concepts describe ways that students demonstrate their learning and are specific to each grade level. The skills and concepts for science are fundamental to scientific literacy, scientific inquiry and build on prior learning.

Effectively implementing the Program of Studies requires a common understanding of some of the terms referenced throughout this document. These terms include:

> **Investigate/Explore**- compile a variety of information through hands-on experiences (utilizing process skills such as measuring, observing, questioning, classifying, predicting and inferring) and/or consult a variety of print and non-print media in order to formulate conclusions and/or gather evidence/data.
>
> **Experiment/Test**- conduct a scientifically valid and controlled investigation, collecting and analyzing data. Use findings and conclusions to form logical explanations and openly share.

**Research**- consult a variety of credible sources of information to gain knowledge, answer questions and support conclusions and explanations.

**Model**- represent a phenomenon or concept. Models are often conceptual in nature, and the term ‘model’ does not always imply a physical product.

## Big Idea: Structure and Transformation of Matter (Physical Science)

A basic understanding of matter is essential to the conceptual development of other big ideas in science. In the elementary years of conceptual development, students will be studying properties of matter and physical changes of matter at the macro level through direct observations, forming the foundation for subsequent learning. The use of models (and an understanding of their scales and limitations) is an effective means of learning about the structure of matter. Looking for patterns in properties is also critical to comparing and explaining differences in matter.

**Academic Expectations**

**2.1** Students understand scientific ways of thinking and working and use those methods to solve real-life problems.

**2.2** Students identify, analyze, and use patterns such as cycles and trends to understand past and present events and predict possible future events.

**2.4** Students use the concept of scale and scientific models to explain the organization and functioning of living and nonliving things and predict other characteristics that might be observed.

**Grade 4 Enduring Knowledge – Understandings**

*Students will understand that*

- things can be done to materials to change some of their properties, but not all materials respond the same way to what is done to them.
- when a new material is made by combining two or more materials the new material often has properties that are different from the original materials.
- properties of materials may change if the materials become hotter or colder.
- if water is turned into ice and then the ice is allowed to melt, the amount of water is the same as it was before freezing. When liquid water “disappears” it is not really gone, it has turned into a gas (vapor).
- scientists pay more attention to claims about how something works when the claims are backed up with evidence that can be confirmed.

**Grade 4 Skills and Concepts**

*Students will*

- identify matter as solids, liquids and gases
- gather information including temperature, magnetism, hardness and mass using appropriate tools to identify physical properties of matter
- investigate and describe how the physical properties of water change as heat energy is added or removed
- conduct tests, compare data and draw conclusions about physical properties of matter including states of matter, conduction and buoyancy
- predict and describe patterns of properties in matter, such as how materials will interact with each other and how they can be changed
- investigate student-generated questions about the properties of matter and uses of matter with particular properties
- design and build objects that require different properties of materials
- write clear descriptions of their designs and experiments, present their findings (when appropriate) in tables and graphs (designed by the students)
- analyze the designs and investigations of themselves and others to see if following the same procedures would produce similar results and conclusions (scientific validity)

## Big Idea: Motion and Forces (Physical Science)

Whether observing airplanes, baseballs, planets, or people, the motion of all bodies is governed by the same basic rules. In the elementary years of conceptual development, students need multiple opportunities to experience, observe, and describe (in words and pictures) motion, including factors (pushing and pulling) that affect motion.

**Academic Expectations**

**2.1** Students understand scientific ways of thinking and working and use those methods to solve real-life problems.

**2.2** Students identify, analyze, and use patterns such as cycles and trends to understand past and present events and predict possible future events.

**2.3** Students identify and analyze systems and the ways their components work together or affect each other.

**Grade 4 Enduring Knowledge – Understandings**

*Students will understand that*

- an object's motion can be described as its change in position over time and can be represented in a variety of ways.
- forces (pushes and pulls) cause changes in the direction or speed of something moving; the greater the force on an object, the greater its change in motion.
- sound is produced by the vibration of matter, and the rate of vibration affects the pitch of the sound.
- things vary greatly in their motion. Some things move so fast they cannot be seen, while others are so slow that we cannot see that they are moving at all. Technology enables people to observe these fast or slow movements.
- recording and representing information about the motion of objects in a variety of ways makes that data useful in supporting explanations, even long after it was originally collected.

**Grade 4 Skills and Concepts**

*Students will*

- measure and record changes (using appropriate charts, graphs) in the position and motion of an object to which a force has been applied
- make inferences about the size of forces or the change in motion produced by various forces
- investigate how the rate of vibration of an object changes the pitch (high-low) of the sound it produces
- use tools and resources, such as stopwatches, sonic rangers, microscopes, computer simulations/animations and video clips, to observe motions that are hard to see or quantify and compare the usefulness/limitations of such tools
- answer student-generated questions through investigative and non-investigative processes about what affects motion and sound using information from a variety of print and non-print sources

## Big Idea: The Earth and the Universe (Earth/Space Science)

The Earth system is in a constant state of change. These changes affect life on earth in many ways. Development of conceptual understandings about processes that shape the Earth begin at the elementary level with understanding what Earth materials are and that change occurs. At the heart of elementary students' initial understanding of the Earth's place in the universe is direct observation of the Earth-sun-moon system. Students can derive important conceptual understandings about the system as they describe interactions resulting in shadows, moon phases, and day and night. The use of models and observance of patterns to explain common phenomena is essential to building a conceptual foundation and supporting ideas with evidence at all levels.

**Academic Expectations**

**2.1** Students understand scientific ways of thinking and working and use those methods to solve real-life problems.

**2.2** Students identify, analyze, and use patterns such as cycles and trends to understand past and present events and predict possible future events.

**2.3** Students identify and analyze systems and the ways their components work together or affect each other.

**Grade 4 Enduring Knowledge – Understandings**

*Students will understand that*

- classifying Earth materials according to their properties allows decisions to be made about their usefulness for various purposes.
- weather data can be organized and represented in ways that reveal patterns needed for making predictions about the future, but the weather is so complex that it cannot always be predicted beyond being more or less likely to occur.
- the surface of the Earth is always changing through both fast and slow processes. These changes may be steady, repetitive or irregular. Careful analysis of data from past events allows the prediction of expected consequences when similar events happen again.
- a variety of models of the sun, earth, moon system are needed to explain the observed patterns of their relative motions, since people are not able to see from the outside how this system is constructed.
- a model of something can never be exactly like the real thing, but can be used to learn something about the real thing.

**Grade 4 Skills and Concepts**

*Students will*

- Use the properties of earth materials to make and support decisions about using them for different purposes (e.g., growing plants, building materials, fuel)
- analyze weather data to make predictions about future weather
- assess the accuracy of weather predictions and the evidence used to support the predictions made by each other and meteorologists
- describe and compare the processes, factors involved and consequences of slow changes to earth's surface (e.g., erosion and weathering)
- describe and compare contributing factors and consequences of fast changes to earth's surface (e.g., landslides, earthquakes, floods)
- explore, design and evaluate a number of models (e.g., physical, analogous, conceptual) of Earth-Sun and Earth-Sun-Moon systems for benefits, limitations and accuracy (e.g., scale, proportional relationships)
- analyze and interpret information from a variety of sources (e.g., print based, models, video) to construct reasonable explanations from direct and indirect evidence

## Big Idea: Unity and Diversity (Biological Science)

All matter is comprised of the same basic elements, goes through the same kinds of energy transformations, and uses the same kinds of forces to move. Living organisms are no exception. Elementary students begin to observe the macroscopic features of organisms in order to make comparisons and classifications based upon likenesses and differences. Looking for patterns in the appearance and behavior of an organism leads to the notion that offspring are much like the parents, but not exactly alike. Emphasis at every level should be placed upon the understanding that while every living thing is composed of similar small constituents that combine in predictable ways, it is the subtle variations within these small building blocks that account for both the likenesses and differences in form and function that create the diversity of life.

**Academic Expectations**

**2.1** Students understand scientific ways of thinking and working and use those methods to solve real-life problems.

**2.2** Students identify, analyze, and use patterns such as cycles and trends to understand past and present events and predict possible future events.

**2.3** Students identify and analyze systems and the ways their components work together or affect each other.

**2.4** Students use the concept of scale and scientific models to explain the organization and functioning of living and nonliving things and predict other characteristics that might be observed.

**Grade 4 Enduring Knowledge – Understandings**

*Students will understand that*

- things in the environment are classified as living, nonliving and once living.
- characteristics of living things can be used to sort them into various groups: the characteristics chosen to establish the grouping depend on the reason for the grouping.
- organisms have different structures that are used for different functions. Observations of the structures of a certain organism can be used to predict how that organism functions or where it might live.
- offspring resemble their parents because the parents have a reliable way to transfer information to the next generation.
- some likenesses between parents and offspring are inherited (e.g. eye color) and some likenesses are learned (e.g. speech patterns in people).
- all living things are produced from other living things. They grow and then eventually die. Before they die most living things create offspring, allowing their kind to continue.

**Grade 4 Skills and Concepts**

*Students will*

- compare the concepts of living, once living and nonliving
- analyze the structures and related functions of a variety of plants and animals in order to establish classification schemes
- investigate and compare life cycles, especially reproductive characteristics (e.g., gestational periods, germination rates, number of offspring) and life expectancies of plants and animals to make inferences and/or draw conclusions about their populations
- identify, observe and compare some characteristics of organisms that are passed from the parents (e.g., color of flower petals) and others that are learned from interactions with the environment (e.g., learning to ride a bike)
- answer student-generated questions about the diversity of living things using information from a variety of print and non-print sources

## Big Idea: Biological Change (Biological Science)

The only thing certain is that everything changes. Elementary students build a foundational knowledge of change by observing slow and fast changes caused by nature in their own environment, noting changes that humans and other organisms cause in their environment, and observing fossils found in or near their environment.

**Academic Expectations**

**2.1** Students understand scientific ways of thinking and working and use those methods to solve real-life problems.

**2.2** Students identify, analyze, and use patterns such as cycles and trends to understand past and present events and predict possible future events.

**2.6** Students understand how living and nonliving things change over time and the factors that influence the changes.

**Grade 4 Enduring Knowledge – Understandings**

*Students will understand that*

- the structures and characteristics of fossils provide information about the nature of an organism, the environmental conditions where/when it lived and how it is related to organisms still alive today.
- scientists ask many questions about the world around them, but not all of their questions can be investigated in a scientific way. Part of the job of a scientist is to focus only on questions that can be scientifically tested.
- scientists pay more attention to claims when they are supported with evidence that can be confirmed through scientific investigation.

**Grade 4 Skills and Concepts**

*Students will*

- examine fossils and representations of fossils to make comparisons among organisms that lived long ago and organisms of today and draw conclusions about the nature of the organisms and basic environments represented by fossils
- describe reasons why some differences in organisms give individuals an advantage in surviving and reproducing
- answer student-generated questions about how/why organisms and the environment have changed over time using information from a variety of print and non-print sources to support claims/provide evidence for conclusions
- analyze claims and information based on the credibility of the source and ability to confirm with multiple sources

## Big Idea: Energy Transformations (Unifying Concepts)

Energy transformations are inherent in almost every system in the universe—from tangible examples at the elementary level, such as heat production in simple earth and physical systems to more abstract ideas beginning at middle school, such as those transformations involved in the growth, dying and decay of living systems. The use of models to illustrate the often invisible and abstract notions of energy transfer will aid in conceptualization, especially as students move from the macroscopic level of observation and evidence (primarily elementary school) to the microscopic interactions at the atomic level (middle and high school levels).

**Academic Expectations**

**2.1** Students understand scientific ways of thinking and working and use those methods to solve real-life problems.

**2.2** Students identify, analyze, and use patterns such as cycles and trends to understand past and present events and predict possible future events.

**2.3** Students identify and analyze systems and the ways their components work together or affect each other.

**2.4** Students use the concept of scale and scientific models to explain the organization and functioning of living and nonliving things and predict other characteristics that might be observed.

**Grade 4 Enduring Knowledge – Understandings**

*Students will understand that*

- ecosystems are defined by the relationships that occur within them. These relationships can be determined through observation of the organisms and their environment.
- light and heat from the sun are essential to sustaining most life on earth. Plants change energy from the sun's light into energy that is used as food by the plant.
- electrical energy can be used for a variety of purposes. Many electrical systems share some common features, including a source of energy, a closed conducting path and a device that performs a function by utilizing that energy.
- light interacts with different kinds of matter in different ways and those interactions can be predicted based on the type of matter involved.
- heat is a form of energy that results when another form of energy is transformed. Heat flows through different materials at different rates, and it naturally flows from warmer areas to cooler ones.
- seeing how a model works after changes are made to it may suggest how the real thing would work if the same thing were done to it.

## Big Idea: Energy Transformations (Unifying Concepts) – Continued

**Grade 4 Skills and Concepts**
*Students will*

- observe/construct, analyze patterns and explain basic relationships of plants and animals in an ecosystem (e.g., food webs)
- analyze food webs in order to draw conclusions about the relationship between the sun's heat and light and sustaining most life on Earth
- demonstrate open and closed circuits, and series and parallel circuits using batteries, bulbs and wires; analyze models of a variety of electrical circuits in order to predict changes to the systems
- identify events/situations that result in some energy being transformed into heat (e.g., rubbing hands together, lighting a bulb, running a car engine)
- identify and compare how heat is transferred through different materials in order to make predictions and draw conclusions about the heat conductivity of materials (e.g., compare the 'hotness' of wooden spoons, metal spoons, plastic spoons when exposed to higher temperatures)
- design and conduct investigations/experiments to compare properties of conducting and non-conducting materials (both heat and electrical), documenting and communicating (speak, draw, write, demonstrate) observations, designs, procedures and results of scientific investigations
- represent the path of light as it interacts with a variety of surfaces (reflecting, refracting, absorbing)
- make predictions/inferences about the behavior of light as it interacts with materials of differing properties
- answer student-generated questions about forms of energy (e.g., heat, light, sound, magnetic effects) using information from a variety of print and non-print sources

## Big Idea: Interdependence (Unifying Concepts)

It is not difficult for students to grasp the general notion that species depend on one another and on the environment for survival. But their awareness must be supported by knowledge of the kinds of relationships that exist among organisms, the kinds of physical conditions that organisms must cope with, the kinds of environments created by the interaction of organisms with one another and their physical surroundings, and the complexity of such systems. Elementary learners need to become acquainted with ecosystems that are easily observable to them by beginning to study the habitats of many types of local organisms. Students begin to investigate the survival needs of different organisms and how the environment affects optimum conditions for survival.

**Academic Expectations**

**2.1** Students understand scientific ways of thinking and working and use those methods to solve real-life problems.

**2.2** Students identify, analyze, and use patterns such as cycles and trends to understand past and present events and predict possible future events.

**2.3** Students identify and analyze systems and the ways their components work together or affect each other.

**2.4** Students use the concept of scale and scientific models to explain the organization and functioning of living and nonliving things and predict other characteristics that might be observed.

**Grade 4 Enduring Knowledge – Understandings**

*Students will understand that*

- all living things depend on their environment and other organisms within it for their survival. Certain patterns of behavior or physical features may help an organism survive in some environments yet perish in others.
- environmental relationships extend beyond food (e.g. shelter, seed transport).
- people impact their environment in both beneficial and harmful ways. Some of these impacts can be predicted, while others cannot.
- beneficial and harmful are relative terms: any single action can be both beneficial and harmful to different organisms in an ecosystem.

**Grade 4 Skills and Concepts**

*Students will*

- observe, document and explain the cause and effect relationships existing between organisms and their environments
- use evidence and observations to make predictions/draw conclusions about how changes in the environment affect the plants' and animals' ability to survive
- observe, document and describe human interactions that impact the local environment
- describe and provide examples of how beneficial and harmful are relative terms
- evaluate the consequences of changes caused by humans or other organisms, and propose solutions to real life situations/dilemmas
- use evidence (obtained through investigative and/or non investigative research) to support or defend positions on real world environmental problems

# Program of Studies – Science – Fifth Grade

The science program in grade five incorporates opportunities for students to work and think like scientists as they apply abilities needed for scientific inquiry. These abilities include: (1) identifying questions that can be answered through scientific investigations, (2) designing and conducting scientific investigations, (3) using appropriate tools and techniques to gather, analyze and interpret data, (4) developing descriptions, explanations, predictions and models using evidence, (5) thinking critically and logically to uncover the relationships between evidence and explanations, (6) recognizing and analyzing alternative explanations and predictions, (7) communicating scientific procedures and explanations.

Students should have opportunities to work individually and in groups of varying size and composition in order to conduct investigations, process information and discuss/debate important scientific concepts. Students must have regular opportunities to share their ideas with others and to test questions they generate as a result of their learning experiences.

In our technologically advanced society, information gathering must extend beyond the classroom walls and must involve a variety of credible sources. Scientists also place a high value on accurate record keeping and open communication of findings. The science classroom should mirror this by emphasizing multiple, varied and consistent methods of documenting and communicating learning.

The scientific content standards at the fifth grade level are directly aligned with Kentucky's **Academic Expectations**. Science standards are organized around seven “Big Ideas” that are important to the discipline of science. These big ideas are: Structure and Transformation of Matter, Motion and Forces, The Earth and the Universe, Unity and Diversity, Biological Change, Energy Transformations and Interdependence. The Big Ideas are conceptual organizers for science and are the same at each grade level. This ensures students have multiple opportunities throughout their school careers to develop skills and concepts linked to the Big Ideas.

Under each Big Idea are statements of Enduring Knowledge/Understandings that represent overarching generalizations linked to the Big Ideas of science. The understandings represent the desired results - what learning will focus upon and what knowledge students will be able to explain or apply. Understandings can be used to frame development of units of study and lesson plans.

Skills and concepts describe ways that students demonstrate their learning and are specific to each grade level. The skills and concepts for science are fundamental to scientific literacy, scientific inquiry and build on prior learning.

Effectively implementing the Program of Studies requires a common understanding of some of the terms referenced throughout this document. These terms include:

> **Investigate/Explore-** compile a variety of information through hands-on experiences (utilizing process skills such as measuring, observing, questioning, classifying, predicting and inferring) and/or consult a variety of print and non-print media in order to formulate conclusions and/or gather evidence/data.

**Experiment/Test-** conduct a scientifically valid and controlled investigation, collecting and analyzing data. Use findings and conclusions to form logical explanations and openly share.

**Research**- consult a variety of credible sources of information to gain knowledge, answer questions and support conclusions and explanations.

**Model-** represent a phenomenon or concept. Models are often conceptual in nature, and the term ‘model’ does not always imply a physical product.

## Big Idea: Structure and Transformation of Matter (Physical Science)

A basic understanding of matter is essential to the conceptual development of other big ideas in science. In the elementary years of conceptual development, students will be studying properties of matter and physical changes of matter at the macro level through direct observations, forming the foundation for subsequent learning. The use of models (and an understanding of their scales and limitations) is an effective means of learning about the structure of matter. Looking for patterns in properties is also critical to comparing and explaining differences in matter.

**Academic Expectations**

**2.1** Students understand scientific ways of thinking and working and use those methods to solve real-life problems.

**2.2** Students identify, analyze, and use patterns such as cycles and trends to understand past and present events and predict possible future events.

**2.4** Students use the concept of scale and scientific models to explain the organization and functioning of living and nonliving things and predict other characteristics that might be observed.

**Grade 5 Enduring Knowledge – Understandings**

*Students will understand that*

- a substance has its own set of properties which allows it to be distinguished from other substances.
- the physical properties of a substance do not change regardless of how much or how little of the substance there is.
- many kinds of changes in the properties of substances occur faster when the temperature is higher.
- when individual substances are combined, the total weight is equal to the sum of the individual weights.
- results of investigations are seldom exactly the same, but if the results vary widely, then it is necessary to figure out why they differ.

**Grade 5 Skills and Concepts**

*Students will*

- use appropriate tools (e.g., balance, thermometer, graduated cylinder) and observations to describe physical properties of substances (e.g., boiling point, solubility, density) and to classify materials
- work individually and with others to design and conduct fair tests to safely investigate properties of matter, such as boiling point, density and solubility
- keep accurate records of investigations (procedures, data) in order to support or dispute conclusions
- use student-generated questions about the properties of matter to drive inquiry-based learning experiences

## Big Idea: Motion and Forces (Physical Science)

Whether observing airplanes, baseballs, planets, or people, the motion of all bodies is governed by the same basic rules. In the elementary years of conceptual development, students need multiple opportunities to experience, observe, and describe (in words and pictures) motion, including factors (pushing and pulling) that affect motion.

**Academic Expectations**

**2.1** Students understand scientific ways of thinking and working and use those methods to solve real-life problems.

**2.2** Students identify, analyze, and use patterns such as cycles and trends to understand past and present events and predict possible future events.

**2.3** Students identify and analyze systems and the ways their components work together or affect each other.

**Grade 5 Enduring Knowledge – Understandings**

*Students will understand that*

- predictions and/or inferences about the direction or speed of an object can be made by interpreting graphs, charts or descriptions of the object's motion.
- the more mass an object has, the less effect a given force will have.
- forces are pushes and pulls that may be invisible (e.g., gravity, magnetism) or visible (e.g., friction, collisions).
- some comparisons may not be 'fair' because some conditions (e.g. mass, force, speed, friction) might not be the same.

**Grade 5 Skills and Concepts**

*Students will*

- use observations and appropriate tools (e.g., timer, meter stick, balance, spring scale) to explore the relationship between force and mass
- create and interpret graphical representations in order to make inferences and draw conclusions about the motion of an object
- design and conduct experiments to examine the effects of variables on the straight line motion of objects. Analyze, review and critique each other's experiments
- predict and support with evidence/justification, changes in the motion of an object related to its mass or the amount of force acting on it

## Big Idea: The Earth and the Universe (Earth/Space Science)

The Earth system is in a constant state of change. These changes affect life on earth in many ways. Development of conceptual understandings about processes that shape the Earth begin at the elementary level with understanding what Earth materials are and that change occurs. At the heart of elementary students' initial understanding of the Earth's place in the universe is direct observation of the Earth-sun-moon system. Students can derive important conceptual understandings about the system as they describe interactions resulting in shadows, moon phases, and day and night. The use of models and observance of patterns to explain common phenomena is essential to building a conceptual foundation and supporting ideas with evidence at all levels.

**Academic Expectations**

**2.1** Students understand scientific ways of thinking and working and use those methods to solve real-life problems.

**2.2** Students identify, analyze, and use patterns such as cycles and trends to understand past and present events and predict possible future events.

**2.3** Students identify and analyze systems and the ways their components work together or affect each other.

**Grade 5 Enduring Knowledge – Understandings**

*Students will understand that*

- the Earth's water supply has existed since the formation of the planet and is constantly cycled from the ocean to the atmosphere, allowing the same water to be endlessly reused without the creation of new water.
- water is a powerful solvent that dissolves earth materials, allowing them to impact the ocean system as water is cycled into it.
- earth is surrounded by a blanket of air called the atmosphere that is essential to life because of some of the gasses it contains.
- air is free to move from place to place all across the planet and this movement causes global weather patterns. Observing air movements help scientists explain both global and local weather patterns.
- observations, models and diagrams of the solar system illustrate the position and relationship of the Earth, sun and moon within the larger system of planets and other celestial bodies. Even though they are all parts of the same system, a comparison of their properties reveals great differences among celestial bodies.
- technology extends the ability of people to understand the universe. Most tools of today are different than those of the past, but may also be modifications of much older tools.

## Big Idea: The Earth and the Universe (Earth/Space Science) – Continued

**Grade 5 Skills and Concepts**
*Students will*

- investigate how water can change forms yet still be conserved in the water cycle
- create/analyze/explain representations that illustrate the circulation of water (evaporation and condensation) from the surface of the Earth, through the crust, oceans and atmosphere (water cycle)
- compare weather and climate and describe the factors that influence each
- explore the concept of watersheds and identify factors that impact them, including results of interactions of water with earth materials (e.g., dissolving minerals, moving minerals and gases)
- describe the makeup of the Earth's atmosphere and analyze atmospheric data to explain real life phenomena (e.g., pressurized cabins in airplanes, mountain-climber's need for oxygen)
- use a variety of models and graphic representations to obtain and organize data in order to compare the major components of our solar system
- explore the development of and types of technology useful for learning about the atmosphere and our solar system
- explain why scale models are important tools for understanding a number of phenomena (e.g., solar system, watersheds, earth's atmosphere) but are not always easy to construct or require trade-offs in other aspects of the model (e.g. distance vs. size)

## Big Idea: Unity and Diversity (Biological Science)

All matter is comprised of the same basic elements, goes through the same kinds of energy transformations, and uses the same kinds of forces to move. Living organisms are no exception. Elementary students begin to observe the macroscopic features of organisms in order to make comparisons and classifications based upon likenesses and differences. Looking for patterns in the appearance and behavior of an organism leads to the notion that offspring are much like the parents, but not exactly alike. Emphasis at every level should be placed upon the understanding that while every living thing is composed of similar small constituents that combine in predictable ways, it is the subtle variations within these small building blocks that account for both the likenesses and differences in form and function that create the diversity of life.

**Academic Expectations**

**2.1** Students understand scientific ways of thinking and working and use those methods to solve real-life problems.

**2.3** Students identify and analyze systems and the ways their components work together or affect each other.

**2.4** Students use the concept of scale and scientific models to explain the organization and functioning of living and nonliving things and predict other characteristics that might be observed.

**Grade 5 Enduring Knowledge – Understandings**

*Students will understand that*

- animals and plants have a great variety of body plans and internal structures that contribute to their being able to meet their needs.
- organisms are composed of a variety of sub-systems that have essential functions. Organisms function with a minimum of superfluous parts because their structures are precisely suited to their essential functions.
- microscopes make it possible to see that living things are made mostly of cells. Some organisms cells vary greatly in appearance and perform very different roles in the organism.

**Grade 5 Skills and Concepts**

*Students will*

- use observations and models to describe and compare internal and external structures of plants and animals and their corresponding functions
- identify and describe systems and subsystems essential to an organism's survival
- use observations and models (conceptual, analogical, physical) to identify major structures of cells and their corresponding functions
- use scientific tools (e.g., microscopes) to observe and make comparisons of unicellular and multi-cellular organisms

## Big Idea: Biological Change (Biological Science)

The only thing certain is that everything changes. Elementary students build a foundational knowledge of change by observing slow and fast changes caused by nature in their own environment, noting changes that humans and other organisms cause in their environment, and observing fossils found in or near their environment.

**Academic Expectations**

**2.1** Students understand scientific ways of thinking and working and use those methods to solve real-life problems.

**2.2** Students identify, analyze, and use patterns such as cycles and trends to understand past and present events and predict possible future events.

**2.5** Students understand that under certain conditions nature tends to remain the same or move toward a balance.

**2.6** Students understand how living and nonliving things change over time and the factors that influence the changes.

**Grade 5 Enduring Knowledge – Understandings**

*Students will understand that*

- the gradual changes in organisms that have occurred over time are only accurately represented using a geologic time scale dating back to the formation of the Earth.
- sometimes differences in organisms give individuals an advantage in surviving and reproducing. Over many generations these adaptations have led to a wide variety of types of organisms.
- successful organisms must be able to maintain the basic functions of life in response to normal environmental fluctuations (e.g. day/night, seasonal temperature changes, precipitation). However, an organism that has an advantage in a specific environment may not be able to survive if the environment changes too drastically.
- scientific investigations may take many different forms, including observing what things are like or what is happening somewhere, collecting specimens for analysis and doing experiments. The question being investigated determines the form of the investigation used.

**Grade 5 Skills and Concepts**

*Students will*

- analyze various geologic time scale representations
- investigate and describe adaptations of various organisms to their environments through observations as well as print and non-print based resources
- Investigate ways that organisms cope with fluctuations (e.g. temperature, precipitation, change in food sources) in their environments
- propose explanations regarding adaptations of populations to environments citing evidence/data to support conclusions
- compare procedures used (e.g., experiments, investigative and non-investigative research, observations) to find information/collect data about the diversity of organisms that exist or have existed on Earth

## Big Idea: Energy Transformations (Unifying Concepts)

Energy transformations are inherent in almost every system in the universe—from tangible examples at the elementary level, such as heat production in simple earth and physical systems to more abstract ideas beginning at middle school, such as those transformations involved in the growth, dying and decay of living systems. The use of models to illustrate the often invisible and abstract notions of energy transfer will aid in conceptualization, especially as students move from the macroscopic level of observation and evidence (primarily elementary school) to the microscopic interactions at the atomic level (middle and high school levels).

**Academic Expectations**

**2.1** Students understand scientific ways of thinking and working and use those methods to solve real-life problems.

**2.2** Students identify, analyze, and use patterns such as cycles and trends to understand past and present events and predict possible future events.

**2.3** Students identify and analyze systems and the ways their components work together or affect each other.

**2.4** Students use the concept of scale and scientific models to explain the organization and functioning of living and nonliving things and predict other characteristics that might be observed.

**Grade 5 Enduring Knowledge – Understandings**

*Students will understand that*

- energy can have many different forms and be contained in many different substances. Evidence of energy transfer may be observed in a wide variety of systems.
- energy from the sun flows through space to reach the Earth. Solar energy provides the driving force for many of the changes that happen on the Earth's surface.
- electrical circuits transfer energy and can produce heat, light, sound and magnetic effects. They can be used for different purposes by rearranging their components.
- light interacts with matter in predictable ways that can be discovered through investigations.
- in a closed system, warm objects will cool and cool objects will warm until they are all the same temperature.
- if the results of an investigation are unexpected, it is good to make new observations. If those observations continue to be unexpected, different ideas should be considered to explain the results.

**Grade 5 Skills and Concepts**

*Students will*

- classify energy phenomena (e.g., heat/thermal energy, electrical energy, energy of position) as kinetic or potential and use observations and evidence to describe the transfer of energy occurring in simple systems
- describe solar energy and how it impacts physical and biological systems on Earth
- design and conduct investigations/experiments to determine the effects of altering variables within electrical circuits and to draw conclusions about the transfer of energy (e.g., heat, light, sound and magnetic effects ) within a system
- design and conduct investigations/experiments to identify predictable patterns of interaction between light and matter (e.g. some materials are more reflective, different liquids refract differently, effects of multiple or differing light sources)

## Big Idea: Interdependence (Unifying Concepts)

It is not difficult for students to grasp the general notion that species depend on one another and on the environment for survival. But their awareness must be supported by knowledge of the kinds of relationships that exist among organisms, the kinds of physical conditions that organisms must cope with, the kinds of environments created by the interaction of organisms with one another and their physical surroundings, and the complexity of such systems. Elementary learners need to become acquainted with ecosystems that are easily observable to them by beginning to study the habitats of many types of local organisms. Students begin to investigate the survival needs of different organisms and how the environment affects optimum conditions for survival.

**Academic Expectations**

**2.1** Students understand scientific ways of thinking and working and use those methods to solve real-life problems.

**2.2** Students identify, analyze, and use patterns such as cycles and trends to understand past and present events and predict possible future events.

**2.3** Students identify and analyze systems and the ways their components work together or affect each other.

**2.4** Students use the concept of scale and scientific models to explain the organization and functioning of living and nonliving things and predict other characteristics that might be observed.

**Grade 5 Enduring Knowledge – Understandings**

*Students will understand that*

- within every ecosystem are populations of organisms that serve specific functions. Changes to any population may affect the other populations in that ecosystem.
- all of the populations that interact with each other in an ecosystem form a specific community, but there may be multiple communities within the same ecosystem.
- matter and energy flow along multiple paths within a community. Complex models depicting this interdependence make these relationships easier to visualize and comprehend.

**Grade 5 Skills and Concepts**

*Students will*

- define the concepts of population and community and identify examples of populations and communities within various ecosystems
- identify the role/function a population of organisms has in a particular community/ecosystem (e.g., producers, consumers, decomposers)
- explore the cause/effect relationship of altering a particular population of organisms within an ecosystem using data/evidence collected through research and/or simulations (e.g., role-play games, computer-based simulations)
- analyze, create and describe visual representations of ecosystems and the interactions occurring within them. Compare and critique pre-existing and student-constructed representations for accuracy, identifying strengths and limitations, insisting on the use of evidence to support decisions

# INTERMEDIATE SOCIAL STUDIES

# Program of Studies – Social Studies – Fourth Grade

Social studies in the intermediate grades has a different level/grade context each year. For example, grade four focuses on Kentucky studies and regions of the United States. Grade five includes an integrated focus on United States history. Regardless of the level/grade context, students incorporate each of the five areas of social studies in an integrated fashion to explore the content.

The primary purpose of social studies is to help students develop the ability to make informed decisions as citizens of a culturally diverse, democratic society in an interdependent world. The skills and concepts found throughout this document reflect this purpose by promoting the belief that students must develop more than an understanding of social studies content. They must also be able to apply the content perspectives of several academic fields of the social studies to personal and public experiences. By stressing the importance of both content knowledge and its application, the social studies curriculum in Kentucky provides a framework that prepares students to become productive citizens.

The social studies content standards at the intermediate level are directly aligned with Kentucky's **Academic Expectations**. Social Studies standards are organized around five "Big Ideas" that are important to the discipline of social studies. The five Big Ideas in social studies are: Government and Civics, Cultures and Societies, Economics, Geography and Historical Perspective. The Big Ideas, which are more thoroughly explained in the pages that follow, are conceptual organizers that are the same at each grade level. This consistency ensures students have multiple opportunities throughout their school careers to develop skills and concepts linked to the Big Ideas.

Under each Big Idea are statements of Enduring Knowledge/Understandings that represent overarching generalizations linked to the Big Ideas of social studies. The understandings represent the desired results - what learning will focus upon and what knowledge students will be able to explain or apply. Understandings can be used to frame development of units of study and lesson plans.

Skills and concepts describe ways that students demonstrate their learning and are specific to each grade level. The skills and concepts for social studies are fundamental to social studies literacy and build on prior learning.

The social studies program includes strong literacy connections, active hands-on work with concrete materials, and appropriate technologies. The social studies curriculum includes and depends on a number of different types of materials such as textbooks, non-fiction texts, biographies, autobiographies, journals, maps, newspapers, photographs and primary documents. Higher order thinking skills, such as compare, explain, analyze, predict, construct and interpret, are all heavily dependent on a variety of literacy skills and processes. For example, in social studies students must be able to understand specialized vocabulary, identify and comprehend key pieces of information within texts, determine what is fact and what is opinion, relate information across texts, connect new information to prior knowledge and synthesize the information to make meaning.

## Big Idea: Government and Civics

The study of government and civics allows students to understand the nature of government and the unique characteristics of American democracy, including its fundamental principles, structure, and the role of citizens. Understanding the historical development of structures of power, authority and governance and their evolving functions in contemporary U.S. society and other parts of the world is essential for developing civic competence. An understanding of civic ideals and practices of citizenship is critical to full participation in society and is a central purpose of the social studies.

**Academic Expectations**

**2.14** Students understand the democratic principles of justice, equality, responsibility, and freedom and apply them to real-life situations.

**2.15** Students can accurately describe various forms of government and analyze issues that relate to the rights and responsibilities of citizens in a democracy.

**Grade 4 Enduring Knowledge – Understandings**

*Students will understand that*

- the government of Kentucky was formed to establish order, provide security and accomplish common goals.
- the Constitution of Kentucky establishes a government of limited powers that are shared among different levels and branches.
- all citizens of Kentucky have rights and responsibilities as members of a democratic society, including civic participation.
- fundamental values and principles of American democracy are expressed in Kentucky's Constitution.

**Grade 4 Skills and Concepts**

*Students will*

- demonstrate an understanding of the nature of government:
  - explore basic functions of state government (e.g., to establish order, to provide security and to accomplish common goals)
  - explain and give examples of services state governments provide (e.g., state police and fire protection, state parks, highway maintenance, snow removal)
  - describe how the state government provides services to its citizens (e.g., collecting taxes)
  - describe the structure of state government (e.g., the executive, legislative and judicial branches) and explain why power is shared among different branches
  - investigate and give examples of state laws and explain their purpose
- explore rights and responsibilities:
  - describe, give examples, and compare rights and responsibilities
  - describe the benefits of citizenship and find examples of citizenship in current events/news media
- use information from print and non-print sources (e.g., documents, informational passages/texts, interviews, digital and environmental) to explain basic democratic principles (life, liberty, pursuit of happiness) found in Kentucky's Constitution

## Big Idea: Cultures and Societies

Culture is the way of life shared by a group of people, including their ideas and traditions. Cultures reflect the values and beliefs of groups in different ways (e.g., art, music, literature, religion); however, there are universals connecting all cultures. Culture influences viewpoints, rules and institutions in a global society. Students should understand that people form cultural groups throughout the United States and the World and that issues and challenges unite and divide them.

**Academic Expectations**

**2.16** Students observe, analyze, and interpret human behaviors, social groupings, and institutions to better understand people and the relationships among individuals and among groups.

**2.17** Students interact effectively and work cooperatively with the many ethnic and cultural groups of our nation and world.

**Grade 4 Enduring Knowledge – Understandings**

*Students will understand that*

- culture is a system of beliefs, knowledge, institutions, customs/traditions, languages and skills shared by a group of people. Through a society's culture, individuals learn the relationships, structures, patterns and processes to be members of the society.
- cultures develop social institutions (e.g., government, economy, education, religion, family) to structure society, influence behavior and respond to human needs.
- interactions among individuals and groups assume various forms (e.g., compromise, cooperation, conflict, competition) and are influenced by culture.
- a variety of factors promote cultural diversity in the state of Kentucky.
- an appreciation of the diverse complexity of cultures is essential to interact effectively and work cooperatively with the many diverse ethnic and cultural groups of today.

**Grade 4 Skills and Concepts**

*Students will*

- develop an understanding of the nature of culture:
  - explore and compare cultural elements (e.g., beliefs, traditions, languages, skills, literature, the arts) of diverse groups (e.g., Native Americans and early settlers) in the early settlement of Kentucky
  - examine the influences/contributions of diverse groups in Kentucky
- investigate social institutions (e.g., family, government, economy, education, religion) in Kentucky and explain their functions
- describe conflicts that occurred between diverse groups (e.g., Native Americans and the early settlers) in the settlement of Kentucky
- investigate and compare culture/cultural events of diverse groups in Kentucky today with the past using information from print and non-print sources (e.g., documents, informational passages/texts, interviews, digital and environmental)

## Big Idea: Economics

Economics includes the study of production, distribution and consumption of goods and services. Students need to understand how their economic decisions affect them, others and the nation as a whole. The purpose of economic education is to enable individuals to function effectively both in their own personal lives and as citizens and participants in an increasingly connected world economy. Students need to understand the benefits and costs of economic interaction and interdependence among people, societies, and governments.

**Academic Expectations**

**2.18** Students understand economic principles and are able to make economic decisions that have consequences in daily living.

**Grade 4 Enduring Knowledge – Understandings**

*Students will understand that*

- the basic economic problem confronting individuals and groups in Kentucky today is scarcity; as a result of scarcity, economic choices and decisions must be made.
- a variety of fundamental economic concepts impact individuals and groups.
- economic institutions are created to help individuals, groups and businesses accomplish common goals.
- markets enable buyers and sellers to exchange goods and services.
- production and distribution of goods and services have changed over time in Kentucky.
- individuals, groups and businesses demonstrate interdependence as they make economic decisions about the use of resources (e.g., natural, human, capital) in the production, distribution, and consumption of goods and services.

**Grade 4 Skills and Concepts**

*Students will*

- develop an understanding of the nature of limited resources and scarcity:
  - use a variety of sources to research and give examples of productive resources (e.g., natural, human, capital) found in regions of Kentucky
  - explain why individuals, groups, and businesses must make economic decisions due to the scarcity of resources
  - investigate banks in Kentucky; explain and give examples of the roles banks play (e.g., loan money, save money) in helping people deal with scarcity
  - investigate and give examples of markets (past and present); and explain how goods and services were/are exchanged
- use a variety of sources to investigate and trace change over time (e.g., draw, chart, map, timeline) in the production, distribution, and consumption of goods and services (e.g., products made in Kentucky)
- investigate and give examples of specialization and explain how it promotes trade between places and regions of the United States (e.g., Kentucky imports and exports, Midwest exports corn, South exports citrus)

## Big Idea: Geography

Geography includes the study of the five fundamental themes of location, place, regions, movement and human/environmental interaction. Students need geographic knowledge to analyze issues and problems to better understand how humans have interacted with their environment over time, how geography has impacted settlement and population and how geographic factors influence climate, culture, the economy and world events. A geographic perspective also enables students to better understand the past and present and to prepare for the future.

**Academic Expectations**

**2.19** Students recognize and understand the relationship between people and geography and apply their knowledge in real-life situations.

**Grade 4 Enduring Knowledge – Understandings**

*Students will understand that*

- the use of geographic tools (e.g., maps, globes, charts, graphs) and mental maps help interpret information, understand and analyze patterns, spatial data and geographic issues.
- patterns emerge as humans move, settle and interact on Earth's surface and can be identified by examining the location of physical and human characteristics, how they are arranged and why they are in particular locations. Economic, political, cultural and social processes interact to shape patterns of human populations, interdependence, cooperation and conflict.
- regions help us to see Earth as an integrated system of places and features organized by such principles as landform types, political units, economic patterns and cultural groups.
- people depend on, adapt to, or modify the environment to meet basic needs. Human actions modified the physical environment and in turn, the physical environment limited and/or promoted human activities in the settlement of Kentucky.

**Grade 4 Skills and Concepts**

*Students will*

- demonstrate an understanding of patterns on the Earth's surface, using a variety of geographic tools (e.g., maps, globes, charts, graphs):
  - locate and describe major landforms, bodies of water and natural resources located in regions of Kentucky and the United States
  - locate, in absolute and relative terms, major landforms and bodies of water in regions of Kentucky and the United States
  - analyze and compare patterns of movement and settlement in Kentucky
  - explain and give examples of how physical factors (e.g., rivers, mountains) impacted human activities during the early settlement of Kentucky
- use information from print and non-print sources (e.g., documents, informational passages/texts, interviews, digital and environmental) to investigate regions of Kentucky:
- compare regions in Kentucky by their human characteristics (e.g., settlement patterns, languages, and religious beliefs) and physical characteristics (e.g., climate, landforms, bodies of water)
  - describe patterns of human settlement in regions of Kentucky and explain relationships between these patterns and the physical characteristics (e.g., climate, landforms, bodies of water) of the region
- explain the influence of the physical characteristics of regions (e.g., climates, landforms, bodies of water) on decisions that were made about where to locate things (e.g., factories stores, bridges)
  - analyze how advances in technology (e.g., dams, roads, irrigation) have allowed people to settle in places previously inaccessible (Kentucky)
- investigate interactions among human activities and the physical environment in regions of Kentucky:
  - explain how people modified the physical environment (e.g., dams, roads, bridges) to meet their needs
  - describe how the physical environment (e.g., mountains as barriers or protection, rivers as barriers or transportation) promoted and/or restricted human activities (e.g., exploration, migration, trade, settlement, development) and land use in Kentucky

## Big Idea: Historical Perspective

History is an account of events, people, ideas, and their interaction over time that can be interpreted through multiple perspectives. In order for students to understand the present and plan for the future, they must understand the past. Studying history engages students in the lives, aspirations, struggles, accomplishments and failures of real people. Students need to think in an historical context in order to understand significant ideas, beliefs, themes, patterns, and events, and how individuals and societies have changed over time in Kentucky, the United States, and the World.

**Academic Expectations**

**2.20** Students understand, analyze, and interpret historical events, conditions, trends, and issues to develop historical perspective.

**Grade 4 Enduring Knowledge – Understandings**

*Students will understand that*

- history is an account of human activities that is interpretive in nature and a variety of tools (e.g., primary and secondary sources) are needed to analyze and understand historical events.
- the history of Kentucky can be analyzed by examining the connected events shaped by multiple cause-effect relationships, tying past to present.
- the history of Kentucky has been impacted by significant individuals, groups and advances in technology.

**Grade 4 Skills and Concepts**

*Students will*

- demonstrate an understanding of the nature of history using a variety of tools (e.g., primary and secondary sources):
  - investigate and chronologically describe (e.g., timelines, charts) significant events in Kentucky history, from early development as a territory to development as a state
  - interpret and describe events in Kentucky's history in terms of their importance
  - examine cause and effect relationships that influenced Kentucky's history
  - explain reasons that different groups of people explored and settled in Kentucky
  - investigate the influences/contributions of diverse groups to the culture of Kentucky today
- use information from print and non-print sources (e.g., documents, informational passages/texts, interviews, digital and environmental):
  - examine and compare factual and fictional accounts of historical events in Kentucky's history
  - investigate change over time (e.g., transportation, communication, education, technology, lifestyles and conditions) in Kentucky's history
  - describe the significance of historical documents, symbols, and songs related to Kentucky's history (e.g., Kentucky's Constitution, state flag, state song)

# Program of Studies – Social Studies – Fifth Grade

Social studies in the intermediate grades has a different level/grade context each year. For example, grade four focuses on Kentucky studies and regions of the United States. Grade five includes an integrated focus on United States history. Regardless of the level/grade context, students incorporate each of the five areas of social studies in an integrated fashion to explore the content.

The primary purpose of social studies is to help students develop the ability to make informed decisions as citizens of a culturally diverse, democratic society in an interdependent world. The skills and concepts found throughout this document reflect this purpose by promoting the belief that students must develop more than an understanding of social studies content. They must also be able to apply the content perspectives of several academic fields of the social studies to personal and public experiences. By stressing the importance of both content knowledge and its application, the social studies curriculum in Kentucky provides a framework that prepares students to become productive citizens.

The social studies content standards at the intermediate level are directly aligned with Kentucky's Academic Expectations. Social Studies standards are organized around five “Big Ideas” that are important to the discipline of social studies. The five Big Ideas in social studies are: Government and Civics, Cultures and Societies, Economics, Geography and Historical Perspective. The Big Ideas, which are more thoroughly explained in the pages that follow, are conceptual organizers that are the same at each grade level. This consistency ensures students have multiple opportunities throughout their school careers to develop skills and concepts linked to the Big Ideas.

Under each Big Idea are statements of Enduring Knowledge/Understandings that represent overarching generalizations linked to the Big Ideas of social studies. The understandings represent the desired results - what learning will focus upon and what knowledge students will be able to explain or apply. Understandings can be used to frame development of units of study and lesson plans.

Skills and concepts describe ways that students demonstrate their learning and are specific to each grade level. The skills and concepts for social studies are fundamental to social studies literacy and build on prior learning.

The social studies program includes strong literacy connections, active hands-on work with concrete materials, and appropriate technologies. The social studies curriculum includes and depends on a number of different types of materials such as textbooks, non-fiction texts, biographies, autobiographies, journals, maps, newspapers, photographs and primary documents. Higher order thinking skills, such as compare, explain, analyze, predict, construct and interpret, are all heavily dependent on a variety of literacy skills and processes. For example, in social studies students must be able to understand specialized vocabulary, identify and comprehend key pieces of information within texts, determine what is fact and what is opinion, relate information across texts, connect new information to prior knowledge and synthesize the information to make meaning.

## Big Idea: Government and Civics

The study of government and civics equips students to understand the nature of government and the unique characteristics of American democracy, including its fundamental principles, structure and the role of citizens. Understanding the historical development of structures of power, authority and governance and their evolving functions in contemporary U.S. society and other parts of the world is essential for developing civic competence. An understanding of civic ideals and practices of citizenship is critical to full participation in society and is a central purpose of the social studies.

**Academic Expectations**

Students understand the democratic principles of justice, equality, responsibility, and freedom and apply them to real-life situations.

Students can accurately describe various forms of government and analyze issues that relate to the rights and responsibilities of citizens in a democracy.

**Grade 5 Enduring Knowledge – Understandings**

*Students will understand that*

- the government of the United States was developed from a colonial base of representative democracy by people who envisioned an independent country and new purposes for the government.
- the United States Government was formed to establish order, provide security and accomplish common goals.
- the fundamental values and principles (e.g., liberty, justice, individual human dignity) of American democracy are expressed in historical documents (e.g., the Declaration of Independence, the Constitution of the United States, including the Preamble and the Bill of Rights).
- the Constitution of the United States establishes a government of limited powers that are shared among different levels and branches.
- as members of a democratic society, all citizens of the United States have certain rights and responsibilities, including civic participation.

**Grade 5 Skills and Concepts**

*Students will*

- demonstrate an understanding of government, using information from print and non-print sources (e.g., documents, informational passages/texts, interviews, digital and environmental):
  - investigate the basic functions of the United States Government, as defined in the Preamble to the U.S. Constitution, (e.g., establish justice, ensure domestic tranquility, provide for the common defense, promote the general welfare, secure the blessings of liberty) and explain their significance today
  - explain how democratic governments work to promote the “common good” (e.g., making, enacting, enforcing laws that protect rights and property of all citizens)
- describe the basic duties of the three branches of government (executive, legislative, judicial); explain why the framers of the U.S. Constitution felt it was important to establish a government with limited powers that are shared among different branches and different levels (e.g., local, state, federal)
- analyze information from print and non-print sources (e.g., documents, informational passages/texts, interviews, digital and environmental) to describe fundamental values and principles of American democracy (e.g., liberty, justice) found in the Declaration of Independence and the U.S. Constitution; explain their significance today
- investigate the rights and responsibilities of U.S. citizens:
  - describe and give examples of specific rights guaranteed to all U.S. citizens in the Bill of Rights (e.g., freedom of religion, freedom of speech, freedom of press) and explain why they are important today
  - describe some of the responsibilities U.S. citizens have in order for democratic governments to function effectively (e.g. voting, community service, paying taxes) and find examples of civic participation in current events/news (e.g., television, radio, articles, Internet)

## Big Idea: Cultures and Societies

Culture is the way of life shared by a group of people, including their ideas and traditions. Cultures reflect the values and beliefs of groups in different ways (e.g., art, music, literature, religion); however, there are universals connecting all cultures. Culture influences viewpoints, rules, and institutions in a global society. Students should understand that people form cultural groups throughout the United States and the World, and that issues and challenges unite and divide them.

**Academic Expectations**

**2.16** Students observe, analyze, and interpret human behaviors, social groupings, and institutions to better understand people and the relationships among individuals and among groups.

**2.17** Students interact effectively and work cooperatively with the many ethnic and cultural groups of our nation and world.

**Grade 5 Enduring Knowledge – Understandings**

*Students will understand that*

- culture is a system of beliefs, knowledge, institutions, customs/traditions, languages and skills shared by a group of people. Through a society's culture, individuals learn the relationships, structures, patterns and processes to be members of the society.
- cultures develop social institutions (e.g., government, economy, education, religion, family) to structure society, influence behavior and respond to human needs.
- interactions among individuals and groups assume various forms (e.g., compromise, cooperation, conflict, competition) and are influenced by culture.
- a variety of factors promote cultural diversity in a society, nation and world.
- an understanding and appreciation of the diverse complexity of cultures is essential to interact effectively and work cooperatively with the many diverse ethnic and cultural groups of today.

**Grade 5 Skills and Concepts**

*Students will*

- demonstrate an understanding of culture and cultural elements (e.g., beliefs, traditions, languages, skills, literature, the arts) of diverse groups:
  - investigate cultural similarities and differences of diverse groups (e.g., English, French, Spanish and Dutch Colonists, West Africans, Immigrants of the 1800's) during the early development of the United States
  - research the contributions of diverse groups to the culture (e.g., beliefs, traditions, literature, the arts) of the United States today
  - investigate factors that promoted cultural diversity in the history of the United States
- examine social institutions (e.g., family, religion, education, government, economy) in the United States and explain their functions
- describe conflicts that occurred among and between diverse groups (e.g., Native Americans and the early Explorers, Native Americans and the Colonists, the British Government and the English Colonists, Native Americans and the U.S. Government) during the settlement of the United States; explain the causes of these conflicts and the outcomes
- describe causes of conflicts between individuals and/or groups today and give examples of how to resolve them peacefully

## Big Idea: Economics

Economics includes the study of production, distribution, and consumption of goods and services. Students need to understand how their economic decisions affect them, others, and the nation as a whole. The purpose of economic education is to enable individuals to function effectively both in their own personal lives and as citizens and participants in an increasingly connected world economy. Students need to understand the benefits and costs of economic interaction and interdependence among people, societies, and governments.

**Academic Expectations**

**2.18** Students understand economic principles and are able to make economic decisions that have consequences in daily living.

**Grade 5 Enduring Knowledge – Understandings**

*Students will understand that*

- the basic economic problem confronting individuals, groups and businesses in the United States today is scarcity: as a result of scarcity, economic choices and decisions must be made.
- a variety of fundamental economic concepts (e.g., supply and demand, opportunity cost) impact individuals, groups and businesses in the United States today.
- economic institutions are created to help individuals, groups and businesses accomplish common goals.
- markets enable buyers and sellers to exchange goods and services.
- production, distribution and consumption of goods and services have changed over time in the United States.
- individuals, groups and businesses in the United States demonstrate interdependence as they make economic decisions about the use of resources (e.g., natural, human, capital) in the production, distribution, and consumption of goods and services.

**Grade 5 Skills and Concepts**

*Students will*

- demonstrate an understanding using information from print and non-print sources (e.g., documents, informational passages/texts, interviews, digital and environmental) of the connection between resources, limited productive resources and scarcity
  investigate different kinds of resources (e.g., natural, human, capital)
  explain how individuals and groups in the United States make economic decisions based upon limited productive resources (natural, human, capital) and give examples of how these decisions create interdependence between individuals, groups and businesses
- demonstrate an understanding of how people deal with scarcity; explain the roles banks play in helping people deal with scarcity (e.g., loan money, save money, lines of credit, interest-bearing accounts)
- demonstrate an understanding of markets:
  - explain how goods and services are/were exchanged
  - investigate and give examples of markets; explain how markets have changed over time during the history of the United States
- use a variety of sources:
  - investigate and trace (e.g., write, draw, chart, timeline) change over time in the production, distribution and consumption of goods and services in the United States
  - research specialization in the United States; explain how specialization promotes trade between individuals, groups and businesses in the United States and world; describe the impact of specialization on the production of goods in the United States

## Big Idea: Geography

Geography includes the study of the five fundamental themes of location, place, regions, movement and human/environmental interaction. Students need geographic knowledge to analyze issues and problems to better understand how humans have interacted with their environment over time, how geography has impacted settlement and population, and how geographic factors influence climate, culture, the economy and world events. A geographic perspective also enables students to better understand the past and present and to prepare for the future.

**Academic Expectations**

**2.19** Students recognize and understand the relationship between people and geography and apply their knowledge in real-life situations.

**Grade 5 Enduring Knowledge – Understandings**

*Students will understand that*

- the use of geographic tools (e.g., maps, globes, charts, graphs) and mental maps help interpret information, understand and analyze patterns, spatial data and geographic issues.
- patterns emerge as humans move, settle and interact on Earth's surface and can be identified by examining the location of physical and human characteristics, how they are arranged and why they are in particular locations. Economic, political, cultural and social processes interact to shape patterns of human populations, interdependence, cooperation and conflict.
- regions help us to see Earth as an integrated system of places and features organized by such principles as landform types, political units, economic patterns and cultural groups.
- people depend on, adapt to, and/or modify the environment to meet basic needs. Human actions modified the physical environment and in turn, the physical environment limited and/or promoted human activities in the settlement of the United States.

**Grade 5 Skills and Concepts**

*Students will*

- demonstrate an understanding of patterns on the Earth's surface, using a variety of geographic tools (e.g., maps, globes, charts, graphs):
  - locate, in absolute or relative terms, major landforms and bodies of water in the United States
  - locate and explain patterns on Earth's surface (e.g., how different factors such as rivers, mountains and plains impact where human activities are located)
- investigate regions on the Earth's surface and analyze information from print and non-print sources (e.g., documents, informational passages/texts, interviews, digital and environmental):
  - explain how places and regions in the U.S. are defined by their human characteristics (e.g., language, settlement patterns, religious beliefs) and physical characteristics (e.g., climate, landforms, bodies of water)
  - locate and describe patterns of human settlement and explain how these patterns were influenced by the physical characteristics (e.g., climate, landforms, bodies of water) of places and regions in the United States
  - investigate how advances in technology (e.g., dams, roads, air conditioning, irrigation) over time have allowed people to settle in places previously inaccessible in the United States
- investigate how humans modify the physical environment:
  - describe how people modified the physical environment (e.g., dams, roads, bridges) to meet their needs during the early settlement of the United States
  - analyze how the physical environment (e.g., mountains as barriers or protection, rivers as barriers or transportation) promoted and restricted human activities during the early settlement of the United States
  - explain how different perspectives of individuals and groups impact decisions about the use of land (e.g., farming, industrial, residential, recreational) in the United States

## Big Idea: Historical Perspective

History is an account of events, people, ideas, and their interaction over time that can be interpreted through multiple perspectives. In order for students to understand the present and plan for the future, they must understand the past. Studying history engages students in the lives, aspirations, struggles, accomplishments, and failures of real people. Students need to think in an historical context in order to understand significant ideas, beliefs, themes, patterns and events, and how individuals and societies have changed over time in Kentucky, the United States, and the World.

**Academic Expectations**

**2.20** Students understand, analyze, and interpret historical events, conditions, trends, and issues to develop historical perspective.

**Grade 5 Enduring Knowledge – Understandings**

*Students will understand that*

- history is an account of human activities that is interpretive in nature. A variety of tools (e.g., primary and secondary sources) are needed to understand and analyze historical events.
- the history of the United States can be analyzed by examining significant eras (*Colonization and Settlement, Revolution and a New Nation, Expansion and Conflict, Industrialization and Immigration and the Twentieth Century*) to develop a chronological understanding and recognize cause and effect relationships and multiple causation, tying past to present.
- The history of the United States has been impacted by significant individuals, groups and advances in technology.
- geography, culture, and economics have a significant impact on historical perspectives and events.

**Grade 5 Skills and Concepts**

*Students will*

- demonstrate an understanding of the interpretative nature of history using a variety of tools (e.g., primary and secondary sources):
  - investigate and chronologically describe major events in United States history (e.g., using timelines, charts, fictional and report writing, role playing)
  - explain and draw inferences about the importance of major events in United States history
  - examine cause and effect relationships in the history of the United States; identify examples of multiple causes of major historical events
  - explain reasons that individuals and groups explored and settled in the United States
  - research influences/contributions of diverse groups to the culture (e.g., beliefs, traditions, literature, the arts) of the United States today
- use information from print and non-print sources (e.g., documents, informational passages/texts, interviews, digital and environmental):
  - examine factual and fictional accounts of significant historical events and people in United States history
  - explore change over time (e.g., transportation, communication, education, technology, lifestyles and conditions) in the United States
  - compare reasons (e.g., freedoms, opportunities, fleeing negative situations) immigrants came/come to America
  - investigate the events surrounding patriotic symbols, songs, landmarks (e.g., American flag, Statue of Liberty, the Star-Spangled Banner), and selected readings (e.g., Dr. Martin Luther King's speech: I Have a Dream), and explain their historical significance
- investigate patterns across in U.S. history (e.g., major events/conflicts/culture; compare with major events/conflicts/culture to the present)

# INTERMEDIATE TECHNOLOGY

# Program of Studies – Technology – Intermediate

Technology use in the 21st century has become a vital component of all aspects of life. For students in Kentucky to be contributing citizens, they must receive an education that incorporates technology literacy at all levels. Technology literacy is the ability of students to responsibly use appropriate technology to communicate, solve problems, and access, manage, integrate, evaluate, and create information to improve learning in all subject areas and to acquire lifelong knowledge and skills in the 21st century. The Technology Program of Studies provides a framework for integrating technology into all content areas. It reflects the basic skills required for each student to be competitive in the global economy.

For students to gain the technology competencies, it is essential that they have access to technology during the school day in all grade levels. Instruction should provide opportunities for students to gain and demonstrate technology skills that build primary through grade 12.

The technology content standards should be integrated into each curricular discipline. The purpose of integrating technology is to help students make useful connections between what they learn in each content area and the real world. Technology knowledge, concepts and skills should be interwoven into lessons or units and taught in partnership with other content areas. Technology lends itself to curriculum integration and team teaching. Technology can enhance learning for all students, and for some it is essential for access to learning.

The technology content standards are organized by grade spans: primary, intermediate, middle, and high. The technology program of studies at the intermediate level builds upon primary experiences. It continues to build competencies related to technology literacy. Students interpret critique and evaluate digital texts, synthesize information and solve problems. Students create and use technology for developing ideas and opinions, for communicating and collaborating with others and for personal fulfillment. These experiences enhance and extend students' technology skills.

The technology content standards at the intermediate grade span are directly aligned with Kentucky's **Academic Expectations**. Technology standards are organized around three Big Ideas that are important to the discipline of technology. The three Big Ideas in technology are: **1) Information, Communication and Productivity; 2) Safety and Ethical/Social Issues;** and **3) Research, Inquiry/Problem-Solving and Innovation**. The Big Ideas are conceptual organizers for technology. Each grade level span ensures students have multiple opportunities throughout their school careers to develop skills and concepts linked to the Big Ideas.

Under each Big Idea are statements of *Enduring Knowledge/Understandings* that represent overarching generalizations linked to the Big Ideas of Technology. The understandings represent the desired results--what learning will focus upon and what knowledge students will be able to explain or apply. *Understandings* can be used to frame development of units of study and lesson plans.

*Skills and Concepts* describe ways that students demonstrate their learning and are specific to each grade level span. The skills and concepts for technology are fundamental to technology literacy, safe use and inquiry. The skills and concepts build on prior learning.

## Big Idea: Information, Communication and Productivity

Students demonstrate a sound understanding of the nature and operations of technology systems. Students use technology to learn, to communicate, increase productivity and become competent users of technology. Students manage and create effective oral, written and multimedia communication in a variety of forms and contexts.

**Academic Expectations**

**1.11** Students write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.
**1.16** Students use computers and other kinds of technology to collect, organize, and communicate information and ideas.
**3.3** Students demonstrate the ability to be adaptable and flexible through appropriate tasks or projects.
**6.1** Students connect knowledge and experiences from different subject areas.
**6.3** Students expand their understanding of existing knowledge by making connections with new knowledge, skills, and experiences.

**Intermediate Enduring Knowledge – Understandings**

*Students will understand that*

- appropriate terminology, computer operations and applications assist in gaining confidence in the use of technology.
- technology requires proper care and maintenance to be used effectively.
- a variety of media is used to support directed and independent learning.
- technology is used to communicate in a variety of ways including global communications.
- technology (e.g. keyboarding, word processing, spreadsheets, presentation) is used effectively and efficiently to accomplish a task.

**Intermediate Skills and Concepts – Information**

*Students will*

- investigate different technology devices (e.g., CPU, monitor, keyboard, disk drive, printer, mouse)
- describe the uses of technology (e.g., computers, telephones, cell phones, digital and video cameras, Internet) at home, school and workplace
- use appropriate technology terms (e.g., hardware, software, CD, hard drive)
- explain the use of networks and the need for login procedures (e.g., stand alone, network, file server, LANs network resources)
- demonstrate proper keyboarding techniques, optimal posture and correct hand placement (e.g., home row finger placement) at the computer workstation

**Intermediate Skills and Concepts – Communication**

*Students will*

- use technology to communicate in a variety of modes (e.g., audio, speech to text, print, media)
- participate in online group projects and learning activities using technology communications
- create a variety of tasks using technology devices and systems to support authentic learning
- use technology to collect data for content area assignments/projects
- use a variety of tools and formats (oral presentations, journals and multimedia presentations) to summarize and communicate the results of observations and investigations
- use online collaborative tools (e.g., email, videoconferencing)

**Intermediate Skills and Concepts – Productivity**

*Students will*

- develop, publish and present information in print and digital formats
- use productivity tools to produce content area assignments/projects

## Big Idea: Safety and Ethical/Social Issues

Students understand safe, ethical and social issues related to technology. Students practice and engage in safe, responsible and ethical use of technology. Students develop positive attitudes toward technology use that supports lifelong learning, collaboration, personal pursuits and productivity.

**Academic Expectations**

**2.17** Students interact effectively and work cooperatively with the many ethnic and cultural groups of our nation and world.
**3.6** Students demonstrate the ability to make decisions based on ethical values.
**4.3** Students individually demonstrate consistent, responsive, and caring behavior.
**4.4** Students demonstrate the ability to accept the rights and responsibilities for self and others.
**4.5** Students demonstrate an understanding of, appreciation for, and sensitivity to a multi- cultural and world view.

**Intermediate Enduring Knowledge – Understandings**

*Students will understand that*

- responsible and ethical use of technology is necessary to ensure safety.
- technology is used in collaborative and interactive projects to enhance learning.
- acceptable technology etiquette is essential to respectful social interactions and good citizenship.
- technology is used in jobs and careers to support the needs of the local and global community.
- assistive technology supports learning to ensure equitable access to a productive life.

**Intermediate Skills and Concepts – Safety**

*Students will*

- explain the importance of safe Internet use (e.g., iSafe skills)
- apply safe behavior when using technology

**Intermediate Skills and Concepts – Ethical Issues**

*Students will*

- investigate basic issues related to responsible use of technology and describe personal consequences of inappropriate use (e.g., plagiarism, intellectual property, copyright and the conditions of Acceptable Usage Policy)
- explore, investigate and practice the use of technology in an appropriate, safe and responsible manner
- use ethical behavior while using technology in personal and community contexts

**Intermediate Skills and Concepts – Social Issues**

*Students will*

- use technology to collaborate and engage in interactive projects with others (e.g., local, national and global) and credit all participants for their contribution to the work
- use proper social etiquette with any technology (e.g., email, blogs, IM, telephone, help desk)
- investigate how assistive technologies supports learning
- explain how technology has had an influence on our world
- explain how technology supports career options and lifelong learning

## Big Idea: Research, Inquiry/Problem-Solving and Innovation

Students understand the role of technology in research and experimentation. Students engage technology in developing solutions for solving problems in the real world. Students will use technology for original creation and innovation.

**Academic Expectations**

**1.1** Students use reference tools such as dictionaries, almanacs, encyclopedias, and computer reference programs and research tools such as interviews and surveys to find the information they need to meet specific demands, explore interests, or solve specific problems.
**2.3** Students identify and analyze systems and the ways their components work together or affect each other.
**5.1** Students use critical thinking skills such as analyzing, prioritizing, categorizing, evaluating, and comparing to solve a variety of problems in real-life situations.
**5.2** Students use creative thinking skills to develop or invent novel, constructive ideas or products.
**5.4** Students use a decision-making process to make informed decisions among options.
**5.5** Students use problem-solving processes to develop solutions to relatively complex problems.
**6.1** Students connect knowledge and experiences from different subject areas.

**Intermediate Enduring Knowledge – Understandings**

*Students will understand that*

- technology assists in gathering, organizing and evaluating information from a variety of sources to answer essential questions.
- technology supports critical thinking skills used in inquiry/problem solving to make informed decisions.
- technology is used to produce an innovative product or system.

**Intermediate Skills and Concepts – Research**

*Students will*

- gather and use accurate information from a variety of electronic sources (e.g. teacher-selected web sites, CDROM, encyclopedias and automated card catalog, online virtual library; word processing, database, spreadsheet) in all content areas
- correctly cite sources
- evaluate the accuracy, relevance, appropriateness, comprehensiveness and bias of electronic information sources
- use technology tools to process data and report results
- use content-specific tools to enhance understanding of content (e.g., environmental probes, sensors, robotics, simulation software and measuring devices)

**Intermediate Skills and Concepts – Inquiry/Problem-solving**

*Students will*

- determine which technology is useful and select the appropriate tool(s) (e.g., calculators, data collection probes, videos, educational software) to inquire/problem- solve in self-directed and extended learning
- use technology to solve problems using critical thinking and problem-solving strategies
- solve content-specific problems using a combinations of technologies

**Intermediate Skills and Concepts – Innovation**

*Students will*

- use technology to organize and develop creative solutions, ideas or products
- use technology to express creativity both individually and collaboratively

# INTERMEDIATE VOCATIONAL STUDIES

# Program of Studies – Vocational Studies – Fourth Grade

The vocational studies program at the fourth grade develops an awareness of careers. This awareness includes the purpose of having a job, concepts of consumer decision-making, saving money, and connections between work and learning. The challenge is to empower students to make a connection between school and the world of work and to be productive citizens.

The fourth grade level provides appropriate opportunities for students to be involved in activities designed to develop an appreciation of work and an awareness of self and jobs/careers. They should examine the relationship between school studies and work; this will enable them to make vital connections that will give meaning to their learning. Elementary students should begin to develop work habits, study skills, team skills and set short-term goals.

The vocational studies program at the fourth grade includes active, hands-on work with concrete materials and appropriate technologies. Although the vocational studies program for fourth grade is divided into five areas, each area is designed to interact with the others in an integrated fashion. Because of this integration, students are able to develop broad conceptual understandings in vocational studies. All content teachers are responsible for providing instruction in the vocational studies area.

The vocational studies content standards at the fourth grade are directly aligned with Kentucky's **Academic Expectations.** The vocational studies standards are organized around five "Big Ideas" that are important to the discipline of Vocational Studies. These big ideas are: Consumer Decisions, Financial Literacy, Career Awareness/Exploration/Planning, Employability Skills, and Communication/Technology. The Big Ideas are conceptual organizers for vocational studies and are the same at each grade level. This ensures students have multiple opportunities throughout their school career to develop skills and concepts linked to the Big Ideas.

Under each Big Idea are statements of Enduring Knowledge/Understandings that represent overarching generalizations linked to the Big Ideas of vocational studies. The understandings represent the desired results- that focus on learning, and the knowledge students will have to explain or apply. Understandings can be used to frame development of units of study and lessons plans.

Skills and concepts describe the ways that students demonstrate their learning and are specific to each grade level. The skills and concepts for vocational studies are fundamental to career awareness and builds on prior learning.

Academic Expectations 2.36 and 2.37 bring forward the career awareness in Vocational Studies. Vocational Studies provide a connection to Kentucky Learning Goal 3 (become self-sufficient individual) and Learning Goal 4 (become a responsible group members). These connections provide a comprehensive link between essential content, skills and abilities important to learning.

## Big Idea: Consumer Decisions

Individual and families need to make consumer decisions due to the numerous products/services on the market, multiple advertising techniques, and the need to make responsible financial management decisions. Accessing and assessing consumer information, comparing and evaluating products and services, provides basis for making effective consumer decisions. Consumer decisions influence the use of resources and the impact they have on the community and environment.

**Academic Expectations**

**2.30** Students evaluate consumer products and services and make effective consumer decisions. Students demonstrate the skills to evaluate and use services and resources available in their community.
**4.4** Students demonstrate the ability to accept the rights and responsibilities for self and others.
**5.4** Students use a decision-making process to make informed decisions among options.

**Grade 4 Enduring Knowledge – Understandings**

*Students will understand that*

- fundamental economic concepts are important for consumer decision-making.
- consumer decisions are influenced by economic and social factors.
- values have a role in making consumer decisions.
- consumer actions (e.g., reusing, reducing, recycling) influence the use of resources and impact the environment.
- an individual has multiple life roles that impact responsibility to be a valuable family and community member.

**Grade 4 Skills and Concepts**

*Students will*

- investigate economic concepts and why they are important for consumer decisions by:
  - examining how individuals and families make choices to satisfy needs and wants as they relate to consumer decisions
  - explain bartering, and how money makes it easier for people to get things they want
  - determining ways in which goods and services used by families impact the environment
- describe how culture, media and technology can influence consumer decisions by:
  - comparing and evaluating products and services based on major factors (e.g., price, quality, features) when making consumer decisions
  - describing how different types of media, technology and advertising impact the family and consumer decision-making
  - identify ways in which consumer decisions (e.g., buying and selling) affect families and friends
- identify ways that individuals have rights and responsibilities as a consumer
- evaluate consumer actions (e.g., reusing, reducing, recycling) and how they influence the use of resources and impact the environment by:
  - describing how consumption, conservation, and waste management practices are related
  - identifying ways the physical environment is related to individual and community health
- examine individual, family, and community roles and responsibilities by:
  - investigating a variety of resources (e.g., current events, surveys, children's magazines) and explain ways in which consumers are addressing the effects of renewable resources on the environment
  - describing jobs carried out by people at school and in the community that support success in school

## Big Idea: Financial Literacy

Financial literacy provides knowledge so that students are responsible for their personal economic well-being. As consumers, individuals need economic knowledge as a base for making financial decisions impacting short and long term goals throughout one's lifetime. Financial literacy will empower students by providing them with the skills and awareness needed to establish a foundation for a future of financial responsibility and economic independence.

**Academic Expectations**

**2.30** Students evaluate consumer products and services and make effective consumer decisions.
**2.33** Students demonstrate the skills to evaluate and use services and resources available in their community.
**5.4** Students use a decision-making process to make informed decisions among options.

**Grade 4 Enduring Knowledge – Understandings**

*Students will understand that*

- management of financial resources is needed to meet goals of individuals and families.
- budgets are a basic component in making financial decisions.
- various services are provided by financial institutions (e.g., banks, credit unions).

**Grade 4 Skills and Concepts**

*Students will*

- explain how financial management is needed to meet goals of individuals and families by:
  - identifying goals pertaining to money that might affect individuals and families
  - describing different ways to save and invest money (e.g., piggy bank, local bank, savings bonds)
- define credit and how it can be used to make purchases
- explain the purpose of a budget and define the basic components (income, expenses, savings)
- investigate basic services (e.g., deposits, check cashing) provided by financial institutions (e.g., banks, credit unions)

## Big Idea: Career Awareness, Exploration, Planning

Career awareness, exploration and planning gives students the opportunity to discover the various career areas that exist and introduce them to the realities involved with the workplace. Many factors need to be considered when selecting a career path and preparing for employment. Career awareness, exploration and planning will enable students to recognize the value of education and learn how to plan for careers. The relationship between academics and jobs/careers will enable students to make vital connections that will give meaning to their learning.

**Academic Expectations**

**2.36** Students use strategies for choosing and preparing for a career.
**2.37** Students demonstrate skills and work habits that lead to success in future schooling and work.
**5.4** Students use a decision-making process to make informed decision among options.

**Grade 4 Enduring Knowledge – Understandings**

*Students will understand that*

- people need to work to meet basic needs.
- a variety of career choices are available in planning for job/careers.
- the connection between work and academics can influence one's future job/career.
- individual and societal needs can impact future jobs/careers.
- self-knowledge is an important part of the career planning process.

**Grade 4 Skills and Concepts**

*Students will*

- explain why people need to work (e.g., chores, jobs, employment) to meet basic needs (e.g., food, clothing, shelter)
- recognize that the roles of individuals at home, in the workplace, and in the community are constantly changing
- investigate the connection between work and learning and how it can influence one's future job/career by:
  - explaining different jobs/careers that use what they learn in school (mathematics, reading/writing, science, social studies) impacts future jobs/careers
  - describing work done by school personnel and other individuals in the community
- evaluate how individual and societal needs can impact future jobs/careers by:
  - recognizing how career choices may change as a person matures
  - examining and grouping careers in clusters
- recognize self-knowledge (e.g., interests, abilities) is helpful when selecting and preparing for a career path and that unique interests may lead to career choices

## Big Idea: Employability Skills

Employability skills will focus on student's competencies with their work habits and academic/technical skills that will impact an individual's success in school and workplace. School-to-work transition skills will help students develop interpersonal skills and positive work habits.

**Academic Expectations**

**2.36** Students use strategies for choosing and preparing for a career.
Students demonstrate skills and work habits that lead to success in future schooling and work.
**3.7** Students demonstrate the ability to make decisions based on ethical values.
**4.1** Students effectively use interpersonal skills.
**4.2** Students use productive team membership skills.

**Grade 4 Enduring Knowledge – Understandings**

*Students will understand that*

- interpersonal skills are needed to be a responsible friend, family and team member.
- attitudes and work habits contribute to success at home, school and work.
- academics contribute to obtaining and succeeding in employment.

**Grade 4 Skills and Concepts**

*Students will*

- explain how interpersonal skills are needed to be a responsible friend, family and team member by:
  - identifying ways to cooperate at both home and school
  - learning the importance of developing good team skills (e.g., cooperation, communication) and explain how these skills are used to complete tasks
  - demonstrating how to work cooperatively by contributing ideas, suggestions and efforts
- describe how attitudes and work habits contribute to success at home, school and work by:
  - describing study skills needed in school
  - developing personal responsibilities for their own learning and behaviors
  - explaining how effective communication skills (e.g., reading, writing, speaking, and listening) impacts work-related situations and give examples for success at home, school and work
  - learning how to follow routines (e.g., rules, schedules, directions) with minimal supervision
  - identifying consequences for actions when disobeying rules and routines
  - identifying the importance of developing good work habits
- examine potential job/careers in the community
- identify how employability skills prepare them for obtaining and maintaining employment
- identify ways academics can impact success in employment

## Big Idea: Communication/Technology

Special communication and technology skills are needed for success in schooling and in the workplace. Students will be able to express information and ideas using a variety of technologies in various ways.

**Academic Expectations**

**1.16** Students use computers and other kinds of technology to collect, organize, and communicate information and ideas.

**2.37** Students demonstrate skills and work habits that lead to success in future schooling and work.

**Grade 4 Enduring Knowledge – Understandings**

*Students will understand that*

- technology skills can enhance learning and impact productivity at home, school and the workplace.
- communication skills is essential for jobs/careers.

**Grade 4 Skills and Concepts**

*Students will*

- explore how technology is used in different jobs/careers

investigate how technology in school and at work enhances learning and provide access to information and resources by:

  - o explain how technology tools (e.g., computer programs, Internet, email, cell phones) are used in homes, schools and jobs

- identify ways written communication skills are used at school and in the workplace

# Program of Studies – Vocational Studies – Fifth Grade

The vocational studies program at the fifth grade develops an awareness of careers. This awareness includes the purpose of having a job, concepts of consumer decision-making, saving money, and connections between work and learning. The challenge is to empower students to make a connection between school and the world of work and to be productive citizens.

The fifth grade provides appropriate opportunities for students to be involved in activities designed to develop an appreciation of work and an awareness of self and jobs/careers. They should examine the relationship between school studies and work; this will enable them to make vital connections that will give meaning to their learning. Elementary students should begin to develop work habits, study skills, team skills and set short-term goals.

The vocational studies program at the fifth grade includes active, hands-on work with concrete materials and appropriate technologies. Although the vocational studies program for fifth grade is divided into five areas, each area is designed to interact with the others in an integrated fashion. Because of this integration, students are able to develop broad conceptual understandings in vocational studies. All content teachers are responsible for providing instruction in the vocational studies area.

The vocational studies content standards at the fifth grade are directly aligned with Kentucky's **Academic Expectations.** The Vocational Studies standards are organized around five "Big Ideas" that are important to the discipline of Vocational Studies. These big ideas are: Consumer Decisions, Financial Literacy, Career Awareness/Exploration/Planning, Employability Skills, and Communication/Technology. The Big Ideas are conceptual organizers for vocational studies and are the same at each grade level. This ensures students have multiple opportunities throughout their school career to develop skills and concepts linked to the Big Ideas.

Under each Big Idea are statements of Enduring Knowledge/Understandings that represent overarching generalizations linked to the Big Ideas of vocational studies. The understandings represent the desired results- that focus on learning, and the knowledge students will have to explain or apply. Understandings can be used to frame development of units of study and lessons plans.

Skills and concepts describe the ways that students demonstrate their learning and are specific to each grade level. The skills and concepts for vocational studies are fundamental to career awareness and builds on prior learning.

Academic Expectations 2.36 and 2.37 bring forward the career awareness in Vocational Studies. Vocational Studies provide a connection to Kentucky Learning Goal 3 (become self-sufficient individual) and Learning Goal 4 (become a responsible group members). These connections provide a comprehensive link between essential content, skills and abilities important to learning.

## Big Idea: Consumer Decisions

Individual and families need to make consumer decisions due to the numerous products/services on the market, multiple advertising techniques, and the need to make responsible financial management decisions. Accessing and assessing consumer information, comparing and evaluating products and services, provides basis for making effective consumer decisions. Consumer decisions influence the use of resources and the impact they have on the community and environment.

**Academic Expectations**

**2.30** Students evaluate consumer products and services and make effective consumer decisions.
**2.33** Students demonstrate the skills to evaluate and use services and resources available in their community.
**4.4** Students demonstrate the ability to accept the rights and responsibilities for self and others.
**5.4** Students use a decision-making process to make informed decisions among options.

**Grade 5 Enduring Knowledge – Understandings**

*Students will understand that*

- fundamental economic concepts are important for consumer decision-making.
- culture, media and technology can influence consumer decisions.
- values have a role in making consumer decision.
- consumer actions (e.g., reusing, reducing, recycling) influence the use of resources and impact the environment.
- an individual has multiple life roles that impact responsibility to be a valuable family and community member.

**Grade 5 Skills and Concepts**

*Students will*

- investigate economic concepts and why they are important for consumer decisions by:
  - analyzing the differences between needs and wants and how individuals and families make choices
  - determining ways in which goods and services used by families impact the environment
  - recognizing the relationship between supply and demand and its role in meeting consumer needs
- describe how culture, media and technology can influence consumer decisions by:
  - identifying the ways family and consumer resources are impacted by the environment
  - comparing and evaluating products and services based on major factors (e.g., price, quality, features) when making consumer decisions
  - identifying advertising techniques (bandwagon, facts and figures, emotional appeal, endorsement/testimonial) and explain how they impact the consumer
- analyze ways that an individual has rights and responsibilities as a consumer
- describe how consumer actions (e.g., reusing, reducing, recycling) influence the use of resources and impact the environment by:
  - describing some community activities that promote healthy environments
- examine individual, family, and community roles and responsibilities by:
  - investigating a variety of resources and explain ways in which consumers are addressing the effects of renewable resources on the environment
  - describing jobs carried out by people at school and in the community that support success in school

## Big Idea: Financial Literacy

Financial literacy provides knowledge so that students are responsible for their personal economic well-being. As consumers, individuals need economic knowledge as a base for making financial decisions impacting short and long term goals throughout one's lifetime. Financial literacy will empower students by providing them with the skills and awareness needed to establish a foundation for a future of financial responsibility and economic independence.

**Academic Expectations**

**2.30** Students evaluate consumer products and services and make effective consumer decisions.
**2.33** Students demonstrate the skills to evaluate and use services and resources available in their community.
**5.4** Students use a decision-making process to make informed decisions among options.

**Grade 5 Enduring Knowledge – Understandings**

*Students will understand that*

- management of financial resources is needed to meet goals of individuals and families.
- saving plans and budgets are a basic component in making financial decisions.
- various services are provided by financial institutions (e.g., banks, credit unions).

**Grade 5 Skills and Concepts**

*Students will*

- explain how financial management is needed to meet goals of individuals and families by:
  - investigating goals pertaining to money that might affect individuals and families
  - describing various types of expenses (e.g., food, clothing, entertainment) and savings (e.g., piggy bank, bank account, savings bonds)
- investigate savings plans and budgets in making financial decisions by:
  - developing a simple savings plan that would achieve a specific goal
  - explaining the purpose of a budget and define the basic components (income, expenses, savings)
- explain credit and the affect of having fees with credit
- describe how basic services (e.g., deposits, check cashing) are provided by financial institutions (e.g., banks, credit unions)

## Big Idea: Career Awareness, Exploration, Planning

Career awareness, exploration and planning gives students the opportunity to discover the various career areas that exist and introduce them to the realities involved with the workplace. Many factors need to be considered when selecting a career path and preparing for employment. Career awareness, exploration and planning will enable students to recognize the value of education and learn how to plan for careers. The relationship between academics and jobs/careers will enable students to make vital connections that will give meaning to their learning.

**Academic Expectations**

**2.36** Students use strategies for choosing and preparing for a career.
**2.37** Students demonstrate skills and work habits that lead to success in future schooling and work.
**5.4** Students use a decision-making process to make informed decision among options.

**Grade 5 Enduring Knowledge – Understandings**

*Students will understand that*

- people need to work to meet basic needs.
- a variety of career choices are available in planning for job/careers.
- the connection between work and academics can influence one's future job/career.
- individual and societal needs can impact future jobs/careers.
- awareness of career opportunities and the skills needed for different careers is an important part of the career planning process.
- an Individual Learning Plan (ILP) is an academic and career planning tool.
- self-knowledge is an important part of the career planning process.

**Grade 5 Skills and Concepts**

*Students will*

- explain that people need to work (e.g., chores, jobs, employment) to meet basic needs (e.g., food, clothing, shelter), provide self-satisfaction and enjoyment
- investigate a variety of career choices available in planning for jobs/careers by:
  - identifying different job opportunities in the home, school, and community (e.g., home business, flexible schedule)
  - recognizing that the roles of individuals at home, in the workplace, and in the community are constantly changing
- analyze the connection between work and academics which can influence one's future job/careers by:
  - explaining different jobs/careers that use what they learn in school (e.g., mathematics, reading/writing, science, social studies) impacts future jobs/careers
  - explaining how educational planning can impact future career opportunities
  - researching career choice through the use of technology
- evaluate how individual and societal needs can impact future jobs/careers by:
  - describing the impact of individual interests and abilities on career choices
  - identifying and describe jobs in career clusters (e.g., Arts and Humanities, Construction, Manufacturing, Science and Mathematics)
- recognize sources of career information (e.g., Career Day, guest speaker, field trips, informal personal surveys)
- identify the components of an Individual Learning Plan (ILP)
- recognize how self-knowledge (e.g., interests, abilities) is helpful when selecting and preparing for a career path and that unique interests may lead to career choices

## Big Idea: Employability Skills

Employability skills will focus on student's competencies with their work habits and academic/technical skills that will impact an individual's success in school and workplace. School-to-work transition skills will help students develop interpersonal skills and positive work habits.

**Academic Expectations**

**2.36** Students use strategies for choosing and preparing for a career.
**2.37** Students demonstrate skills and work habits that lead to success in future schooling and work.
**2.38** Students demonstrate skills such as interviewing, writing résumé and completing applications that are needed to be accepted into college or other postsecondary training or to get a job.
**3.8** Students demonstrate the ability to make decisions based on ethical values.
**4.1** Students effectively use interpersonal skills.
**4.2** Students use productive team membership skills.

**Grade 5 Enduring Knowledge – Understandings**

*Students will understand that*

- interpersonal skills are needed to be a responsible friend, family and team member.
- attitudes and work habits contribute to success at home, school and work.
- academics contribute to obtaining and succeeding in employment.

**Grade 5 Skills and Concepts**

*Students will*

- explain how interpersonal skills are needed to be a responsible friend, family and team member by:
  - examining ways to cooperate at home, school and work
  - demonstrating effective group interaction strategies (e.g., communicating effectively, conflict resolution, compromise) to develop team skills
  - explaining the importance of working cooperatively with others by contributing ideas, suggestions and efforts to complete a task
- describe how attitudes and work habits contribute to success at home, school and work by:
  - describing study skills needed in school
  - explaining how attitudes and work habits transfer from the home and school to the workplace
  - explaining how effective communication skills (e.g., reading, writing, speaking, and listening) impact work-related situations and give examples for success at home, school and work
  - identifying consequences for actions when disobeying rules and routines when employed
  - identifying the importance of developing good work habits (e.g., attendance, work done on time, follow directions)
- examine potential job/careers in the community
- describe employability skills needed to prepare individuals for obtaining and maintaining employment
- explain how success in an academic course of study could contribute to the ability to achieve and succeed in employment (e.g., Science/Medicine, Language Arts/Librarian)

## Big Idea: Communication/Technology

Special communication and technology skills are needed for success in schooling and in the workplace. Students will be able to express information and ideas using a variety of technologies in various ways.

**Academic Expectations**

**1.16** Students use computers and other kinds of technology to collect, organize, and communicate information and ideas.

**2.37** Students demonstrate skills and work habits that lead to success in future schooling and work.

**Grade 5 Enduring Knowledge – Understandings**

*Students will understand that*

- technology skills can enhance learning and impact productivity at home, school and the workplace.
- communication skills are used in a variety of ways at home, school and in the workplace.

**Grade 5 Skills and Concepts**

*Students will*

- evaluate how technology tools (e.g., computer programs, Internet, email, cell phones) are used in homes, schools and jobs by:
  - explaining how technology provides access to information and resources at home, school and the workplace
- demonstrate how to work cooperatively and collaboratively with peers when using technology in the classroom by:
  - explaining how written communication skills are used at school and in the workplace

# SECONDARY EDUCATION

# Secondary: Middle Level and High School Education

In the twenty-first century, Kentucky's students successful transition to postsecondary education, the workforce, and the military requires a middle level and high school education program that provide a range of relevant, meaningful and rigorous academic opportunities anchored in real-life contexts for learning. At these levels, schools support students in developing a personal connection to the school and caring adults. The curriculum reflects the core belief that all students are capable of learning at high levels and focuses on the goal of preparing every student for active, responsible citizenship and lifelong learning.

Students at the middle and high school levels are developing possible career interests and exploring careers while continuing to develop a strong academic foundation through a variety of learning opportunities. As students progress through the middle and high school level programs, students increase their depth of knowledge and understandings of the content areas, develop and apply more advanced skills and concepts to support their understandings, and increase the complexity of the application and integration of knowledge. In order to achieve these results, districts and schools assist students in planning for their choices and provide the opportunity for each student to learn. Schools provide individual supports for learning that are essential for students to access the curriculum, achieve at high levels and maximize successful transition to postsecondary choices.

The goal of secondary education is to make the middle level and high school experience meaningful for every student. The Kentucky Board of Education has established the following expectations for secondary education:

- Every student will graduate and hold a diploma that credentials proficiency and college and work place readiness. The diploma will be a student's passport to the next level of learning and career opportunity.
- Every student's educational experience will be guided by an Individual Learning Plan (ILP) for lifelong learning. The student will be supported by participation in a rigorous curriculum, an environment of high expectations, and relevant learning opportunities.
- Every student will be engaged in ongoing, meaningful conversations with educators, parents and other caring adults who place high priority on helping that student reach his or her learning goals.

# Individual Learning Plan

Beginning with the graduating class of 2013, all Kentucky students will have an Individual Learning Plan (ILP) by the end of the sixth grade year to guide their middle level and high school learning experiences. An ILP is a comprehensive learning plan that emphasizes academic and career development for each student. A district shall implement a comprehensive advising and guidance process throughout the middle level and high school experience to provide support for the development and implementation of an ILP for each student.

Local districts shall develop a method to evaluate the effectiveness and the impact of the ILP process. The evaluation method shall include input from students, parents and school staff. As part of the evaluation criteria, the district shall include, but not be limited to, Transition to Adult Life data.

Middle level and high schools within each district will work cooperatively to ensure that each student and parent receives information regarding:

- Relationship between educational and career opportunities
- Financial planning for postsecondary education

The ILP shall be readily available to each student and his or her parent. Through the advising and guidance process, the ILP is reviewed and approved at least annually by the students, parents and school officials.

The sixth- and seventh-grade years of the ILP process are focused on career exploration and related postsecondary education and training. During the eighth-grade year, teachers, students and parents will set learning goals for the student based on academic and career interests. The completed ILP shall identify required academic courses, electives and extracurricular opportunities aligned to the student’s postsecondary goals.

The district and school shall use information from the ILP about student needs to plan academic and elective offerings. Information regarding individual student achievement contained in the ILP and discussed through the advising and guidance process will serve to identify additional supports and interventions that may be necessary for each student’s success.

ILPs are not static documents; they change as students progress and as goals change. Schools should develop multiple guidance and advising strategies to ensure that timely and accurate information is available to students as they reassess their ILPs a minimum of once a year.

# MIDDLE LEVEL EDUCATION

# Middle Level Education

The middle level program, most often viewed as grades six through eight, expands and extends students' learning from the elementary grades and prepares them for the high school experience. It reflects a challenging academic curriculum, provides a variety of relevant learning experiences and supports the developmental needs of students through ongoing, structured relationships with teachers, peers, counselors and other adults. Students at the middle level continue to develop and expand their abilities to solve problems, make connections and integrate knowledge within and across content areas as well as to their own life. They reason and communicate their ideas.

The content standards outlined in the *Program of Studies* define the middle level curriculum necessary to meet the minimum high school graduation requirements. In addition, effective middle level programs should encompass more than the content outlined in the *Program of Studies* to fully address Kentucky's learning goals and academic expectations.

Age-appropriate, relevant classroom experiences that enrich and enhance the core curriculum should be included in middle level programs. These opportunities support academic core learning and foster fitness and health. They allow students to pursue personal interests, explore career options and experience the arts. These opportunities may be provided through exploratory or enrichment classes or by integration into the core curriculum.

An effective formal advising and guidance process typically provides all students with at least one adult mentor at the school to guide and encourage them to take rigorous academic courses and to remind them that doing well in school matters to future success.

Content documents for the middle level are arranged sequentially by grade. Schools have the opportunity to create integrated, interdisciplinary or multidisciplinary programs that personalize the educational process for all students and ensure a successful transition to high school.

**Program of Studies – Inquiry and Research – Middle Level**

Embedded within each content area are Inquiry and Research standards.

## Big Idea: Inquiry and Research

The Big Idea for Inquiry and Research states: the inquiry process is an authentic method of learning that includes activities such as self-selecting topics, formulating authentic questions, gathering information, researching resources, crafting experiments, observing, interviewing, evaluating information, analyzing and synthesizing data, and communicating findings and conclusions. The information-gathering stage is a self-directed process that is owned by the engaged learner. Individually and collaboratively, students work for a particular purpose, such as to discuss a text, solve a problem, make a decision, reach new understandings, and/or create products.

**Academic Expectations**

**5.1** Students use critical thinking skills such as analyzing, prioritizing, categorizing, evaluating, and comparing to solve a variety of problems in real-life situations.
**5.2** Students use creative thinking skills to develop or invent novel, constructive ideas or products.
**5.3** Students organize information to develop or change their understanding of a concept.
**5.4** Students use a decision-making process to make informed decisions among options.
**5.5** Students use problem-solving processes to develop solutions to relatively complex problems.
**6.1** Students connect knowledge and experiences from different subject areas.
**6.2** Students use what they already know to acquire new knowledge, develop new skills, or interpret new experiences.
**6.3** Students expand their understanding of existing knowledge by making connections with new knowledge, skills, and experiences.
**1.1** Students use reference tools such as dictionaries, almanacs, encyclopedias, and computer reference programs and research tools such as interviews and surveys to find the information they need to meet specific demands, explore interests, or solve specific problems.
**2.37** Students demonstrate skills and work habits that lead to success in future schooling and work.

**Enduring Knowledge – Understandings**

*Students will understand that*

- the inquiry process is used to investigate topics or questions important to the researcher. Questions are redefined throughout the learning process. The researcher may revise the question, refine a line of query, or go in a direction that the original question did not anticipate.
- many methods of and sources for investigation exist, including interview, observation, survey, viewing, experimenting, and critical reading. The ability to synthesize meaning is the creative spark that forms new knowledge.
- inquiry integrates elements and processes of reading, writing, research, creative and critical thinking, and logic, and involves communicating findings through a product.
- collaboration involves sharing new ideas with others. Shared knowledge is a community-building process, and the meaning of research/investigation takes on greater relevance in the context of the learner's society. Comparing notes, discussing conclusions, and sharing experiences are all examples of this process in action.
- reflection is ongoing and integral to the inquiry and research processes and involves taking the time to look back at the question, the research strategy, and the conclusions made. The learner evaluates, makes observations, and possibly makes new decisions.

# MIDDLE LEVEL ARTS AND HUMANITIES

# Program of Studies – Arts and Humanities – Sixth Grade

The arts and humanities program in the sixth grade centers on establishing grounding in the arts so that students are able to communicate at a basic level in each of the art forms of dance, drama/theatre, music and visual arts. Emphasis should be placed on exposing students to a variety of arts through active experiences in all four art forms. Students may have already begun to, or at this level choose to focus on one art form for more in-depth study. This will help students to prepare should they choose specialization in one art form at the high school level. Grounding in the arts involves literacy development in the four arts content areas, analysis and critique of the arts, and active creating and performing in the arts.

Students should have the opportunity to learn about the arts in the context of creating and performing. As students create and perform, they learn that the arts are basic to human communication and that they can use the arts to communicate specific meaning through their choices in the use of various arts elements and principles of design.

The arts and humanities content standards at the sixth grade level are directly aligned with Kentucky's broad standards called the **Academic Expectations**. The **Academic Expectations** are directly related to the *National Standards for Arts Education (1994)*.

Arts and humanities grade level content standards are organized around five “Big Ideas” that are important to the arts disciplines. The five big ideas in arts and humanities are: Structures in the Arts, Humanity in the Arts, Purposes for Creating the Arts, Processes in the Arts and Interrelationships Among the Arts. The Big Ideas are conceptual organizers for arts and humanities and are similar at each grade level to ensure students have multiple opportunities throughout their school careers to develop skills and concepts linked to each Big Idea.

Under each Big Idea are statements of Enduring Knowledge/Understandings that represent overarching generalizations linked to the Big Ideas of the arts and humanities. The understandings represent the desired results - what learning will focus upon and what knowledge students will be able to explain or apply. Understandings can be used to frame development of units of study and lesson plans.

Skills and concepts describe ways that students demonstrate their learning and are specific to each grade level. The skills and concepts for arts and humanities are fundamental to arts literacy and proficiency, and build on prior learning.

The three arts processes of creating, performing and responding to the arts provide a basis for deep understanding and appreciation of the arts. In the processes of creating and performing, a variety of technologies are employed, ranging from primitive technologies to cutting edge electronic and digital technologies.

**Creating** involves planning and creating new music, dance, drama/theatre or visual arts, or it may involve improvising in music, dance or drama/theatre. Improvising is the composing of new music, reciting/acting new dramatic material, or creating new dance movements on the spur of the moment.

**Performing** is limited to the performing arts of music, dance and drama/theatre. Performing involves presenting previously created works for an audience. Although the process of performing involves following a creative plan conceived by a composer, playwright or choreographer, there is still opportunity for creative interpretations in the performance.

**Responding** to the arts involves responses on multiple levels. The arts are a tool for communication and are capable of delivering meaning through literal and emotional content. Responding to the emotional content of artworks involves actually feeling the emotion(s) set forth by the creator. Responding can also involve intellectual analysis of works of art in regard to their design, effectiveness and quality.

**Academic Expectations** 2.25 and 2.26 bring forward the study of the humanities aspects of the arts. The arts reflect time, place, and society and offer a mirror to the human experience. The powerful communication qualities of the arts also enable them to be a factor that can drive the human experience. Study of historical and cultural contests in the arts is an essential and integral part of instruction across all the art forms and across all grade levels.

In the sixth grade, social studies content is focused on world geography. Arts of various world cultures will be explored. Students will experience arts from India, Latin America and countries that have influenced Latin American arts, Japan, China, and once again revisit how African and Native American cultures have influenced arts in the United States as well as Latin influences in the arts of the United States.

## Big Idea: Structure in the Arts

Understanding of the various structural components of the arts is critical to the development of other larger concepts in the arts. Structures that artists use include elements and principles of each art form, tools, media and subject matter that impact artistic products and specific styles and genre that provide a context for creating works. It is the artist's choice of these structural components in the creative process that results in a distinctively expressive work. Students make choices about how to use structural organizers to create meaningful works of their own. The more students understand, the greater their ability to produce, interpret or critique artworks from other artists, cultures and historical periods.

**Academic Expectations**

**1.12** Students speak using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.
**1.13** Students make sense of ideas and communicate ideas with the visual arts.
**1.14** Students make sense of ideas and communicate ideas with music.
**1.15** Students make sense of and communicate ideas with movement.
**2.23** Students analyze their own and others' artistic products and performances using accepted standards.

**Grade 6 Enduring Knowledge – Understandings**

*Students will understand that*

- the elements of music, dance and drama are intentionally applied in creating and performing.
- the elements and principles of design of visual art are intentionally applied in creating works of art.
- responding to or critiquing works of art involves an understanding of elements, principles, and structures appropriate to each area of the arts.
- existing and emerging technologies can inspire new applications of structural components.

**Grade 6 Skills and Concepts – Music**

*Students will*

- use appropriate terminology to identify and analyze the use of elements in a variety of music (rhythm, tempo, melody, harmony, form, timbre, dynamics)
- use the elements of music while performing, singing, playing instruments, moving, listening, reading music, writing music and creating music independently and with others
- listen to and explore how changing different elements results in different musical effects
- recognize, describe and compare various styles of music (gospel, Broadway musicals, blues, popular, marches, ballads)
- identify instruments according to classifications (family, voices, folk and orchestral instruments)

**Grade 6 Skills and Concepts – Dance**

*Students will*

- use appropriate terminology to identify and analyze the use of elements in a variety of dance (space, time, force) to express thoughts, ideas, and feelings
- observe, describe and demonstrate choreographic forms in dance
- apply elements of dance and principles of movement (e.g., balance, initiation of movement, weight shift) when observing, creating and performing patterns of movement independently and with others
- identify and describe themes and styles (including characteristics of styles) of dance

## Big Idea: Structure in the Arts – Continued

**Grade 6 Skills and Concepts – Drama/Theatre**
*Students will*

- use appropriate terminology to identify and analyze the use of elements of drama (literary, technical, performance) in a variety of dramatic works
- use the elements of drama in creating and performing dramatic works independently and with others
- observe, describe and apply creative dramatics (improvisation, mimicry, pantomime, role playing and story telling) in a variety of situations
- identify and describe how technical elements (staging, scenery, props, costumes, make-up, lighting, sound) and performance elements (acting, speaking, nonverbal expression) create mood and believable characters
- describe and compare types of stages (arena, thrust, proscenium)
- explore a variety of dramatic works (e.g., theater and dramatic media – film, television, electronic media)

**Grade 6 Skills and Concepts – Visual Arts**
*Students will*

- use appropriate terminology to describe and analyze the use of elements of art (line, shape, form, texture, color) and principles of design (emphasis, pattern, balance, contrast) in a variety of visual artworks
- use the elements of art, principles of design and a variety of processes in creating artworks
- apply organizational structures and describe what makes them effective or not effective in communicating ideas
- identify and analyze the use of elements of art (e.g., line, shape, form, texture, primary and secondary colors, color schemes/groups) and principles of design (e.g., focal point, pattern, balance, contrast) in a variety of two and three dimensional artworks
- identify a variety of subject matter in visual artworks (representational – e.g., landscape, portrait, still life, nonrepresentational – e.g., abstract, non-objective)

## Big Idea: Humanity in the Arts

The arts reflect the beliefs, feelings and ideals of those who create them. Experiencing the arts allows one to experience time, place and/or personality. By experiencing the arts of various cultures, students can actually gain insight into the beliefs, feelings and ideas of those cultures. Students also have the opportunity to experience how the arts can influence society through analysis of arts in their own lives and the arts of other cultures and historical periods. Studying the historical and cultural stylistic periods in the arts offers students an opportunity to understand the world past and present and to learn to appreciate their own cultural heritage. Looking at the interrelationships of multiple arts disciplines across cultures and historical periods is the focus of humanities in the arts.

**Academic Expectations**

**2.24** Students have knowledge of major works of art, music, and literature and appreciate creativity and the contributions of the arts and humanities.

**2.25** In the products they make and the performances they present, students show that they understand how time, place, and society influence the arts and humanities such as languages, literature, and history.

**2.26** Through the arts and humanities, students recognize that although people are different, they share some common experiences and attitudes.

**Grade 6 Enduring Knowledge – Understandings**

*Students will understand that*

- the arts are powerful tools for understanding human experiences both past and present.
- the arts help us understand others' (often very different) ways of thinking, working, and expressing ourselves.
- the arts play a major role in the creation and defining of cultures and building civilizations.

**Grade 6 Skills and Concepts – Music**

*Students will*

- describe and analyze distinguishing characteristics of music representing a variety of world cultures (Latin America, Asian) and time periods
- listen to, perform and classify music representing a variety of world cultures and historical periods
- examine music from various world cultures and explain how music reflects the culture, cultural beliefs, or blending of cultures; use examples to illustrate how music has directly influenced society or culture
- examine music from various time periods and explain how the influence of time and place are reflected in the music

**Grade 6 Skills and Concepts – Dance**

*Students will*

- describe and analyze distinguishing characteristics of dance representing a variety of world cultures (Latin America, Asian) and time periods
- observe, classify and perform dance representing a variety of world cultures and historical periods
- examine dance from various world cultures and explain how dance reflects the culture, cultural beliefs or blending of cultures; use examples to illustrate how dance has directly influenced society or culture
- examine dance from various time periods and explain how the influence of time and place are reflected in the dance

## Big Idea: Humanity in the Arts – Continued

**Grade 6 Skills and Concepts – Drama/Theatre**
*Students will*

- describe and analyze distinguishing characteristics of dramatic work representing a variety of world cultures (Latin America, Asian) and time periods
- observe, classify and perform dramatic works representing a variety of world cultures and historical periods
- examine dramatic works from various world cultures and explain how dramatic works reflect the culture, cultural beliefs or blending of cultures; use examples to illustrate how dramatic works have directly influenced society or culture
- examine dramatic works from various time periods and explain how the influence of time and place are reflected in them
- use print and non-print sources to explore, describe and compare themes, characters, and situations in dramas from different cultures or time periods (e.g., Native American and African influences on American storytelling)

**Grade 6 Skills and Concepts – Visual Arts**
*Students will*

- describe and analyze distinguishing characteristics of visual art representing a variety of world cultures (Latin America, Asian) and time periods
- observe, classify and create visual art according to styles and processes used in a variety of world cultures and historical periods
- examine visual artworks from various world cultures and explain how artworks reflect the culture, cultural beliefs or blending of cultures; use examples to illustrate how artworks have directly influenced society or culture
- examine visual artworks from various time periods and explain the influence of time and place that are reflected in them
- use print and non-print sources to explore, describe, and compare themes, characters, and situations in artworks from different cultures or time periods

## Big Idea: Purposes for Creating the Arts

The arts have played a major role throughout the history of humans. As the result of the power of the arts to communicate on a basic human level, they continue to serve a variety of purposes in society. The arts are used for artistic expression to portray specific emotions or feelings, to tell stories in a narrative manner, to imitate nature and to persuade others. The arts bring meaning to ceremonies, rituals, celebrations and commemorations. Additionally, they are used for recreation and to support recreational activities. Students experience the arts in a variety of roles through their own creations and performances and through those of others. Through their activities and observations, students learn to create arts and use them for a variety of purposes in society.

**Academic Expectations**

**1.12** Students speak using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.
**1.13** Students make sense of ideas and communicate ideas with the visual arts.
**1.14** Students make sense of ideas and communicate ideas with music.
**1.15** Students make sense of and communicate ideas with movement.
**2.22** Students create works of art and make presentations to convey a point of view.
**2.26** Through the arts and humanities, students recognize that although people are different, they share some common experiences and attitudes.

**Grade 6 Enduring Knowledge – Understandings**

*Students will understand that*

- the arts fulfill a variety of purposes in society (e.g., to present issues and ideas, to entertain, to teach or persuade, to design, plan and beautify).
- the arts have value and significance for daily life. They provide personal fulfillment, whether in career settings, avocational pursuits, or leisure.
- the arts provide forms of nonverbal communication that can strengthen the presentation of ideas and emotions.

**Grade 6 Skills and Concepts – Music**

*Students will*

- compare and explain purposes for which music is created to fulfill (ceremonial, recreational, artistic expression)
- create new, listen to, choose and perform music to fulfill a variety of specific purposes

**Grade 6 Skills and Concepts – Dance**

*Students will*

- compare and explain purposes for which dance is created (ceremonial, recreational, artistic expression)
- create new, observe, choose and perform dance to fulfill a variety of specific purposes

**Grade 6 Skills and Concepts – Drama/Theatre**

*Students will*

- compare and explain purposes for which drama/theatre is created (sharing the human experience, passing on tradition and culture, recreational, artistic expression)
- create or write new, observe, choose and perform dramatic works to fulfill a variety of specific purposes

**Grade 6 Skills and Concepts – Visual Arts**

*Students will*

- compare and explain purposes for which visual art is created (ceremonial, artistic expression, narrative, functional)
- create new, choose and experience artworks created to fulfill a variety of specific purposes

## Big Idea: Processes in the Arts

There are three distinctive processes involved in the arts. These processes are creating new works, performing works for expressive purposes and responding to artworks. Each process is critical and relies on others for completion. Artists create works to express ideas, feelings or beliefs. The visual arts capture a moment in time while the performing arts (music, dance, drama/theatre) are performed for a live audience. The audience responds to the artistic expressions emotionally and intellectually based on the meaning of the work. Each process enhances understanding, abilities and appreciation of others. Students involved in these processes over time will gain a great appreciation for the arts, for artists past and present, and for the value of artistic expression.

**Academic Expectations**

**1.12** Students speak using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.
**1.13** Students make sense of ideas and communicate ideas with the visual arts.
**1.14** Students make sense of ideas and communicate ideas with music.
**1.15** Students make sense of and communicate ideas with movement.
**2.22** Students create works of art and make presentations to convey a point of view.
**2.25** In the products they make and the performances they present, students show that they understand how time, place, and society influence the arts and humanities such as languages, literature, and history.

**Grade 6 Enduring Knowledge – Understandings**

*Students will understand that*

- there are three distinct processes for involvement in the arts; creating new artworks, performing works previously created and responding to artworks and performances.
- full understanding and appreciation of the arts requires some degree of involvement in all three processes.
- openness, respect for work and an understanding of how artists apply elements and principles of design in creating and performing are personal attitudes and skills that enhance enjoyment of the observer.
- existing and emerging technologies can extend the reach of the art form to new audiences.

**Grade 6 Skills and Concepts – Music**

*Students will*

- be actively involved in creating, notating, improvising and performing music (e.g., similar style answers to musical phrases, variations on given melodies, demonstrating unity/variety, tension/release, and balance) alone and with others
- use knowledge of musical elements to create and perform music in an expressive manner
- sing or play alone and with others examples of music with increasingly complex melodies and rhythmic patterns in treble and bass clef (with practice)
- use knowledge of the elements of music and music terminology to describe and critique their own performances and the performances of others
- identify and apply criteria for evaluating music (e.g., skill of performers, originality, emotional impact, variety, interest)
- demonstrate behavior appropriate for observing the particular context and style of music being performed; discuss opinions with peers in a supportive and constructive way

## Big Idea: Processes in the Arts – Continued

**Grade 6 Skills and Concepts – Dance**
*Students will*

- be actively involved in creating and performing dance (incorporating the elements of dance: space, time and force) alone and with others
- create an improvisational dance with complex movements (beginning, middle and end)
- use knowledge of dance elements to create and perform dance in an expressive manner
- use knowledge of the elements of dance and dance terminology to describe and critique their own performances and the performances of others
- identify and apply criteria for evaluating dance (e.g., skill of performers, originality, emotional impact, variety, interest)
- demonstrate behavior appropriate for observing the particular context and style of dance being performed; discuss opinions with peers in a supportive and constructive way

**Grade 6 Skills and Concepts – Drama/Theatre**
*Students will*

- be actively involved in creating, improvising and performing dramatic works alone and with others, using elements of drama (Literary, Technical, Performance)
- use knowledge of elements of drama to:
  - create and perform dramatic works in an expressive manner
  - describe and critique their own performances and the performances of others
- use a variety of resources (e.g., research, peers, technology) to:
  - write, refine and record dialogue, monologues, and action
  - explore jobs/careers and skills associated with dramatic arts (theater, media)
- identify and apply criteria for evaluating dramatic works (e.g., skill of performers, originality, emotional impact, variety, interest, technical requirements: lighting, sound, scenery, costumes)
- demonstrate behavior appropriate for observing the particular context and style of dramatic works being performed; discuss opinions with peers in a supportive and constructive way

**Grade 6 Arts Skills and Concepts – Visual**
*Students will*

- be actively involved in selecting media, techniques and processes for creating artworks applying the elements of art and principles of design
- use knowledge of the elements and principles of art and art terminology to:
  - create expressive artworks
  - describe and critique their own work and the work of others
- identify and apply criteria for evaluating visual (e.g., skill of artist, originality, emotional impact, variety, interest)
- demonstrate behavior appropriate for observing the particular context and style of the artwork being viewed; discuss opinions with peers in a supportive and constructive way
- describe personal responses to artwork; explain why there might be different responses to specific works of art (e.g., personal experience, interest, medium used, effectiveness of message)

## Big Idea: Interrelationships Among the Arts

The arts share commonalities in structures, purposes, creative processes, and their ability to express ideals, feelings and emotions. Studying interrelationships among the arts enables students to get a broad view of the expressiveness of the art forms as a whole, and helps to develop a full appreciation of the arts as a mirror of human kind.

**Academic Expectations**

**1.12** Students speak using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.
**1.13** Students make sense of ideas and communicate ideas with the visual arts.
**1.14** Students make sense of ideas and communicate ideas with music.
**1.15** Students make sense of and communicate ideas with movement.
**2.22** Students create works of art and make presentations to convey a point of view.
**2.25** In the products they make and the performances they present, students show that they understand how time, place, and society influence the arts and humanities such as languages, literature, and history.
**2.26** Through the arts and humanities, students recognize that although people are different, they share some common experiences and attitudes.

**Grade 6 Enduring Knowledge – Understandings**

*Students will understand that*

- the arts are basic forms of human communication.
- music, dance, drama and visual art created in common cultures and/or common historical periods tend to reflect common attitudes, ideas, beliefs and feelings.
- the arts provide forms of non-verbal communication that can strengthen the presentation of ideas and emotions.
- the modes of thinking and methods of the arts disciplines can be used to illuminate situations in other disciplines that require creative solutions.

**Grade 6 Skills and Concepts – Arts**

*Students will*

- recognize common terms and concepts used in various arts (e.g., tempo in dance and music)
- identify communication of common themes or ideas across different art forms
- identify and explain connections between and among different art forms from the same culture or from the same time period
- describe commonalities between the arts and other subjects taught in the school (e.g., observation skills in visual arts and science, historical and cultural perspectives in the arts and social studies, shape in visual art and mathematics, dance and a healthy lifestyle, fractions in music notation and mathematics, composing music and writing)
- communicate common meaning through creating and performing in the four art forms

# Program of Studies – Arts and Humanities – Seventh Grade

The arts and humanities program in the seventh grade centers on establishing grounding in the arts so that students are able to communicate at a basic level in each of the art forms of dance, drama/theatre, music and visual arts. Emphasis should be placed on exposing students to a variety of arts through active experiences in all four art forms. Students may have already begun to, or at this level choose to focus on one art form for more in-depth study. This will help students to prepare should they choose specialization in one art form at the high school level. Grounding in the arts involves literacy development in the four arts content areas, analysis and critique of the arts, and active creating and performing in the arts.

Students should have the opportunity to learn about the arts in the context of creating and performing. As students create and perform, they learn that the arts are basic to human communication and that they can use the arts to communicate specific meaning through their choices in the use of various arts elements and principles of design.

The arts and humanities content standards at the seventh grade level are directly aligned with Kentucky's broad standards called the **Academic Expectations**. The **Academic Expectations** are directly related to the *National Standards for Arts Education (1994)*.

Arts and humanities grade level content standards are organized around five “Big Ideas” that are important to the arts disciplines. The five big ideas in arts and humanities are: Structures in the Arts, Humanity in the Arts, Purposes for Creating the Arts, Processes in the Arts and Interrelationships Among the Arts. The Big Ideas are conceptual organizers for arts and humanities and are similar at each grade level to ensure students have multiple opportunities throughout their school careers to develop skills and concepts linked to each Big Idea.

Under each Big Idea are statements of Enduring Knowledge/Understandings that represent overarching generalizations linked to the Big Ideas of the arts and humanities. The understandings represent the desired results - what learning will focus upon and what knowledge students will be able to explain or apply. Understandings can be used to frame development of units of study and lesson plans.

Skills and concepts describe ways that students demonstrate their learning and are specific to each grade level. The skills and concepts for arts and humanities are fundamental to arts literacy and proficiency, and build on prior learning.

The three arts processes of creating, performing and responding to the arts provide a basis for deep understanding and appreciation of the arts. In the processes of creating and performing, a variety of technologies are employed, ranging from primitive technologies to cutting edge electronic and digital technologies.

**Creating** involves planning and creating new music, dance, drama/theatre or visual arts, or it may involve improvising in music, dance or drama/theatre. Improvising is the composing of new music, reciting/acting new dramatic material, or creating new dance movements on the spur of the moment.

**Performing** is limited to the performing arts of music, dance and drama/theatre. Performing involves presenting previously created works for an audience. Although the process of performing involves following a creative plan conceived by a composer, playwright or choreographer, there is still opportunity for creative interpretations in the performance.

**Responding** to the arts involves responses on multiple levels. The arts are a tool for communication and are capable of delivering meaning through literal and emotional content. Responding to the emotional content of artworks involves actually feeling the emotion(s) set forth by the creator. Responding can also involve intellectual analysis of works of art in regard to their design, effectiveness and quality.

**Academic Expectations** 2.25 and 2.26 bring forward the study of the humanities aspects of the arts. The arts reflect time, place, and society and offer a mirror to the human experience. The powerful communication qualities of the arts also enable them to be a factor that can drive the human experience. Study of historical and cultural contests in the arts is an essential and integral part of instruction across all the art forms and across all grade levels.

In the seventh grade, social studies content is focused on ancient civilizations. Arts of various old world civilizations will be explored. Students will experience arts from ancient Egypt, Greece and Rome, as well as arts from the medieval period in European history.

## Big Idea: Structure in the Arts

Understanding of the various structural components of the arts is critical to the development of other larger concepts in the arts. Structures that artists use include elements and principles of each art form, tools, media and subject matter that impact artistic products, and specific styles and genre that provide a context for creating works. It is the artist's choice of these structural components in the creative process that results in a distinctively expressive work. Students make choices about how to use structural organizers to create meaningful works of their own. The more students understand, the greater their ability to produce, interpret or critique artworks from other artists, cultures and historical periods.

**Academic Expectations**

**1.12** Students speak using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.
**1.13** Students make sense of ideas and communicate ideas with the visual arts.
**1.14** Students make sense of ideas and communicate ideas with music.
**1.15** Students make sense of and communicate ideas with movement.
**2.23** Students analyze their own and others' artistic products and performances using accepted standards.

**Grade 7 Enduring Knowledge – Understandings**

*Students will understand that*

- the elements of music, dance and drama are intentionally applied in creating and performing.
- the elements and principles of design of visual art are intentionally applied in creating works of art.
- responding to or critiquing works of art involves an understanding of elements, principles, and structures appropriate to each area of the arts.
- Existing and emerging technologies can inspire new applications of structural components.

**Grade 7 Skills and Concepts – Music**

*Students will*

- use appropriate terminology to identify and analyze the use of elements in a variety of music (rhythm, tempo, melody, harmony, form, timbre, dynamics)
- use the elements of music while performing, singing, playing instruments, moving, listening, reading music, writing music and creating music independently and with others
- listen to and explore how changing different elements results in different musical effects
- recognize, describe and compare various styles of music (gospel, Broadway musicals, blues, popular, marches, ballads)
- identify instruments according to classifications (family, voices, folk and orchestral instruments)

**Grade 7 Skills and Concepts – Dance**

*Students will*

- use appropriate terminology to identify and analyze the use of elements in a variety of dance (space, time, force)
- observe, describe and demonstrate choreographic forms in dance
- apply elements of dance and principles of movement (e.g., balance, initiation of movement, weight shift) when observing, creating and performing patterns of movement independently and with others
- identify and describe themes and styles (including characteristics of styles) of dance

## Big Idea: Structure in the Arts – Continued

**Grade 7 Skills and Concepts – Drama/Theatre**
*Students will*

- use appropriate terminology to identify and analyze the use of elements of drama (literary, technical, performance) in a variety of dramatic works
- use the elements of drama in creating and performing dramatic works independently and with others
- observe, describe and apply creative dramatics (improvisation, mimicry, pantomime, role playing and story telling) in a variety of situations
- identify and describe how technical elements (staging, scenery, props, costumes, make-up, lighting, sound) and performance elements (acting, speaking, nonverbal expression) create mood and believable characters
- describe and compare types of stages (arena, thrust, proscenium)
- explore a variety of dramatic works (e.g., theater and dramatic media – film, television, electronic media)

**Grade 7 Skills and Concepts – Visual Arts**
*Students will*

- use appropriate terminology to describe and analyze the use of elements of art (line, shape, form, texture, color) and principles of design (emphasis, pattern, balance, contrast) in a variety of visual artworks
- use the elements of art, principles of design, and a variety of processes in creating artworks
- apply organizational structures and describe what makes them effective or not effective in communicating ideas
- identify and analyze the use of elements of art (e.g., line, shape, color properties, color schemes/groups, form, texture, space, value) and principles of design (e.g., repetition, emphasis, pattern, balance, contrast, rhythm, proportion, movement) in a variety of two and three dimensional artworks
- identify a variety of subject matter in visual artworks (representational – e.g., landscape, portrait, still life, nonrepresentational – e.g., abstract, non-objective)

## Big Idea: Humanity in the Arts

The arts reflect the beliefs, feelings and ideals of those who create them. Experiencing the arts allows one to experience time, place and/or personality. By experiencing the arts of various cultures, students can actually gain insight into the beliefs, feelings and ideas of those cultures. Students also have the opportunity to experience how the arts can influence society through analysis of arts in their own lives and the arts of other cultures and historical periods. Studying the historical and cultural stylistic periods in the arts offers students an opportunity to understand the world past and present, and to learn to appreciate their own cultural heritage. Looking at the interrelationships of multiple arts disciplines across cultures and historical periods is the focus of humanities in the arts.

**Academic Expectations**

**2.24** Students have knowledge of major works of art, music, and literature and appreciate creativity and the contributions of the arts and humanities.

**2.25** In the products they make and the performances they present, students show that they understand how time, place, and society influence the arts and humanities such as languages, literature, and history.

**2.26** Through the arts and humanities, students recognize that although people are different, they share some common experiences and attitudes.

**Grade 7 Enduring Knowledge – Understandings**

*Students will understand that*

- the arts are powerful tools for understanding human experiences both past and present.
- the arts help us understand others' (often very different) ways of thinking, working, and expressing ourselves.
- the arts play a major role in the creation and defining of cultures and building civilizations.

**Grade 7 Skills and Concepts – Music**

*Students will*

- describe and analyze distinguishing characteristics of music representing a variety of world cultures (e.g., Classical Greece-Pythagoras' music theory) and historical periods (e.g., Medieval)
- listen to, perform and classify music representing a variety of world cultures and historical periods
- examine music from various world cultures and explain how music reflects the culture, cultural beliefs, or blending of cultures; use examples to illustrate how music has directly influenced society or culture
- examine music from various time periods and explain how the influence of time and place are reflected in the music

**Grade 7 Skills and Concepts – Dance**

*Students will*

- describe and analyze distinguishing characteristics of dance representing a variety of world cultures and historical periods (e.g., Medieval)
- observe, classify and perform dance representing a variety of world cultures and historical periods
- examine dance from various world cultures and explain how dance reflects the culture, cultural beliefs or blending of cultures; use examples to illustrate how dance has directly influenced society or culture
- examine dance from various time periods and explain how the influence of time and place are reflected in the dance

## Big Idea: Humanity in the Arts – Continued

**Grade 7 Skills and Concepts – Drama/Theatre**
*Students will*

- describe and analyze distinguishing characteristics of dramatic work representing a variety of world cultures (e.g., Classical Greece and Ancient Rome) and historical periods (e.g., Medieval)
- observe, classify and perform dramatic works representing a variety of world cultures and historical periods
- examine dramatic works from various world cultures and explain how dramatic works reflect the culture, cultural beliefs or blending of cultures; use examples to illustrate how dramatic works have directly influenced society or culture
- examine dramatic works from various time periods and explain how the influence of time and place are reflected in them
- use print and non-print sources to explore, describe, and compare themes, characters, and situations in dramas from different cultures or time periods (e.g., universal ideal of beauty through logic, order, reason, and moderation, Morality plays - characters are personification of good and evil in a struggle for man's soul)

**Grade 7 Skills and Concepts – Visual Arts**
*Students will*

- describe and analyze distinguishing characteristics of visual art representing a variety of world cultures (e.g., Classical Greece, Ancient Rome and Egypt) and historical periods (e.g., Medieval)
- observe, classify and create visual art according to styles and processes used in a variety of world cultures and historical periods
- examine visual artworks from various world cultures and explain how artworks reflect the culture, cultural beliefs or blending of cultures; use examples to illustrate how artworks have directly influenced society or culture
- examine visual artworks from various time periods and explain the influence of time and place that are reflected in them
- use print and non-print sources to explore, describe and compare themes, characters, and situations in artworks from different cultures or time periods

## Big Idea: Purposes for Creating the Arts

The arts have played a major role throughout the history of humans. As the result of the power of the arts to communicate on a basic human level, they continue to serve a variety of purposes in society. The arts are used for artistic expression to portray specific emotions or feelings, to tell stories in a narrative manner, to imitate nature and to persuade others. The arts bring meaning to ceremonies, rituals, celebrations and commemorations. Additionally, they are used for recreation and to support recreational activities. Students experience the arts in a variety of roles through their own creations and performances and through those of others. Through their activities and observations, students learn to create arts and use them for a variety of purposes in society.

**Academic Expectations**

**1.12** Students speak using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.
**1.13** Students make sense of ideas and communicate ideas with the visual arts.
**1.14** Students make sense of ideas and communicate ideas with music.
**1.15** Students make sense of and communicate ideas with movement.
**2.22** Students create works of art and make presentations to convey a point of view.
**2.26** Through the arts and humanities, students recognize that although people are different, they share some common experiences and attitudes.

**Grade 7 Enduring Knowledge – Understandings**

*Students will understand that*

- the arts fulfill a variety of purposes in society (e.g., to present issues and ideas, to entertain, to teach or persuade, to design, plan and beautify).
- the arts have value and significance for daily life. They provide personal fulfillment, whether in career settings, avocational pursuits, or leisure.
- the arts provide forms of nonverbal communication that can strengthen the presentation of ideas and emotions.

**Grade 7 Skills and Concepts – Music**

*Students will*

- compare and explain purposes for which music is created to fulfill (ceremonial, recreational, artistic expression)
- create new, listen to, choose and perform music to fulfill a variety of specific purposes

**Grade 7 Skills and Concepts – Dance**

*Students will*

- compare and explain purposes for which dance is created (ceremonial, recreational, artistic expression)
- create new, observe, choose and perform dance to fulfill a variety of specific purposes

**Grade 7 Skills and Concepts – Drama/Theatre**

*Students will*

- compare and explain purposes for which drama/theatre is created (sharing the human experience, passing on tradition and culture, recreational, artistic expression)
- create or write new, observe, choose and perform dramatic works to fulfill a variety of specific purposes

**Grade 7 Skills and Concepts – Visual Arts**

*Students will*

- compare and explain purposes for which visual art is created (ceremonial, artistic expression, narrative, functional, persuasive)
- create new, choose and experience artworks created to fulfill a variety of specific purposes

## Big Idea: Processes in the Arts

There are three distinctive processes involved in the arts. These processes are creating new works, performing works for expressive purposes and responding to artworks. Each process is critical and relies on others for completion. Artists create works to express ideas, feelings or beliefs. The visual arts capture a moment in time while the performing arts (music, dance, drama/theatre) are performed for a live audience. The audience responds to the artistic expressions emotionally and intellectually based on the meaning of the work. Each process enhances understanding, abilities and appreciation of others. Students involved in these processes over time will gain a great appreciation for the arts, for artists past and present, and for the value of artistic expression.

**Academic Expectations**

**1.12** Students speak using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.
**1.13** Students make sense of ideas and communicate ideas with the visual arts.
**1.14** Students make sense of ideas and communicate ideas with music.
**1.15** Students make sense of and communicate ideas with movement.
**2.22** Students create works of art and make presentations to convey a point of view.
**2.25** In the products they make and the performances they present, students show that they understand how time, place, and society influence the arts and humanities such as languages, literature, and history.

**Grade 7 Enduring Knowledge – Understandings**

*Students will understand that*

- there are three distinct processes for involvement in the arts; creating new artworks, performing works previously created and responding to artworks and performances.
- full understanding and appreciation of the arts requires some degree of involvement in all three processes.
- openness, respect for work and an understanding of how artists apply elements and principles of design in creating and performing are personal attitudes and skills that enhance enjoyment of the observer.
- existing and emerging technologies can extend the reach of the art form to audiences.

**Grade 7 Skills and Concepts – Music**

*Students will*

- be actively involved in creating, notating, improvising and performing music (e.g., similar style answers to musical phrases, variations on given melodies, demonstrating unity/variety, tension/release, and balance) alone and with others
- use knowledge of musical elements and a variety of sound sources to create and perform music in an expressive manner
- sing or play alone and with others examples of music with increasingly complex melodies and rhythmic patterns in treble and bass clef (with practice)
- use knowledge of the elements of music and music terminology to describe and critique their own performances and the performances of others
- identify and apply criteria for evaluating music (e.g., skill of performers, originality, emotional impact, variety, interest)
- demonstrate behavior appropriate for observing the particular context and style of music being performed; discuss opinions with peers in a supportive and constructive way

## Big Idea: Processes in the Arts – Continued

**Grade 7 Skills and Concepts – Dance**
*Students will*

- be actively involved (individually and in small groups) in creating and performing dance (using the elements of dance: space, time and force) in a variety of compositional forms (AB, ABA, call and response, or narrative)
- create an improvisational dance with complex movements (beginning, middle and end)
- use knowledge of dance elements to create and perform dance in an expressive manner
- use knowledge of the elements of dance and dance terminology to describe and critique their own performances and the performances of others
- identify and apply criteria for evaluating dance (e.g., skill of performers, originality, emotional impact, variety, interest)
- demonstrate behavior appropriate for observing the particular context and style of dance being performed; discuss opinions with peers in a supportive and constructive way

**Grade 7 Skills and Concepts – Drama/Theatre**
*Students will*

- be actively involved in creating, improvising and performing dramatic works alone and with others, using elements of drama (Literary, Technical, Performance)
- use knowledge of elements of drama to:
  - create and perform dramatic works in an expressive manner
  - describe and critique their own performances and the performances of others
- use a variety of resources (e.g., research, peers, technology) to
  - write, refine and record dialogue, monologues, and action
  - explore jobs/careers and skills associated with dramatic arts (theater, dramatic media)
- identify and apply criteria for evaluating dramatic works (e.g., skill of performers, originality, emotional impact, variety, interest, technical requirements: lighting, sound, scenery, costumes)
- demonstrate behavior appropriate for observing the particular context and style of dramatic works being performed; discuss opinions with peers in a supportive and constructive way

**Grade 7 Skills and Concepts – Visual Arts**
*Students will*

- be actively involved in selecting media, techniques, subject matter and processes for creating artworks for specific purposes, applying the elements of art and principles of design
- use knowledge of the elements and principles of art and art terminology to:
  - create expressive artworks
  - describe and critique their own work creations and the creations of others
- identify and apply criteria for evaluating visual (e.g., skill of artist, originality, emotional impact, variety, interest)
- demonstrate behavior appropriate for observing the particular context and style of the artwork being viewed; discuss opinions with peers in a supportive and constructive way
- describe personal responses to artwork; explain why there might be different responses to specific works of art (e.g., personal experience, interest, medium used, effectiveness of message)

## Big Idea: Interrelationships Among the Arts

The arts share commonalities in structures, purposes, creative processes, and their ability to express ideals, feelings and emotions. Studying interrelationships among the arts enables students to get a broad view of the expressiveness of the art forms as a whole, and helps to develop a full appreciation of the arts as a mirror of human kind.

**Academic Expectations**

**1.12** Students speak using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.
**1.13** Students make sense of ideas and communicate ideas with the visual arts.
**1.14** Students make sense of ideas and communicate ideas with music.
**1.15** Students make sense of and communicate ideas with movement.
**2.22** Students create works of art and make presentations to convey a point of view.
**2.25** In the products they make and the performances they present, students show that they understand how time, place, and society influence the arts and humanities such as languages, literature, and history.
**2.26** Through the arts and humanities, students recognize that although people are different, they share some common experiences and attitudes.

**Grade 7 Enduring Knowledge – Understandings**

*Students will understand that*

- the arts are basic forms of human communication.
- music, dance, drama, and visual art created in common cultures and/or common historical periods tend to reflect common attitudes, ideas, beliefs and feelings.
- the arts provide forms of non-verbal communication that can strengthen the presentation of ideas and emotions.
- the modes of thinking and methods of the arts disciplines can be used to illuminate situations in other disciplines that require creative solutions.

**Grade 7 Skills and Concepts – Arts**

*Students will*

- recognize and discuss common terms and concepts used in various arts (e.g., tempo in dance and music)
- identify communication of common themes or ideas across different art forms
- identify and explain connections between and among different art forms from the same culture or from the same time period
- describe commonalities between the arts and other subjects taught in the school (e.g., observation skills in visual arts and science, historical and cultural perspectives in the arts and social studies, shape in visual art and mathematics, dance and a healthy lifestyle, fractions in music notation and mathematics, composing music and writing)

# Program of Studies – Arts and Humanities – Eighth Grade

The arts and humanities program in the eighth grade centers on establishing grounding in the arts so that students are able to communicate at a basic level in each of the art forms of dance, drama/theatre, music and visual arts. Emphasis should be placed on exposing students to a variety of arts through active experiences in all four art forms. Students may have already begun to, or at this level choose to focus on one art form for more in-depth study. This will help students to prepare should they choose specialization in one art form at the high school level. Grounding in the arts involves literacy development in the four arts content areas, analysis and critique of the arts, and active creating and performing in the arts.

Students should have the opportunity to learn about the arts in the context of creating and performing. As students create and perform, they learn that the arts are basic to human communication and that they can use the arts to communicate specific meaning through their choices in the use of various arts elements and principles of design.

The arts and humanities content standards at the eighth grade level are directly aligned with Kentucky's broad standards called the **Academic Expectations**. The **Academic Expectations** are directly related to the *National Standards for Arts Education (1994)*.

Arts and humanities grade level content standards are organized around five “Big Ideas” that are important to the arts disciplines. The five big ideas in arts and humanities are: Structures in the Arts, Humanity in the Arts, Purposes for Creating the Arts, Processes in the Arts and Interrelationships Among the Arts. The Big Ideas are conceptual organizers for arts and humanities and are similar at each grade level to ensure students have multiple opportunities throughout their school careers to develop skills and concepts linked to each Big Idea.

Under each Big Idea are statements of Enduring Knowledge/Understandings that represent overarching generalizations linked to the Big Ideas of the arts and humanities. The understandings represent the desired results - what learning will focus upon and what knowledge students will be able to explain or apply. Understandings can be used to frame development of units of study and lesson plans.

Skills and concepts describe ways that students demonstrate their learning and are specific to each grade level. The skills and concepts for arts and humanities are fundamental to arts literacy and proficiency, and build on prior learning.

The three arts processes of creating, performing and responding to the arts provide a basis for deep understanding and appreciation of the arts. In the processes of creating and performing, a variety of technologies are employed, ranging from primitive technologies to cutting edge electronic and digital technologies.

**Creating** involves planning and creating new music, dance, drama/theatre or visual arts, or it may involve improvising in music, dance or drama/theatre. Improvising is the composing of new music, reciting/acting new dramatic material, or creating new dance movements on the spur of the moment.

**Performing** is limited to the performing arts of music, dance and drama/theatre. Performing involves presenting previously created works for an audience. Although the process of performing involves following a creative plan conceived by a composer, playwright or choreographer, there is still opportunity for creative interpretations in the performance.

**Responding** to the arts involves responses on multiple levels. The arts are a tool for communication and are capable of delivering meaning through literal and emotional content. Responding to the emotional content of artworks involves actually feeling the emotion(s) set forth by the creator. Responding can also involve intellectual analysis of works of art in regard to their design, effectiveness and quality.

**Academic Expectations** 2.25 and 2.26 bring forward the study of the humanities aspects of the arts. The arts reflect time, place, and society and offer a mirror to the human experience. The powerful communication qualities of the arts also enable them to be a factor that can drive the human experience. Study of historical and cultural contests in the arts is an essential and integral part of instruction across all the art forms and across all grade levels.

In the eighth grade, social studies content is focused on United States history, early inhabitants to reconstruction. Arts of that time period in American history will be explored. Students will study the arts of the United States from early inhabitants to Reconstruction after the Civil War. Again, European, African, and Native American influences on American arts will be revisited as well as American innovations and styles, and the influence of technology on the arts developed during this period in United States history.

## Big Idea: Structure in the Arts

Understanding of the various structural components of the arts is critical to the development of other larger concepts in the arts. Structures that artists use include elements and principles of each art form, tools, media and subject matter that impact artistic products and specific styles and genre that provide a context for creating works. It is the artist's choice of these structural components in the creative process that results in a distinctively expressive work. Students make choices about how to use structural organizers to create meaningful works of their own. The more students understand, the greater their ability to produce, interpret or critique artworks from other artists, cultures and historical periods.

**Academic Expectations**

**1.12** Students speak using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.
**1.13** Students make sense of ideas and communicate ideas with the visual arts.
**1.14** Students make sense of ideas and communicate ideas with music.
**1.15** Students make sense of and communicate ideas with movement.
**2.23** Students analyze their own and others' artistic products and performances using accepted standards.

**Grade 8 Enduring Knowledge – Understandings**

*Students will understand that*

- the elements of music, dance and drama are intentionally applied in creating and performing.
- the elements and principles of design of visual art are intentionally applied in creating works of art.
- responding to or critiquing works of art involves an understanding of elements, principles, and structures appropriate to each area of the arts.
- existing and emerging technologies can inspire new applications of structural components.

**Grade 8 Skills and Concepts – Music**

*Students will*

- use appropriate terminology to identify and analyze the use of elements in a variety of music (rhythm, tempo, melody, harmony, form, timbre, dynamics)
- use the elements of music while performing, singing, playing instruments, moving, listening, reading music, writing music and creating music independently and with others
- listen to and explore how changing different elements results in different musical effects
- recognize, describe and compare various styles of music (gospel, Broadway musicals, blues, popular, marches, ballads)
- identify and describe instruments according to classifications (family, voices, folk and orchestral instruments)

**Grade 8 Skills and Concepts – Dance**

*Students will*

- use appropriate terminology to identify and analyze the use of elements in a variety of dance (space, time, force)
- observe, describe and demonstrate choreographic forms in dance
- apply elements of dance and principles of movement (e.g., balance, initiation of movement, weight shift) when observing, creating and performing patterns of movement independently and with others
- identify and describe themes and styles (including characteristics of styles) of dance

## Big Idea: Structure in the Arts – Continued

**Grade 8 Skills and Concepts – Drama/Theatre**
*Students will*

- use appropriate terminology to identify and analyze the use of elements of drama (literary, technical, performance) in a variety of dramatic works
- use the elements of drama in creating and performing dramatic works independently and with others
- observe, describe and apply creative dramatics (improvisation, mimicry, pantomime, role playing and story telling) in a variety of situations
- identify and describe how technical elements (staging, scenery, props, costumes, make-up, lighting, sound) and performance elements (acting, speaking, nonverbal expression) create mood and believable characters
- describe and compare types of stages (arena, thrust, proscenium)
- explore a variety of dramatic works (e.g., theater and dramatic media – film, television, electronic media)

**Grade 8 Skills and Concepts – Visual Arts**
*Students will*

- use appropriate terminology to describe and analyze the use of elements of art (line, shape, form, texture, color) and principles of design (emphasis, pattern, balance, contrast) in a variety of visual artworks
- use the elements of art, principles of design and a variety of processes in creating artworks
- apply organizational structures and describe what makes them effective or not effective in communicating ideas
- identify and analyze the use of elements of art (e.g., line, shape, color properties, color schemes/groups, form, texture, space, value) and principles of design (e.g., repetition, emphasis, pattern, balance, contrast, rhythm, proportion, movement) in a variety of two and three dimensional artworks
- identify a variety of subject matter in visual artworks (representational – e.g., landscape, portrait, still life, nonrepresentational – e.g., abstract, non-objective)

## Big Idea: Humanity in the Arts

The arts reflect the beliefs, feelings and ideals of those who create them. Experiencing the arts allows one to experience time, place and/or personality. By experiencing the arts of various cultures, students can actually gain insight into the beliefs, feelings and ideas of those cultures. Students also have the opportunity to experience how the arts can influence society through analysis of arts in their own lives and the arts of other cultures and historical periods. Studying the historical and cultural stylistic periods in the arts offers students an opportunity to understand the world past and present, and to learn to appreciate their own cultural heritage. Looking at the interrelationships of multiple arts disciplines across cultures and historical periods is the focus of humanities in the arts.

**Academic Expectations**

**2.24** Students have knowledge of major works of art, music, and literature and appreciate creativity and the contributions of the arts and humanities.

**2.25** In the products they make and the performances they present, students show that they understand how time, place, and society influence the arts and humanities such as languages, literature, and history.

**2.26** Through the arts and humanities, students recognize that although people are different, they share some common experiences and attitudes.

**Grade 8 Enduring Knowledge – Understandings**

*Students will understand that*

- the arts are powerful tools for understanding human experiences both past and present.
- the arts help us understand others' (often very different) ways of thinking, working, and expressing ourselves.
- the arts play a major role in the creation and defining of cultures and building civilizations.

**Grade 8 Skills and Concepts – Music**

*Students will*

- describe and analyze distinguishing characteristics of music representing a variety of world cultures and time periods (Early American through Civil War)
- listen to, perform and classify music representing a variety of world cultures and historical periods
- examine music from various world cultures and explain how music reflects the culture, cultural beliefs or blending of cultures; use examples to illustrate how music has directly influenced society or culture
- examine music from various time periods and explain how the influence of time and place are reflected in the music (e.g., (African influence in American music)

**Grade 8 Skills and Concepts – Dance**

*Students will*

- describe and analyze distinguishing characteristics of dance representing a variety of world cultures and time periods (Early American through Civil War)
- observe, classify and perform dance representing a variety of world cultures and historical periods
- examine dance from various world cultures and explain how dance reflects the culture, cultural beliefs or blending of cultures; use examples to illustrate how dance has directly influenced society or culture
- examine dance from various time periods and explain how the influence of time and place are reflected in the dance

## Big Idea: Humanity in the Arts – Continued

**Grade 8 Skills and Concepts – Drama/Theatre**
*Students will*

- describe and analyze distinguishing characteristics of dramatic work representing a variety of world cultures and time periods (Early American through Civil War)
- observe, classify and perform dramatic works representing a variety of world cultures and historical periods
- examine dramatic works from various world cultures and explain how dramatic works reflect the culture, cultural beliefs or blending of cultures; use examples to illustrate how dramatic works have directly influenced society or culture
- examine dramatic works from various time periods and explain how the influence of time and place are reflected in them
- use print and non-print sources to explore, describe and compare themes, characters, and situations in dramas and characteristics of theater from different cultures or time periods

**Grade 8 Skills and Concepts – Visual Arts**
*Students will*

- describe and analyze distinguishing characteristics of visual art representing a variety of world cultures and time periods (Early American through Civil War)
- observe, classify and create visual art according to styles and processes used in a variety of world cultures and historical periods
- examine visual artworks from various world cultures and explain how artworks reflect the culture, cultural beliefs or blending of cultures; use examples to illustrate how artworks have directly influenced society or culture
- examine visual artworks from various time periods and explain the influence of time and place that are reflected in them (e.g., European Neo-classical influences on architecture)
- use print and non-print sources to explore, describe and compare themes, characters, and situations in artworks from different cultures or time periods

## Big Idea: Purposes for Creating the Arts

The arts have played a major role throughout the history of humans. As the result of the power of the arts to communicate on a basic human level, they continue to serve a variety of purposes in society. The arts are used for artistic expression to portray specific emotions or feelings, to tell stories in a narrative manner, to imitate nature and to persuade others. The arts bring meaning to ceremonies, rituals, celebrations and commemorations. Additionally, they are used for recreation and to support recreational activities. Students experience the arts in a variety of roles through their own creations and performances and through those of others. Through their activities and observations, students learn to create arts and use them for a variety of purposes in society.

**Academic Expectations**

**1.12** Students speak using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.
**1.13** Students make sense of ideas and communicate ideas with the visual arts.
**1.14** Students make sense of ideas and communicate ideas with music.
**1.15** Students make sense of and communicate ideas with movement.
**2.22** Students create works of art and make presentations to convey a point of view.
**2.26** Through the arts and humanities, students recognize that although people are different, they share some common experiences and attitudes.

**Grade 8 Enduring Knowledge – Understandings**

*Students will understand that*

- the arts fulfill a variety of purposes in society (e.g., to present issues and ideas, to entertain, to teach or persuade, to design, plan and beautify).
- the arts have value and significance for daily life. They provide personal fulfillment, whether in career settings, avocational pursuits, or leisure.
- the arts provide forms of nonverbal communication that can strengthen the presentation of ideas and emotions.

**Grade 8 Skills and Concepts – Music**

*Students will*

- compare and explain purposes for which music is created to fulfill (ceremonial, recreational, artistic expression)
- create new, listen to, choose and perform music to fulfill a variety of specific purposes

**Grade 8 Skills and Concepts – Dance**

*Students will*

- compare and explain purposes for which dance is created (ceremonial, recreational, artistic expression)
- create new, observe, choose and perform dance to fulfill a variety of specific purposes

**Grade 8 Skills and Concepts – Drama/Theatre**

*Students will*

- compare and explain purposes for which drama/theatre is created (sharing the human experience, passing on tradition and culture, recreational, artistic expression)
- create or write new, observe, choose and perform dramatic works to fulfill a variety of specific purposes

**Grade 8 Skills and Concepts – Visual Arts**

*Students will*

- compare and explain purposes for which visual art is created (ceremonial, artistic expression, narrative, functional, persuasive)
- create new, choose and experience artworks created to fulfill a variety of specific purposes

## Big Idea: Processes in the Arts

There are three distinctive processes involved in the arts. These processes are creating new works, performing works for expressive purposes and responding to artworks. Each process is critical and relies on others for completion. Artists create works to express ideas, feelings or beliefs. The visual arts capture a moment in time while the performing arts (music, dance, drama/theatre) are performed for a live audience. The audience responds to the artistic expressions emotionally and intellectually based on the meaning of the work. Each process enhances understanding, abilities and appreciation of others. Students involved in these processes over time will gain a great appreciation for the arts, for artists past and present, and for the value of artistic expression.

**Academic Expectations**

**1.12** Students speak using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.
**1.13** Students make sense of ideas and communicate ideas with the visual arts.
**1.14** Students make sense of ideas and communicate ideas with music.
**1.15** Students make sense of and communicate ideas with movement.
**2.22** Students create works of art and make presentations to convey a point of view.
**2.25** In the products they make and the performances they present, students show that they understand how time, place, and society influence the arts and humanities such as languages, literature, and history.

**Grade 8 Enduring Knowledge – Understandings**

*Students will understand that*

- there are three distinct processes for involvement in the arts; creating new artworks, performing works previously created and responding to artworks and performances.
- full understanding and appreciation of the arts requires some degree of involvement in all three processes.
- openness, respect for work and an understanding of how artists apply elements and principles of design in creating and performing are personal attitudes and skills that enhance enjoyment of the observer.
- existing and emerging technologies can extend the reach of the art form to new audiences.

**Grade 8 Skills and Concepts – Music**

*Students will*

- be actively involved in creating, notating, improvising and performing music (e.g., similar style answers to musical phrases, variations on given melodies, demonstrating unity/variety, tension/release, and balance) alone and with others
- use knowledge of musical elements and a variety of sound sources to create and perform music in an expressive manner
- sing or play alone and with others examples of music with increasingly complex melodies and rhythmic patterns in treble and bass clef (with practice)
- use knowledge of the elements of music and music terminology to describe and critique their own performances and the performances of others
- identify and apply criteria for evaluating music (e.g., skill of performers, originality, emotional impact, variety, interest)
- demonstrate behavior appropriate for observing the particular context and style of music being performed; discuss opinions with peers in a supportive and constructive way

## Big Idea: Processes in the Arts – Continued

**Grade 8 Skills and Concepts – Dance**
*Students will*

- be actively involved (individually and in small groups) in creating and performing dance (using the elements of dance: space, time and force) in a variety of compositional forms (AB, ABA, call and response, or narrative)
- create an improvisational dance with complex movements (beginning, middle and end)
- use knowledge of dance elements to create and perform dance in an expressive manner
- use knowledge of the elements of dance and dance terminology to describe and critique their own performances and the performances of others
- identify and apply criteria for evaluating dance (e.g., skill of performers, originality, emotional impact, variety, interest)
- demonstrate behavior appropriate for observing the particular context and style of dance being performed; discuss opinions with peers in a supportive and constructive way

**Grade 8 Skills and Concepts – Drama/Theatre**
*Students will*

- be actively involved in creating, improvising and performing dramatic works alone and with others, using elements of drama (Literary, Technical, Performance)
- use knowledge of elements of drama to:
  - create and perform dramatic works in an expressive manner
  - describe and critique their own performances and the performances of others
- use a variety of resources (e.g., research, peers, technology) to:
  - write, refine, and record dialogue, monologues, and action
  - explore jobs/careers (e.g., playwright, director, actor) and skills associated with dramatic arts (theater, dramatic media)
- identify and apply criteria for evaluating dramatic works (e.g., skill of performers, originality, emotional impact, variety, interest, technical requirements: lighting, sound, scenery, costumes, make-up)
- demonstrate behavior appropriate for observing the particular context and style of dramatic works being performed; discuss opinions with peers in a supportive and constructive way

**Grade 8 Skills and Concepts – Visual Arts**
*Students will*

- be actively involved in selecting media, techniques, subject matter and processes for creating artworks for specific purposes, applying the elements of art and principles of design
- use knowledge of the elements and principles of art and art terminology to:
  - create expressive artworks
  - describe and critique their own work creations and the creations of others
- identify and apply criteria for evaluating visual (e.g., skill of artist, originality, emotional impact, variety, interest)
- demonstrate behavior appropriate for observing the particular context and style of the artwork being viewed; discuss opinions with peers in a supportive and constructive way
- describe personal responses to artwork; explain why there might be different responses to specific works of art (e.g., personal experience, interest, medium used, effectiveness of message)

## Big Idea: Interrelationships Among the Arts

The arts share commonalities in structures, purposes, creative processes, and their ability to express ideals, feelings and emotions. Studying interrelationships among the arts enables students to get a broad view of the expressiveness of the art forms as a whole, and helps to develop a full appreciation of the arts as a mirror of human kind.

**Academic Expectations**

**1.12** Students speak using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.
**1.13** Students make sense of ideas and communicate ideas with the visual arts.
**1.14** Students make sense of ideas and communicate ideas with music.
**1.15** Students make sense of and communicate ideas with movement.
**2.22** Students create works of art and make presentations to convey a point of view.
**2.25** In the products they make and the performances they present, students show that they understand how time, place, and society influence the arts and humanities such as languages, literature, and history.
**2.26** Through the arts and humanities, students recognize that although people are different, they share some common experiences and attitudes.

**Grade 8 Enduring Knowledge – Understandings**

*Students will understand that*

- the arts are basic forms of human communication.
- music, dance, drama and visual art created in common cultures and/or common historical periods tend to reflect common attitudes, ideas, beliefs and feelings.
- the arts provide forms of non-verbal communication that can strengthen the presentation of ideas and emotions.
- the modes of thinking and methods of the arts disciplines can be used to illuminate situations in other disciplines that require creative solutions.

**Grade 8 Skills and Concepts – Arts**

*Students will*

- recognize and discuss common terms and concepts used in various arts (e.g., tempo in dance and music)
- identify communication of common themes or ideas across different art forms
- identify and explain connections between and among different art forms from the same culture or from the same time period
- describe commonalities between the arts and other subjects taught in the school (e.g., observation skills in visual arts and science, historical and cultural perspectives in the arts and social studies, shape in visual art and mathematics, dance and a healthy lifestyle, fractions in music notation and mathematics, composing music and writing)

# MIDDLE LEVEL ENGLISH LANGUAGE ARTS

# Program of Studies – English/Language Arts – Sixth Grade

The English/Language Arts (ELA) content standards at the sixth grade level are directly aligned with Kentucky's **Academic Expectations**. ELA standards are organized around Big Ideas in reading, writing, speaking, listening and observing that are important to the discipline of English/Language Arts. The Big Ideas are conceptual organizers for ELA and are similar at each grade level to ensure that students have multiple opportunities throughout their school careers to develop skills and concepts linked to the Big Ideas.

Under each Big Idea are statements of Enduring Knowledge/Understandings that represent overarching generalizations linked to the Big Ideas of ELA. The understandings represent the desired results--what learning will focus upon and what knowledge students will be able to explain or apply. Understandings can be used to frame development of units of study and lesson plans.

Skills and concepts describe ways that students demonstrate their learning and are specific to each grade level. The skills and concepts for ELA are fundamental to the reading, writing, speaking, listening and observing processes. Lessons should offer students a wide range of experiences with print and non-print materials that have literary and informational purposes that allow for integrated, interdisciplinary or multidisciplinary programs.

**Reading**: The five Big Ideas of Reading in sixth grade are Forming a Foundation for Reading, Developing an Initial Understanding, Interpreting Text, Reflecting and Responding to Text and Demonstrating a Critical Stance. Literary texts include a range of genres, historical periods, and cultures. Students should be exposed to the greatest works of literature in English and other literature in translation to understand our common literary heritage and to gain an appreciation for the rich literary traditions from all cultures. Students should have the resources to develop the language skills they need to pursue life’s goals and to participate fully as informed, productive members of society. ELA courses should present a wide range of reading experiences with print and non-print materials that have literary and informational purposes. Informational texts include expository, persuasive, and procedural texts and documents. Reading instruction should focus on before, during and after reading strategies to aid in student comprehension of texts. The complexity of texts selected for instruction should be appropriate for sixth grade students.

**Writing**: ELA standards in writing are divided into the four Big Ideas of Writing Content, Structure, Conventions and Process. Students are required to write using the criteria for effective writing included in these Big Ideas. The central idea of the writing standards is *effective communication*. Students use writing-to-learn and writing-to-demonstrate-learning strategies to make sense of their reading and learning experiences. Additionally, students will write in authentic forms for authentic purposes and audiences.

**Speaking, Listening and Observing**: These standards emphasize that speaking, listening and observing are fundamental processes which people use to express, explore and learn about ideas. The contexts of these communication functions include one-to one conversations, small group discussions, large audiences and meetings, and interactions with media.

The **Academic Expectations** for ELA are

**1.1** Students use reference tools such as dictionaries, almanacs, encyclopedias, and computer reference programs and research tools.
**1.2** Students make sense of the variety of materials they read.
**1.3** Students make sense of the various things they observe.
**1.4** Students make sense of the various messages to which they listen.
**1.11** Students write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.
**1.12** Students speak using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.
**5.1** Students use critical thinking skills such as analyzing, prioritizing, categorizing, evaluating, and comparing to solve a variety of problems in real-life situations.

## Big Idea: Forming a Foundation (Reading)

Forming a foundation requires readers to develop and apply basic reading skills and strategies across genres to read and understand texts at the appropriate grade level. This involves reading a variety of texts at the word, sentence, and connected text level across all content areas.

**Academic Expectations**

**1.1** Students use reference tools such as dictionaries, almanacs, encyclopedias, and computer reference programs and research tools.
**1.2** Students make sense of the variety of materials they read.
**1.3** Students make sense of the various things they observe.
**1.4** Students make sense of the various messages to which they listen.

**Grade 6 Enduring Knowledge – Understandings**

*Students will understand that*

- knowing how to apply phonetic principles, context clues, and orthographic patterns (including structural analysis, analogizing, and spelling patterns) can help determine unfamiliar words while reading.
- fluency involves reading orally and silently with speed, accuracy, and proper phrasing and expression, while attending to text features.
- developing breadth of vocabulary improves reading comprehension and involves applying knowledge of word meanings and word relationships. The larger the reader's vocabulary, the easier it is to make sense of text.
- many words have multiple meanings. Knowledge of syntax/language structure, semantics/meaning, and context cues, and the use of resources can help in identifying the intended meaning of words and phrases as they are used in text.

**Grade 6 Skills and Concepts**

*Students will*

- apply context and self-correction strategies while reading
- make predictions while reading
- read grade-appropriate material -- orally and silently- with automaticity (accuracy and fluency, phrasing, expression, and attention to text features
- use a variety of reading strategies to understand vocabulary and texts:
  formulate questions to guide reading (before, during and after reading)
  - apply word recognition strategies to determine pronunciations or meanings of words in passages
  - apply knowledge of synonyms, antonyms, homonyms/homophones, differences in meaning, or simple analogies to assist comprehension
  - interpret and explain literal and non-literal meanings of words or phrases, based on context
  - identify syllables and parts of words (e.g., prefixes, suffixes, base words, common roots) and apply their meanings to comprehend unfamiliar words
  - describe words in terms of categories (e.g., water is a liquid), functions (e.g., water is for drinking), or features (e.g., water flows)
  - scan to find specific key information (e.g., dates, places); skim to get the general meaning of a passage
- use resources (e.g., dictionaries, glossaries, thesauruses) to identify multiple meanings of words, content-specific meanings of words, and precise use of vocabulary

## Big Idea: Developing an Initial Understanding (Reading)

Developing an initial understanding of text requires readers to consider the text as a whole or in a broader perspective. Texts (including multi-cultural texts) encompass literary and informational texts (expository, persuasive, and procedural texts and documents). Strategies for gaining a broad or literal understanding of print texts can also be applied to non-print texts (e.g., digital, environmental).

**Academic Expectations**

**1.1** Students use reference tools such as dictionaries, almanacs, encyclopedias, and computer reference programs and research tools.
**1.2** Students make sense of the variety of materials they read.
**1.3** Students make sense of the various things they observe.
**1.4** Students make sense of the various messages to which they listen.

**Grade 6 Enduring Knowledge – Understandings**

*Students will understand that*

- reading a wide range of print and non-print texts builds an understanding of texts, of themselves, and of different cultures.
- different purposes to read include reading to acquire new information and reading for personal fulfillment. Among these texts are plays, fiction and non-fiction, classic and contemporary works.
- the use of comprehension strategies enhances understanding of text.
- different types of texts place different demands on the reader. Understanding text features, and structures, and characteristics associated with different genres (including print and non-print) facilitate the reader's ability to make meaning of the text.

## Big Idea: Developing an Initial Understanding (Reading) – Continued

**Grade 6 Skills and Concepts**
*Students will*

- use comprehension strategies (e.g., using prior knowledge, predicting, generating clarifying, literal and inferential questions, constructing sensory images, locating and using text features) while reading, listening to, or viewing literary and informational texts
- use text structure cues (e.g., chronology, cause/effect, compare/contrast, description, classification, logical/sequential), to aid in comprehension
- distinguish between fiction and non-fiction texts
- explain the meaning of concrete or abstract terms, based on the context (e.g., “loaded” words, connotation, denotation)
- paraphrase and summarize information from texts of various lengths; make text-based inferences; draw conclusions based on what is read
- demonstrate understanding of literary elements and literary passages/texts:
  - identify characteristics of different types of literary texts (e.g., stories, poems, plays, folktales, historical fiction, realistic fiction, mysteries, science fiction, myths, legends)
  - identify and explain the main idea of a passage
- demonstrate understanding of informational passages/texts:
  - locate key ideas, information, facts or details
  - use information from text to state and support central/main idea
  - use information from texts to accomplish a specific task or answer questions
  - use text features and visual information (e.g., maps, charts, graphs , timelines, visual organizers) to understand texts

## Big Idea: Interpreting Text (Reading)

Interpreting text requires readers to extend their initial impressions to develop a more complete understanding of what is read. This involves linking information across parts of a text, as well as focusing on specific information. Texts (including multicultural texts) encompass literary and informational texts (expository, persuasive, and procedural texts and document). Strategies for interpreting print texts can also be applied to non-print texts (e.g., digital, environmental).

**Academic Expectations**

**1.1** Students use reference tools such as dictionaries, almanacs, encyclopedias, and computer reference programs and research tools.
**1.2** Students make sense of the variety of materials they read.
**1.3** Students make sense of the various things they observe.
**1.4** Students make sense of the various messages to which they listen.

**Grade 6 Enduring Knowledge – Understandings**

*Students will understand that*

- interpretations of text involve linking information across parts of a text, determining importance of the information presented.
- references from texts provide evidence to support conclusions, the information presented, or the author's perspective.
- authors make intentional choices that are designed to produce a desired effect on the reader.

## Big Idea: Interpreting Text (Reading) – Continued

**Grade 6 Skills and Concepts**
*Students will*

- use comprehension strategies while reading, listening to, or viewing literary and informational texts
- use text structure cues (e.g., chronology, cause/effect, compare/contrast, description, logical/sequential) to aid comprehension
- use text references to explain author's purpose, author's message or theme and supporting evidence
- record and organize ideas to show understanding of central ideas and interrelationships (e.g., charting, mapping, graphic organizer, outlining, note taking)
- demonstrate understanding of literary elements and literary passages/texts:
  - analyze how external conflicts are resolved

  identify use of author's craft as appropriate to genre (e.g., rhyme, alliteration, sensory images, simile, description, dialogue)
  - explain the relationship between events in a story and a character's behavior
  - identify details that support the main idea or explain their importance in a passage
- demonstrate understanding of informational passages/texts

  distinguish between informative and persuasive passages
  - identify use of persuasive techniques (e.g., emotional/ logical appeal, repetition) or propaganda techniques (e.g., testimonial, bandwagon)
  - use evidence/references from the text to state central/main idea and details that support them; explain the importance of details in a passage
  - distinguish between facts and opinions found in texts
  - explain the purposes of text features in different types of informational texts

## Big Idea: Reflecting and Responding to Text (Reading)

Reflecting and responding to text requires readers to connect knowledge from the text with their own background knowledge and experience. The focus is on how the text relates to personal knowledge.

**Academic Expectations**

**1.1** Students use reference tools such as dictionaries, almanacs, encyclopedias, and computer reference programs and research tools.
**1.2** Students make sense of the variety of materials they read.
**1.3** Students make sense of the various things they observe.
**1.4** Students make sense of the various messages to which they listen.

**Grade 6 Enduring Knowledge – Understandings**

*Students will understand that*

- making connections involves thinking beyond the text and applying the text to a variety of situations. Connections can be expressed as comparisons, analogies, inferences, or the synthesis of ideas.
- references from texts provide evidence of applying ideas, making text-to-self, text-to-text, and text-to-world connections.
- reading a wide range of literature by different authors, and from many time periods, cultures, and genres, builds an understanding of the extent of human experience.

**Grade 6 Skills and Concepts**

*Students will*

- use comprehension strategies while reading, listening to, or viewing literary and informational texts to make connections
- self select texts based on personal interests
- use evidence from text(s) to generate a personal response to what is read or viewed:
  - relate texts to prior knowledge, personal experiences, other texts or ideas
  - provide text references/evidence to support connections (text-to-self, text-to-text, text-to-world)
- read a wide range of texts, including texts by the same author, about the same subject or theme, or from the same genre in order to respond and make connections (text-to-self, text-to-text, text-to-world)
- demonstrate participation in a literate community by sharing and responding to ideas and connections with others through writing and in-depth discussions about texts

## Big Idea: Demonstrating a Critical Stance (Reading)

Demonstrating a critical stance requires readers to consider the text objectively in order to evaluate its quality and appropriateness. It involves a range of tasks, including critical evaluation, comparing and contrasting, and understanding the impact of features, such as irony, humor, and organization. Knowledge of text content and structure is important.

**Academic Expectations**

**1.1** Students use reference tools such as dictionaries, almanacs, encyclopedias, and computer reference programs and research tools.
**1.2** Students make sense of the variety of materials they read.
**1.3** Students make sense of the various things they observe.
**1.4** Students make sense of the various messages to which they listen.
**5.1** Students use critical thinking skills such as analyzing, prioritizing, categorizing, evaluating, and comparing to solve a variety of problems in real-life situations.

**Grade 6 Enduring Knowledge – Understandings**

*Students will understand that*

- reading is a process that includes applying a variety of strategies to comprehend, interpret and evaluate texts; showing evidence of responsible warranted interpretations of texts; and examining texts critically.
- references from texts provide evidence to support judgments made about why and how the text was developed, considering the content, organization and form.
- determining the usefulness of text for a specific purpose, evaluating language and textual elements, and analyzing the author's style are all ways to critically examine texts.
- all citizens need to critically consider messages provided through a variety of media in order to make informed decisions.
- judging the credibility of sources, evaluating arguments, and understanding and conveying information are essential skills.

**Grade 6 Skills and Concepts**

*Students will*

- analyze how text features organize information for clarity or for usefulness
- identify the organizational pattern used (e.g., description, sequence, cause/effect, compare/contrast, logical/sequential) and explain how it helps in understanding the passage (e.g., organizing key ideas) and meeting the author's purpose
- evaluate what is read based on the author's purpose, message ,word choice, sentence variety, content, or use of literary elements
- form and support judgments/opinions about central ideas
- interpret the interactions among literary elements
- explain the effectiveness of literary devices or figurative language in evoking what the author intended (e.g., picturing a setting, predicting a consequence, establishing a mood or feeling)
- make connections and synthesize information within and across texts (e.g., comparing themes, ideas, concept development)
- evaluate the accuracy of information presented in texts
- evaluate arguments, interpret, and analyze information from multiple sources by synthesizing arguments or claims to discover the relationship between the parts
- evaluate connections among evidences and inferences
- evaluate the quality of evidence used to support or oppose an argument
- evaluate the use of persuasive or propaganda techniques
- recognize faulty reasoning and false premises in an argument

## Big Idea: Writing Content

To communicate effectively, students should be able to write for a variety of authentic purposes and audiences in a variety of forms connecting to prior knowledge and the students' understanding of the content. In their writing, students should be able to create a focused purpose and controlling idea and develop ideas adequately considering the purpose, audience and form.

**Academic Expectations**

**1.1** Students write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.

**Grade 6 Enduring Knowledge – Understandings**

*Students will understand that*

- there are many reasons for all students to write including writing-to-learn, writing-to-demonstrate learning and writing for authentic purposes and audiences.
- different forms of writing are appropriate for different purposes and audiences across the content areas and have different features (e.g., personal narrative, informational reports/articles, poetry, response to text).
- to be effective, writing must be a sufficiently developed, coherent unit of thought to address the needs of the intended audience.
- writing can be used to make meaning of one's own experience, as well as of other information/ ideas.

**Grade 6 Skills and Concepts**

*Students will*

- write to learn by applying strategies effectively (e.g., learning logs, response journals)
- write to demonstrate learning and understanding of content knowledge (e.g., journals, test answers, on-demand, research reports)
- write for a variety of authentic purposes and audiences:
  - communicate about the significance of personal experiences and relationships
  - communicate through authentic literary forms to make meaning about the human condition
  - communicate through authentic transactive purposes for writing (e.g. informing, describing, explaining, persuading, analyzing)
  - analyze and communicate reflectively about literacy goals
  - analyze and address needs of intended audience
  - adjust the writing style (formal, informal) for intended audience
- communicate purpose, focus, and controlling ideas authentic to the writer
- develop ideas that are logical, justified and suitable for a variety of purposes, audiences and forms of writing
- select and incorporate ideas or information (e.g., from research, reading, discussion, other content areas), explaining reflections or related connections (e.g., identifying relationships, drawing conclusions, offering support for conclusions, organizing prior knowledge about a topic)
- communicate understanding of a complex idea or event from multiple perspectives
- provide sufficient details and appropriate depth of elaboration for clear understanding
- use and sustain suitable voice or tone

## Big Idea: Writing Structure

To communicate effectively, students should be able to apply knowledge of language and genre structures to organize sentences, paragraphs and whole pieces logically and coherently.

**Academic Expectations**

**1.11** Students write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.

**Grade 6 Enduring Knowledge – Understandings**

*Students will understand that*

- sentences must be complete and clear. Variety in sentence structure helps to engage the reader and make meaning more clear. Sometimes, unconventional sentence structure is appropriate for an intended effect upon the reader.
- different types of structures are appropriate for different purposes, audiences and different forms of writing. Paragraphs and whole texts must be unified and coherent.
- structural elements such as context, meaningful order of ideas, transitional elements and conclusion all help make meaning clear for the reader.

**Grade 6 Skills and Concepts**

*Students will*

- use complete and correct sentences of various structures and lengths (e.g., simple, compound, complex) to enhance meaning throughout a piece of writing; apply unconventional sentence structures to achieve intended effect on audience
- develop analytical structures appropriate to purpose (e.g., sequence, problem/solution, description, question/answer, cause/effect, compare/contrast, chronology)
- establish a context for the reader and a controlling idea in the introduction; develop the piece sufficiently, arranging ideas in meaningful order; and conclude effectively
- create unified and coherent paragraphs; apply paragraph structures (block and indented) consistently and appropriately
- use a variety of transitions and/or transitional elements (e.g., ellipses, time transitions, white space) with intent
- apply organizational devices (e.g., foreshadowing, flashback) to achieve intended effect on audience
- incorporate text features (e.g., bullets, subheadings, table of contents, white space, pictures, labels, diagrams, embedded visuals, charts, shape in poetry) to enhance clarity and meaning

## Big Idea: Writing Conventions

To communicate effectively, students should be able to apply knowledge of language conventions and have control over standard grammar and usage. Students should be able to choose precise language appropriate to the purpose.

**Academic Expectations**

**1.1** Students write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.

**Grade 6 Enduring Knowledge – Understandings**

*Students will understand that*

- writers need to choose their language with care, depending on the content, purpose and audience.
- language should be concise and precise. Strong verbs and nouns, concrete details and sensory language help make meaning clear to the reader.
- standard grammar and usage are important in making meaning clear to the reader; non-standard or unconventional grammar may be used for intended effect.
- writers need to use correct spelling, punctuation and capitalization.
- writers need to document sources/give credit for the ideas of others.

**Grade 6 Skills and Concepts**

*Students will*

- choose precise and descriptive language for clarity, richness and/or its effect on the reader (words with multiple meanings, words that imply different shades of meaning, words with literal and non-literal meanings, strong nouns and verbs, concrete and sensory details, figurative language – metaphors, similes, alliteration, personification)
- use specialized content vocabulary and words used for specific contexts, as needed
- apply correct grammar skills (e.g., complete sentences, various sentence structures, subject and verb agreement, pronoun antecedent agreement); mechanics (e.g., capitalization, punctuation); and usage (e.g., affect/effect, a lot)
- apply non-standard or unconventional language for intended effect appropriate to purpose
- use resources (e.g., dictionary, glossary, word processing programs) and apply knowledge of spelling rules to correct spelling in final drafts
- use resources (e.g., word processing programs, thesaurus) to adhere to standard guidelines for grammar, usage and mechanics
- document ideas used from outside sources (e.g., citing authors or titles within the text; listing print and non-print sources) when paraphrasing, summarizing, quoting or using graphics

## Big Idea: Writing Process

To communicate effectively, students should engage in the various stages of the writing process including focusing, prewriting, drafting, revising, editing, publishing and reflecting. The writing process is recursive; different writers engage in the process differently and proceed through the stages at different rates.

**Academic Expectations**

**1.11** Students write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.

**Grade 6 Enduring Knowledge – Understandings**

*Students will understand that*

- the writing process is a helpful tool in constructing and demonstrating meaning of content (whether personal expressive, literary, academic or practical) through writing.
- the stages are sometimes recursive (e.g. in the process of revising, a writer sometimes returns to earlier stages of the process).
- writers work through the process at different rates. Often, the process is enhanced by conferencing with others.

**Grade 6 Skills and Concepts**

*Students will*

- focus: establish and maintain a controlling idea on a selected topic
- prewrite:
  - determine the most appropriate form to meet needs of purpose and audience
  - generate ideas to support and develop controlling idea (e.g., journaling, webbing, free writes, researching print/ non-print/ electronic sources, note-taking, interviewing, observation, viewing, surveying, imagining and creating novel ideas)
  - organize and present ideas by taking notes, quoting, paraphrasing, summarizing
- draft:
  - determine how, when and whether to use visuals (e.g., illustrations, charts, diagrams, photographs) or technologies (e.g., digital images, video) in lieu of or in addition to written communication
  - logically introduce and incorporate quotes
- revise:
  - reflect on own writing
  - confer with peers and other writing conferencing partners to critically analyze one's own work and the work of others
  - confer to determine where to add, delete, rearrange, define/redefine or elaborate content so that writing is coherent and effective for intended audience, then make revisions
  - identify and develop topic sentences, making sure ideas are supported appropriately with relevant details and that sentences are in sequential order; insert new sentences and delete unnecessary ones; develop effective introductions and conclusions; eliminate redundant words; choose the most precise words available
- edit for appropriate language usage, sentence structure, spelling, capitalization, punctuation and proper documentation of sources
- publish to produce products for intended audience:
  - present written material using digital presentation and graphics (e.g. charts and tables)
  - present final work in a neat, legible form
- reflect and evaluate personal progress and skills in writing

## Big Idea: Speaking, Listening and Observing

Speaking, listening and observing are fundamental processes which people use to express, explore and learn about ideas. The functions of speaking, listening and observing include gathering and sharing information, persuading others, expressing and understanding ideas, and selecting and critically analyzing messages. The contexts of these communication functions include one-to one conversations, small group discussions, large audiences and meetings, and interactions with media.

**Academic Expectations**

**1.2** Students make sense of the variety of materials they read.
**1.3** Students make sense of the various messages they observe.
**1.4** Students make sense of the various messages to which they listen.
**1.11** Students write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.
**1.12** Students speak using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.

**Grade 6 Enduring Knowledge – Understandings**

*Students will understand that*

- communication, both formal and informal is an interpretive process that integrates listening, observing/viewing, reading, writing and speaking with confidence. Different levels of discourse are appropriate for different contexts, occasions, purposes and audiences.
- regardless of the topic, the context or the intended audience, students need to be able to communicate ideas effectively. Effective communication involves verbal and nonverbal techniques to enhance or emphasize content. These techniques aid the listener's ability to interpret the information.
- language usage is related to successful communication; language patterns and vocabulary transmit culture and affect meaning.
- observation involves interpreting and constructing meaning. By viewing in context, students infer, construct meaning, draw conclusions and form opinions about the world around them.

**Grade 6 Skills and Concepts**

*In formal speaking situations, students will*

- create oral presentations that
  - are appropriate for the purpose (e.g., to inform, persuade, entertain), audience, context and occasion
  - support ideas with sound evidence and appropriate details
  - maintain a consistent focus
  - organize ideas in a coherent, meaningful way including an introduction, body, transitions, and a conclusion that are appropriate to audience, context and purpose
  - choose language for its effect on the audience (e.g., strong nouns, active verbs, concrete and sensory details, and figurative language)
- apply delivery techniques
  - both verbal (e.g., tone, volume, rate, articulation, inflection, pacing) and nonverbal (e.g., posture, gestures, facial expressions, eye contact)
  - avoid distracting delivery behaviors (e.g. excessive verbal pauses, fidgeting)
  - use language appropriate to audience; use specialized content vocabulary as needed
  - adhere to standard guidelines for grammar, usage, mechanics, or use non-standard language for effect when appropriate (e.g., word plays, common figures of speech)
- use visual aids, media and tools of technology to support oral communication
- document ideas from outside sources (e.g., citing authors, titles, websites)

## Big Idea: Speaking, Listening and Observing - Continued

**Grade 6 Skills and Concepts – Continued**
*Students will*
*In informal speaking situations, students will*

- give spoken instructions to perform specific tasks
- ask and respond to questions as a way to enrich class discussions
- play a variety of roles in group discussions (e.g., discussion leader, facilitator, responder)
- use different voice level, phrasing and intonation for different situations (e.g. small and large group settings, discussions)

*When listening, students will*

- follow spoken instructions to perform specific tasks
- identify the controlling idea of a speech and key ideas that support it
- respond critically (describe the style of a speech, including the speaker's choice of language to evoke a response, evaluate conclusions, credibility of information presented)
- respond to information in a variety of ways by summarizing, taking useful notes, organizing, analyzing, or recording that which is meaningful and useful
- respond appropriately/respectfully (e.g., ask questions, respond with civility/respect)
- follow the organization of a presentation and recognize the speaker's use of transitions
- interpret and evaluate the effectiveness of verbal and nonverbal delivery techniques, including visual cues)
- build on the ideas of others and contribute relevant information or ideas
- use self-evaluations and feedback from teachers and peers to improve presentations

*When observing, students will*

- use a variety of criteria (e.g., clarity, accuracy, effectiveness, relevance of facts) to evaluate media
- evaluate the role of media in focusing attention and in forming opinion
- interpret use of a variety of techniques used in advertising
- identify the effective use of visual and auditory cues (e.g., cutaway, close-up or long shot, voiceover, sound effects) to enhance the message or understand context

# Program of Studies – English/Language Arts – Seventh Grade

The English/Language Arts (ELA) content standards at the seventh grade level are directly aligned with Kentucky's **Academic Expectations**. ELA standards are organized around Big Ideas in reading, writing, speaking, listening and observing that are important to the discipline of English/Language Arts. The Big Ideas are conceptual organizers for ELA and are similar at each grade level to ensure that students have multiple opportunities throughout their school careers to develop skills and concepts linked to the Big Ideas.

Under each Big Idea are statements of Enduring Knowledge/Understandings that represent overarching generalizations linked to the Big Ideas of ELA. The understandings represent the desired results--what learning will focus upon and what knowledge students will be able to explain or apply. Understandings can be used to frame development of units of study and lesson plans.

Skills and concepts describe ways that students demonstrate their learning and are specific to each grade level. The skills and concepts for ELA are fundamental to the reading, writing, speaking, listening and observing processes. Lessons should offer students a wide range of experiences with print and non-print materials that have literary and informational purposes that allow for integrated, interdisciplinary or multidisciplinary programs.

**Reading**: The five Big Ideas of Reading in the seventh grade are Forming a Foundation for Reading, Developing an Initial Understanding, Interpreting Text, Reflecting and Responding to Text and Demonstrating a Critical Stance. Literary texts include a range of genres, historical periods, and cultures. Students should be exposed to the greatest works of literature in English and other literature in translation to understand our common literary heritage and to gain an appreciation for the rich literary traditions from all cultures. Students should have the resources to develop the language skills they need to pursue life’s goals and to participate fully as informed, productive members of society. ELA courses should present a wide range of reading experiences with print and non-print materials that have literary and informational purposes. Informational texts include expository, persuasive, and procedural texts and documents. Reading instruction should focus on before, during and after reading strategies to aid in student comprehension of texts. The complexity of texts selected for instruction should be appropriate for seventh grade students.

**Writing**: ELA standards in writing are divided into the four Big Ideas of Writing Content, Structure, Conventions and Process. Students are required to write using the criteria for effective writing included in these Big Ideas. The central idea of the writing standards is *effective communication*. Students use writing-to-learn and writing-to-demonstrate-learning strategies to make sense of their reading and learning experiences. Additionally, students will write in authentic forms for authentic purposes and audiences.

**Speaking, Listening and Observing**: These standards emphasize that speaking, listening and observing are fundamental processes which people use to express, explore and learn about ideas. The contexts of these communication functions include one-to one conversations, small group discussions, large audiences and meetings, and interactions with media.

The **Academic Expectations** for ELA are

**1.1** Students use reference tools such as dictionaries, almanacs, encyclopedias, and computer reference programs and research tools.
**1.2** Students make sense of the variety of materials they read.
**1.3** Students make sense of the various things they observe.
**1.4** Students make sense of the various messages to which they listen.
**1.11** Students write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.
**1.12** Students speak using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.
**5.1** Students use critical thinking skills such as analyzing, prioritizing, categorizing, evaluating, and comparing to solve a variety of problems in real-life situations.

## Big Idea: Forming a Foundation (Reading)

Forming a foundation requires readers to develop and apply basic reading skills and strategies across genres to read and understand texts at the appropriate grade level. This involves reading a variety of texts at the word, sentence, and connected text level across all content areas.

**Academic Expectations**

**1.1** Students use reference tools such as dictionaries, almanacs, encyclopedias, and computer reference programs and research tools.
**1.2** Students make sense of the variety of materials they read.
**1.3** Students make sense of the various things they observe.
**1.4** Students make sense of the various messages to which they listen.

**Grade 7 Enduring Knowledge– Understandings**

*Students will understand that*

- knowing how to apply phonetic principles, context clues, and orthographic patterns (including structural analysis, analogizing, and spelling patterns) can help determine unfamiliar words while reading.
- fluency involves reading orally and silently with speed, accuracy, proper phrasing and expression while attending to text features.
- developing breadth of vocabulary improves reading comprehension and involves applying knowledge of word meanings and word relationships. The larger the reader's vocabulary, the easier it is to make sense of text.
- many words have multiple meanings. Knowledge of syntax/language structure, semantics/meaning, and context cues, and the use of resources can help in identifying the intended meaning of words and phrases as they are used in text.

**Grade 7 Skills and Concepts**

*Students will*

- apply context and self-correction strategies while reading
- make predictions while reading
- read grade-appropriate material -- orally and silently -- with automaticity (accuracy and fluency phrasing, expression, and attention to text features – e.g., punctuation, italics, dialogue)
- use a variety of reading strategies to understand vocabulary and texts:
  - formulate questions to guide reading (before, during and after reading)
  - apply word recognition strategies to determine pronunciations or meanings of words in passages
  - apply knowledge of synonyms, antonyms, homonyms/homophones, shades of meaning, or analogies to assist comprehension
  - interpret the meaning of jargon, dialect or specialized vocabulary used in a passage
  - interpret and explain literal and non-literal meanings of words or phrases, based on use in context
  - identify syllables and parts of words (e.g., prefixes, suffixes, base words, common roots) and apply their meanings to comprehend unfamiliar words
  - describe words in terms of categories (e.g., water is a liquid), functions (e.g., water is for drinking), or features (e.g., water flows)
  - scan to find specific key information; skim to get the general meaning of a passage
- use print and electronic resources (e.g., print and electronic dictionaries, glossaries, thesauruses) to determine the definition, pronunciation, etymology, spelling, usage of words, multiple meanings of words, and content specific-meanings of words

## Big Idea: Developing an Initial Understanding (Reading)

Developing an initial understanding of text requires readers to consider the text as a whole or in a broader perspective. Texts (including multicultural texts) encompass literary and informational texts (expository, persuasive, and procedural texts and documents). Strategies for gaining a broad or literal understanding of print texts can also be applied to non-print texts (e.g., digital, environmental).

**Academic Expectations**

**1.1** Students use reference tools such as dictionaries, almanacs, encyclopedias, and computer reference programs and research tools.
**1.2** Students make sense of the variety of materials they read.
**1.3** Students make sense of the various things they observe.
**1.4** Students make sense of the various messages to which they listen.

**Grade 7 Enduring Knowledge – Understandings**

*Students will understand that*

- reading a wide range of print and non-print texts builds an understanding of texts, of themselves, and of different cultures.
- different purposes to read include reading to acquire new information and reading for personal fulfillment. Among these texts are plays, fiction and non-fiction, classic and contemporary works.
- the use of comprehension strategies enhances understanding of text.
- different types of texts place different demands on the reader. Understanding text features and structures, and characteristics associated with different genres (including print and non-print) facilitate the reader's ability to make meaning of the text.

**Grade 7 Skills and Concepts**

*Students will*

- use comprehension strategies (e.g., using prior knowledge, predicting, generating, clarifying, literal and inferential questions, constructing sensory images, locating and using text features) while reading, listening to, or viewing literary and informational texts
- use text structure cues (e.g., chronology, cause/effect, compare/contrast, proposition and support, description, classification, logical/sequential) to aid in comprehension
- explain the meaning of concrete or abstract terms, based on the context (e.g., "loaded" words, connotation, denotation)
- paraphrase and summarize information from texts of various lengths
- make text-based inferences; draw conclusions based on what is read
- demonstrate understanding of literary elements and literary passages/texts:
  - identify characteristics of different types of literary texts (e.g., short stories, poems, plays, historical fiction, realistic fiction, mysteries, science fiction, myths)
  - identify and explain the main idea of a passage
- demonstrate understanding of informational passages/texts :
  - locate key ideas, information, facts or details
  - use information from text to state and support central/main idea
  - use information from text to accomplish a specific task or to answer questions
  - use text features and visual information (e.g., maps, charts, graphs, timelines, visual organizers) to understand texts

## Big Idea: Interpreting Text (Reading)

Interpreting text requires readers to extend their initial impressions to develop a more complete understanding of what is read. This involves linking information across parts of a text, as well as focusing on specific information. Texts (including multicultural texts) encompass literary and informational texts (expository, persuasive, and procedural texts and documents). Strategies for interpreting print texts can also be applied to non-print texts.

**Academic Expectations**

**1.1** Students use reference tools such as dictionaries, almanacs, encyclopedias, and computer reference programs and research tools.
**1.2** Students make sense of the variety of materials they read.
**1.3** Students make sense of the various things they observe.
**1.4** Students make sense of the various messages to which they listen.

**Grade 7 Enduring Knowledge – Understandings**

*Students will understand that*

- interpretations of text involve linking information across parts of a text, determining importance of the information presented.
- references from texts provide evidence to support conclusions, the information presented, or the author's perspective.
- authors make intentional choices that are designed to produce a desired effect on the reader.

**Grade 7 Skills and Concepts**

*Students will*

- use comprehension strategies while reading, listening to, or viewing literary and informational texts
- use text structure cues ( e.g., chronology, cause/effect, compare/contrast, proposition and support, description, classification, logical/sequential) to aid comprehension
- use text references to explain author's purpose, author's message or theme, and supporting evidence
- organize ideas to show understanding of central ideas and interrelationships (e.g., charting, mapping, graphic organizers, outlining, note taking)
- demonstrate understanding of literary elements and literary passages/texts:
  - analyze how external conflicts or internal conflicts are resolved
  - explain author's craft as appropriate to genre
  - analyze the relationship between events in a story and a character's behavior
  - identify details that support the main idea and explain their importance in a passage
- demonstrate understanding of informational passages/texts
  - distinguish between informative or persuasive passages
  - identify use of persuasive techniques (e.g., logical/emotional/ethical appeal, repetition, rhetorical question) and propaganda techniques (e.g., testimonial, bandwagon)
  - use evidence/references from the text to state central/main idea and details that support them; explain the importance of details in a passage
  - understand cause-effect inferences
  - distinguish between facts and opinions found in texts
  - explain the purposes of text features in different types of informational texts

## Big Idea: Reflecting and Responding to Text (Reading)

Reflecting and responding to text requires readers to connect knowledge from the text with their own background knowledge and experience. The focus is on how the text relates to personal knowledge.

**Academic Expectations**

**1.1** Students use reference tools such as dictionaries, almanacs, encyclopedias, and computer reference programs and research tools.
**1.2** Students make sense of the variety of materials they read.
**1.3** Students make sense of the various things they observe.
**1.4** Students make sense of the various messages to which they listen.

**Grade 7 Enduring Knowledge – Understandings**

*Students will understand that*

- making reader-text connections involves thinking beyond the text and applying the text to a variety of situations. Connections may be expressed as comparisons, analogies, inferences, or the synthesis of ideas.
- references from texts provide evidence of applying ideas, making text-to-self, text-to-text, and text-to-world connections.
- reading a wide range of literature by different authors, and from many time periods, cultures, and genres, builds an understanding of the extent of human experience.

**Grade 7 Skills and Concepts**

*Students will*

- use comprehension strategies while reading, listening to, or viewing literary and informational texts to make connections
- self-select texts based on personal interests
- use evidence from text(s) to formulate and justify opinions about what is read or viewed:
  relate texts to prior knowledge, personal experiences, other texts or ideas
  provide text references/evidence to support connections (e.g., text–to-self, text-to-text, or text-to-world)
- read a wide range of texts, including texts by the same author, about the same subject or theme, or from the same genre in order to respond and make connections (text–to-self, text-to-text, text-to-world)
- demonstrate participation in a literate community by sharing and responding to ideas and connections with others through writing and in-depth discussions about texts

## Big Idea: Demonstrating a Critical Stance (Reading)

Demonstrating a critical stance requires readers to consider the text objectively in order to evaluate its quality and appropriateness. It involves a range of tasks, including critical evaluation, comparing and contrasting, and understanding the impact of features, such as irony, humor, and organization. Knowledge of text content and structure is important.

**Academic Expectations**

**1.1** Students use reference tools such as dictionaries, almanacs, encyclopedias, and computer reference programs and research tools.
**1.2** Students make sense of the variety of materials they read.
**1.3** Students make sense of the various things they observe.
**1.4** Students make sense of the various messages to which they listen.
**5.1** Students use critical thinking skills such as analyzing, prioritizing, categorizing, evaluating, and comparing to solve a variety of problems in real-life situations.

**Grade 7 Enduring Knowledge – Understandings**

*Students will understand that*

- reading is a process that includes applying a wide variety of strategies to comprehend, interpret, and evaluate texts; showing evidence of responsible and warranted interpretations of text; and examining texts critically.
- references from texts provide evidence to support judgments made about why and how the text was developed, considering the content, organization and form.
- determining the usefulness of text for a specific purpose, evaluating language and textual elements, and analyzing the author's style are all ways to critically examine texts.
- all citizens need to analyze a wide variety of media messages related to matters of public policy and personal interest.
- judging the credibility of sources, evaluating arguments, and understanding and conveying information are essential skills.

**Grade 7 Skills and Concepts**

*Students will*

- analyze how effectively text features organize information for clarity or for usefulness
- apply knowledge of the organizational pattern used (e.g., description, sequence, cause/effect, compare/contrast, logical/sequential, problem/solution) and explain how it helps in understanding the passage and meeting the author's purpose
- evaluate what is read, based on the author's word choice, sentence variety, content, tone and style, or use of literary elements
- form and support judgments/opinions about central ideas
- interpret the interactions among literary elements within and across a variety of texts
- explain the effectiveness of literary devices or figurative language in evoking what the author intended (e.g., picturing a setting, predicting a consequence, establishing a mood or feeling)
- make comparisons and synthesize information within and across texts (e.g., comparing themes, ideas, concept development, literary elements, events)
- evaluate the accuracy of information presented in texts
- evaluate arguments, interpret, and analyze information from multiple sources by synthesizing arguments or claims to discover the relationship between the parts
- evaluate connections among evidences and inferences
- evaluate the quality of evidence used to support or oppose an argument
- evaluate the use of persuasive or propaganda techniques
- recognize faulty reasoning and false premises in an argument

## Big Idea: Writing Content

To communicate effectively, students should be able to write for a variety of authentic purposes and audiences in a variety of forms connecting to prior knowledge and the students' understanding of the content. In their writing, students should be able to create a focused purpose and controlling idea and develop ideas adequately considering the purpose, audience and form.

**Academic Expectations**

**1.11** Students write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.

**Grade 7 Enduring Knowledge – Understandings**

*Students will understand that*

- there are many reasons for all students to write including writing-to-learn, writing-to-demonstrate learning and writing for authentic purposes and audiences.
- different forms of writing are appropriate for different purposes and audiences across the content areas and have different features (e.g. editorials, self-reflective essays, summaries, responses to text).
- to be effective, writing must be a sufficiently developed, coherent unit of thought to address the needs of the intended audience.
- writing can be used to make meaning of one's own experience, as well as of other information/ ideas.

**Grade 7 Skills and Concepts**

*Students will*

- write to learn by applying strategies effectively (e.g., learning logs, exit/admit slips)
- write to demonstrate learning and understanding of content knowledge (e.g., class journals, explanations, lab reports, research paper)
- write for a variety of authentic purposes and audiences:
  - communicate about the significance of personal experiences and relationships
  - communicate through authentic literary forms to make meaning about the human condition
  - communicate through authentic transactive purposes for writing (e.g. informing, describing, explaining, persuading, analyzing)
  - analyze and communicate reflectively about literacy goals
  - analyze and address needs of intended audience
  - adjust the writing style (formal, informal, business) for intended audience
- communicate purpose, focus and controlling ideas authentic to the writer
- develop ideas that are logical, justified and suitable for a variety of purposes, audiences and forms of writing
- select and incorporate ideas or information (e.g., from research, reading, discussions, or other content areas), explaining reflections or related connections (e.g., identifying relationships, drawing conclusions, making predictions, offering support for conclusions, organizing prior knowledge about a topic)
- communicate understanding of a complex idea or event from multiple perspectives
- provide sufficient details and appropriate depth of elaboration for clear understanding
- use and sustain suitable voice or tone

## Big Idea: Writing Structure

To communicate effectively, students should be able to apply knowledge of language and genre structures to organize sentences, paragraphs and whole pieces logically and coherently.

**Academic Expectations**

**1.1** Students write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.

**Grade 7 Enduring Knowledge – Understandings**

*Students will understand that*

- sentences must be complete and clear. Variety in sentence structure helps to engage the reader and make meaning more clear. Sometimes, unconventional sentence structure is appropriate for an intended effect upon the reader.
- different types of structures are appropriate for different purposes, audiences and different forms of writing. Paragraphs and whole texts must be unified and coherent.
- structural elements such as context, meaningful order of ideas, transitional elements and conclusion all help make meaning clear for the reader.

**Grade 7 Skills and Concepts**

*Students will*

- use complete and correct sentences of various structures and lengths (e.g., simple, compound, complex) to enhance meaning throughout a piece of writing; apply unconventional sentence structures to achieve intended effect on audience
- develop analytical structures appropriate to purpose (e.g., sequence, problem/solution, description, question/answer, cause/effect, compare/contrast, chronology)
- apply structures of a variety of academic and work-related texts (e.g., essays, journals, narratives, business letter) for authentic purposes
- establish a context for the reader and a controlling idea in the introduction; develop the piece sufficiently, arranging ideas in meaningful order; and conclude the writing effectively
- create unified and coherent paragraphs; apply paragraph structures (block and indented) consistently and appropriately
- use a variety of transitions and/or transitional elements (e.g., ellipses, time transitions, white space) with intent
- apply organizational devices (e.g., foreshadowing, flashback) to achieve intended effect on audience
- incorporate text features (e.g., bullets, subheadings, table of contents, white space, pictures, labels, diagrams, embedded visuals, charts, shape in poetry) to enhance clarity and meaning

## Big Idea: Writing Conventions

To communicate effectively, students should be able to apply knowledge of language conventions and have control over standard grammar and usage. Students should be able to choose precise language appropriate to the purpose.

**Academic Expectations**

**1.11** Students write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.

**Grade 7 Enduring Knowledge – Understandings**

*Students will understand that*

- writers need to choose their language with care, depending on the content, purpose and audience.
- language should be concise and precise. Strong verbs and nouns, concrete details and sensory language help make meaning clear to the reader.
- standard grammar and usage are important in making meaning clear to the reader; non-standard/unconventional grammar may be used for intended effect.
- writers need to use correct spelling, punctuation and capitalization.
- writers need to document sources/give credit for the ideas of others.

**Grade 7 Skills and Concepts**

*Students will*

- choose precise and descriptive language for clarity, richness and/or its effect on the reader (words with multiple meanings, words that imply different shades of meaning, words with literal and non-literal meanings, strong nouns and verbs, concrete and sensory details, figurative language – metaphors, similes, alliteration, personification)
- use specialized content vocabulary and words used for specific contexts, as needed
- apply correct grammar skills (e.g., complete sentences, various sentence structures, subject and verb agreement, pronoun antecedent agreement); mechanics (e.g., capitalization, punctuation); and usage (e.g., affect/effect, who/whom)
- apply non-standard/unconventional language for intended effect appropriate to purpose
- use print and electronic resources (e.g., word processing, dictionary) and apply knowledge of spelling rules to correct spelling in final drafts
- use print and electronic resources (e.g., word processing, thesaurus) to adhere to standard guidelines for grammar, usage and mechanics
- document ideas used from outside sources (e.g., citing authors or titles within the text; citing print and non-print sources in a Works Cited or bibliography listing) when paraphrasing, summarizing, quoting or using graphics

## Big Idea: Writing Process

To communicate effectively, students should engage in the various stages of the writing process including focusing, prewriting, drafting, revising, editing, publishing and reflecting. The writing process is recursive; different writers engage in the process differently and proceed through the stages at different rates.

**Academic Expectations**

**1.11** Students write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.

**Grade 7 Enduring Knowledge – Understandings**

*Students will understand that*

- the writing process is a helpful tool in constructing and demonstrating meaning of content (whether personal expressive, literary, academic or practical) through writing.
- the stages are sometimes recursive (e.g., in the process of revising, a writer sometimes returns to earlier stages of the process).
- writers work through the process at different rates. Often, the process is enhanced by conferencing with others.

**Grade 7 Skills and Concepts**

*Students will*

- focus: establish and maintain a controlling idea on a selected topic
- prewrite:
  - determine the most appropriate form to meet needs of purpose and audience
  - generate ideas to support and develop controlling idea (e.g., journaling, webbing, free writes, researching print/ non-print/ electronic sources, note-taking, interviewing, observation, viewing, surveying, imagining and creating novel ideas)
  - organize and present ideas by taking notes, quoting, paraphrasing, summarizing
- draft:
  - determine how, when and whether to use visuals (e.g., illustrations, charts, diagrams, photographs) or technologies (e.g., digital images, video) in lieu of or in addition to written communication
  - logically introduce and incorporate quotes
- revise:
  - reflect on own writing
  - confer with peers and other writing conferencing partners to critically analyze one's own work and the work of others
  - confer to determine where to add, delete, rearrange, define/redefine or elaborate content so that writing is coherent and effective for intended audience, then make revisions
  - identify and develop topic sentences, making sure ideas are supported appropriately with relevant details and that sentences are in sequential order; insert new sentences and delete unnecessary ones; develop effective introductions and conclusions; eliminate redundant words; choose the most precise words available
- edit for appropriate language usage, sentence structure, spelling, capitalization, punctuation and proper documentation of sources
- publish to produce products for intended audience:
  - present written material using digital presentations and graphics (e.g. charts and tables) when developmentally appropriate
  - present final work in a neat, legible form
- reflect and evaluate personal progress and skills in writing

## Big Idea: Speaking, Listening and Observing

Speaking, listening and observing are fundamental processes which people use to express, explore and learn about ideas. The functions of speaking, listening and observing include gathering and sharing information, persuading others, expressing and understanding idea, and selecting and critically analyzing messages. The contexts of these communication functions include one-to one conversations, small group discussions, large audiences and meetings, and interactions with media.

**Academic Expectations**

**1.2** Students make sense of the variety of materials they read.
**1.3** Students make sense of the various messages they observe.
**1.4** Students make sense of the various messages to which they listen.
**1.11** Students write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.
**1.12** Students speak using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.

**Grade 7 Enduring Knowledge – Understandings**

*Students will understand that*

- communication, both formal and informal is an interpretive process that integrates listening, observing, reading, writing and speaking with confidence. Different levels of discourse are appropriate for different contexts, occasions, purposes and audiences.
- regardless of the topic, the context or the intended audience, students need to be able to communicate ideas effectively. Effective communication involves verbal and nonverbal techniques to enhance or emphasize content. These techniques aid the listener's ability to interpret the information.
- language usage is related to successful communication; language patterns and vocabulary transmit culture and affect meaning.
- observation involves interpreting and constructing meaning. By viewing in context, students infer, construct meaning, draw conclusions and form opinions about the world around them.

**Grade 7 Skills and Concepts**

*In formal speaking situations, students will*

- create oral presentations that
  - are appropriate for the purpose (e.g., to inform, persuade, entertain), audience, context and occasion
  - support ideas with sound evidence and appropriate details
  - maintain a consistent focus
  - organize ideas in a coherent, meaningful way including an introduction, body, transitions and a conclusion that are appropriate to audience, context and purpose
  - choose language for its effect on the audience (e.g., strong nouns, active verbs, concrete and sensory details, and figurative language, use of rhetorical devices)
- apply delivery techniques
  - both verbal (e.g., tone, volume, rate, articulation, inflection, pacing) and nonverbal (e.g., posture, gestures, facial expressions, eye contact)
  - avoid distracting delivery behaviors (e.g. excessive verbal pauses, fidgeting)
  - use language appropriate to audience; use specialized content vocabulary as needed
  - adhere to standard guidelines for grammar, usage, mechanics or use non-standard language for effect when appropriate (e.g., word plays, common figures of speech)
- use visual aids, media and tools of technology to support oral communication
- document ideas from outside sources (e.g., citing authors, titles, websites)

## Big Idea: Speaking, Listening and Observing – Continued

**Grade 7 Skills and Concepts – Continued**
*Students will*
*In informal speaking situations, students will*

- give spoken instructions to perform specific tasks
- ask and respond to questions as a way to enrich class discussions
- play a variety of roles in group discussions (e.g., discussion leader, facilitator, responder)
- use different voice level, phrasing and intonation for different situations (e.g. small and large group settings, discussions)

*When listening, students will*

- follow spoken instructions to perform specific tasks
- identify the controlling idea of a speech and key ideas that support it
- respond critically (e.g., analyze the style of a speech, including the speaker's choice of language to evoke a response, evaluate conclusions, credibility of information presented)
- respond to information in a variety of ways by summarizing, taking useful notes, organizing, analyzing, or recording that which is meaningful and useful
- respond appropriately/respectfully (e.g., ask questions, respond with civility/respect)
- follow the organization of a presentation and recognize the speaker's use of transitions
- interpret and evaluate the effectiveness of verbal and nonverbal delivery techniques, including visual cues
- build on the ideas of others and contribute relevant information or ideas
- use self-evaluations and feedback from teachers and peers to improve presentations

*When observing, students will*

- use a variety of criteria (e.g., clarity, accuracy, effectiveness, bias, relevance of facts) to evaluate media
- evaluate the role of media in focusing attention and in forming opinion
- interpret use of a variety of techniques used in advertising
- identify the effective use of visual and auditory cues (e.g., cutaway, close-up or long shot, voiceover, sound effects) to enhance the message or understand context

# Program of Studies – English/Language Arts – Eighth Grade

The English/Language Arts (ELA) content standards at the eighth grade level are directly aligned with Kentucky's **Academic Expectations**. ELA standards are organized around Big Ideas in reading, writing, speaking, listening and observing that are important to the discipline of English/Language Arts. The Big Ideas are conceptual organizers for ELA and are similar at each grade level to ensure that students have multiple opportunities throughout their school careers to develop skills and concepts linked to the Big Ideas.

Under each Big Idea are statements of Enduring Knowledge/Understandings that represent overarching generalizations linked to the Big Ideas of ELA. The understandings represent the desired results--what learning will focus upon and what knowledge students will be able to explain or apply. Understandings can be used to frame development of units of study and lesson plans.

Skills and concepts describe ways that students demonstrate their learning and are specific to each grade level. The skills and concepts for ELA are fundamental to the reading, writing, speaking, listening and observing processes. Lessons should offer students a wide range of experiences with print and non-print materials that have literary and informational purposes that allow for integrated, interdisciplinary or multidisciplinary programs.

**Reading**: The five Big Ideas of Reading in eighth grade are Forming a Foundation for Reading, Developing an Initial Understanding, Interpreting Text, Reflecting and Responding to Text and Demonstrating a Critical Stance. Literary texts include a range of genres, historical periods, and cultures. Students should be exposed to the greatest works of literature in English and other literature in translation to understand our common literary heritage and to gain an appreciation for the rich literary traditions from all cultures. Students should have the resources to develop the language skills they need to pursue life’s goals and to participate fully as informed, productive members of society. ELA courses should present a wide range of reading experiences with print and non-print materials that have literary and informational purposes. Informational texts include expository, persuasive, and procedural texts and documents. Reading instruction should focus on before, during and after reading strategies to aid in student comprehension of texts. The complexity of texts selected for instruction should be appropriate for eighth students.

**Writing**: ELA standards in writing are divided into the four Big Ideas of Writing Content, Structure, Conventions and Process. Students are required to write using the criteria for effective writing included in these Big Ideas. The central idea of the writing standards is *effective communication*. Students use writing-to-learn and writing-to-demonstrate-learning strategies to make sense of their reading and learning experiences. Additionally, students will write in authentic forms for authentic purposes and audiences.

**Speaking, Listening and Observing**: These standards emphasize that speaking, listening and observing are fundamental processes which people use to express, explore and learn about ideas. The contexts of these communication functions include one-to one conversations, small group discussions, large audiences and meetings, and interactions with media.

The **Academic Expectations** for ELA are

**1.1** Students use reference tools such as dictionaries, almanacs, encyclopedias, and computer reference programs and research tools.
**1.2** Students make sense of the variety of materials they read.
**1.3** Students make sense of the various things they observe.
**1.4** Students make sense of the various messages to which they listen.
**1.11** Students write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.
**1.12** Students speak using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.
**5.1** Students use critical thinking skills such as analyzing, prioritizing, categorizing, evaluating, and comparing to solve a variety of problems in real-life situations.

## Big Idea: Forming a Foundation (Reading)

Forming a foundation requires readers to develop and apply basic reading skills and strategies across genres to read and understand texts at the appropriate grade level. This involves reading a variety of texts at the word, sentence, and connected text level across all content areas.

**Academic Expectations**

**1.1** Students use reference tools such as dictionaries, almanacs, encyclopedias, and computer reference programs and research tools.
**1.2** Students make sense of the variety of materials they read.
**1.3** Students make sense of the various things they observe.
**1.4** Students make sense of the various messages to which they listen.

**Grade 8 Enduring Knowledge – Understandings**

*Students will understand that*

- knowing how to apply phonetic principles, context clues, and orthographic patterns (including structural analysis, analogizing and spelling patterns) can help determine unfamiliar words while reading.
- fluency involves reading orally and silently with speed, accuracy, proper phrasing and expression while attending to text features.
- developing breadth of vocabulary improves reading comprehension and involves applying knowledge of word meanings and word relationships. The larger the reader's vocabulary, the easier it is to make sense of text.
- many words have multiple meanings. Knowledge of syntax/language structure, semantics/meaning, and context cues, and the use of resources can help in identifying the intended meaning of words and phrases as they are used in text.

**Grade 8 Skills and Concepts**

*Students will*

- apply context and self-correction strategies while reading
- make predictions while reading
- read grade-appropriate material -- orally and silently -- with automaticity (accuracy and fluency, phrasing, expression, and attention to text features)
- use a variety of reading strategies to understand vocabulary and texts:
  - formulate questions to guide reading (before, during and after reading)
  - apply word recognition strategies to determine pronunciations or meanings of words in passages
  - apply knowledge of synonyms, antonyms, homonyms/homophones, shades of meaning, or analogies to assist comprehension
  - interpret the meaning of jargon, dialect, or specialized vocabulary used in a passage
  - interpret and explain literal and non-literal meanings of words or phrases, analogies, idioms and allusions, based on use in context
  - apply knowledge of synonyms, antonyms, word parts (e.g., roots, affixes , cognates)
  - explain and organize words in terms of categories (e.g., water is a liquid), functions (e.g., water is for drinking), or features (e.g., water flows)
  - scan to find specific key information; skim to get the general meaning of a passage
- use print and electronic resources (general and specialized dictionaries, thesauruses, glossaries) to determine the definition, pronunciation, etymology, spelling, usage of words, multiple meanings of words, content-specific meanings of words, or meanings of derivational roots

## Big Idea: Developing an Initial Understanding (Reading)

Developing an initial understanding of text requires readers to consider the text as a whole or in a broader perspective. Texts (including multicultural texts) encompass literary and informational texts (expository, persuasive, and procedural texts and documents). Strategies for gaining a broad or literal understanding of print texts can also be applied to non-print texts (digital, environmental).

**Academic Expectations**

**1.1** Students use reference tools such as dictionaries, almanacs, encyclopedias, and computer reference programs and research tools.
**1.2** Students make sense of the variety of materials they read.
**1.3** Students make sense of the various things they observe.
**1.4** Students make sense of the various messages to which they listen.

**Grade 8 Enduring Knowledge – Understandings**

*Students will understand that*

- reading a wide range of print and non-print texts builds an understanding of texts, of themselves, and of different cultures.
- different purposes to read include reading to acquire new information and reading for personal fulfillment. Among these texts are plays, fiction and non-fiction, classic and contemporary works.
- the use of comprehension strategies enhances understanding of text.
- different types of texts place different demands on the reader. Understanding text features and structures, and characteristics associated with different genres (including print and non-print) facilitate the reader's ability to make meaning of the text.

**Grade 8 Skills and Concepts**

*Students will*

- use comprehension strategies (e.g., using prior knowledge, generating clarifying, literal and inferential questions, constructing sensory images, locating and using text features) while reading, listening to, or viewing literary and informational texts
- use text structure cues (e.g., chronology, cause/effect, compare/contrast, proposition/support, description, classification, logical/sequential) to aid in comprehension
- explain the meaning of concrete or abstract terms, based on the context (e.g., "loaded" words, connotation, denotation)
- paraphrase and summarize information from texts of various lengths
- make text-based inferences; draw conclusions based on what is read
- demonstrate understanding of literary elements and literary passages/texts:
  - identify and explain characteristics of different types of literary texts (e.g., myths, epics, poems, novels, dramas)
  - explain the main idea of a passage
- demonstrate understanding of informational passages/texts:
  - locate key ideas, information, facts or details
  - use information from text to state and support central/main idea
  - use information from text to accomplish a specific task or answer questions
  - use text features and visual information (e.g., maps, charts, graphs, time lines, visual organizers) to understand texts

## Big Idea: Interpreting Text (Reading)

Interpreting text requires readers to extend their initial impressions to develop a more complete understanding of what is read. This involves linking information across parts of a text, as well as focusing on specific information. Texts (including multicultural texts) encompass literary and informational texts (expository, persuasive, and procedural texts and documents). Strategies for interpreting print texts can also be applied to non-print texts (e.g., digital, environmental).

**Academic Expectations**

**1.1** Students use reference tools such as dictionaries, almanacs, encyclopedias, and computer reference programs and research tools.
**1.2** Students make sense of the variety of materials they read.
**1.3** Students make sense of the various things they observe.
**1.4** Students make sense of the various messages to which they listen.

**Grade 8 Enduring Knowledge – Understandings**

*Students will understand that*

- interpretations of text involve linking information across parts of a text, determining importance of the information presented.
- references from texts provide evidence to support conclusions drawn about the message, the information presented, or the author's perspective.
- authors make intentional choices that are designed to produce a desired effect on the reader.

## Big Idea: Interpreting Text (Reading) – Continued

**Grade 8 Skills and Concepts**
*Students will*

- use comprehension strategies while reading, listening to, or viewing literary and informational texts
- use text structure cues (e.g., chronology, cause/effect, compare/contrast, proposition and support, description, classification, logical/sequential) to aid comprehension
- use text references to explain author's purpose, author's message or theme, and supporting evidence
- organize ideas to show understanding of central ideas and interrelationships (e.g., charting, mapping, graphic organizers, outlining, note taking)
- demonstrate understanding of literary elements and literary passages/texts:
  - analyze how external or internal conflicts are resolved
  - explain author's craft (e.g., stanzas, rhythm, foreshadowing, flashbacks, symbolism) as appropriate to genre
  - analyze the relationship between a speaker's or character's motivation and behavior in a passage, as revealed by the dilemmas
  - analyze the use of details that support the main idea and explain their importance in a passage
- demonstrate understanding of informational passages/texts
  - identify and explain use of persuasive techniques (e.g., logical/emotional/ethical appeal**,** repetition, rhetorical question, allusion) and propaganda techniques (e.g., testimonial, bandwagon, transfer, personal attack)
  - use evidence/references from the text to state central/main idea and details that support them; or analyze the importance of details used in a passage
  - understand cause-effect inferences
  - identify an author's arguments and identify evidence from the passage to support the author's argument
  - distinguish between facts and opinions found in texts
  - explain the purposes of text features in different types of informational texts

## Big Idea: Reflecting and Responding to Text (Reading)

Reflecting and responding to text requires readers to connect knowledge from the text with their own background knowledge and experience. The focus is on how the text relates to personal knowledge.

**Academic Expectations**

**1.1** Students use reference tools such as dictionaries, almanacs, encyclopedias, and computer reference programs and research tools.
**1.2** Students make sense of the variety of materials they read.
**1.3** Students make sense of the various things they observe.
**1.4** Students make sense of the various messages to which they listen.

**Grade 8 Enduring Knowledge – Understandings**

*Students will understand that*

- making connections involves thinking beyond the text and applying the text to a variety of situations. Connections may be expressed as comparisons, analogies, inferences, or the synthesis of ideas.
- references from texts provide evidence of applying idea, making text-to-self, text-to-text, and text-to-world connections.
- reading a wide range of literature by different authors, and from many time periods, cultures, and genres, builds an understanding of the extent of human experience.

**Grade 8 Skills and Concepts**

*Students will*

- use comprehension strategies while reading, listening to, or viewing literary and informational texts to make connections
- self-select texts based on personal interests
- use evidence from text(s) to formulate and justify opinions about what is read or viewed:
  - relate texts to prior knowledge, personal experiences, other texts, or ideas
  - provide text references/evidence to support connections (text-to-self, text-to-text, text-to-world)
- read a wide range of texts, including texts by the same author, about the same subject or theme, or from the same genre in order to respond and make connections (text-to-self, text-to-text, text-to-world)
- demonstrate participation in a literate community by sharing and responding to ideas and connections with others through writing and in-depth discussions about texts

## Big Idea: Demonstrating a Critical Stance (Reading)

Demonstrating a critical stance requires readers to consider the text objectively in order to evaluate its quality and appropriateness. It involves a range of tasks, including critical evaluation, comparing and contrasting, and understanding the impact of features, such as irony, humor, and organization. Knowledge of text content and structure is important.

**Academic Expectations**

**1.1** Students use reference tools such as dictionaries, almanacs, encyclopedias, and computer reference programs and research tools.
**1.2** Students make sense of the variety of materials they read.
**1.3** Students make sense of the various things they observe.
**1.4** Students make sense of the various messages to which they listen.
**5.1** Students use critical thinking skills such as analyzing, prioritizing, categorizing, evaluating, and comparing to solve a variety of problems in real-life situations.

**Grade 8 Enduring Knowledge – Understandings**

*Students will understand that*

- reading is a process that includes applying a wide variety of strategies to comprehend, interpret, and evaluate texts; showing evidence of warranted and responsible interpretations of text; examining texts critically.
- references from texts provide evidence to support judgments made about why and how the text was developed, considering the content, organization and form.
- determining the usefulness of text for a specific purpose, evaluating language and textual elements, and analyzing the author's style are all ways to critically examine texts.
- all citizens need to analyze a wide variety of media messages in order to interpret matters of public policy and personal interest.
- judging the credibility of sources, evaluating arguments, and understanding and conveying information are essential skills needed for postsecondary education, the workplace, and in exercising the rights of citizenship.

**Grade 8 Skills and Concepts**

*Students will*

- analyze how effectively text features organize information for clarity or for usefulness
- identify the organizational pattern used (e.g., description, sequence, cause/effect, compare/contrast, logical/sequential, problem/solution, proposition/support) and explain how it helps in understanding the passage and meeting the author's purpose
- evaluate what is read based on the author's purpose, message, word choice, sentence variety, content, tone, style or use of literary elements
- form and support judgments/opinions about central ideas
- interpret the interactions among literary elements within and across a variety of texts
- analyze the effectiveness of literary devices or figurative language in evoking what the author intended (e.g., picturing a setting, predicting a consequence, establishing a mood or feeling)
- make comparisons and synthesize information within and across texts (e.g., comparing themes, ideas, concept development, literary elements, events)
- evaluate the accuracy of information presented in texts
- evaluate arguments, interpret and analyze information from multiple sources by synthesizing arguments or claims to discover the relationship between the parts
- identify claims and evidences and evaluate connections among evidences and inferences
- evaluate the quality of evidence used to support or oppose an argument
- evaluate the use of persuasive or propaganda techniques
- recognize faulty reasoning and false premises in an argument

## Big Idea: Writing Content

To communicate effectively, students should be able to write for a variety of authentic purposes and audiences in a variety of forms connecting to prior knowledge and the students' understanding of the content. In their writing, students should be able to create a focused purpose and controlling idea and develop ideas adequately considering the purpose, audience and form.

**Academic Expectations**

**1.11** Students write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.

**Grade 8 Enduring Knowledge – Understandings**

*Students will understand that*

- there are many reasons for all students to write including writing-to-learn, writing-to-demonstrate learning and writing for authentic purposes and audiences.
- different forms of writing are appropriate for different purposes and audiences across the content areas and have different features (e.g. speeches, on-demand responses, persuasive essays, plays).
- to be effective, writing must be a sufficiently developed, coherent unit of thought to address the needs of the intended audience.
- writing can be used to make meaning of one's own experience, as well as of other information/ ideas.

**Grade 8 Skills and Concepts**

*Students will*

- write to learn by applying strategies effectively (e.g., learning logs, reflections)
- write to demonstrate learning and understanding of content knowledge (e.g., journals, open responses, lab reports, research reports)
- write for a variety of authentic purposes and audiences:
  - communicate about the significance of personal experiences and relationships
  - communicate through authentic literary forms to make meaning about the human condition
  - communicate through authentic transactive purposes for writing (e.g. explaining, persuading, analyzing, evaluating)
  - analyze and communicate reflectively about literacy goals
  - analyze and address needs of intended audience
  - adjust the writing style (formal, informal, business) for intended audience
- communicate purpose, focus, and controlling ideas authentic to the writer
- develop ideas that are logical, justified and suitable for a variety of purposes, audiences and forms of writing
- select and incorporate ideas or information (e.g., from research, reading or other content areas), explaining reflections or related connections (e.g., identifying interrelationships, drawing conclusions, making predictions, offering support for conclusions, organizing prior knowledge about a topic)
- communicate understanding of a complex idea or event from multiple perspectives
- provide sufficient details and appropriate depth of elaboration for clear understanding
- use and sustain suitable voice or tone

## Big Idea: Writing Structure

To communicate effectively, students should be able to apply knowledge of language and genre structures to organize sentences, paragraphs and whole pieces logically and coherently.

**Academic Expectations**

**1.11** Students write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.

**Grade 8 Enduring Knowledge – Understandings**

*Students will understand that*

- sentences must be complete and clear. Variety in sentence structure helps to engage the reader and make meaning more clear. Sometimes, unconventional sentence structure is appropriate for an intended effect upon the reader.
- different types of structures are appropriate for different purposes, audiences and different forms of writing. Paragraphs and whole texts must be unified and coherent.
- structural elements such as context, meaningful order of ideas, transitional elements and conclusion all help make meaning clear for the reader.

**Grade 8 Skills and Concepts**

*Students will*

- use complete and correct sentences of various structures and lengths (e.g., simple, compound, complex ) to enhance meaning throughout a piece of writing; apply unconventional sentence structures to achieve intended effect on audience
- develop analytical structures appropriate to purpose (e.g., sequence, description, cause/effect, compare/contrast, chronology, proposition/support)
- apply structures of a variety of academic and work-related texts (e.g., essays, journals, narratives, memos, proposals) for authentic purposes
- establish a context for the reader and a controlling idea in the introduction; develop the piece sufficiently, arranging ideas in meaningful order; and conclude the writing effectively
- create unified and coherent paragraphs; apply paragraph structures (block and indented) consistently and appropriately
- use a variety of transitions and/or transitional elements (e.g., ellipses, time transitions, white space) with intent
- apply organizational devices (e.g., foreshadowing, flashback) to achieve intended effect on audience
- incorporate text features (e.g., bullets, subheadings, table of contents, white space, pictures, labels, diagrams, embedded visuals, charts, shape in poetry) to enhance clarity and meaning

## Big Idea: Writing Conventions

To communicate effectively, students should be able to apply knowledge of language conventions and have control over standard grammar and usage. Students should be able to choose precise language appropriate to the purpose.

**Academic Expectations**

**1.11** Students write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.

**Grade 8 Enduring Knowledge – Understandings**

*Students will understand that*

- writers need to choose their language with care, depending on the content, purpose and audience.
- language should be concise and precise. Strong verbs and nouns, concrete details and sensory language help make meaning clear to the reader.
- standard grammar and usage are important in making meaning clear to the reader; non-standard/unconventional grammar may be used for intended effect.
- writers need to use correct spelling, punctuation and capitalization.
- writers need to document sources/give credit for the ideas of others.

**Grade 8 Skills and Concepts**

*Students will*

- choose precise and descriptive language for clarity, richness and/or its effect on the reader (words with multiple meanings, words that imply different shades of meaning, words with literal and non-literal meanings, strong nouns and verbs, concrete and sensory details, figurative language – metaphors, similes, alliteration, personification)
- use specialized content vocabulary and words used for specific contexts, as needed
- apply correct grammar skills (e.g., complete sentences, various sentence structures, subject and verb agreement, pronoun antecedent agreement); mechanics (e.g., capitalization, punctuation); and usage (e.g., of/have, can/may)
- apply non-standard/unconventional language for intended effect appropriate to purpose
- use print and electronic resources (e.g., word processing, dictionary, handbooks) and apply knowledge of spelling rules to correct spelling in final drafts
- use print and electronic resources (e.g., word processing, thesaurus) to adhere to standard guidelines for grammar, usage and mechanics
- document ideas used from outside sources (e.g., citing authors or titles within the text, citing print and non-print sources in a Works Cited or bibliography listing) when paraphrasing, summarizing, quoting or using graphics

## Big Idea: Writing Process

To communicate effectively, students should engage in the various stages of the writing process including focusing, prewriting, drafting, revising, editing, publishing and reflecting. The writing process is recursive; different writers engage in the process differently and proceed through the stages at different rates.

**Academic Expectations**

**1.11** Students write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.

**Grade 8 Enduring Knowledge – Understandings**

*Students will understand that*

- the writing process is a helpful tool in constructing and demonstrating meaning of content (whether personal expressive, literary, academic or practical) through writing.
- the stages are sometimes recursive (e.g., in the process of revising, a writer sometimes returns to earlier stages of the process).
- writers work through the process at different rates. Often, the process is enhanced by conferencing with others.

**Grade 8 Skills and Concepts**

*Students will*

- focus: establish and maintain a controlling idea on a selected topic
- prewrite:
  - determine the most appropriate form to meet needs of purpose and audience
  - generate ideas to support and develop controlling idea (e.g., journaling, webbing, free writes, researching print/ non-print/ electronic sources, note-taking, interviewing, observation, viewing, surveying, imagining and creating novel ideas)
  - organize and present ideas by taking notes, quoting, paraphrasing, summarizing
- draft:
  - determine how, when and whether to use visuals (e.g., illustrations, charts, diagrams, photographs) or technologies (e.g., digital images, video) in lieu of or in addition to written communication
  - logically introduce and incorporate quotes
- revise:
  - reflect on own writing
  - confer with peers and other writing conferencing partners to critically analyze one's own work and the work of others
  - confer to determine where to add, delete, rearrange, define/redefine or elaborate content so that writing is coherent and effective for intended audience, then make revisions
  - identify and develop topic sentences, making sure ideas are supported appropriately with relevant details and that sentences are in sequential order; insert new sentences and delete unnecessary ones; develop effective introductions and conclusions; eliminate redundant words; choose the most precise words available
- edit for appropriate language usage, sentence structure, spelling, capitalization, punctuation and proper documentation of sources
- publish to produce products for intended audience:
  - present written material using digital presentation and graphics (e.g. charts and tables)
  - present final work in a neat, legible form
- reflect and evaluate personal progress and skills in writing

## Big Idea: Speaking, Listening and Observing

Speaking, listening and observing are fundamental processes which people use to express, explore and learn about ideas. The functions of speaking, listening and observing include gathering and sharing information, persuading others, expressing and understanding ideas, and selecting and critically analyzing messages. The contexts of these communication functions include one-to one conversations, small group discussions, large audiences and meetings, and interactions with media.

**Academic Expectations**

**1.2** Students make sense of the variety of materials they read**.**
**1.3** Students make sense of the various messages they observe.
**1.4** Students make sense of the various messages to which they listen.
**1.11** Students write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.
**1.12** Students speak using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.

**Grade 8 Enduring Knowledge – Understandings**

*Students will understand that*

- communication, both formal and informal is an interpretive process that integrates listening, observing/viewing, reading, writing and speaking with confidence. Different levels of discourse are appropriate for different contexts, occasions, purposes and audiences.
- regardless of the topic, the context or the intended audience, students need to be able to communicate ideas effectively. Effective communication involves verbal and nonverbal techniques to enhance or emphasize content. These techniques aid the listener's ability to interpret the information.
- language usage is related to successful communication; language patterns and vocabulary transmit culture and affect meaning.
- observation involves interpreting and constructing meaning. By viewing in context, students infer, construct meaning, draw conclusions and form opinions about the world around them.

## Big Idea: Speaking, Listening and Observing – Continued

**Grade 8 Skills and Concepts**

*In formal speaking situations, students will*

- create oral presentations that
  - are appropriate for the purpose (e.g., to inform, persuade, entertain), audience, context and occasion
  - support judgment with sound evidence and appropriate details
  - maintain a consistent focus
  - organize ideas in a coherent, meaningful way including an introduction, body, transitions and a conclusion appropriate to audience, context and purpose
  - choose language for its effect on the audience (e.g., strong nouns, active verbs, concrete and sensory details, and figurative language, use of rhetorical devices)
- apply delivery techniques
  - both verbal (e.g., tone, volume, rate, articulation, inflection, pacing) and nonverbal (e.g., posture, gestures, facial expressions, eye contact)
  - avoid distracting delivery behaviors (e.g. excessive verbal pauses, fidgeting)
  - use language appropriate to audience; use specialized content vocabulary as needed
  - adhere to standard guidelines for grammar, usage, mechanics, or use non-standard language for effect when appropriate (e.g., word plays, common figures of speech)
- use visual aids, media and tools of technology to support oral communication
- document ideas from outside sources (e.g., citing authors, titles, websites)

*In informal speaking situations, students will*

- give spoken instructions to perform specific tasks
- ask and respond to questions as a way to enrich class discussions
- play a variety of roles in group discussions (e.g., discussion leader, facilitator, responder)

*When listening, students will*

- follow spoken instructions to perform specific tasks
- identify the controlling idea of a speech and key ideas that support it
- respond critically (e.g., analyze the style of a speech, including the speaker's choice of language to evoke a response, evaluate conclusions, credibility of information presented)
- respond to information in a variety of ways by: summarizing, taking useful notes, organizing, analyzing, or recording that which is meaningful and useful
- respond appropriately/respectfully (e.g., ask questions, respond with civility/respect)
- follow the organization of a presentation and recognize the speaker's use of transitions
- interpret and evaluate the effectiveness of verbal and nonverbal delivery techniques, including visual cues
- build on the ideas of others and contribute relevant information or ideas
- use self-evaluations and feedback from teachers and peers to improve presentations

*When observing, students will*

- use a variety of criteria (e.g., clarity, accuracy, effectiveness, bias, relevance of facts) to evaluate media
- evaluate the role of media in focusing attention and in forming opinion
- interpret a variety of techniques used in advertising
- identify and analyze the effectiveness of visual and auditory cues (e.g., cutaway, close-up or long shot, voiceover, sound effects) to enhance the message or understand context

# MIDDLE LEVEL MATHEMATICS

# Program of Studies – Mathematics – Sixth Grade

The mathematics program in grade six includes strong literacy connections, active and hands-on work with concrete materials and appropriate technologies. Grade six problem solving, mathematical communication, connections, mathematical reasoning and multiple representations should be a part of the mathematics curriculum. The use of these techniques enhances and extends students' mathematics skills. Accuracy is an integral part of the mathematics program.

Students should have opportunities to work individually and in groups of varying size and composition in order to conduct investigations, process information and discuss important mathematical concepts. Students must have regular opportunities to share their ideas with others and to solve problems generated as a result of their learning experiences.

The mathematics content standards at the sixth grade level are directly aligned with Kentucky's **Academic Expectations**. Mathematics standards are organized around five “Big Ideas” that are important to the discipline of mathematics. The five big ideas in mathematics are: Number Properties and Operations, Measurement, Geometry, Data Analysis and Probability and Algebraic Thinking. The Big Ideas are conceptual organizers for mathematics and are similar at each grade level to ensure students have multiple opportunities throughout the students’ school careers to develop skills and concepts linked to the Big Ideas.

Under each Big Idea are statements of Enduring Knowledge/Understandings that represent overarching generalizations linked to the Big Ideas of mathematics. The understandings represent the desired results – what learning will focus upon and what knowledge students will be able to explain or apply. Understandings can be used to frame development of units of study and lesson plans.

Skills and concepts describe ways that students demonstrate their learning and are specific to each grade level. The skills and concepts for mathematics are fundamental to mathematical literacy, mathematical power and build on prior learning.

Effectively implementing the Program of Studies requires a common understanding of the process standards mentioned in the first paragraph.

**Problem solving** includes multiple strategies for modeling, interpreting and formulating problems based in real-world situations, within and outside of mathematics, and aids in investigating and understanding mathematical content.

**Mathematical communication** includes modeling problems using oral, written, concrete, visual, graphical and algebraic methods to define, interpret and argue mathematical ideas. Mathematical communication includes mathematical symbolic notation (letters and marks used in mathematics to name numbers, operations, sets, relations).

**Mathematical connections** include relating mathematical ideas within mathematics and to other disciplines using graphic, numerical, physical, algebraic and verbal models.

**Mathematical reasoning** includes inductive and deductive reasoning necessary in developing conjectures and validating arguments.

**Multiple representations** allow students to be able to recognize common mathematical structures across different contexts. In the middle grades, students can use representations for more abstract concepts, such as rational numbers or linear relationships, or to portray, clarify, or extend an idea.

**Academic Expectation** 1.5-1.9 (Students use mathematical ideas and procedures to communicate, reason, and solve problems.) is infused throughout the mathematics instruction P-12 and is integral to the content and instruction across all grade levels.

**Academic Expectation** 1.16 (Students will use computers and other kinds of technology to collect, organize, and communicate information and ideas.) is an essential and integral part of instruction across the content and the mathematics Program of Studies.

## Big Idea: Number Properties and Operations

Middle grades students understand fractions, decimals, percents and integers, compare them and locate their relative positions on a number line. They develop and use proportional reasoning to solve problems. They work with large numbers and small numbers. They use factors, multiples and prime factorizations. They perform arithmetic operations with fractions, decimals and integers, use properties in computation, develop fluency and develop strategies to estimate the result of operations on rational numbers.

**Academic Expectations**

**2.7** Students understand number concepts and use numbers appropriately and accurately.

**2.8** Students understand various mathematical procedures and use them appropriately and accurately.

**Grade 6 Enduring Knowledge – Understandings**

*Students will understand that*

- numbers, ways of representing numbers, relationships among numbers and number systems are means of representing real-world quantities.
- meanings of and relationships among operations provide tools necessary to solve realistic problems encountered in everyday life.
- computing fluently and making reasonable estimates with fractions, decimals and whole numbers increases the ability to solve realistic problems encountered in everyday life.
- proportional reasoning is a tool for modeling and solving problems encountered in everyday situations.

**Grade 6 Skills and Concepts – Number Sense**

*Students will*

- continue to develop number sense using fractions, decimals and percents, including percents greater than 100% and improper fractions
- extend applications of operations $(+, -, \times, \div)$ to include fractions and decimals
- develop place value of large and small numbers, including decimals
- explore positive integral exponents (e.g. squares, cubes)
- compare, order and convert between whole numbers, fractions, decimals and percents using concrete materials, drawings or pictures and mathematical symbols (e.g., $<, \leq, >, \geq, =, \neq$, order on a number line)

**Grade 6 Skills and Concepts – Estimation**

*Students will*

- estimate and mentally compute to solve real-world and/or mathematical problems with whole numbers, fractions, decimals and percents, checking for reasonable and appropriate computational results
- estimate large and small quantities of objects

## Big Idea: Number Properties and Operations – Continued

**Grade 6 Skills and Concepts – Number Operations**
*Students will*

- develop addition, subtraction, multiplication and division of common fractions and decimals with manipulatives and symbols (e.g., mental computation, paper and pencil, calculators)
- add, subtract, multiply, divide and apply order of operations with whole numbers, fractions and decimals to solve real-world problems
- explain and/or demonstrate inversely-related operations (addition and subtraction; multiplication and division)

**Grade 6 Skills and Concepts – Ratios and Proportional Reasoning**
*Students will*

- develop meaning of percent and how to determine a percentage
- develop meaning of ratio (e.g., describe and compare two sets of data using ratios and appropriate notations: 3:5, $\frac{3}{5}$, 3 to 5)
- define and apply ratios to solve real-world problems

**Grade 6 Skills and Concepts – Properties of Numbers and Operations**
*Students will*

- determine prime numbers, composite numbers, prime factorization, factors, multiples, greatest common factor and least common multiple
- simplify fractions and determine equivalent fractions
- use prime numbers, composite numbers, factors, multiples and divisibility to solve problems
- explore and/or demonstrate how applications of properties (e.g., commutative, associative, inverse and identity for addition and multiplication) show relationships among numbers and operations

## Big Idea: Measurement

Students continue to measure and estimate measurements including fractions and decimals. They use formulas to find perimeter, area, circumference and volume. They use rulers and protractors. They use U.S. Customary and metric units of measurement.

**Academic Expectations**

**2.10** Students understand measurement concepts and use measurements appropriately and accurately.

**2.11** Students understand mathematical change concepts and use them appropriately and accurately.

**Grade 6 Enduring Knowledge – Understandings**

*Students will understand that*

- there are two major measurement systems (U.S. Customary and metric) and either may be used to solve problems.
- measurable attributes of objects and the units, systems and processes of measurement are powerful tools for making sense of the world around them.
- measurements are determined by using appropriate techniques, tools, formulas and degree of accuracy needed for the situation.

**Grade 6 Skills and Concepts – Measuring Physical Attributes**

*Students will*

- find perimeter of regular and irregular polygons in metric and U.S. customary units
- read and use measurement tools (e.g., rulers, scales, protractors, angle rulers)
- find area of plane figures composed of triangles, squares and rectangles by subdividing and measuring; use square units appropriately
- estimate and find angle measures and segment measures
- estimate measurements in standard units, including fractions and decimals
- explain how measurements and measurement formulas are related or different (e.g., compare the perimeter with the area of a rectangle)

**Grade 6 Skills and Concepts – Systems of Measurement**

*Students will*

- describe and provide examples of U.S. Customary and metric units of measurement; use these units to solve real-world and/or mathematical problems
- estimate, compare and convert (meaning to make ballpark comparisons/not memorize conversion factors between U.S. and metric) units of measurement for length, weight/mass and volume/capacity within the U.S. customary system and within the metric system:
  - length (e.g., parts of an inch, inches, feet, yards, miles, millimeters, centimeters, meters, kilometers);
  - weight/mass (e.g., pounds, tons, grams, kilograms);
  - volume/capacity (e.g., cups, pints, quarts, gallons, milliliters, liters)

## Big Idea: Geometry

Middle grade students expand analysis of two-dimensional shapes and three-dimensional shapes. They translate shapes in a coordinate plane. They extend work with congruent and similar figures, including proportionality.

**Academic Expectation**

**2.8** Students understand various mathematical procedures and use them appropriately and accurately.

**2.9** Students understand space and dimensionality concepts and use them appropriately and accurately.

**Grade 6 Enduring Knowledge – Understandings**

*Students will understand that*

- characteristics and properties of two-dimensional figures and three-dimensional objects describe the world and are used to develop mathematical arguments about geometric relationships and to evaluate the arguments of others.
- representational systems, including coordinate geometry, are means for specifying locations and describing spatial relationships and are organizers for making sense of the world around them.
- transformations and symmetry are used to analyze real-world situations (e.g., art, nature, construction and scientific exploration).
- shape and area are conserved during mathematical transformations (flips, slides and turns). Scale conserves shape, but changes size.
- visualization, spatial reasoning and geometric relationships model real-world situations.

**Grade 6 Skills and Concepts – Shapes and Relationships**

*Students will*

- formulate and use the rules for the sum of angle measures in a triangle (180˚) and in a quadrilateral (360˚)
- identify and use relationships among lines (e.g., parallel, perpendicular)
- identify, describe and provide examples of the basic geometric elements (points, rays, lines, segments, angles [acute, right, obtuse], planes, radius, diameter, circumference)
- identify, describe and provide examples and properties of two-dimensional figures (circles, triangles [acute, right, obtuse, scalene, isosceles, equilateral], quadrilaterals, regular polygons); apply these properties and figures to solve real-world problems
- describe, provide examples of and identify properties (e.g., vertices, angles, faces, edges, congruent parts) of common three-dimensional figures (spheres, cones, cylinders, prisms and pyramids)
- describe and provide examples of congruent and similar plane figures; apply congruent and similar plane figures to solve real-world problems

**Grade 6 Skills and Concepts – Transformations of Shapes**

*Students will*

- determine lines of symmetry for a plane figure, sketch plane figures with multiple lines of symmetry and apply line symmetry to real-world and/or mathematical situations
- transform (translate and reflect across a horizontal or vertical line) figures in the first quadrant of the coordinate plane and determine new coordinates of the shape after transformation
- explore the rotation of a figure in a plane in the first quadrant, with and without manipulatives

**Grade 6 Skills and Concepts – Coordinate Geometry**

*Students will*

- identify and graph ordered pairs on a positive coordinate system, identifying the origin, axes and ordered pairs
- apply graphing in the positive coordinate system to solve real-world and mathematical problems

## Big Idea: Data Analysis and Probability

Middle grades students extend the early development of data representations and examine the appropriateness of graphs and representations of data. They examine central tendencies and dispersion. They develop organized approaches to counting and use experimental and theoretical probabilities.

**Academic Expectations**

**2.7** Students understand number concepts and use numbers appropriately and accurately.
**2.8** Students understand various mathematical procedures and use them appropriately and accurately.
**2.13** Students understand and appropriately use statistics and probability.

**Grade 6 Enduring Knowledge – Understandings**

*Students will understand that*

- quantitative literacy is a necessary tool to be an intelligent consumer and citizen.
- the collection, organization, interpretation and display of data can be used to answer questions.
- the choice of data display can affect the visual message communicated.
- inferences and predictions from data are used to make critical and informed decisions.
- for a given set of data or a graph, statistical measures (mean, median, mode, range) can be used to describe the distribution of the data.
- probability can be used to make decisions or predictions or to draw conclusions.

**Grade 6 Skills and Concepts – Data Representations**

*Students will*

- select an appropriate graph to represent given data and justify the selection
- collect, organize, construct, analyze and interpret data in a variety of graphical methods, including line plots, line graphs, circle graphs, bar graphs and stem-and-leaf plots
- compare data from various types of graphs
- relate different representations of data (e.g., tables, graphs, diagrams, plots)

**Grade 6 Skills and Concepts – Characteristics of Data**

*Students will*

- make predictions, draw conclusions and verify results from statistical data and probability experiments
- determine and apply measures of distribution (mean, median, mode, range)

**Grade 6 Skills and Concepts – Experiments and Samples**

- pose questions; collect, organize and display data
- explore how sample size affects the reliability of the outcome

**Grade 6 Skills and Concepts – Probability**

*Students will*

- describe or determine (e.g., tables, tree diagrams) the sample space of an event
- investigate solutions to probability problems using counting techniques, tree diagrams, charts and tables
- make predictions, draw conclusions and verify results from statistical data and probability experiments
- determine simple probabilities based on the results of an experiment and make inferences based on the data
- explore the role of probability in decision making

## Big Idea: Algebraic Thinking

Middle grade students extend pattern work to include arithmetic sequences. They use linear functions and linear equations. They plot rational number pairs in the Cartesian plane. They simplify algebraic and numeric expressions. They explore the effects of change on related variables. They use and solve two-step single variable equations and inequalities.

**Academic Expectations**

**2.8** Students understand various mathematical procedures and use them appropriately and accurately.
**2.11** Students understand mathematical change concepts and use them appropriately and accurately.
**2.12** Students understand mathematical structure concepts including the properties and logic of various mathematical systems.

**Grade 6 Enduring Knowledge – Understandings**

*Students will understand that*

- patterns, relations and functions are tools that help explain or predict real-world phenomena.
- numerical patterns can be written as rules that generate the pattern.
- algebra represents mathematical situations and structures for analysis and problem solving.
- real-world situations can be represented using mathematical models to analyze quantitative relationships.
- functions are used to analyze change in various contexts and model real-world phenomena. Functions can be written in words, in a symbolic sentence or in a table.

**Grade 6 Skills and Concepts – Patterns, Relations and Functions**

*Students will*

- recognize, create and extend patterns (give an informal description of the continuation of a pattern and/or generalize a pattern through a verbal rule)
- represent, interpret and describe function relationships through tables, graphs and verbal rules
- organize input-output coordinate pairs into tables and plot points in the first quadrant of a coordinate (Cartesian) system/grid
- explain how the change in one quantity affects change in another quantity (e.g., in tables or graphs, input/output tables)

**Grade 6 Skills and Concepts – Variables, Expressions and Operations**

*Students will*

- explore the use of variables in expressions and equations
- substitute numerical values for variables and evaluate algebraic expressions
- describe, define and provide examples of algebraic expressions based on real-world and/or mathematical situations

**Grade 6 Skills and Concepts – Equations and Inequalities**

*Students will*

- use concrete and/or informal methods to solve equations with one variable that model real-world situations
- solve problems involving simple formulas (e.g., A=lw, D=rt)
- model and solve real-world problems with one variable equations and inequalities (e.g., 8x=4, x+2>5)

# Program of Studies – Mathematics – Seventh Grade

The mathematics program in grade seven includes strong literacy connections, active and hands-on work with concrete materials and appropriate technologies. Grade seven problem solving, mathematical communication, connections, mathematical reasoning and multiple representations should be a part of the mathematics curriculum. The use of these techniques enhances and extends students' mathematics skills. Accuracy is an integral part of the mathematics program.

Students should have opportunities to work individually and in groups of varying size and composition in order to conduct investigations, process information and discuss important mathematical concepts. Students must have regular opportunities to share their ideas with others and to solve problems generated as a result of their learning experiences.

The mathematics content standards at the seventh grade level are directly aligned with Kentucky's **Academic Expectations**. Mathematics standards are organized around five “Big Ideas” that are important to the discipline of mathematics. The five big ideas in mathematics are: Number Properties and Operations, Measurement, Geometry, Data Analysis and Probability and Algebraic Thinking. The Big Ideas are conceptual organizers for mathematics and are similar at each grade level to ensure students have multiple opportunities throughout the students’ school careers to develop skills and concepts linked to the Big Ideas.

Under each Big Idea are statements of Enduring Knowledge/Understandings that represent overarching generalizations linked to the Big Ideas of mathematics. The understandings represent the desired results – what learning will focus upon and what knowledge students will be able to explain or apply. Understandings can be used to frame development of units of study and lesson plans.

Skills and concepts describe ways that students demonstrate their learning and are specific to each grade level. The skills and concepts for mathematics are fundamental to mathematical literacy, mathematical power and build on prior learning.

Effectively implementing the Program of Studies requires a common understanding of the process standards mentioned in the first paragraph.

**Problem solving** includes multiple strategies for modeling, interpreting and formulating problems based in real-world situations, within and outside of mathematics, and aids in investigating and understanding mathematical content.

**Mathematical communication** includes modeling problems using oral, written, concrete, visual, graphical and algebraic methods to define, interpret and argue mathematical ideas. Mathematical communication includes mathematical symbolic notation (letters and marks used in mathematics to name numbers, operations, sets, relations).

**Mathematical connections** include relating mathematical ideas within mathematics and to other disciplines using graphic, numerical, physical, algebraic and verbal models.

**Mathematical reasoning** includes inductive and deductive reasoning necessary in developing conjectures and validating arguments.

**Multiple representations** allow students to be able to recognize common mathematical structures across different contexts. In the middle grades, students can use representations for more abstract concepts, such as rational numbers or linear relationships, or to portray, clarify, or extend an idea.

**Academic Expectation** 1.5-1.9 (Students use mathematical ideas and procedures to communicate, reason and solve problems.) is infused throughout the mathematics instruction P-12 and is integral to the content and instruction across all grade levels.

**Academic Expectation** 1.16 (Students will use computers and other kinds of technology to collect, organize and communicate information and ideas.) is an essential and integral part of instruction across the content and the mathematics Program of Studies.

## Big Idea: Number Properties and Operations

Middle grades students understand fractions, decimals, percents and integers, compare them and locate their relative positions on a number line. They develop and use proportional reasoning to solve problems. They work with large numbers and small numbers. They use factors, multiples and prime factorizations. They perform arithmetic operations with fractions, decimals and integers, use properties in computation, develop fluency and develop strategies to estimate the result of operations on rational numbers.

**Academic Expectations**

**2.7** Students understand number concepts and use numbers appropriately and accurately.

**2.8** Students understand various mathematical procedures and use them appropriately and accurately.

**Grade 7 Enduring Knowledge – Understandings**

*Students will understand that*

- numbers, ways of representing numbers, relationships among numbers and number systems are means of representing real-world quantities.
- meanings of and relationships among operations provide tools necessary to solve realistic problems encountered in everyday life.
- computing fluently and making reasonable estimates with fractions, decimals, percents and integers increases the ability to solve realistic problems encountered in everyday life.
- proportional reasoning is a tool for modeling and solving problems encountered in everyday situations.

**Grade 7 Skills and Concepts – Number Sense**

*Students will*

- extend number sense for percents and integers
- extend applications of operations ($+, -, \times, \div$) to include integers
- develop number sense for π (pi) as one example of an irrational number
- use whole number exponents to represent/express numbers
- compare, order and determine equivalent relationships among fractions, decimals and percents
- provide examples of and use models, diagrams and symbols (e.g., number lines, 10 by 10 grids, rectangular arrays, number sentences) to describe and write equivalent forms of integers, fractions, decimals, percents, square roots and π

**Grade 7 Skills and Concepts – Estimation**

*Students will*

- estimate and mentally compute to solve real-world and/or mathematical problems with fractions, decimals, percents and integers, checking for reasonable and appropriate computational results
- estimate large and small quantities of objects

**Grade 7 Skills and Concepts – Number Operations**

*Students will*

- develop addition, subtraction, multiplication and division of integers both concretely and symbolically (mental, pencil and paper, calculators)
- extend concepts and application of operations with fractions and decimals to include percents
- add, subtract, multiply, divide and apply order of operations (including positive whole number exponents) with fractions, decimals and integers to solve real-world problems
- explain inversely-related operations (addition and subtraction; multiplication and division)

## Big Idea: Number Properties and Operations – Continued

**Grade 7 Skills and Concepts – Ratios and Proportional Reasoning**
*Students will*

- compute percentages and use percentages in proportional reasoning
- determine and solve proportions in real-world and mathematical situations
- develop proportional reasoning and apply to real-world and mathematical problems (e.g., rates, scaling, similarity)

**Grade 7 Skills and Concepts – Properties of Numbers and Operations**
*Students will*

- identify, explain and apply properties (e.g., commutative, associative, inverse and identity for addition and multiplication; distributive)
- identify and apply prime numbers, composite numbers, prime factorization, factors, multiples and divisibility to solve real-world problems (e.g., use prime factorization to determine a least common multiple [LCM] or greatest common factor [GCF])

## Big Idea: Measurement

Students continue to measure and estimate measurements including fractions and decimals. They use formulas to find perimeter, area, circumference and volume. They use rulers and protractors. They use US Customary and metric units of measurement.

**Academic Expectations**

**2.10** Students understand measurement concepts and use measurements appropriately and accurately.

**2.11** Students understand mathematical change concepts and use them appropriately and accurately.

**Grade 7 Enduring Knowledge – Understandings**

*Students will understand that*

- there are two major measurement systems (U.S. Customary and metric) and either may be used to solve problems.
- measurable attributes of objects and the units, systems and processes of measurement are powerful tools for making sense of the world around them.
- measurements are determined by using appropriate techniques, tools, formulas and degree of accuracy needed for the situation.

**Grade 7 Skills and Concepts – Measuring Physical Attributes**

*Students will*

- read and use measurement tools (e.g., rulers, scales, protractors, angle rulers)
- estimate and find angle measures and segment measures
- estimate and find circle measurements in standard units (radius, diameter, circumference, area) and relationships among them
- develop and use the formulas for area of a triangle, a parallelogram and a trapezoid and relate each to the formula for the area of a rectangle (b x h)
- determine the length of sides (to the nearest eighth of an inch or nearest centimeter), area and perimeter of triangles, quadrilaterals (rectangles, squares, trapezoids) and other polygons. (Using the Pythagorean theorem will not be required as a strategy)
- explain how measurements and measurement formulas are related or different (e.g., perimeter and area of rectangles)
- investigate and demonstrate fixed area with changing perimeter and fixed perimeter with changing area

**Grade 7 Skills and Concepts – Systems of Measurement**

*Students will*

- describe and provide examples of U.S. Customary and metric units of measurement; use these units to solve real-world and/or mathematical problems

## Big Idea: Geometry

Middle grade students expand analysis of two-dimensional shapes and three-dimensional shapes. They translate shapes in a coordinate plane. They extend work with congruent and similar figures, including proportionality.

**Academic Expectation**

**2.8** Students understand various mathematical procedures and use them appropriately and accurately.

**2.9** Students understand space and dimensionality concepts and use them appropriately and accurately.

**Grade 7 Enduring Knowledge – Understandings**

*Students will understand that*

- characteristics and properties of two-dimensional figures and three-dimensional objects describe the world and are used to develop mathematical arguments about geometric relationships and to evaluate the arguments of others.
- representational systems, including coordinate geometry, are means for specifying locations and describing spatial relationships and are organizers for making sense of the world around them.
- transformations and symmetry are used to analyze real-world situations (e.g., art, nature, construction and scientific exploration).
- shape and area are conserved during mathematical transformations (flips, slides and turns). Scale conserves shape, but changes size.
- visualization, spatial reasoning and geometric relationships model real-world situations.

**Grade 7 Skills and Concepts – Shapes and Relationships**

*Students will*

- describe, provide examples of and identify (using correct notation, label and name) the basic geometric elements (e.g., points, segments, rays, lines, angles and planes), including both real world and/or mathematical situations
- identify characteristics of angles (e.g., adjacent, vertical, corresponding, interior, exterior)
- identify properties for classifying, describe, provide examples of and identify elements (e.g., sides, vertices, angles, congruent parts) of two-dimensional figures (circles, triangles [acute, right, obtuse, scalene, isosceles, equilateral], quadrilaterals [square, rectangle, rhombus, parallelogram, trapezoid], regular and irregular polygons); apply properties of these figures to solve real-world problems
- describe, provide examples of and identify elements (e.g., vertices, angles, faces, edges, congruent parts) of common three-dimensional figures (spheres, cones, cylinders, prisms and pyramids)
- represent three-dimensional geometric objects with special attention to developing spatial sense (e.g., top view, side view, three-dimensional objects drawn on isometric dot paper)
- describe and provide examples of congruent and similar figures and apply congruent and similar figures to solve real-world problems

**Grade 7 Skills and Concepts – Transformations of Shapes**

*Students will*

- move shapes in a plane and/or in a coordinate plane (translate [slide], rotate [turn] about the origin or a vertex, reflect [flip] over a horizontal or vertical line)

**Grade 7 Skills and Concepts – Coordinate Geometry**

*Students will*

- identify and graph ordered pairs on a coordinate system, identifying the origin, axes and ordered pairs
- apply graphing in the coordinate system to solve real-world and/or mathematical problems

## Big Idea: Data Analysis and Probability

Middle grades students extend the early development of data representations and examine the appropriateness of graphs and representations of data. They examine central tendencies and dispersion. They develop organized approaches to counting and use experimental and theoretical probabilities.

**Academic Expectations**

**2.7** Students understand number concepts and use numbers appropriately and accurately.
**2.8** Students understand various mathematical procedures and use them appropriately and accurately.
**2.13** Students understand and appropriately use statistics and probability.

**Grade 7 Enduring Knowledge – Understandings**

*Students will understand that*

- quantitative literacy is a necessary tool to be an intelligent consumer and citizen.
- the collection, organization, interpretation and display of data can be used to answer questions.
- the choice of data display can affect the visual message communicated.
- inferences and predictions from data are used to make critical and informed decisions.
- for a given set of data or a graph, statistical measures (mean, median, mode, range) can be used to describe the distribution of the data.
- probability can be used to make decisions or predictions or to draw conclusions.

**Grade 7 Skills and Concepts – Data Representations**

*Students will*

- collect, organize, construct, analyze and interpret data and data displays in a variety of graphical methods, including circle graphs, multiple line graphs, double bar graphs and double stem-and-leaf plots
- select an appropriate graph to represent given data and justify its use
- compare data from various types of graphs
- relate different representations of data (e.g., tables, graphs, diagrams, plots)
- read/interpret, analyze and make inferences from a box and whisker plot of data and make predictions and draw conclusions from the data
- make decisions about how misleading representations affect interpretations and conclusions about data (e.g. changing the scale on a graph)

**Grade 7 Skills and Concepts – Characteristics of Data**

*Students will*

- make predictions, draw conclusions and verify results from statistical data and probability experiments
- determine, apply and compare measures of mean, median, mode and/or range, as appropriate to the problem situation
- identify clusters, gaps and outliers within the data

**Grade 7 Skills and Concepts – Experiments and Samples**

- pose questions; collect, organize and display data
- explore how sample size affects the reliability of the outcome

## Big Idea: Data Analysis and Probability – Continued

**Grade 7 Skills and Concepts – Probability**
*Students will*

- make predictions, draw conclusions and verify results from statistical data and probability experiments
- determine appropriate techniques to use when investigating possible outcomes of probability problems (using counting techniques, tree diagrams, area models and exhaustive organized lists, charts and tables)
- investigate and explain the role of probability in decision making
- design and conduct probability experiments
- determine theoretical (mathematical) probabilities (expressed as a ratio, decimal or percent), compare to experimental results and explain reasons why there might be differences
- explore concepts of randomness and independent events
- apply counting techniques to determine the size of a sample space

## Big Idea: Algebraic Thinking

Middle grade students extend pattern work to include arithmetic sequences. They use linear functions and linear equations. They plot rational number pairs in the Cartesian plane. They simplify algebraic and numeric expressions. They explore the effects of change on related variables. They use and solve two-step single variable equations and inequalities.

**Academic Expectations**

**2.8** Students understand various mathematical procedures and use them appropriately and accurately.
**2.11** Students understand mathematical change concepts and use them appropriately and accurately.
**2.12** Students understand mathematical structure concepts including the properties and logic of various mathematical systems.

**Grade 7 Enduring Knowledge – Understandings**
*Students will understand that*

- patterns, relations and functions are tools that help explain or predict real-world phenomena.
- numerical patterns can be written as rules that generate the pattern.
- algebra represents mathematical situations and structures for analysis and problem solving.
- real-world situations can be represented using mathematical models to analyze quantitative relationships.
- functions are used to analyze change in various contexts and model real-world phenomena.
- functions can be written in words, in a symbolic sentence or in a table.

**Grade 7 Skills and Concepts – Patterns, Relations and Functions**
*Students will*

- recognize, create and extend patterns and generalize the pattern by determining the rule for any term
- represent, analyze and generalize functional relationships (input/output) through tables, graphs and verbal rules
- organize input-output coordinate pairs into tables and plot points in all four quadrants of a coordinate (Cartesian) system/grid; interpret resulting patterns/trends
- relate tables, graphs, verbal rules and equations
- explain how the change in the input affects the change in the output (e.g., in tables or graphs)

**Grade 7 Skills and Concepts – Variables, Expressions and Operations**
*Students will*

- simplify numeric and algebraic expressions
- substitute values for variables to evaluate algebraic expressions
- describe, define and provide examples of algebraic expressions based on real-world and/or mathematical situations

**Grade 7 Skills and Concepts – Equations and Inequalities**
*Students will*

- use multiple representations to model and solve single-variable equations and inequalities
- solve problems involving formulas
- model and solve real-world problems with one- or two-step equations or inequalities (e.g., $2x+1=9$, $3x+3<9$)

# Program of Studies – Mathematics – Eighth Grade

The mathematics program in grade eight includes strong literacy connections, active and hands-on work with concrete materials and appropriate technologies. Grade eight problem solving, mathematical communication, connections, mathematical reasoning and multiple representations should be a part of the mathematics curriculum. The use of these techniques enhances and extends students' mathematics skills. Accuracy is an integral part of the mathematics program.

Students should have opportunities to work individually and in groups of varying size and composition in order to conduct investigations, process information and discuss important mathematical concepts. Students must have regular opportunities to share their ideas with others and to solve problems generated as a result of their learning experiences.

The mathematics content standards at the eighth grade level are directly aligned with Kentucky's **Academic Expectations**. Mathematics standards are organized around five “Big Ideas” that are important to the discipline of mathematics. The five big ideas in mathematics are: Number Properties and Operations, Measurement, Geometry, Data Analysis and Probability and Algebraic Thinking. The Big Ideas are conceptual organizers for mathematics and are similar at each grade level to ensure students have multiple opportunities throughout the students’ school careers to develop skills and concepts linked to the Big Ideas.

Under each Big Idea are statements of Enduring Knowledge/Understandings that represent overarching generalizations linked to the Big Ideas of mathematics. The understandings represent the desired results – what learning will focus upon and what knowledge students will be able to explain or apply. Understandings can be used to frame development of units of study and lesson plans.

Skills and concepts describe ways that students demonstrate their learning and are specific to each grade level. The skills and concepts for mathematics are fundamental to mathematical literacy, mathematical power and build on prior learning.

Effectively implementing the Program of Studies requires a common understanding of the process standards mentioned in the first paragraph.

**Problem solving** includes multiple strategies for modeling, interpreting and formulating problems based in real-world situations, within and outside of mathematics, and aids in investigating and understanding mathematical content.

**Mathematical communication** includes modeling problems using oral, written, concrete, visual, graphical and algebraic methods to define, interpret and argue mathematical ideas. Mathematical communication includes mathematical symbolic notation (letters and marks used in mathematics to name numbers, operations, sets, relations).

**Mathematical connections** include relating mathematical ideas within mathematics and to other disciplines using graphic, numerical, physical, algebraic and verbal models.

**Mathematical reasoning** includes inductive and deductive reasoning necessary in developing conjectures and validating arguments.

**Multiple representations** allow students to be able to recognize common mathematical structures across different contexts. In the middle grades, students can use representations for more abstract concepts, such as rational numbers or linear relationships, or to portray, clarify, or extend an idea.

**Academic Expectation** 1.5-1.9 (Students use mathematical ideas and procedures to communicate, reason, and solve problems.) is infused throughout the mathematics instruction P-12 and is integral to the content and instruction across all grade levels.

**Academic Expectation** 1.16 (Students will use computers and other kinds of technology to collect, organize, and communicate information and ideas.) is an essential and integral part of instruction across the content and the mathematics Program of Studies.

## Big Idea: Number Properties and Operations

Middle grades students understand fractions, decimals, percents and integers, compare them and locate their relative positions on a number line. They develop and use proportional reasoning to solve problems. They work with large numbers and small numbers. They use factors, multiples and prime factorizations. They perform arithmetic operations with fractions, decimals and integers, use properties in computation, develop fluency and develop strategies to estimate the result of operations on rational numbers.

**Academic Expectations**

**2.7** Students understand number concepts and use numbers appropriately and accurately.

**2.8** Students understand various mathematical procedures and use them appropriately and accurately.

**Grade 8 Enduring Knowledge – Understandings**

*Students will understand that*

- numbers, ways of representing numbers, relationships among numbers and number systems are means of representing real-world quantities.
- meanings of and relationships among operations provide tools necessary to solve realistic problems encountered in everyday life.
- computing fluently and making reasonable estimates with fractions, decimals, percents and integers increases the ability to solve realistic problems encountered in everyday life.
- proportional reasoning is a tool for modeling and solving problems encountered in everyday situations.

**Grade 8 Skills and Concepts – Number Sense**

*Students will*

- continue to develop number sense to include irrational numbers (e.g., square roots, cube roots, π)
- provide examples of, describe and compare irrational and rational numbers (e.g., magnitude, order on a number line, scientific notation, very large and very small integers, numbers close to zero)
- describe and provide multiple representations of numbers (rational, square roots, cube roots and π) in a variety of equivalent forms using models, diagrams and symbols based on real-world and/or mathematical situations

**Grade 8 Skills and Concepts – Estimation**

*Students will*

- estimate to solve real-world and/or mathematical problems with rational numbers and common irrational numbers, checking for reasonable and appropriate computational results
- estimate with large and small quantities of objects

**Grade 8 Skills and Concepts – Number Operations**

*Students will*

- add, subtract, multiply, divide and apply order of operations (including positive whole number exponents) using rational numbers to solve real-world problems
- determine and explain the inverse relationship between addition and subtraction, multiplication and division, or raising to an exponent and taking the root of a number

## Big Idea: Number Properties and Operations – Continued

**Grade 8 Skills and Concepts – Ratios and Proportional Reasoning**
*Students will*

- use percentages and proportions in problem solving, including consumer applications (e.g., simple interest, percentages of increase and decrease, discounts, unit pricing, sale prices)
- derive and use formulas for various rates (e.g., distance/time, miles per hour)

**Grade 8 Skills and Concepts – Properties of Numbers and Operations**
*Students will*

- identify and use the commutative properties, the associative properties, the identity properties and the inverse properties for addition and multiplication, the distributive property and inverse relationships to justify a given step in solving problems

## Big Idea: Measurement

Students continue to measure and estimate measurements including fractions and decimals. They use formulas to find perimeter, area, circumference and volume. They use rulers and protractors. They use US Customary and metric units of measurement. They use the Pythagorean theorem.

**Academic Expectations**

**2.10** Students understand measurement concepts and use measurements appropriately and accurately.

**2.11** Students understand mathematical change concepts and use them appropriately and accurately.

**Grade 8 Enduring Knowledge – Understandings**

*Students will understand that*

- there are two major measurement systems (U.S. Customary and metric) and either may be used to solve problems.
- measurable attributes of objects and the units, systems and processes of measurement are powerful tools for making sense of the world around them.
- measurements are determined by using appropriate techniques, tools, formulas and degree of accuracy needed for the situation.

**Grade 8 Skills and Concepts – Measuring Physical Attributes**

*Students will*

- read and use measurement tools (e.g., rulers, scales, protractors, angle rulers, CBL/CBRs)
- estimate and find angle measures and segment measures
- determine measures of the lengths of sides and the perimeter both regular and irregular shapes, including lengths to the nearest sixteenth of an inch or the nearest millimeter
- determine the area of triangles and quadrilaterals
- determine the area and circumference of circles
- develop and apply the Pythagorean theorem
- develop and apply formulas for volume and surface area of cubes, cylinders and right rectangular prisms; investigate relationships between and among them
- estimate measurements in standard units in real world and/or mathematical situations
- explain how measurements and measurement formulas are related or different (perimeter and area; rate, time and distance; circumference and area of a circle)

**Grade 8 Skills and Concepts – Systems of Measurement**

*Students will*

- provide examples of and apply money, time and U.S. Customary and metric units of measurement to solve real-world problems

## Big Idea: Geometry

Middle grade students expand analysis of two-dimensional shapes and three-dimensional shapes. They translate shapes in a coordinate plane. They extend work with congruent and similar figures, including proportionality.

**Academic Expectation**

**2.8** Students understand various mathematical procedures and use them appropriately and accurately.

**2.9** Students understand space and dimensionality concepts and use them appropriately and accurately.

**Grade 8 Enduring Knowledge – Understandings**

*Students will understand that*

- characteristics and properties of two-dimensional figures and three-dimensional objects describe the world and are used to develop mathematical arguments about geometric relationships and to evaluate the arguments of others.
- representational systems, including coordinate geometry, are means for specifying locations and describing spatial relationships and are organizers for making sense of the world around them.
- transformations and symmetry are used to analyze real-world situations (e.g., art, nature, construction and scientific exploration).
- shape and area are conserved during mathematical transformations (flips, slides and turns). Scale conserves shape but changes size.
- visualization, spatial reasoning and geometric relationships model real-world situations.

**Grade 8 Skills and Concepts – Shapes and Relationships**

*Students will*

- describe and provide examples of basic geometric elements that include points, segments, rays, lines, angles and planes; use these elements in real-world and/or mathematical situations
- identify and compare properties of two-dimensional figures (circles; triangles: acute, right, obtuse, scalene, isosceles, equilateral; quadrilaterals: square, rectangle, rhombus, parallelogram, trapezoid; regular/irregular polygons); apply these properties and figures to solve real-world problems
- compare properties of three-dimensional figures (spheres, cones, cylinders, prisms, pyramids); apply these properties and figures to solve real-world problems
- provide examples of and apply congruent and similar two-dimensional figures to solve real-world problems
- apply proportional reasoning to solve problems involving scale models and real objects and scale drawings and similar two-dimensional figures

**Grade 8 Skills and Concepts – Transformations of Shapes**

*Students will*

- investigate the congruence, proportionality and/or similarity of pre-images and images of dilations (e.g., enlargements, reductions) in a coordinate plane
- describe, provide examples of and apply to real-world and/or mathematical situations rotational symmetry (45˚, 90º, 180º, 270º, 360º)
- rotate (clockwise or counterclockwise) shapes in a coordinate plane about the origin
- transform figures in a coordinate plane (translations, reflections and dilations [magnifications and contractions] with the center of dilation at the origin); determine the new coordinates of the image after the transformation

## Big Idea: Geometry – Continued

**Grade 8 Skills and Concepts – Coordinate Geometry**
*Students will*

- identify and graph ordered pairs on a coordinate system, identifying the origin, axes and ordered pairs; apply graphing in the coordinate system to solve real-world problems
- analyze the graph of a line to determine the slope , y-intercept and equation of the line

## Big Idea: Data Analysis and Probability

Middle grades students extend the early development of data representations and examine the appropriateness of graphs and representations of data. They examine central tendencies and dispersion. They develop organized approaches to counting and use experimental and theoretical probabilities.

**Academic Expectations**

**2.7** Students understand number concepts and use numbers appropriately and accurately.
**2.8** Students understand various mathematical procedures and use them appropriately and accurately.
**2.13** Students understand and appropriately use statistics and probability.

**Grade 8 Enduring Knowledge – Understandings**

*Students will understand that*

- quantitative literacy is a necessary tool to be an intelligent consumer and citizen.
- the collection, organization, interpretation and display of data can be used to answer questions.
- the choice of data display can affect the visual message communicated.
- inferences and predictions from data are used to make critical and informed decisions.
- for a given set of data or a graph, statistical measures (mean, median, mode, range) can be used to describe the distribution of the data.
- probability can be used to make decisions or predictions or to draw conclusions.

**Skills and Concepts – Data Representations**

*Students will*

- collect, organize, construct, analyze and make inferences from data in a variety of graphical methods (e.g., drawings, tables/charts, pictographs, bar graphs, circle graphs, line plots, Venn diagrams, line graphs, stem-and-leaf plots, scatter plots, histograms, box-and-whiskers plots)
- select an appropriate graph to represent data and justify its use
- compare similar data from various types of graphs
- relate different representations of data (e.g., tables, graphs, diagrams, plots) and explain how misleading representations affect interpretations and conclusions about data

## Big Idea: Data Analysis and Probability – Continued

**Grade 8 Skills and Concepts – Characteristics of Data**
*Students will*

- determine and interpret clusters, quartiles, gaps and outliers in data
- make predictions, draw conclusions and verify results from statistical data and probability experiments, making use of technology as appropriate
- determine and interpret the mean, median, mode and range of a set of data
- compare sets of data
- explore how statistics can be interpreted in many ways

**Grade 8 Skills and Concepts – Experiments and Samples**
*Students will*

- explain how data gathering, bias issues or faulty data analysis can affect the results of data collection, data representation and data interpretation

**Grade 8 Skills and Concepts – Probability**
*Students will*

- make predictions, draw conclusions and verify results from probability experiments or simulations, making use of technology as appropriate
- analyze situations, such as games of chance, board games or grading scales and make predictions using knowledge of probability
- identify and describe the number of possible arrangements of several objects, using a tree diagram or the basic counting principle; make a list, picture, chart or tree diagram to represent a sample space
- investigate counting techniques (e.g., networks)
- investigate and explain the role of probability in everyday decision making
- explore concepts of randomness and independent events
- determine theoretical (mathematical) probabilities ( e.g., express probability as a ratio, decimal, percent, area model as appropriate for a given situation)
- compare theoretical and experimental results and explain reasons why there might be differences

## Big Idea: Algebraic Thinking

Middle grade students extend pattern work to include arithmetic sequences. They use linear functions and linear equations. They plot rational number pairs in the Cartesian plane. They simplify algebraic and numeric expressions. They explore the effects of change on related variables. They use and solve two-step single variable equations and inequalities.

**Academic Expectations**

**2.8** Students understand various mathematical procedures and use them appropriately and accurately.
**2.11** Students understand mathematical change concepts and use them appropriately and accurately.
**2.12** Students understand mathematical structure concepts including the properties and logic of various mathematical systems.

**Grade 8 Enduring Knowledge – Understandings**

*Students will understand that*

- patterns, relations and functions are tools that help explain or predict real-world phenomena.
- numerical patterns can be written as rules that generate the pattern.
- algebra represents mathematical situations and structures for analysis and problem solving.
- real-world situations can be represented using mathematical models to analyze quantitative relationships.
- functions are used to analyze change in various contexts and model real-world phenomena. Functions can be written in words, in a symbolic sentence or in a table.

**Grade 8 Skills and Concepts – Patterns, Relations and Functions**

*Students will*

- recognize, create and extend patterns (generalize the pattern by giving the rule for the *n*th term and explain the generalization)
- represent, interpret and describe linear and simple quadratic functional relationships (input/output) through tables, graphs and symbolic rules
- organize input-output coordinate pairs into tables, plot points in all four quadrants of a coordinate (Cartesian) system/grid and interpret resulting patterns or trends using technology as appropriate
- interpret and explain relationships between tables, graphs, verbal rules and equations, using technology as appropriate
- graph linear functions in a four quadrant (Cartesian) system/grid and interpret the results, using technology as appropriate
- explain how change in the input affects change in the output (e.g., in $d=rt$, increasing the time ($t$) increases the distance ($d$))

**Grade 8 Skills and Concepts – Variables, Expressions and Operations**

*Students will*

- apply order of operations to evaluate and simplify algebraic expressions
- given a formula, substitute appropriate elements from a real-world or mathematical situation
- describe, define and provide examples of variables and expressions with a missing value based on real-world and/or mathematical situations

**Grade 8 Skills and Concepts – Equations and Inequalities**

*Students will*

- use multiple representations to model and solve one- and two-variable linear equations
- solve problems using formulas
- investigate linear inequalities using a variety of methods and representations
- model and solve real-world problems with one- or two-step equations or inequalities (e.g., $4x+2=22$, $x-4<-60$)

# MIDDLE LEVEL PRACTICAL LIVING

## (HEALTH AND PHYSICAL EDUCATION)

# Program of Studies – Practical Living – Sixth Grade

Individuals are required to make daily decisions regarding health issues that affect their immediate and long-term health. Maintaining a health way of living requires a balance of physical, mental, emotional and social well-being. The 6th grade Health Education program provides students with knowledge skills necessary to confront health related issues and make a smooth transition from puberty to adolescence. The sixth grade health education curriculum emphasizes development of decision-making skills related to the essential areas of self-esteem, peer pressure, physical wellness, nutrition, safety and first aid, disease prevention, exercise, fitness, human growth and development, stress management, conflict resolution, substance abuse, group membership, goal setting, mental and emotional wellness, community resources and services.

Literacy in physical education means competence in movement forms, the knowledge and application of concepts and principles related to motor skills and the adoption of a healthy, physically active lifestyle. Competence in movement forms makes possible the enjoyment of participation in physical activity and establishes the foundation for continued motor skill acquisition. Increased skill acquisition, in turn, affords the student the capacity for successful and advance levels of performance that further increase the likelihood of participation in physical activity.

Students in 6th grade combine fundamental skills into more complex movement forms in modified game, dance and recreational activities. Cooperative and competitive small-group games are appropriate with an emphasis being placed on developing skills and tactical understanding. Students use feedback to initiate and maintain practice to improve skill performance. Students assess their health-related fitness status and set reasonable and appropriate goals for development, maintenance and improvement. Social interaction becomes more complex as peer pressure becomes increasingly pronounced, impacting individual performance. Students solve problems and make responsible decisions as they work together. They exhibit a physically active lifestyle at school and outside the school environment.

The Health and Physical Education content standards at the 6th grade level are directly aligned with Kentucky's **Academic Expectations**. The Health and Physical Education standards are organized around five "Big Ideas" that are important to the discipline of health and physical education. These big ideas are: Personal Wellness, Nutrition, Safety, Psychomotor Skills and Lifetime Physical Wellness. The Big Ideas are conceptual organizers for health and physical education and are the same at each grade level. This ensures students have multiple opportunities throughout their school careers to develop skills and concepts linked to the Big Ideas.

Under each Big Idea are statements of Enduring Knowledge/Understandings that represent overarching generalizations linked to health and physical education. The understandings represent the desired results- what learning will focus upon and what knowledge students will be able to explain or apply. Understandings can be used to frame development of units of study and lessons plans.

Skills and concepts describe the ways that students demonstrate their learning and are specific to each grade level. The skills and concepts for health and physical education are fundamental to health literacy and build on prior learning.

The health and physical education program provides a connection to Kentucky's Learning Goals 3 (self-sufficient individuals) and Learning Goal 4 (responsible group member), which are included in Kentucky statue, but they are not included in the state's academic assessment program. These connections provide a comprehensive link between essential content, skills and abilities important to learning. In addition Learning Goal 5 (think and solve problems) and Learning Goal 6 (connect and integrate knowledge) are addressed in health and physical education.

All physical education courses taught in the state of Kentucky must be in compliance with the Federal Special Education Law and Title IX and shall not include practice for or participation in interscholastic athletics.

## Big Idea: Personal Wellness (Health Education)

Wellness is maximum well-being or total health. Personal wellness is a combination of physical, mental, emotional, spiritual and social well-being. It involves making behavioral choices and decisions each day that promote an individual's physical well-being, the prevention of illnesses and diseases, and the ability to remain, physically, mentally, spiritually, socially and emotionally healthy.

**Academic Expectations**

**2.29** Students demonstrate skills that promote individual well-being and healthy family relationships.
**2.31** Students demonstrate the knowledge and skills they need to remain physically healthy and to accept responsibility for their own physical well-being.
**2.32** Students demonstrate strategies for becoming and remaining mentally and emotionally healthy.
**3.2** Students demonstrate the ability to maintain a healthy lifestyle.
**4.1** Students effectively use interpersonal skills.
**4.4** Students demonstrate the ability to accept the rights and responsibilities for self and others.
**5.1** Students use critical thinking skills such as analyzing, prioritizing, categorizing, evaluating and comparing to solve a variety of problems in real-life situations.
**5.4** Students use a decision-making process to make informed decisions among options.

**Grade 6 Enduring Knowledge – Understandings**

*Students will understand that*

- it is important to assume responsibility for personal health.
- Interactions with others are an integral part of the human life experience and contribute to healthy relationships.
- the environment, lifestyle, family history, peers and other factors impact physical, social, mental and emotional health.
- culture, values (e.g., individual, family, community) media and use of technology (e.g., television, computers, MP3 Players, electronic/arcade games) can influence personal behavioral choices games) can influence personal health.
- behavioral choices affect physical, mental, emotional and social well-being and can have positive or negative consequences on one's health.
- positive health habits can help prevent injuries and the spreading of diseases to self and others.
- self-management and coping strategies can enhance mental and emotional health.
- a variety of resources are available to inform, treat and counsel individuals with physical, mental, social and emotional health needs.

**Grade 6 Skills and Concepts – Personal and Physical Health**

*Students will*

- understand the importance of assuming responsibility for personal health behaviors:
  - predict how decisions regarding health behaviors (e.g., hygiene, diet, exercise) have consequences for self and others
  - analyze personal decisions that impact an individual's emotional, sexual and reproductive health (e.g., abstinence)
  - explain how rights and responsibilities are interrelated
- explore and analyze how an individuals behaviors and choices of diet, exercise and rest affect the body
- analyze various communication methods and barriers for expressing health information and ideas

**Grade 6 Skills and Concepts – Growth and Development**

*Students will*

- apply strategies and skills needed to obtain personal health goals during adolescence and identify the physical, social and emotional changes (e.g., growth spurts, peer influence, self-confidence, mood swings) that occur during adolescence
- explain basic structures and function of the reproductive system

## Big Idea: Personal Wellness (Health Education) – Continued

**Grade 6 Skills and Concepts – Social, Mental and Emotional Health**
*Students will*

- demonstrate social interaction skills by:
  - using appropriate means to express needs, wants and feelings
  - using and describe the importance of effective social interaction skills (e.g., respect, self-advocacy, cooperation, communication, identifying and being open to different perspectives and points of view, empathy, friendship)
  - recommending effective strategies for responding to stress, conflict, peer pressure and bullying
  - interpreting how individuals impact the effective functioning of groups
- demonstrate the ability to apply a decision-making process to health issues and problems individually and collaboratively
- identify common social and emotional problems (aggression, anxiety, depression, grief) and describe self-management and coping strategies (goal setting, refusal skills, decision making and time management) for addressing these problems

**Grade 6 Skills and Concepts – Family and Community Health**
*Students will*

- analyze how personal health choices, individual well-being and use of health services can be influenced by:
  - family traditions/values
  - technology and media messages
  - cultural beliefs
  - physical, social and emotional environments
  - information from peers

**Grade 6 Skills and Concepts – Communicable, Non-Communicable and Chronic Diseases Prevention**
*Students will*

- demonstrate an understanding of diseases by:
  - describing symptoms, causes, patterns of transmission, prevention and treatments of communicable diseases (colds, flu, mononucleosis, hepatitis, HIV/STD, tuberculosis)
  - describing symptoms, causes, patterns of transmission, prevention and treatments of non-communicable diseases (cancer, cardiovascular disease, diabetes, obesity, asthma, emphysema)
- investigate family history, environment, lifestyle and other risk factors related to the cause or prevention of disease and other health problems
- demonstrate an understanding of how to maintain a healthy body by:
  - explaining how health is influenced by the interaction of body systems (e.g., reproductive, digestive, circulatory, skeletal, respiratory)
  - describing ways pathogens from the environment (e.g., air, food, people) enter the body and explaining how body defenses fight pathogens
  - explaining how personal hygiene practices affect physical, mental/emotional and social health; explaining how personal health habits (e.g., hand washing, care of teeth and eyes, sun protection) affect self and others in the prevention and spread of disease
  - identifying health care providers and describing reasons for preventive care

## Big Idea: Personal Wellness (Health Education) – Continued

**Grade 6 Skills and Concepts – Alcohol, Tobacco and Other Drugs**
*Students will*

- demonstrate an understanding of the use and misuse of alcohol, tobacco and other drugs by:
  - distinguishing between legal (e.g., over the counter, prescription drugs) and illegal drugs (e.g., inhalants, marijuana, stimulants, depressants) and describing how their usage affects the body systems
  - describing the immediate and long-term effects of alcohol and drug usage and the impact on physical, mental, emotional and social health (e.g., effects on family life)
  - identifying resources available to individuals seeking treatment or counseling for negative behaviors or addictions

## Big Idea: Nutrition (Health Education)

Proper nutrition is critical to good health. To maintain a healthy weight, good dietary habits and physical activity are essential. Nutritious foods are necessary for growth, development and maintenance of healthy bodies.

**Academic Expectations**

**2.30** Students evaluate consumer products and services and make effective consumer decisions.
**2.31** Students demonstrate the knowledge and skills they need to remain physically healthy and to accept responsibility for their own physical well-being.
**3.2** Students will demonstrate the ability to maintain a healthy lifestyle.
**3.5** Students will demonstrate self-control and self-discipline.
**5.1** Students use critical thinking skills such as analyzing, prioritizing, categorizing, evaluating and comparing to solve a variety of problems in real-life situations.
**5.4** Students use decision-making process to make informed decisions among options.

**Grade 6 Enduring Knowledge – Understandings**

*Students will understand that*

- proper nutrition is essential to growth and development.
- nutrients have a role in the development of an individual's health.
- resources are available to assist in making nutritional choices.
- individuals, families and community values influence nutritional choices.

**Grade 6 Skills and Concepts**

*Students will*

- identify the role of nutrients and food sources which are important in the growth and development of healthy bodies
- explain the role of nutrition on the body systems impacting growth and development
- interpret, explain and apply the recommendations of national resources (e.g., Food Guide Pyramid (FGP), Dietary Guidelines for Americans, National Dairy Council) in making healthful food choices for a balanced diet
- analyze factors (e.g., geography, convenience, cost, advertising) that influence healthy food choices
- explain the role of nutrition on the body systems impacting the growth and development of healthy bodies
- use the nutritional information provided on food labels to explain how it can impacts dietary choices

## Big Idea: Safety (Health Education)

Accidents are a major cause of injury and death to children and adolescents. Unintentional injuries involving motor vehicle, falls, drowning, fires, firearms and poisons can occur at home, school and work. Safe behavior protects a person from danger and lessens the effects of harmful situations.

**Academic Expectations**

**2.31** Students demonstrate the knowledge and skills they need to remain physically healthy and to accept responsibility for their own physical well-being.
**2.33** Students demonstrate the skills to evaluate and use services and resources available in their community.
**3.2** Students will demonstrate the ability to maintain a healthy lifestyle.
**4.3** Students individually demonstrate consistent, responsive and caring behavior.
**4.4** Students demonstrate the ability to accept the rights and responsibilities for self and others.
**5.1** Students use skills such as analyzing, prioritizing, categorizing, evaluating and comparing to solve a variety of problems in real-life situations.
**5.4** Students use a decision-making process to make informed decisions among-options.

**Grade 6 Enduring Knowledge – Understandings**

*Students will understand that*

- safety practices and procedures help to prevent injuries and provide a safe environment.
- community and state resources are available to assist in hazardous situations.
- proper procedures must be used in emergency situations.

**Grade 6 Skills and Concepts**

*Students will*

- explain reasons for safety practices (e.g., walking in opposite direction of violence, staying calm in dangerous situations) for dealing with a variety of health hazards (e.g., firearms, motorized vehicles or potentially unsafe or threatening situations) encountered by adolescents
- describe potential hazards in and around the home and school explain how to prevent injuries
- Identify and practice safety procedures needed for emergencies (e.g., tornado, fire, earthquake) at home and school
- recognize life threatening emergencies and identify basic first-aid procedures for responding to a variety of life-threatening emergencies (e.g., choking, broken bones, shock, poisons, burns, allergic reactions, bleeding)
- describe how to avoid dangerous situations involving strangers, fires and internet safety
- identify local and state health/safety agencies (e.g., health department, fire department, state police, hospital transport services) and the services they provide
- access and use reliable resources on safety guidelines for avoiding injuries and dangerous situations
- identify and practice communications skills needed in emergency situations

## Big Idea: Psychomotor Skills (Physical Education)

Cognitive information can be used to understand and enhance the development of motor skills such as movement sequences and patterns. Individuals who understand their bodies and how to perform various movements will be safer and more productive in recreation and work activities. Development of psychomotor skills contributes to the development of social and cognitive skills.

**Academic Expectations**

**2.31** Students demonstrate the knowledge and skills they need to remain physically healthy and to accept responsibility for their own physical well-being.
**2.34** Students perform physical movements skills effectively in a variety of settings.
**2.35** Students demonstrate knowledge and skills that promote physical activity and involvement in physical activity throughout lives.
**4.1** Students effectively use interpersonal skills.

**Grade 6 Enduring Knowledge – Understandings**

*Students will understand that*

- movement concepts, principles, strategies and tactics apply to the learning and performance of physical activities.
- motor skills need to be refined, combined and varied in the development of specialized skills (e.g., serving, catching with a glove, dribbling, punting).

**Grade 6 Skills and Concepts**

*Students will*

- identify and apply principles of motor skill refinement (e.g. accuracy, technique, movement) that are necessary for skill development
- demonstrate a variety of locomotor and combination skills in a movement pattern
- use non-locomotor, locomotor and combination skills to demonstrate movements in creative sequences and in simple patterned dances, games and other activities
- demonstrate a variety of non-locomotor, locomotor and combination skills while participating in different games and sports
- demonstrate refined manipulative skills of throwing, catching, kicking and striking while developing motor skills (e.g., sliding, running, jumping) for use in games and other activities that lead to more complex games and sports (e.g., long jump, hurdles, volleyball, soccer, softball)
- demonstrate how transitional motor skills (e.g., punting, serving, dribbling) are influenced by space, force and time

## Big Idea: Lifetime Physical Wellness (Physical Education)

Lifetime wellness is health-focused. The health-related activities and content utilized are presented to help students become more responsible for their overall health status, and to prepare each student to demonstrate knowledge and skills that promote physical activity throughout their lives. Physical education uses physical activity as a means to help students acquire skills, fitness, knowledge and attitudes that contribute to their optimal development and well-being. Physical, mental, emotional and social health is strengthened by regular involvement in physical activities.

**Academic Expectations**

**2.31** Students demonstrate the knowledge and skills they need to remain physically healthy and to accept responsibility for their own physical well-being.
**2.34** Students perform physical movements skills effectively in a variety of settings.
**2.35** Students demonstrate knowledge and skills that promote physical activity and involvement in physical activity throughout lives.
**3.1** Students demonstrate positive growth in self-concept through appropriate tasks or projects.
**3.2** Students demonstrate the ability to maintain a healthy lifestyle.
**3.7** Students demonstrate the ability to learn on one's own.
**4.2** Students use productive team membership skills.

**Grade 6 Enduring Knowledge – Understandings**

*Students will understand that*

- leisure/recreational or competitive physical activities provide opportunities for self-expression, social interactions and can be enjoyable and challenging.
- intrinsic values and other benefits (physical, emotional/mental, social) are gained by regular participation in leisure/recreational or competitive activities.
- techniques, strategies and practice are important for improving performance of sport skills.
- rules impact effective participation in physical activities.
- personal and social behavior that shows respect to self and others impacts enjoyment and safety in physical activity settings.
- regular participation in health-related, physical activity supports the goals of fitness and a healthier lifestyle throughout life.
- fitness principles and techniques are used to improve/maintain physical health.

## Big Idea: Lifetime Physical Wellness (Physical Education) – Continued

**Grade 6 Skills and Concepts**
*Students will*

- identify several moderate to vigorous physical activities that provide personal pleasure
- explain the physical, emotional/mental and social value in participating in physical activity
- describe the physical, emotional/mental and social benefits gained from regular participation in leisure/recreational or competitive physical activities
- recognize through participation in a variety of activities that personal skill development results from prior experiences, natural ability and practice
- describe the relationship between effort and improvement in skills gained from physical activities
- participate regularly in physical activity
- when participating in a variety of physical activities, sports and games:
  - identify and apply rules of behavior and fair play (e.g., accepting authoritative decisions, assessing one's own performance level, accepting skills and abilities of others through verbal and nonverbal actions for spectators and/or participants)
  - demonstrate sportsmanship, cooperation, teamwork and conflict resolution
  - identify and use appropriate safety principles, rules, procedures and etiquette
  - identify offensive and defensive strategies used in games and sports
- identify and assess activities that enhance the health related fitness components (muscular strength, muscular endurance, flexibility, body composition, cardio respiratory endurance)
- explain the meaning of the F.I.T.T. Principle (Frequency, Intensity, Type, Time) and examine their impact on improving personal fitness
- identify and assess lifetime activities (e.g., biking, hiking, horseback riding, swimming) that enhance the health-related fitness components (muscular strength, muscular endurance, flexibility, body composition, cardio respiratory endurance)
- investigate how the systems of the body affect an individual's personal fitness level

# Program of Studies – Practical Living – Seventh Grade

The purpose of health education is to help students acquire an understanding of health concepts and skills and to apply them in making healthy decisions to improve, sustain, and promote personal, family and community health.

Health education instruction for seventh grade emphasizes students generating and choosing positive alternatives to risky behaviors. They use skills to resist peer pressure and manage stress and anxiety. Students are able to relate health choices (e.g., nutrition, physical activity) to alertness, feelings and performance at school or during physical activity. Students exhibit a healthy lifestyle, interpret health information and promote good health.

Motor-skill acquisition and performance are enhanced by the application of movement concepts and principles in the 7th grade physical education program. Increased knowledge and practice promotes independent learning and more regular and effective participation in physical activity. Understanding not only how motor skills develop but the relationships between physical activity and its immediate and identifiable effects on the body contributes to and understanding of the benefits of a healthy lifestyle. In grade seven, students continue to develop competence in modified versions of game/sport, dance and recreational activities. They vary movement during dynamic and changing game situations. The ability to analyze skill performance through observing and understanding critical elements (isolated, small parts of the whole skill or movement) is increasingly apparent, as is the application of basic scientific principles of movement and personal fitness. Students relate the importance of physical activity to health, focusing particularly on obesity and stress. They create plans for improving personal fitness. Students continue to develop responsible personal and social behaviors by demonstrating decision-making skills, conflict-resolution skills, appropriate etiquette and respect for others. Students achieve and maintain personal fitness standards and set reasonable and appropriate goals for improvement or maintenance of health-related fitness.

The Health and Physical Education content standards at the 7$^{th}$ grade level are directly aligned with Kentucky's **Academic Expectations**. The Health and Physical Education standards are organized around five "Big Ideas" that are important to the discipline of health and physical education. These big ideas are: Personal Wellness, Nutrition, Safety, Psychomotor Skills and Lifetime Physical Wellness. The Big Ideas are conceptual organizers for health and physical education and are the same at each grade level. This ensures students have multiple opportunities throughout their school careers to develop skills and concepts linked to the Big Ideas.

Under each Big Idea are statements of Enduring Knowledge/Understandings that represent overarching generalizations linked to health and physical education. The understandings represent the desired results- what learning will focus upon and what knowledge students will be able to explain or apply. Understandings can be used to frame development of units of study and lessons plans.

Skills and concepts describe the ways that students demonstrate their learning and are specific to each grade level. The skills and concepts for health and physical education are fundamental to health literacy and build on prior learning.

The health and physical education program provides a connection to Kentucky's Learning Goals 3 (self-sufficient individuals) and Learning Goal 4 (responsible group member), which are included in Kentucky statue, but they are not included in the state's academic assessment program. These connections provide a comprehensive link between essential content, skills and abilities important to learning. In addition Learning Goal 5 (think and solve problems) and Learning Goal 6 (connect and integrate knowledge) are addressed in health and physical education.

All physical education courses taught in the state of Kentucky must be in compliance with the Federal Special Education Law and Title IX and shall not include practice for or participation in interscholastic athletics.

## Big Idea: Personal Wellness (Health Education)

Wellness is maximum well-being or total health. Personal wellness is a combination of physical, mental, emotional, spiritual and social well-being. It involves making behavioral choices and decisions each day that promote an individual's physical well-being, the prevention of illnesses and diseases and the ability to remain, physically, mentally, spiritually, socially and emotionally healthy.

**Academic Expectations**

**2.29** Students demonstrate skills that promote individual well-being and healthy family relationships.
**2.31** Students demonstrate the knowledge and skills they need to remain physically healthy and to accept responsibility for their own physical well-being.
**2.32** Students demonstrate strategies for becoming and remaining mentally and emotionally healthy.
**3.2** Students demonstrate the ability to maintain a healthy lifestyle.
**4.1** Students effectively use interpersonal skills.
**4.4** Students demonstrate the ability to accept the rights and responsibilities for self and others.
**5.1** Students use critical thinking skills such as analyzing, prioritizing, categorizing, evaluating and comparing to solve a variety of problems in real-life situations.
**5.4** Students use a decision-making process to make informed decisions among options.

**Grade 7 Enduring Knowledge – Understandings**

*Students will understand that*

- individuals have a responsibility to advocate for personal, family and community health.
- interactions with others are an integral part of the human life experience and contribute to healthy relationships.
- physical, social, emotional and mental changes occur during adolescence and throughout life.
- the environment, lifestyle, family history, peers and other factors impact physical, social, mental and emotional health.
- culture, values (e.g., individual, family and community) media and use of technology (e.g., television, computers, MP3 Players, electronic/arcade games) can influence personal health.
- behavioral choices affect physical, mental, emotional and social well-being and can have positive or negative consequences on one's health.
- positive health habits can help prevent injuries and the spreading of diseases to self and others.
- self-management and coping strategies can enhance mental and emotional health.
- a variety of resources are available to inform, treat and counsel individuals with physical, mental, social and emotional health needs.

**Grade 7 Skills and Concepts – Personal and Physical Health**

*Students will*

- identify ways to advocate for personal, family and community health
- understand the importance of assuming responsibility for personal health behaviors:
  - predict how decisions regarding health behaviors have consequences for self and others
  - analyze decisions that impact an individual's emotional, sexual, and reproductive health (e.g., describing benefits of abstaining from sexual activity: preventing pregnancy, preventing STDs, maintaining self-esteem)
  - explain how rights and responsibilities are interrelated
- evaluate how an individual's behaviors and choices of diet, exercise and rest affect the body

**Grade 7 Skills and Concepts – Growth and Development**

*Students will*

- apply strategies and skills needed to obtain personal health goals during adolescence
- describe the physical, social and emotional changes (e.g., growth spurts, peer influence, self-confidence, mood swings) that occur during adolescence
- explain basic structures and functions of the reproductive system as it relates to the human life cycle

## Big Idea: Personal Wellness (Health Education) – Continued

**Grade 7 Skills and Concepts – Social, Mental and Emotional Health**
*Students will*

- demonstrate social interaction skills by:
  - using appropriate means to express needs, wants and feelings
  - using and explaining the importance of effective social interaction skills (e.g., respect, self-advocacy, cooperation, communication, identifying and being open to different perspectives and points of view, empathy, friendship)
  - recommending and justify effective strategies (e.g., problem solving, decision making, refusal skills, anger management, conflict resolution) for responding to stress, conflict, peer pressure and bullying
  - interpreting how individuals impact the effective functioning of groups
- demonstrate the ability to apply a decision-making process to health issues and problems individually and collaboratively
- identify common social and emotional problems (aggression, anxiety, depression, grief) and describe self-management and coping strategies (goal setting, refusal skills, decision making and time management) for addressing these problems

**Grade 7 Skills and Concepts – Family and Community Health**
*Students will*

- analyze how personal health choices, individual well-being and use of health services can be influenced by:
  - family traditions/values
  - technology and media messages
  - cultural beliefs

**Grade 7 Skills and Concepts – Communicable, Non-Communicable and Chronic Diseases Prevention**
*Students will*

- demonstrate an understanding of diseases by:
  - describing symptoms, causes, patterns of transmission, prevention and treatments of communicable diseases (colds, flu, mononucleosis, hepatitis, HIV/STD, tuberculosis)
  - describing symptoms, causes, patterns of transmission, prevention and treatments of non-communicable diseases (cancer, cardiovascular disease, diabetes, obesity, asthma, emphysema)
- investigate family history, environment, lifestyle and other risk factors related to the cause or prevention of disease and other health problems
- demonstrate an understanding of how to maintain a healthy body by:
  - explaining how health is influenced by the interaction of body systems
  - describing ways pathogens from the environment (e.g., air, food, people) enter the body and explaining how body defenses fight pathogens
  - explaining how personal hygiene practices affect physical, mental/emotional and social health; explaining how personal health habits (e.g., hand washing, care of teeth and eyes, sun protection) affect self and others in the prevention and spread of disease
  - identifying health care providers and describing reasons for preventive care

## Big Idea: Personal Wellness (Health Education) – Continued

**Grade 7 Skills and Concepts – Alcohol, Tobacco and Other Drugs**
*Students will*

- demonstrate an understanding of the use and misuse of alcohol, tobacco and other drugs by:
  - distinguishing between legal (e.g., over the counter, prescription drugs) and illegal drugs (e.g., inhalants, marijuana, stimulants, depressants)and describing how their usage affects the body systems
  - describing the immediate/long-term effects of alcohol, tobacco and illegal drug usage and analyzing their impact on health
  - describing resources available to individuals seeking treatment or counseling for negative behaviors or addictions

## Big Idea: Nutrition (Health Education)

Proper nutrition is critical to good health. To maintain a healthy weight, good dietary habits and physical activity are essential. Nutritious foods are necessary for growth, development and maintenance of healthy bodies.

**Academic Expectations**

**2.30** Students evaluate consumer products and services and make effective consumer decisions.
**2.31** Students demonstrate the knowledge and skills they need to remain physically healthy and to accept responsibility for their own physical well-being.
**3.2** Students will demonstrate the ability to maintain a healthy lifestyle.
**3.5** Students will demonstrate self-control and self-discipline.
**5.1** Students use critical thinking skills such as analyzing, prioritizing, categorizing, evaluating and comparing to solve a variety of problems in real-life situations.
**5.4** Students use decision-making process to make informed decisions among options.

**Grade 7 Enduring Knowledge – Understandings**

*Students will understand that*

- proper nutrition is essential to growth and development.
- nutrients have a role in the development of an individual's health.
- resources are available to assist in making nutritional choices.
- individuals, families and community values influence nutritional choices.

**Grade 7 Skills and Concepts**

*Students will*

- analyze factors (e.g., geography, cultural background, convenience, advertising) that influence healthy food choices
- identify organs and body systems and explain how they are affected by nutrients
- apply the decision-making process when analyzing resources needed in making dietary choices
- describe the role of nutrients and food sources which are important in the growth and development of healthy bodies
- use print and non-print resources (e.g., Food Guide Pyramid (FGP), *Dietary Guidelines for Americans*, United States Department of Agriculture (USDA), National Dairy council), to make healthful food choices in real-life situations

## Big Idea: Safety (Health Education)

Accidents are a major cause of injury and death to children and adolescents. Unintentional injuries involving motor vehicle, falls, drowning, fires, firearms and poisons can occur at home, school and work. Safe behavior protects a person from danger and lessens the effects of harmful situations.

**Academic Expectations**

**2.31** Students demonstrate the knowledge and skills they need to remain physically healthy and to accept responsibility for their own physical well-being.
**2.33** Students demonstrate the skills to evaluate and use services and resources available in their community.
**3.2** Students will demonstrate the ability to maintain a healthy lifestyle.
**4.3** Students individually demonstrate consistent, responsive and caring behavior.
**4.4** Students demonstrate the ability to accept the rights and responsibilities for self and others.
**5.1** Students use skills such as analyzing, prioritizing, categorizing, evaluating and comparing to solve a variety of problems in real-life situations.
**5.4** Students use a decision-making process to make informed decisions among-options.

**Grade 7 Enduring Knowledge – Understandings**

*Students will understand that*

- safety practices and procedures help to prevent injuries and provide a safe environment.
- community, state and federal resources are available to assist in hazardous situations.
- proper procedures must be used in emergency situations.

**Grade 7 Skills and Concepts**

*Students will*

- explain how health hazards (e.g., firearms, motorized vehicles or potentially unsafe or threatening situations) and safety practices (e.g., walking in opposite direction of violence, staying calm in dangerous situations, wearing protective gear, notifying appropriate authority) can influence their personal health
- identify and describe potential hazards in and around the home and school explain how to prevent injuries
- explain and practice safety procedures needed for emergencies (e.g., weather, fire, tornado, lock down) at home or school
- identify life threatening emergencies and describe basic first-aid procedures for responding to a variety of life-threatening emergencies (e.g., choking, broken bones, shock, poisons, burns, allergic reactions, bleeding)
- identify and access the available local, state and federal health and safety agencies (e.g., health departments, Center for Disease Control and Prevention (CDC), National Guard) and explain the services they provide
- use reliable safety resources and guidelines to help in avoiding injuries and dangerous situations (e.g., internet use, vehicles, firearms, watercraft)
- identify and practice (e.g., role play, simulation) communications skills needed in emergency situations

## Big Idea: Psychomotor Skills (Physical Education)

Cognitive information can be used to understand and enhance the development of motor skills such as movement sequences and patterns. Individuals who understand their bodies and how to perform various movements will be safer and more productive in recreation and work activities. Development of psychomotor skills contributes to the development of social and cognitive skills.

**Academic Expectations**

**2.31** Students demonstrate the knowledge and skills they need to remain physically healthy and to accept responsibility for their own physical well-being.
**2.34** Students perform physical movements skills effectively in a variety of settings.
**2.35** Students demonstrate knowledge and skills that promote physical activity and involvement in physical activity throughout lives.
**4.1** Students effectively use interpersonal skills.

**Grade 7 Enduring Knowledge – Understandings**

*Students will understand that*

- movement concepts, principles, strategies and tactics apply to the learning and performance of physical activities.
- motor skills need to be refined, combined and varied in the development of specialized skills (e.g., serving, catching with a glove, dribbling, punting.

**Grade 7 Skills and Concepts**

*Students will*

- interpret the role that principles of motor skill refinements (e.g. accuracy, technique, movement) have in skill development
- demonstrate increased competence in motor skills for individual, dual and team activities
- use non-locomotor, locomotor and combination skills to demonstrate movements in creative sequences and in simple patterned dances, games and other activities
- improve techniques to achieve consistency in performance of fundamental manipulative skills (e.g., throwing, catching, kicking, dribbling, striking) for participation in games and activities
- demonstrate and explain how transitional motor skills (e.g., punting, serving, dribbling) are impacted by space, force and time

## Big Idea: Lifetime Physical Wellness (Physical Education)

Lifetime wellness is health-focused. The health-related activities and content utilized are presented to help students become more responsible for their overall health status and to prepare each student to demonstrate knowledge and skills that promote physical activity throughout their lives. Physical Education uses physical activity as a means to help students acquire skills, fitness, knowledge and attitudes that contribute to their optimal development and well-being. Physical, mental, emotional and social health is strengthened by regular involvement in physical activities.

**Academic Expectations**

**2.31** Students demonstrate the knowledge and skills they need to remain physically healthy and to accept responsibility for their own physical well-being.
**2.34** Students perform physical movements skills effectively in a variety of settings.
**2.35** Students demonstrate knowledge and skills that promote physical activity and involvement in physical activity throughout lives.
**3.1** Students demonstrate positive growth in self-concept through appropriate tasks or projects.
**3.2** Students demonstrate the ability to maintain a healthy lifestyle.
**3.7** Students demonstrate the ability to learn on one's own.
**4.2** Students use productive team membership skills.

**Grade 7 Enduring Knowledge – Understandings**

*Students will understand that*

- leisure/recreational or competitive physical activities provide opportunities for self-expression, social interactions and can be enjoyable and challenging.
- intrinsic values and other benefits (physical, emotional/mental, social) are gained by regular participation in leisure/recreational or competitive activities.
- techniques, strategies and practice are important for improving performance of sport skills.
- rules impact effective participation in physical activities.
- personal and social behavior that shows respect to self and others impacts enjoyment and safety in physical activity settings.
- regular participation in health-related, physical activity supports the goals of fitness and a healthier lifestyle throughout life.
- fitness principles and techniques are used to improve/maintain physical health.

## Big Idea: Lifetime Physical Wellness (Physical Education) – Continued

**Grade 7 Skills and Concepts**
*Students will*

- identify moderate to vigorous physical activities that will provide for personal enjoyment and health benefits
- examine and analyze the personal benefits derived from regular participation in leisure/recreational or competitive physical activities
- evaluate the relationship between effort and skill improvement
- demonstrate and apply the technique of practice progression to personal skill development
- access and describe techniques (e.g., practice, lessons, videos, drills, peer/teacher review, self-evaluation) for improving performance in games and sports
- participate regularly in physical activity
- when participating in a variety of physical activities, sports and games:
    - identify and apply rules of behavior and fair play (e.g., accepting authoritative decisions, assessing one's own performance level, accepting skills and abilities of others through verbal and nonverbal actions for spectators and/or participants)
    - demonstrate sportsmanship, cooperation, teamwork and conflict resolution
    - recognize and use safety principles, rules, procedures and etiquette
    - describe how offensive and defensive strategies are used in games and sports; create, explore and devise strategies for games or physical activities
- explain the components of fitness (muscular strength, muscular endurance, flexibility, body composition, cardio-respiratory endurance) and how the FITT Principle (Frequency, Intensity, Type, Time) can be used to maintain and improve fitness
- identify and assess lifetime activities (e.g., bowling, tennis, swimming, walking) that enhance the health-related fitness
- investigate how the systems of the body affect an individual's personal fitness level
- explain the relationship of nutrition and exercise to physical fitness

# Program of Studies – Practical Living – Eighth Grade

The purpose of health education is to help students acquire an understanding of health concepts and skills and to apply them in making healthy decisions to improve, sustain and promote personal, family and community health.

Students in 8th grade have an understanding of the origins and causes of diseases, including the relationship between family history and certain health risks. They begin to relate short- and long-term consequences of health choices and apply health skills to specific personal, family and community health concerns. Students discern relationships among all components of health and wellness and knowledgeably use consumer information.

The 8th grade physical education program assists in the continuing physical, mental, social and emotional development of students as they make the transition from puberty to adolescence. There is a focus on fitness activities, techniques, strategies and rule of games and sports. Participation in lifetime activities such as golf, tennis, bowling, archery, running, hiking, swimming and cycling are also emphasized. Students in 8th grade demonstrate competence in skillful movement in modified, dynamic game situations and in a variety of dance and recreational activities. They transition from modified versions of movement forms to more complex applications across all types of activities — game/sport, dance and recreational pursuits. Students demonstrate the ability to assume responsibility for guiding their own learning as they apply their knowledge and abilities to create a practice plan to improve performance in a selected game/sport, dance or recreational pursuit. They demonstrate mature responsibility as they show respect for others, make reasoned and appropriate choices, resist negative peer pressure and exhibit fair play. They have a repertoire of abilities across a variety of game/sport, dance and recreational pursuits and begin to develop competence in specialized versions of lifetime game/sport activities.

The Health and Physical Education content standards at the 8th grade level are directly aligned with Kentucky's **Academic Expectations.** The Health and Physical Education standards are organized around five "Big Ideas" that are important to the discipline of health and physical education. These big ideas are: Personal Wellness, Nutrition, Safety, Psychomotor Skills and Lifetime Physical Wellness. The Big Ideas are conceptual organizers for health and physical education and are the same at each grade level. This ensures students have multiple opportunities throughout their school careers to develop skills and concepts linked to the Big Ideas.

Under each Big Idea are statements of Enduring Knowledge/Understandings that represent overarching generalizations linked to health and physical education. The understandings represent the desired results- what learning will focus upon and what knowledge students will be able to explain or apply. Understandings can be used to frame development of units of study and lessons plans.

Skills and concepts describe the ways that students demonstrate their learning and are specific to each grade level. The skills and concepts for health and physical education are fundamental to health literacy and build on prior learning.

The health and physical education program provides a connection to Kentucky's Learning Goals 3 (self-sufficient individuals) and Learning Goal 4 (responsible group member), which are included in Kentucky statue, but they are not included in the state's academic assessment program. These connections provide a comprehensive link between essential content, skills and abilities important to learning. In addition Learning Goal 5 (think and solve problems) and Learning Goal 6 (connect and integrate knowledge) are addressed in health and physical education.

All physical education courses taught in the state of Kentucky must be in compliance with the Federal Special Education Law and Title IX and shall not include practice for or participation in interscholastic athletics.

## Big Idea: Personal Wellness (Health Education)

Wellness is maximum well-being or total health. Personal wellness is a combination of physical, mental, emotional, spiritual and social well-being. It involves making behavioral choices and decisions each day that promote an individual's physical well-being, the prevention of illnesses and diseases and the ability to remain, physically, mentally, spiritually, socially and emotionally healthy.

**Academic Expectations**

**2.29** Students demonstrate skills that promote individual well-being and healthy family relationships.
**2.31** Students demonstrate the knowledge and skills they need to remain physically healthy and to accept responsibility for their own physical well-being.
**2.32** Students demonstrate strategies for becoming and remaining mentally and emotionally healthy.
**3.2** Students demonstrate the ability to maintain a healthy lifestyle.
**4.1** Students effectively use interpersonal skills.
**4.4** Students demonstrate the ability to accept the rights and responsibilities for self and others.
**5.1** Students use critical thinking skills such as analyzing, prioritizing, categorizing, evaluating and comparing to solve a variety of problems in real-life situations.
**5.4** Students use a decision-making process to make informed decisions among options.

**Grade 8 Enduring Knowledge – Understandings**

*Students will understand that*

- individuals have a responsibility to advocate for personal, family and community health.
- physical, social, emotional and mental changes occur during adolescence and throughout life.
- interactions with others are an integral part of the human life experience and contribute to healthy relationships.
- the environment, lifestyle, family history, peers and other factors impact physical, social, mental and emotional health.
- culture, values (e.g., individual, family and community) media and use of technology (e.g., television, computers, MP3 Players, electronic/arcade games) can influence personal behavioral choices.
- behavioral choices affect physical, mental, emotional and social well-being and can have positive or negative consequences on one's health.
- positive health habits can help prevent injuries and spreading of diseases to self and others.
- self-management and coping strategies can enhance mental and emotional health.
- a variety of resources are available to inform, treat and counsel individuals with physical, mental, social and emotional health needs.

**Grade 8 Skills and Concepts – Personal and Physical Health**

*Students will*

- evaluate communication methods used in advocating for personal, family and community health
- understand the importance of assuming responsibility for personal health behaviors:
  - predict how decisions regarding health behaviors have consequences for self and others
  - explain the benefits (preventing pregnancy, preventing HIV/STDs, maintaining self-esteem) and strategies (e.g., using refusal skills, talking with parents, doctors, counselors) of abstaining from sexual activity
- evaluate how an individual's behaviors and choices of diet, exercise and rest affect the body

## Big Idea: Personal Wellness (Health Education) – Continued

**Grade 8 Skills and Concepts – Growth and Development**
*Students will*

- apply strategies and skills needed to obtain personal health goals during adolescence and describe the physical, social and emotional changes (e.g., growth spurts, peer influence, self-confidence, mood swings) that occur during adolescence
- explain basic structures and functions of the reproductive system as it relates to the human life cycle

**Grade 8 Skills and Concepts – Social, Mental and Emotional Health**
*Students will*

- demonstrate social interaction skills by:
  - using appropriate means to express needs, wants and feelings
  - using and explaining the importance of effective social interaction skills (e.g., respect, self-advocacy, cooperation, communication, identifying and being open to different perspectives and points of view, empathy, friendship)
  - recommending and justifying effective strategies (e.g., problem solving, decision making, refusal skills, anger management, conflict resolution) for responding to stress, conflict, peer pressure and bullying
  - interpreting how individuals impact the effective functioning of groups
- demonstrate the ability to apply a decision-making process to health issues and problems individually and collaboratively
- identify common social and emotional problems (aggression, anxiety, depression, grief) and describe self-management and coping strategies (goal setting, refusal skills, decision making and time management) for addressing these problems

**Grade 8 Skills and Concepts – Family and Community Health**
*Students will*

- analyze how personal health, health behaviors and use of health services can be influenced by:
  - family traditions/values
  - technology and media messages
  - cultural beliefs
  - physical, social and emotional environments
  - information from peers

## Big Idea: Personal Wellness (Health Education) – Continued

**Grade 8 Skills and Concepts – Communicable, Non-Communicable and Chronic Diseases Prevention**
*Students will*

- demonstrate an understanding of diseases by:
  - describing symptoms, causes, patterns of transmission, prevention and treatments of communicable diseases (colds, flu, mononucleosis, hepatitis, HIV/STD, tuberculosis)
  - describing symptoms, causes, patterns of transmission, prevention and treatments of non-communicable diseases (cancer, cardiovascular disease, diabetes, obesity, asthma, emphysema)
  - investigate family history, environment, lifestyle and other risk factors related to the cause or prevention of disease and other health problems
- demonstrate an understanding of how to maintain a healthy body by:
  - analyzing how health is influenced by the interaction of body systems
  - describing ways pathogens from the environment (e.g., air, food, people) enter the body and explaining how body defenses fight pathogens
  - explaining how personal hygiene practices affect physical, mental/emotional and social health; explaining how personal health habits (e.g., hand washing, care of teeth and eyes, sun protection) affect self and others in the prevention and spread of disease
  - identifying health care providers and describing reasons for preventive care

**Grade 8 Skills and Concepts – Alcohol, Tobacco and Other Drugs**
*Students will*

- demonstrate an understanding of the use and misuse of alcohol, tobacco and other drugs by:
  - distinguishing between legal (e.g., over the counter, prescription drugs) and illegal drugs (e.g., inhalants, marijuana, stimulants, depressants) and describing how their usage affects the body systems
  - describing the immediate/long-term effects of alcohol, tobacco and illegal drug usage and analyzing their impact on health
  - describing resources available to individuals seeking treatment or counseling for negative behaviors or addictions

## Big Idea: Nutrition (Health Education)

Proper nutrition is critical to good health. To maintain a healthy weight, good dietary habits and physical activity are essential. Nutritious foods are necessary for growth, development and maintenance of healthy bodies.

**Academic Expectations**

**2.30** Students evaluate consumer products and services and make effective consumer decisions.
**2.31** Students demonstrate the knowledge and skills they need to remain physically healthy and to accept responsibility for their own physical well-being.
**3.2** Students will demonstrate the ability to maintain a healthy lifestyle.
**3.5** Students will demonstrate self-control and self-discipline.
**5.1** Students use critical thinking skills such as analyzing, prioritizing, categorizing, evaluating and comparing to solve a variety of problems in real-life situations.
**5.4** Students use decision-making process to make informed decisions among options.

**Grade 8 Enduring Knowledge – Understandings**

*Students will understand that*

- proper nutrition is essential to growth and development.
- nutrients have a role in the development of an individual's health.
- resources are available to assist in making nutritional choices.
- individuals, families and community values influence nutritional choices.

**Grade 8 Skills and Concepts**

*Students will*

- evaluate the role of nutrients and food sources in the growth and development of healthy bodies
- identify problems that occur from extreme eating behaviors (overeating, obesity, anorexia, bulimia)
- analyze factors (e.g., geography, family, cultural background, convenience, cost, advertising, friends, personal taste) that influence healthy food choices
- apply the decision-making process when analyzing resources needed in making dietary choices
- use print and non-print resources (e.g., Food Guide Pyramid (FGP), *Dietary Guidelines for Americans*, United States Department of Agriculture (USDA), National Dairy council), to make healthful food choices in real-life situations

## Big Idea: Safety (Health Education)

Accidents are a major cause of injury and death to children and adolescents. Unintentional injuries involving motor vehicle, falls, drowning, fires, firearms and poisons can occur at home, school and work. Safe behavior protects a person from danger and lessens the effects of harmful situations.

**Academic Expectations**

**2.31** Students demonstrate the knowledge and skills they need to remain physically healthy and to accept responsibility for their own physical well-being.
**2.33** Students demonstrate the skills to evaluate and use services and resources available in their community.
**3.2** Students will demonstrate the ability to maintain a healthy lifestyle.
**4.3** Students individually demonstrate consistent, responsive and caring behavior.
**4.4** Students demonstrate the ability to accept the rights and responsibilities for self and others.
**5.1** Students use skills such as analyzing, prioritizing, categorizing, evaluating and comparing to solve a variety of problems in real-life situations.
**5.4** Students use a decision-making process to make informed decisions among-options.

**Grade 8 Enduring Knowledge – Understandings**

*Students will understand that*

- safety practices and procedures help to prevent injuries and provide a safe environment.
- community, state and federal resources are available to assist in hazardous situations.
- proper procedures must be used in emergency situations.

**Grade 8 Skills and Concepts**

*Students will*

- explain how health hazards (e.g., firearms, motorized vehicles, all terrain vehicles, personal water craft, potentially unsafe or threatening situations) and safety practices (e.g., walking in opposite direction of violence, staying calm in dangerous situations, wearing protective gear, notifying appropriate authority) may influence their personal health
- identify and describe potential hazards in and around the home and school explain how to prevent injuries
- demonstrate safety procedures needed for emergencies (e.g., weather, fire, tornado, lock down) at home or school
- recognize life threatening emergencies and explain how basic first-aid procedures for responding to a variety of life-threatening emergencies (e.g., falls, drowning, choking, bleeding, shock, poisons, burns, temperature-related emergencies, allergic reactions, broken bones) can help reduce the severity of injuries and save lives
- identify and access the available local, state and federal health and safety agencies (e.g., health departments, Center for Disease Control and Prevention (CDC), National Guard) and explain the services they provide
- use reliable safety resources and guidelines to help in avoiding injuries and dangerous situations (e.g., internet use, vehicles, firearms, watercraft)
- demonstrate communications skills needed in emergency situations
- explain safety practices needed when assuming responsibilities (babysitting, house-sitting, elderly care, pet care) in caring for animals, property and other individuals

## Big Idea: Psychomotor Skills (Physical Education)

Cognitive information can be used to understand and enhance the development of motor skills such as movement sequences and patterns. Individuals who understand their bodies and how to perform various movements will be safer and more productive in recreation and work activities. Development of psychomotor skills contributes to the development of social and cognitive skills.

**Academic Expectations**

**2.31** Students demonstrate the knowledge and skills they need to remain physically healthy and to accept responsibility for their own physical well-being.
**2.34** Students perform physical movements skills effectively in a variety of settings.
**2.35** Students demonstrate knowledge and skills that promote physical activity and involvement in physical activity throughout lives.
**4.1** Students effectively use interpersonal skills.

**Grade 8 Enduring Knowledge – Understandings**

*Students will understand that*

- movement concepts, principles, strategies and tactics apply to the learning and performance of physical activities.
- motor skills need to be refined, combined and varied in the development of specialized skills (e.g., serving, catching with a glove, dribbling, punting).

**Grade 8 Skills and Concepts**

*Students will*

- critique transitional motor skills and patterns to make recommendations for improvement
- selects appropriate practice procedures to learn and master skills and movement patterns
- analyze the principles of motor skill refinements (e.g. accuracy, technique, movement) have in skill development
- demonstrate increased competence in motor skills for individual, dual and team activities
- explore the use of non-locomotor, locomotor and combination skills in movement sequences, patterned dances, games and other activities
- refine techniques to achieve consistency in performance of fundamental manipulative skills (e.g., throwing, catching, kicking, dribbling, striking) for participation in games and activities
- demonstrate and explain how transitional motor skills are needed for participation in games, activities and rhythmic movements (e.g., baseball, soccer, dance, golf, basketball)

## Big Idea: Lifetime Physical Wellness (Physical Education)

Lifetime wellness is health-focused. The health-related activities and content utilized are presented to help students become more responsible for their overall health status and to prepare each student to demonstrate knowledge and skills that promote physical activity throughout their lives. Physical education uses physical activity as a means to help students acquire skills, fitness, knowledge and attitudes that contribute to their optimal development and well-being. Physical, mental, emotional and social health is strengthened by regular involvement in physical activities.

**Academic Expectations**

**2.31** Students demonstrate the knowledge and skills they need to remain physically healthy and to accept responsibility for their own physical well-being.
**2.34** Students perform physical movements skills effectively in a variety of settings.
**2.35** Students demonstrate knowledge and skills that promote physical activity and involvement in physical activity throughout lives.
**3.1** Students demonstrate positive growth in self-concept through appropriate tasks or projects.
**3.2** Students demonstrate the ability to maintain a healthy lifestyle.
**3.7** Students demonstrate the ability to learn on one's own.
**4.2** Students use productive team membership skills.

**Grade 8 Enduring Knowledge – Understandings**

*Students will understand that*

- leisure/recreational or competitive physical activities provide opportunities for self-expression, social interactions and can be enjoyable and challenging.
- intrinsic values can be gained by regular participation in leisure/recreational or competitive activities.
- techniques, strategies and practice are important for improving performance of sport skills.
- adhering to rules and procedures, etiquette, cooperation and team work, ethical behavior and positive social interaction impacts the effective participation in sports and physical activities.
- regular participation in health-related, physical activity supports the goals of fitness and a healthier lifestyle throughout life.
- fitness principles and techniques are used to improve/maintain physical health.

## Big Idea: Lifetime Physical Wellness (Physical Education) – Continued

**Grade 8 Skills and Concepts**
*Students will*

- design and implement a personal lifetime leisure/recreational plan that includes challenging and enjoyable physical activities
- examine and analyze the personal benefits derived from regular participation in leisure/recreational or competitive physical activities
- develop and implement an appropriate practice plan for skill proficiency in games and sports
- examine the relationship between and among effort, persistence, practice and improvement as they relate to skill development
- access and describe techniques (e.g., practice, lessons, videos, drills, peer/teacher review, self-evaluation) for improving performance in games and sports
- participate regularly in physical activity
- when participating in a variety of physical activities, sports and games:
    - identify and apply rules of behavior and fair play (e.g., accepting authoritative decisions, assessing one's own performance level, accepting skills and abilities of others through verbal and nonverbal actions for spectators and/or participants)
    - demonstrate sportsmanship, cooperation, teamwork and conflict resolution
    - identify and use safety principles, rules, procedures and etiquette
    - describe how offensive and defensive strategies are used in games and sports
- conduct a self-assessment which includes the elements and of the FITT Principle (Frequency, Intensity, Type, Time) and design a fitness plan based on assessment results
- compare and contrast lifetime activities (e.g., biking, dance, tennis, horseback riding, walking, golf) that improve or maintain the components of fitness (muscular strength, muscular endurance, flexibility, body composition, cardio-respiratory endurance)
- explain how the systems of the body (e.g., muscular, skeletal, nervous, respiratory, circulatory) affect an individual's personal fitness level
- explain the relationship of nutrition and exercise to physical fitness

# MIDDLE LEVEL SCIENCE

# Program of Studies – Science – Sixth Grade

The science program in grade six incorporates opportunities for students to work and think like scientists as they apply abilities needed for scientific inquiry. These abilities include: (1) identifying questions that can be answered through scientific investigations, (2) designing and conducting scientific investigations, (3) using appropriate tools and techniques to gather, analyze and interpret data, (4) developing descriptions, explanations, predictions and models using evidence, (5) thinking critically and logically to uncover the relationships between evidence and explanations, (6) recognizing and analyzing alternative explanations and predictions, (7) communicating scientific procedures and explanations.

Students should have opportunities to work individually and in groups of varying size and composition in order to conduct investigations, process information and discuss/debate important scientific concepts. Students must have regular opportunities to share their ideas with others and to test questions they generate as a result of their learning experiences.

In our technologically advanced society, information gathering must extend beyond the classroom walls and must involve a variety of credible sources. Scientists also place a high value on accurate record keeping and open communication of findings. The science classroom should mirror this by emphasizing multiple, varied and consistent methods of documenting and communicating learning.

The scientific content standards at the sixth grade level are directly aligned with Kentucky's **Academic Expectations**. Science standards are organized around seven “Big Ideas” that are important to the discipline of science. These big ideas are: Structure and Transformation of Matter, Motion and Forces, The Earth and the Universe, Unity and Diversity, Biological Change, Energy Transformations and Interdependence. The Big Ideas are conceptual organizers for science and are the same at each grade level. This ensures students have multiple opportunities throughout their school careers to develop skills and concepts linked to the Big Ideas.

Under each Big Idea are statements of Enduring Knowledge/Understandings that represent overarching generalizations linked to the Big Ideas of science. The understandings represent the desired results - what learning will focus upon and what knowledge students will be able to explain or apply. Understandings can be used to frame development of units of study and lesson plans.

Skills and concepts describe ways that students demonstrate their learning and are specific to each grade level. The skills and concepts for science are fundamental to scientific literacy, scientific inquiry and build on prior learning.

Effectively implementing the Program of Studies requires a common understanding of some of the terms referenced throughout this document. These terms include:

> **Investigate/Explore-** compile a variety of information through hands-on experiences (utilizing process skills such as measuring, observing, questioning, classifying, predicting and inferring) and/or consult a variety of print and non-print media in order to formulate conclusions and/or gather evidence/data.

**Experiment/Test-** conduct a scientifically valid and controlled investigation, collecting and analyzing data. Use findings and conclusions to form logical explanations and openly share.

**Research**- consult of a variety of credible sources of information to gain knowledge, answer questions and support conclusions and explanations.

**Model-** represent a phenomenon or concept. Models are often conceptual in nature, and the term ‘model’ does not always imply a physical product.

## Big Idea: Structure and Transformation of Matter (Physical Science)

A basic understanding of matter is essential to the conceptual development of other big ideas in science. During the middle years, physical and chemical changes in matter are observed, and students begin to relate these changes to the smaller constituents of matter—namely, atoms and molecules. The use of models (and an understanding of their scales and limitations) is an effective means of learning about the structure of matter. Looking for patterns in properties is also critical to comparing and explaining differences in matter.

**Academic Expectations**

**2.1** Students understand scientific ways of thinking and working and use those methods to solve real-life problems.

**2.2** Students identify, analyze, and use patterns such as cycles and trends to understand past and present events and predict possible future events.

**2.4** Students use the concept of scale and scientific models to explain the organization and functioning of living and nonliving things and predict other characteristics that might be observed.

**2.5** Students understand that under certain conditions nature tends to remain the same or move toward a balance.

**Grade 6 Enduring Knowledge – Understandings**

*Students will understand that*

- all matter is composed of parts that are too small to be seen without magnification.
- no matter how substances within a closed system interact with one another, or how they combine or break apart, the total weight of the system remains the same.
- chemical changes result in the formation of a substance that has different properties than the original substance.
- not all substances that are mixed together will chemically combine. Because of this, physical properties can be used to separate mixtures.
- new ideas in science sometimes spring from unexpected findings, and they usually lead to new investigations.

**Grade 6 Skills and Concepts**

*Students will*

- use hand lenses and microscopes to investigate substances composed of particles too small to be seen without magnification
- use observations and evidence to describe and verify chemical changes in matter
- classify changes in substances as physical or chemical changes
- distinguish between mixtures and compounds
- explain how or why mixtures can be separated using physical properties, and investigate strategies for separating mixtures
- explore the feasibility of various procedures for separating mixtures, taking into account constraints such as availability and properties of materials, safety, economic and ethical issues
- investigate how important scientific advances have resulted from unexpected observations or experimental results
- plan, present and support information from investigations using a variety of modes

## Big Idea: Motion and Forces (Physical Science)

Whether observing airplanes, baseballs, planets, or people, the motion of all bodies is governed by the same basic rules. At the middle level, qualitative descriptions of the relationship between forces and motion will provide the foundation for quantitative applications of Newton's Laws.

**Academic Expectations**

**2.1** Students understand scientific ways of thinking and working and use those methods to solve real-life problems.

**2.2** Students identify, analyze, and use patterns such as cycles and trends to understand past and present events and predict possible future events.

**2.3** Students identify and analyze systems and the ways their components work together or affect each other.

**Grade 6 Enduring Knowledge – Understandings**

*Students will understand that*

- friction is a force that turns the energy of motion into heat, causing moving objects to eventually slow or stop unless additional force (energy) is added.
- when any force acts on an object, the change in speed or direction depends on the size and direction of the force.
- mechanical systems must be designed to take forces such as friction into account. Friction and/or the heat produced by it can have significant effects on the system.

**Grade 6 Skills and Concepts**

*Students will*

- use observations and appropriate tools (e.g., timer, meter stick, balance, spring scale) to document the position and motion of objects
- use graphical and observational data to make inferences, predictions and draw conclusions about the motion of an object as related to the mass or force involved
- observe real-life phenomena to discover the effects of friction on moving objects and mechanical systems
- represent the motion of objects and their response to unbalanced forces in a variety of ways

## Big Idea: The Earth and the Universe (Earth/Space Science)

The Earth system is in a constant state of change. These changes affect life on Earth in many ways. Development of conceptual understandings about processes that shape the Earth begin at the elementary level with understanding what Earth materials are and that change occurs. At the middle level, students investigate how these changes occur. An understanding of systems and their interacting components will enable students to evaluate supporting theories of Earth changes. The use of models and observance of patterns to explain common phenomena is essential to building a conceptual foundation and supporting ideas with evidence at all levels. In middle school, students begin to look beyond what can be directly observed as they explore the Earth-sun-moon system, as well as the rest of our solar system, employing the concept of scale within their models. Patterns play an important role as students seek to develop a conceptual understanding of gravity in their world and in the universe.

**Academic Expectations**

**2.1** Students understand scientific ways of thinking and working and use those methods to solve real-life problems.

**2.2** Students identify, analyze, and use patterns such as cycles and trends to understand past and present events and predict possible future events.

**2.3** Students identify and analyze systems and the ways their components work together or affect each other.

**2.5** Students understand that under certain conditions nature tends to remain the same or move toward a balance.

**Grade 6 Enduring Knowledge – Understandings**

*Students will understand that*

- regular and predictable movements of the sun, moon and Earth are responsible for many observed phenomena on Earth, (e.g. day/night, year, moon phases, eclipses). The regular patterns of these phenomena can be predicted using data or models.
- the total amount of material that makes the solid Earth is relatively constant (excluding impacts), even though rocks and minerals often change properties through a variety of processes that transform them (rock cycle).
- the Earth's surface is not uniform due to a number of constructive and destructive forces that constantly reshape it. The past effects of these processes can be inferred, and the data these inferences are based upon can also be used to predict future changes.
- complex systems like the Earth or solar system are difficult to comprehend or explain without depending on averages and ranges of data. Technology is essential for helping to collect and analyze this data.

**Grade 6 Skills and Concepts**

*Students will*

- use observations, models and evidence to explain the cause and effect relationships in the rock cycle and to make predictions about constantly changing Earth materials
- investigate, create and identify the limitations of models which can be used to substantiate and predict the actual results (e.g. moon phases, seasons, eclipses) of the interactions of the sun, moon and Earth
- investigate constructive and destructive forces at work on the Earth's surface and the landforms that result from them
- research how scientists organize data from complex systems and also how technology enables/enhances scientific research and data analysis

## Big Idea: Unity and Diversity (Biological Science)

All matter is comprised of the same basic elements, goes through the same kinds of energy transformations, and uses the same kinds of forces to move. Living organisms are no exception. In middle school, students begin to compare, contrast, and classify the microscopic features of organisms—the cells, as well as investigate reproduction as the essential process to the continuation of all species. Expected patterns of genetic traits are predicted. Distinctions are made between learned behaviors and inherited traits. Emphasis at every level should be placed upon the understanding that while every living thing is composed of similar small constituents that combine in predictable ways, it is the subtle variations within these small building blocks that account for both the likenesses and differences in form and function that create the diversity of life.

**Academic Expectations**

**2.1** Students understand scientific ways of thinking and working and use those methods to solve real-life problems.

**2.2** Students identify, analyze, and use patterns such as cycles and trends to understand past and present events and predict possible future events.

**2.3** Students identify and analyze systems and the ways their components work together or affect each other.

**2.5** Students understand that under certain conditions nature tends to remain the same or move toward a balance.

**Grade 6 Enduring Knowledge – Understandings**

*Students will understand that*

- cells are the fundamental units that perform the basic functions needed to sustain life. Some organisms contain only a single cell, while others may have many millions of specialized cells grouped together in cooperative systems with specific functions (tissues and/or organs).
- every cell within an organism contains all of the information needed to completely replicate that organism, regardless of the function that cell performs.
- although plants and animals exhibit a great variety in body structures that contribute to their survival and reproduction, the basic way that individual cells function is similar in all living organisms.
- the behavior of an organism can be influenced by both heredity and experiences. The relative influence of these factors can be inferred by careful observation/data collection over a period of time.
- the great diversity of life is a result of many factors, both internal and external to organisms.
- even the most different of organisms are fundamentally more alike than different. Their seemingly great differences conceal the great similarities apparent at the cellular level.
- classification systems do not exist in nature, but are created by scientists to describe the vast diversity of organisms, frame research questions and suggest relationships among living things.

**Grade 6 Skills and Concepts**

*Students will*

- obtain information from observations, models and other sources to explain the functions of cells necessary to sustain life
- use scientific tools (e.g., microscope) to observe and describe unicellular and multi-cellular organisms and the specialized cells they contain
- describe and represent (e.g. construct a chart, diagram, or graphic organizer) relationships between and among levels of organization for structure and function, including cells, tissues, organs, organ systems, organisms (e.g., bacteria, protists, fungi, plants, animals) and ecosystems
- design and conduct scientific investigations to make inferences about factors influencing the behavior of organisms, and compare the results with those of investigations done by others
- investigate the relative influence of heredity and experience on the behavior of organisms
- identify and describe the cellular structures that allow for replication/reproduction
- classify organisms into simple categories and discuss the limitations of classification systems

## Big Idea: Biological Change (Biological Science)

The only thing certain is that everything changes. At the middle school level, students study relationships among populations and ecosystems that contribute to the success or demise of a specific population or species. Students construct basic explanations that can account for the great diversity among organisms.

**Academic Expectations**

**2.1** Students understand scientific ways of thinking and working and use those methods to solve real-life problems.

**2.2** Students identify, analyze, and use patterns such as cycles and trends to understand past and present events and predict possible future events.

**2.5** Students understand that under certain conditions nature tends to remain the same or move toward a balance.

**2.6** Students understand how living and nonliving things change over time and the factors that influence the changes.

**Grade 6 Enduring Knowledge – Understandings**

*Students will understand that*

- small differences between parents and offspring result in future generations that are very different from their ancestors.
- sensing and controlling internal processes in response to the external environment are essential for an organism's survival, regardless of how simple or complex it is.
- scientists vary widely in what they study and how they do their work. While there is no fixed set of steps they follow, the basic process of science involves collecting relevant evidence, logical reasoning and the use of imaginative thinking in constructing explanations for what they observe.

**Grade 6 Skills and Concepts**

*Students will*

- investigate how small differences between parents and offspring can accumulate over time, eventually resulting in a wide variety of types of organisms with different characteristics from their different ancestors
- explain how various organisms sense (e.g. hunger, fatigue, temperature awareness) and control their internal environments (e.g. fat metabolism, adrenaline release, perspiration) and how this contributes to their survival
- identify current research topics in biological sciences and identify the means/processes scientists are using to generate data about them
- explain how the basic ideas of scientific investigation remain the same regardless of the field of study
- generate questions about the diversity of species, then collect information from a variety of sources to formulate explanations supported by scientific evidence

## Big Idea: Energy Transformations (Unifying Concepts)

Energy transformations are inherent in almost every system in the universe—from tangible examples at the elementary level, such as heat production in simple Earth and physical systems to more abstract ideas beginning at middle school, such as those transformations involved in the growth, dying and decay of living systems. The use of models to illustrate the often invisible and abstract notions of energy transfer will aid in conceptualization, especially as students move from the macroscopic level of observation and evidence (primarily elementary school) to the microscopic interactions at the atomic level (middle and high school levels).

**Academic Expectations**

**2.1** Students understand scientific ways of thinking and working and use those methods to solve real-life problems.

**2.2** Students identify, analyze, and use patterns such as cycles and trends to understand past and present events and predict possible future events.

**2.3** Students identify and analyze systems and the ways their components work together or affect each other.

**2.4** Students use the concept of scale and scientific models to explain the organization and functioning of living and nonliving things and predict other characteristics that might be observed.

**Grade 6 Enduring Knowledge – Understandings**

*Students will understand that*

- oceans have a major effect on climate, because water in the oceans holds a large amount of heat.
- several Earth systems and processes occur primarily because of the constant influx of solar energy.
- seasons are a result of the interaction of the tilt of the Earth's axis relative to its orbital path.
- energy, in the form of sunlight, is transformed by a chemical reaction in plant cells (photosynthesis) to form essential nutrients for the plant to live and grow.
- inside a closed system, the temperature increases or decreases as heat energy is added or removed.
- the Earth is a complex system of energy transformations, materials and processes. Understanding the whole requires first understanding individual subsystems and their interactions.

**Grade 6 Skills and Concepts**

*Students will*

- model and explain why some locations on Earth have seasons
- identify Earth processes influenced by energy from the sun (e.g. water cycle, nitrogen cycle, photosynthesis) and describe the sun's role in those processes
- explain the cause and effect relationships between oceans and climate and describe the predictable patterns that result
- describe the role of photosynthesis in energy storage within plants
- experimentally investigate the relationship between temperature and heat transfer in closed systems

## Big Idea: Interdependence (Unifying Concepts)

It is not difficult for students to grasp the general notion that species depend on one another and on the environment for survival. But their awareness must be supported by knowledge of the kinds of relationships that exist among organisms, the kinds of physical conditions that organisms must cope with, the kinds of environments created by the interaction of organisms with one another and their physical surroundings, and the complexity of such systems. In middle school, students should be guided from specific examples of the interdependency of organisms to a more systematic view of the interactions that take place among organisms and their surroundings. Students growing understanding of systems in general will reinforce the concept of ecosystems. Stability and change in ecosystems can be considered in terms of variables such as population size, number and kinds of species, productivity, and the effect of human intervention.

**Academic Expectations**

**2.1** Students understand scientific ways of thinking and working and use those methods to solve real-life problems.

**2.2** Students identify, analyze, and use patterns such as cycles and trends to understand past and present events and predict possible future events.

**2.3** Students identify and analyze systems and the ways their components work together or affect each other.

**2.4** Students use the concept of scale and scientific models to explain the organization and functioning of living and nonliving things and predict other characteristics that might be observed.

**Grade 6 Enduring Knowledge – Understandings**

*Students will understand that*

- ecosystems are more than just the organisms they contain: geography, weather, climate and geologic factors also influence the interactions within an ecosystem.
- communities do not exist in isolation, but are globally interconnected by a number of Earth systems (e.g. ocean, atmosphere, lithosphere).
- science can sometimes be used to inform ethical decisions by identifying the likely consequences of an action, but cannot be used to establish if taking that action would be right or wrong.

**Grade 6 Skills and Concepts**

*Students will*

- describe and explore the biotic and abiotic factors that affect change in ecosystems
- document and describe consequences of change in one or more abiotic factors on a population within an ecosystem
- investigate how communities are interconnected, how they interact with different Earth systems, and represent these global connections/interactions in a variety of ways (e.g. writing, models, multi-media, claymation)
- differentiate the usefulness of scientific research to predict the possible consequences of decisions about environmental issues from its limitations in making ethical/moral decisions about those issues

# Program of Studies – Science – Seventh Grade

The science program in grade seven incorporates opportunities for students to work and think like scientists as they apply abilities needed for scientific inquiry. These abilities include: (1) identifying questions that can be answered through scientific investigations, (2) designing and conducting scientific investigations, (3) using appropriate tools and techniques to gather, analyze and interpret data, (4) developing descriptions, explanations, predictions and models using evidence, (5) thinking critically and logically to uncover the relationships between evidence and explanations, (6) recognizing and analyzing alternative explanations and predictions, (7) communicating scientific procedures and explanations.

Students should have opportunities to work individually and in groups of varying size and composition in order to conduct investigations, process information and discuss/debate important scientific concepts. Students must have regular opportunities to share their ideas with others and to test questions they generate as a result of their learning experiences.

In our technologically advanced society, information gathering must extend beyond the classroom walls and must involve a variety of credible sources. Scientists also place a high value on accurate record keeping and open communication of findings. The science classroom should mirror this by emphasizing multiple, varied and consistent methods of documenting and communicating learning.

The scientific content standards at the seventh grade level are directly aligned with Kentucky's **Academic Expectations**. Science standards are organized around seven “Big Ideas” that are important to the discipline of science. These big ideas are: Structure and Transformation of Matter, Motion and Forces, The Earth and the Universe, Unity and Diversity, Biological Change, Energy Transformations and Interdependence. The Big Ideas are conceptual organizers for science and are the same at each grade level. This ensures students have multiple opportunities throughout their school careers to develop skills and concepts linked to the Big Ideas.

Under each Big Idea are statements of Enduring Knowledge/Understandings that represent overarching generalizations linked to the Big Ideas of science. The understandings represent the desired results - what learning will focus upon and what knowledge students will be able to explain or apply. Understandings can be used to frame development of units of study and lesson plans.

Skills and concepts describe ways that students demonstrate their learning and are specific to each grade level. The skills and concepts for science are fundamental to scientific literacy, scientific inquiry and build on prior learning.

Effectively implementing the Program of Studies requires a common understanding of some of the terms referenced throughout this document. These terms include:

> **Investigate/Explore-** compile a variety of information through hands-on experiences (utilizing process skills such as measuring, observing, questioning, classifying, predicting and inferring) and/or consult a variety of print and non-print media in order to formulate conclusions and/or gather evidence/data.

**Experiment/Test-** conduct a scientifically valid and controlled investigation, collecting and analyzing data. Use findings and conclusions to form logical explanations and openly share.

**Research**- consult of a variety of credible sources of information to gain knowledge, answer questions and support conclusions and explanations.

**Model-** represent a phenomenon or concept. Models are often conceptual in nature, and the term ‘model’ does not always imply a physical product.

## Big Idea: Structure and Transformation of Matter (Physical Science)

A basic understanding of matter is essential to the conceptual development of other big ideas in science. During the middle years, physical and chemical changes in matter are observed, and students begin to relate these changes to the smaller constituents of matter—namely, atoms and molecules. The use of models (and an understanding of their scales and limitations) is an effective means of learning about the structure of matter. Looking for patterns in properties is also critical to comparing and explaining differences in matter.

**Academic Expectations**

**2.1** Students understand scientific ways of thinking and working and use those methods to solve real-life problems.

**2.2** Students identify, analyze, and use patterns such as cycles and trends to understand past and present events and predict possible future events.

**2.4** Students use the concept of scale and scientific models to explain the organization and functioning of living and nonliving things and predict other characteristics that might be observed.

**2.5** Students understand that under certain conditions nature tends to remain the same or move toward a balance.

**Grade 7 Enduring Knowledge – Understandings**

*Students will understand that*

- equal volumes of different substances usually have different weights.
- there are only 92 naturally occurring elements and all matter is made of some combination of them (compounds).
- elements, as well as compounds, can be classified according to their similar properties, including how they react with each other and how they may be used. The patterns, which allow classification, can be used to infer or understand real life applications for those substances.
- many factors influence reaction rates, such as temperature, acidity and concentration.
- investigations are conducted for different reasons, including to explore new phenomena, to check on previous results, to test how well a theory predicts, and to compare different theories.

**Grade 7 Skills and Concepts**

*Students will*

- compare the physical and chemical properties of a variety of substances, including examples of solids, liquids and gases
- distinguish between elements and compounds and classify them according to their properties
- generate investigable questions and conduct experiments or non-experimental research to address them
- observe reactions between substances that produce new substances very different from the reactants
- test factors that influence reaction rates
- explore real-life applications of a variety of elements and compounds and communicate findings in an authentic form (transactive writing, public speaking, multimedia presentations)

## Big Idea: Motion and Forces (Physical Science)

Whether observing airplanes, baseballs, planets, or people, the motion of all bodies is governed by the same basic rules. At the middle level, qualitative descriptions of the relationship between forces and motion will provide the foundation for quantitative applications of Newton's Laws.

**Academic Expectations**

**2.1** Students understand scientific ways of thinking and working and use those methods to solve real-life problems.

**2.2** Students identify, analyze, and use patterns such as cycles and trends to understand past and present events and predict possible future events.

**2.3** Students identify and analyze systems and the ways their components work together or affect each other.

**Grade 7 Enduring Knowledge – Understandings**

*Students will understand that*

- an object remains at rest or maintains a constant speed and direction of motion unless an unbalanced force acts on it (inertia).
- forces acting against each other can be balanced, canceling each other out and having no net effect.
- gravity is an attractive force created by mass. All objects are attracted to each other by gravity, but this attraction is easy to see only when at least one of the objects has a large mass.
- technology used to gather data enhances accuracy and allows scientists to analyze and quantify results of investigations.

**Grade 7 Skills and Concepts**

*Students will*

- use appropriate tools and technology (e.g., timer, meter stick, balance, spring scale) to investigate the position, speed and motion of objects
- test the cause and effect relationship between straight-line motion and unbalanced forces
- investigate balanced and unbalanced forces and their effect on objects and their motion
- make inferences and draw conclusions about the motion of objects, and predict changes in position and motion as related to the mass or force
- calculate work as the product of force and distance moved in the direction of the force
- identify gravity as a force that acts over a distance, and distinguish it from other forces that do the same (e.g. magnetism)
- investigate the properties of gravity and observe its effects on objects
- distinguish between weight (as a function of gravity) and mass (matter content) of an object
- explore the impact of technology on measurement by making measurements with tools of varying precision, comparing the results and predicting possible impacts that variation in measurements might have in real-life investigations

## Big Idea: The Earth and the Universe (Earth/Space Science)

The Earth system is in a constant state of change. These changes affect life on Earth in many ways. Development of conceptual understandings about processes that shape the Earth begin at the elementary level with understanding *what* Earth materials are and that change occurs. At the middle level, students investigate *how* these changes occur. An understanding of systems and their interacting components will enable students to evaluate supporting theories of Earth changes. The use of models and observance of patterns to explain common phenomena is essential to building a conceptual foundation and supporting ideas with evidence at all levels. In middle school, students begin to look beyond what can be directly observed as they explore the Earth-sun-moon system, as well as the rest of our solar system, employing the concept of scale within their models. Patterns play an important role as students seek to develop a conceptual understanding of gravity in their world and in the universe.

**Academic Expectations**

**2.1** Students understand scientific ways of thinking and working and use those methods to solve real-life problems.

**2.2** Students identify, analyze, and use patterns such as cycles and trends to understand past and present events and predict possible future events.

**2.3** Students identify and analyze systems and the ways their components work together or affect each other.

**Grade 7 Enduring Knowledge – Understandings**

*Students will understand that*

- regular and predictable movement is not limited to our solar system. New technologies, coupled with an understanding of the laws of motion, allow for the discovery of celestial bodies that cannot be directly observed.
- our solar system is part of a larger collection of millions of stars (Milky Way Galaxy), any of which may be the center of its own system of orbiting planets.
- gravitational interactions within the Earth, sun and moon system impact phenomena and organisms on the surface of the Earth.
- models of the interior of the Earth have been constructed primarily from inferences based on limited data obtained during earthquakes and volcanic eruptions. These models are useful, but are open to revision or rejection as new information is obtained.
- the Earth's layers vary widely in their properties, and interactions between them can manifest themselves in ways that impact both the Earth and its organisms.
- while some changes to the Earth occur without warning, many changes to the surface or atmosphere can be predicted from available data/evidence.

**Grade 7 Skills and Concepts**

*Students will*

- research how the laws of motion have been (and are still) used to make predictions about the movement of planets and satellites
- describe the effects of gravity on the movements and interactions of the Earth, sun and moon
- investigate the structure of the galaxy and the Earth's place within it
- analyze the evidence used to infer the composition of the Earth's interior and evaluate the models based upon that evidence
- model the layers of the Earth, explain interactions between them and describe potential results of those interactions
- investigate the forces and processes that change Earth's surface or atmosphere and analyze data to generate predictions of their effects

## Big Idea: Unity and Diversity (Biological Science)

All matter is comprised of the same basic elements, goes through the same kinds of energy transformations, and uses the same kinds of forces to move. Living organisms are no exception. In middle school, students begin to compare, contrast, and classify the microscopic features of organisms—the cells, as well as investigate reproduction as the essential process to the continuation of all species. Expected patterns of genetic traits are predicted. Distinctions are made between learned behaviors and inherited traits. Emphasis at every level should be placed upon the understanding that while every living thing is composed of similar small constituents that combine in predictable ways, it is the subtle variations within these small building blocks that account for both the likenesses and differences in form and function that create the diversity of life.

**Academic Expectations**

**2.1** Students understand scientific ways of thinking and working and use those methods to solve real-life problems.

**2.2** Students identify, analyze, and use patterns such as cycles and trends to understand past and present events and predict possible future events.

**2.3** Students identify and analyze systems and the ways their components work together or affect each other.

**2.4** Students use the concept of scale and scientific models to explain the organization and functioning of living and nonliving things and predict other characteristics that might be observed.

**Grade 7 Enduring Knowledge – Understandings**

*Students will understand that*

- specialized structures called genes are located in the chromosomes of each living cell. These structures have the task of passing on characteristics that make offspring resemble their parents (heredity).
- inherited traits of an offspring come directly from the genes of the parent, while learned traits are acquired after birth through interactions with the offspring's surroundings.
- asexual reproduction involves only the passing on of one parent's genes, resulting in offspring with genes identical to those of the parent. Sexual reproduction requires the combination of genes from male and female sex cells, creating offspring with a blend of traits.
- sexual reproduction creates variations among offspring, gradually contributing to a wide variety of life.
- the observable differences among humans are minor compared to their internal similarity, as evidenced by the ability of people from all over the world to physically mix through reproduction, blood transfusions and organ transplants.
- research involving living things requires ethical considerations not required when investigating non-living things. Human subjects must be fully informed about potential risks and freely consent to any involvement. Because animals cannot make their own choices, special care must be taken in using them in scientific research.

**Grade 7 Skills and Concepts**

*Students will*

- describe and compare sexual and asexual reproduction, including advantages and disadvantages of each
- research and describe the role of genes/chromosomes in the passing of information from one generation to another (heredity)
- describe the differences between learned and inherited behaviors and characteristics, and classify examples of each using tables, graphs or diagrams
- research variations within species that result from sexual reproduction
- compare the physiological similarities among people from geographically and culturally diverse origins
- support and/or defend a position related to the ethical considerations of scientific research involving humans and other organisms, both orally and in writing

## Big Idea: Biological Change (Biological Science)

The only thing certain is that everything changes. At the middle school level, students study relationships among populations and ecosystems that contribute to the success or demise of a specific population or species. Students construct basic explanations that can account for the great diversity among organisms.

**Academic Expectations**

**2.1** Students understand scientific ways of thinking and working and use those methods to solve real-life problems.

**2.2** Students identify, analyze, and use patterns such as cycles and trends to understand past and present events and predict possible future events.

**2.5** Students understand that under certain conditions nature tends to remain the same or move toward a balance.

**2.6** Students understand how living and nonliving things change over time and the factors that influence the changes.

**Grade 7 Enduring Knowledge – Understandings**

*Students will understand that*

- over time, some species have become so adapted to each other that neither could survive without the other.
- most of the species that have lived on Earth no longer exist. A species will become extinct when changes in environmental conditions (either gradual or rapid) are greater than its ability to adapt.
- fossils provide evidence of how biological change over time accounts for the diversity of species developed through gradual processes over many generations.
- results of scientific investigations are seldom exactly the same, but if the differences are large it is important to try to figure out why. Keeping careful records is important to help investigate what might have caused the differences.

**Grade 7 Skills and Concepts**

*Students will*

- investigate parasitic and symbiotic relationships among organisms
- explore the environmental factors that have resulted in the extinction of species
- use information from the fossil record to investigate changes in organisms and their environments to make inferences about past life forms and environmental conditions
- compare the results from a variety of investigations (based on similar hypotheses) to identify differences between their outcomes/conclusions and propose reasonable explanations for those discrepancies

## Big Idea: Energy Transformations (Unifying Concepts)

Energy transformations are inherent in almost every system in the universe—from tangible examples at the elementary level, such as heat production in simple Earth and physical systems to more abstract ideas beginning at middle school, such as those transformations involved in the growth, dying and decay of living systems. The use of models to illustrate the often invisible and abstract notions of energy transfer will aid in conceptualization, especially as students move from the macroscopic level of observation and evidence (primarily elementary school) to the microscopic interactions at the atomic level (middle and high school levels).

**Academic Expectations**

**2.1** Students understand scientific ways of thinking and working and use those methods to solve real-life problems.

**2.2** Students identify, analyze, and use patterns such as cycles and trends to understand past and present events and predict possible future events.

**2.3** Students identify and analyze systems and the ways their components work together or affect each other.

**2.4** Students use the concept of scale and scientific models to explain the organization and functioning of living and nonliving things and predict other characteristics that might be observed.

**Grade 7 Enduring Knowledge – Understandings**

*Students will understand that*

- most of the energy that powers the Earth's systems comes from the sun. Energy from inside the Earth, however, is responsible for some important phenomena (volcanism, plate tectonics).
- the amount of energy in a closed system remains the same, so that the energy lost by a hot object equals the energy gained by a cold one.
- all energy must have a source and may change forms or be transferred in a wide variety of ways, including via waves.
- thermal energy and motion are inseparable when viewed at the molecular level.
- the role various organisms play within an ecosystem can be determined by observing the flow of energy between them.
- systems tend to change until they become stable and remain that way unless conditions change.

**Grade 7 Skills and Concepts**

*Students will*

- investigate a variety of Earth systems that are powered by solar (e.g. water cycle, climate, carbon cycle) and/or geothermal (e.g. plate tectonics, volcanism) energy
- model, explain and analyze the flow of energy in ecosystems and draw conclusions about the role of organisms in an ecosystem
- explain where energy comes from (and goes next) in a variety of real-world examples (e.g. burning, respiration, residential lighting, dry cell batteries) involving different forms of energy (e.g. heat, light, kinetic, chemical)
- identify forms of energy that are transferred via waves
- equate work done on an object with change in energy of the object
- describe the kinetic molecular theory of matter
- experiment with heat flow inside closed and open systems to explore the concept of thermal equilibrium

## Big Idea: Interdependence (Unifying Concepts)

It is not difficult for students to grasp the general notion that species depend on one another and on the environment for survival. But their awareness must be supported by knowledge of the kinds of relationships that exist among organisms, the kinds of physical conditions that organisms must cope with, the kinds of environments created by the interaction of organisms with one another and their physical surroundings, and the complexity of such systems. In middle school, students should be guided from specific examples of the interdependency of organisms to a more systematic view of the interactions that take place among organisms and their surroundings. Students growing understanding of systems in general will reinforce the concept of ecosystems. Stability and change in ecosystems can be considered in terms of variables such as population size, number and kinds of species, productivity, and the effect of human intervention.

**Academic Expectations**

**2.1** Students understand scientific ways of thinking and working and use those methods to solve real-life problems.

**2.2** Students identify, analyze, and use patterns such as cycles and trends to understand past and present events and predict possible future events.

**2.3** Students identify and analyze systems and the ways their components work together or affect each other.

**2.4** Students use the concept of scale and scientific models to explain the organization and functioning of living and nonliving things and predict other characteristics that might be observed.

**Grade 7 Enduring Knowledge – Understandings**

*Students will understand that*

- species may become extinct even if environmental conditions remain constant. Competition between species for limited resources can result in extinction.
- changes within an ecosystem may be caused by the interactions of many factors, both biotic and abiotic. Seemingly small changes can have significant consequences as their effects ripple through a community.
- not all actions/decisions have the possibility of a desirable outcome. Sometimes a compromise requires accepting one unwanted outcome to avoid a different unwanted outcome.

**Grade 7 Skills and Concepts**

*Students will*

- research and investigate environmental situations where small changes may have large impacts in both living and non-living components of systems (e.g., introduction of zebra mussels into the Kentucky river, planting kudzu to stabilize hillsides)
- investigate potential factors contributing to endangerment or extinction, including the effects of competition for resources
- identify a species which has become extinct and analyze data/evidence to infer the contributing factors which led to extinction
- research and discuss environmental impacts of actions (human or non-human) which necessitate choosing between undesirable alternatives (e.g., losing crops to insects vs. applying toxic pesticides)
- design and conduct investigations of changes to abiotic and biotic factors in ecosystems, document and communicate observations, procedures, results and conclusions

# Program of Studies – Science – Eighth Grade

The science program in the eighth grade should provide opportunities for students to think and work like scientists. Applying factual knowledge in real-world scientific contexts allows students to refine the abilities that are the basis of scientific inquiry. These abilities include: (1) identifying questions and concepts that guide scientific investigations, (2) designing and conducting scientific investigations, (3) using technology and mathematics to improve investigations and communications, (4) formulating and revising scientific explanations and models using logic and evidence, (5) recognizing and analyzing alternative explanations and models and (6) communicating and defending a scientific argument.

Students should have opportunities to work individually and in groups of varying size and composition in order to conduct investigations, process information and discuss/debate important scientific concepts. Students must have regular opportunities to share their ideas with others and to test questions they generate as a result of their learning experiences.

In our technologically advanced society, information gathering must extend beyond the classroom walls and must involve a variety of credible sources. Scientists also place a high value on accurate record keeping and open communication of findings. The science classroom should mirror this by emphasizing multiple, varied and consistent methods of documenting and communicating learning.

The scientific content standards at the eighth grade level are directly aligned with Kentucky's **Academic Expectations**. Science standards are organized around seven “Big Ideas” that are important to the discipline of science. These big ideas are: Structure and Transformation of Matter, Motion and Forces, The Earth and the Universe, Unity and Diversity, Biological Change, Energy Transformations and Interdependence. The Big Ideas are conceptual organizers for science and are the same at each grade level. This ensures students have multiple opportunities throughout their school careers to develop skills and concepts linked to the Big Ideas.

Under each Big Idea are statements of Enduring Knowledge/Understandings that represent overarching generalizations linked to the Big Ideas of science. The understandings represent the desired results - what learning will focus upon and what knowledge students will be able to explain or apply. Understandings can be used to frame development of units of study and lesson plans.

Skills and concepts describe ways that students demonstrate their learning and are specific to each grade level. The skills and concepts for science are fundamental to scientific literacy, scientific inquiry and build on prior learning.

In order to effectively implement the Program of Studies, teachers must have a common understanding of some of the terms referenced throughout this document;

> **Investigate/Explore-** compile a variety of information through hands-on experiences (utilizing process skills such as measuring, observing, questioning, classifying, predicting and inferring) and/or consult a variety of print and non-print media in order to formulate conclusions and/or gather evidence/data.

**Experiment/Test-** conduct a scientifically valid and controlled investigation, collecting and analyzing data. Use findings and conclusions to form logical explanations and openly share.

**Research-** consult of a variety of credible sources of information to gain knowledge, answer questions and support conclusions and explanations.

**Model-** represent a phenomenon or concept. Models are often conceptual in nature, and the term ‘model’ does not always imply a physical product.

## Big Idea: Structure and Transformation of Matter (Physical Science)

A basic understanding of matter is essential to the conceptual development of other big ideas in science. During the middle years, physical and chemical changes in matter are observed, and students begin to relate these changes to the smaller constituents of matter—namely, atoms and molecules. The use of models (and an understanding of their scales and limitations) is an effective means of learning about the structure of matter. Looking for patterns in properties is also critical to comparing and explaining differences in matter.

**Academic Expectations**

**2.1** Students understand scientific ways of thinking and working and use those methods to solve real-life problems.

**2.2** Students identify, analyze, and use patterns such as cycles and trends to understand past and present events and predict possible future events.

**2.4** Students use the concept of scale and scientific models to explain the organization and functioning of living and nonliving things and predict other characteristics that might be observed.

**2.5** Students understand that under certain conditions nature tends to remain the same or move toward a balance.

**Grade 8 Enduring Knowledge – Understandings**

*Students will understand that*

- all matter is made of tiny moving particles called atoms, which are far too small to see directly through a microscope. The atoms of any element are alike but are different from atoms of other elements.
- because atomic structure is not directly observable, models (physical and conceptual) are used to facilitate understanding. What kind of model to use and how complex it should be depends on its purpose.
- elements do not break down during chemical reactions (e.g., heating, exposure to electric currents, reaction with acids).
- the idea of atoms explains the conservation of matter: If the number of atoms stays the same no matter how they are rearranged, then their total mass stays the same. The atoms that are present today are the same atoms that have always existed.
- there are groups of elements that have similar properties, including highly reactive metals, less-reactive metals, highly reactive nonmetals (such as chlorine, fluorine and oxygen) and some almost completely non-reactive gases (such as helium and neon). Some elements don't fit into any of the categories; among them are carbon and hydrogen, essential elements of living matter.
- over a long time, matter is transferred from one organism to another repeatedly and between organisms and their physical environment. As in all material systems, the total amount of matter remains constant, even though its form and location change.

**Grade 8 Skills and Concepts**

*Students will*

- classify substances by how they react in given situations
- analyze models/representations of elements and basic atomic structure
- describe and illustrate the movement of elements between organisms and their physical environment and within the Earth system
- analyze factors that may influence the movement of elements among the solid Earth, oceans, atmosphere and organisms
- investigate the relationship between the seemingly indestructible nature of the atom and the concept of conservation of matter

## Big Idea: Motion and Forces (Physical Science)

Whether observing airplanes, baseballs, planets, or people, the motion of all bodies is governed by the same basic rules. At the middle level, qualitative descriptions of the relationship between forces and motion will provide the foundation for quantitative applications of Newton's Laws.

**Academic Expectations**

**2.1** Students understand scientific ways of thinking and working and use those methods to solve real-life problems.

**2.2** Students identify, analyze, and use patterns such as cycles and trends to understand past and present events and predict possible future events.

**2.3** Students identify and analyze systems and the ways their components work together or affect each other.

**Grade 8 Enduring Knowledge – Understandings**

*Students will understand that*

- Isaac Newton developed a set of rules that can be used to describe and predict virtually all observed motion on Earth and in the universe. These Laws of Motion demonstrate that the rules governing the Earth are the same as those controlling the rest of the observed universe.
- preconceived expectations can influence what people actually observe, preventing them from detecting other results. In order to maintain objectivity, different investigators should investigate the same question independently. For example, Newton's Laws are widely accepted because they have been verified by so many different observers.

**Grade 8 Skills and Concepts**

*Students will*

- differentiate speed and acceleration and classify real-life examples of each
- explain and experimentally verify how Newton's Laws show that forces between objects affect their motion, allowing future positions to be predicted from their present speeds and positions
- investigate motion of objects to generate and experimentally test predictions/conclusions. Compare and critique the results of others for accuracy, identifying strengths and weaknesses in the experiment, insisting on the use of evidence to support decisions

## Big Idea: The Earth and the Universe (Earth/Space Science)

The Earth system is in a constant state of change. These changes affect life on Earth in many ways. Development of conceptual understandings about processes that shape the Earth begin at the elementary level with understanding what Earth materials are and that change occurs. At the middle level, students investigate how these changes occur. An understanding of systems and their interacting components will enable students to evaluate supporting theories of Earth changes. The use of models and observance of patterns to explain common phenomena is essential to building a conceptual foundation and supporting ideas with evidence at all levels. In middle school, students begin to look beyond what can be directly observed as they explore the Earth-sun-moon system, as well as the rest of our solar system, employing the concept of scale within their models. Patterns play an important role as students seek to develop a conceptual understanding of gravity in their world and in the universe.

**Academic Expectations**

**2.1** Students understand scientific ways of thinking and working and use those methods to solve real-life problems.

**2.2** Students identify, analyze, and use patterns such as cycles and trends to understand past and present events and predict possible future events.

**2.3** Students identify and analyze systems and the ways their components work together or affect each other.

**Grade 8 Enduring Knowledge – Understandings**

*Students will understand that*

- the Earth is almost unimaginably old when viewed on a human time scale, and some processes that shape it are happening so slowly they cannot be easily detected in a lifetime. The accepted age of our Earth and solar system (4.6 billion years) is based on a wide variety of data collected by a number of different methods.
- heat flow and movement of molten rock within the interior of the Earth results in crustal changes such as earthquakes, volcanoes and continental drift.
- a model cannot represent a full-scale phenomenon with complete accuracy, even if it only addresses very few attributes of the original.

**Grade 8 Skills and Concepts**

*Students will*

- research and evaluate the geological dating techniques that were used to determine the accepted age of the Earth
- identify a variety of landforms on the Earth's surface that have undergone changes (both fast and slow) and investigate the forces responsible for those changes
- observe convection currents in liquids and model the movement of molten rock within the Earth in order to explain how internal heat is transferred
- discuss and identify the strengths and limitations of a variety of physical and conceptual scientific models

## Big Idea: Unity and Diversity (Biological Science)

All matter is comprised of the same basic elements, goes through the same kinds of energy transformations, and uses the same kinds of forces to move. Living organisms are no exception. In middle school, students begin to compare, contrast, and classify the microscopic features of organisms—the cells, as well as investigate reproduction as the essential process to the continuation of all species. Expected patterns of genetic traits are predicted. Distinctions are made between learned behaviors and inherited traits. Emphasis at every level should be placed upon the understanding that while every living thing is composed of similar small constituents that combine in predictable ways, it is the subtle variations within these small building blocks that account for both the likenesses and differences in form and function that create the diversity of life.

**Academic Expectations**

**2.1** Students understand scientific ways of thinking and working and use those methods to solve real-life problems.

**2.2** Students identify, analyze, and use patterns such as cycles and trends to understand past and present events and predict possible future events.

**2.3** Students identify and analyze systems and the ways their components work together or affect each other.

**2.4** Students use the concept of scale and scientific models to explain the organization and functioning of living and nonliving things and predict other characteristics that might be observed.

**Grade 8 Enduring Knowledge – Understandings**

*Students will understand that*

- all cells contain specialized parts that are structured to efficiently perform the cell's essential functions.
- complex organisms can exist because their genes contain the information needed to create and reproduce cells with specialized functions.
- organisms have nervous systems that allow them to react to changes in their surroundings and within themselves. Some of their reactions (e.g. pain response) are determined genetically while others (e.g. pushing a button to obtain food) are learned.
- patterns (e.g. reproductive method, number of body segments, type of skeleton) are helpful in classifying organisms based on how they are related. Science considers details of internal and external structures to be more important than behavior or general appearance.
- technological advances have made it possible for humans to alter the natural world. Ethical considerations and the probability of unintended consequences make it essential that the potential risks and rewards of any scientific endeavor be carefully considered before proceeding.

**Grade 8 Skills and Concepts**

*Students will*

- investigate, model and explain the functions of the specialized parts within the cell
- identify patterns of behavior within populations and classify them as either innate or learned
- investigate how the nervous systems of various organisms allow them to react (e.g. vomiting, avoidance) to internal (e.g., food toxins) and external (e.g., predator encounter) stimuli
- describe the role of genes/chromosomes in the passing of information from one generation to another (heredity)
- identify patterns among organisms that may be used for classification and compare those patterns to the currently accepted taxonomy
- collect and analyze information to answer questions about factors influencing heredity and learned behaviors and explain how scientific knowledge has been modified as new information is revealed
- research and discuss the impact of technological advances, and explore the ethical questions they often create

## Big Idea: Biological Change (Biological Science)

The only thing certain is that everything changes. At the middle school level, students study relationships among populations and ecosystems that contribute to the success or demise of a specific population or species. Students construct basic explanations that can account for the great diversity among organisms.

**Academic Expectations**

**2.1** Students understand scientific ways of thinking and working and use those methods to solve real-life problems.

**2.2** Students identify, analyze, and use patterns such as cycles and trends to understand past and present events and predict possible future events.

**2.5** Students understand that under certain conditions nature tends to remain the same or move toward a balance.

**2.6** Students understand how living and nonliving things change over time and the factors that influence the changes.

**Grade 8 Enduring Knowledge – Understandings**

*Students will understand that*

- thousands of layers of sedimentary rock provide evidence for the long history of the Earth and the long history of changing life forms whose remains are found in the rocks. More recently deposited rock layers contain fossils that more closely resemble existing species.
- observations of the fossil record provide evidence that helps to explain why externally diverse organisms are so similar at the molecular level.
- scientists cannot always control experimental conditions to obtain evidence. When that is not possible, they try to observe as wide a range of natural occurrences as possible to be able to identify patterns.

**Grade 8 Skills and Concepts**

*Students will*

- explore the law of superposition and the processes of fossilization in sedimentary rock
- synthesize evidence from the fossil record with information about currently-existing species to make inferences about why the similarities of diverse species extend beyond superficial comparisons
- research the most common fossils used to support theories of biological change
- apply research to answer student-generated questions through deductive reasoning about factors that may impact diversity of species

## Big Idea: Energy Transformations (Unifying Concepts)

Energy transformations are inherent in almost every system in the universe—from tangible examples at the elementary level, such as heat production in simple Earth and physical systems to more abstract ideas beginning at middle school, such as those transformations involved in the growth, dying and decay of living systems. The use of models to illustrate the often invisible and abstract notions of energy transfer will aid in conceptualization, especially as students move from the macroscopic level of observation and evidence (primarily elementary school) to the microscopic interactions at the atomic level (middle and high school levels).

**Academic Expectations**

**2.1** Students understand scientific ways of thinking and working and use those methods to solve real-life problems.

**2.2** Students identify, analyze, and use patterns such as cycles and trends to understand past and present events and predict possible future events.

**2.3** Students identify and analyze systems and the ways their components work together or affect each other.

**2.4** Students use the concept of scale and scientific models to explain the organization and functioning of living and nonliving things and predict other characteristics that might be observed.

**Grade 8 Enduring Knowledge – Understandings**

*Students will understand that*

- energy can be transferred in many ways, but it can neither be created nor destroyed.
- a steady supply of energy is essential for our society, but every source of energy has potential problems as well as benefits. Not all forms of energy are practical to use given our current state of technology.
- solar energy influences global climate in a number of direct and indirect ways. Patterns of global climate can be determined through analysis of climatic data.
- although many forms of energy exist, they can all be classified as either kinetic energy, potential energy, or energy contained within a field.
- the interaction of waves with matter provides the vehicle for a number of important types of energy transfer.
- changes that occur to any one component of an ecosystem may influence the entire system, since all of the components are interrelated. The relationships that exist can be determined by observing the flow of energy.
- many systems contain feedback mechanisms that serve to keep changes within specified limits.

**Grade 8 Skills and Concepts**

*Students will*

- explain the law of conservation of energy and infer where energy goes in a number of real-life energy transformations
- identify the energy transformations that occur in the ‘production’, transmission and use of energy by people in everyday life (e.g., electric power, automotive fuels, food)
- illustrate examples of potential and kinetic energy in everyday life, such as objects at rest, geologic fault movement and falling water
- compare a variety of energy sources (e.g., biomass, fission, fusion, ethanol) and evaluate their potential for large-scale use, as well as their benefits, risks and limitations
- classify methods of heat transfer (convection, conduction, radiation) and forms of energy (kinetic, potential, energy contained within a field)
- model energy transfer via waves and identify real-life examples
- analyze multiple sources of data to identify global climate patterns
- graphically represent energy flow within an ecosystem to identify the existing relationships
- analyze ecosystems to identify the factors that determine carrying capacities

## Big Idea: Interdependence (Unifying Concepts)

It is not difficult for students to grasp the general notion that species depend on one another and on the environment for survival. But their awareness must be supported by knowledge of the kinds of relationships that exist among organisms, the kinds of physical conditions that organisms must cope with, the kinds of environments created by the interaction of organisms with one another and their physical surroundings, and the complexity of such systems. In middle school, students should be guided from specific examples of the interdependency of organisms to a more systematic view of the interactions that take place among organisms and their surroundings. Students growing understanding of systems in general will reinforce the concept of ecosystems. Stability and change in ecosystems can be considered in terms of variables such as population size, number and kinds of species, productivity, and the effect of human intervention.

**Academic Expectations**

**2.1** Students understand scientific ways of thinking and working and use those methods to solve real-life problems.

**2.2** Students identify, analyze, and use patterns such as cycles and trends to understand past and present events and predict possible future events.

**2.3** Students identify and analyze systems and the ways their components work together or affect each other.

**2.5** Students understand that under certain conditions nature tends to remain the same or move toward a balance.

**Grade 8 Enduring Knowledge – Understandings**

*Students will understand that*

- organisms both cooperate and compete in ecosystems. Balanced patterns of cooperation and competition may generate ecosystems that are relatively stable for hundreds or thousands of years.
- the matter in an ecosystem is constantly transferred between and among organisms and the physical environment. While the form and location is continuously changing, the total amount of matter in the system remains constant.
- it is important to consider what population will benefit and what population (not necessarily the same one) will bear the cost when deciding among alternative courses of action.
- sometimes decisions have unintended consequences no matter how thoughtfully they were made, and may actually create new problems and needs.

**Grade 8 Skills and Concepts**

*Students will*

- predict the effects of change on one or more components within an ecosystem by analyzing a variety of data
- analyze ecosystems to identify patterns of cooperation that enhance stability
- model the flow of energy and transfer of matter within ecosystems, communities and niches
- evaluate the risks and benefits of human actions affecting the environment and identify which populations will be harmed or helped. Use a variety of data/ sources to support or defend a position related to a proposed action, both orally and in writing. Analyze the validity of other arguments
- identify examples of human actions that have had unintended environmental consequences (e.g., DDT weakening egg shells, lead-based paint, asbestos insulation)

# MIDDLE LEVEL SOCIAL STUDIES

# Program of Studies – Social Studies – Sixth Grade

Social studies at the middle level has a different level/grade context each year. For example, grade six includes world geography through an integrated social studies perspective. Grade seven focuses on an integrated study of world history from the earliest civilizations to 1500 A.D./C.E. Grade eight covers the history of the United States from the early inhabitants to Reconstruction. Regardless of the level/grade context, students incorporate each of the five areas of social studies in an integrated fashion to explore the content.

The primary purpose of social studies is to help students develop the ability to make informed decisions as citizens of a culturally diverse, democratic society in an interdependent world. The skills and concepts found throughout this document reflect this purpose by promoting the belief that students must develop more than an understanding of social studies content. They must also be able to apply the content perspectives of several academic fields of the social studies to personal and public experiences. By stressing the importance of both content knowledge and its application, the social studies curriculum in Kentucky provides a framework that prepares students to become productive citizens.

The social studies content standards at the middle level are directly aligned with Kentucky's **Academic Expectations**. Social Studies standards are organized around five "Big Ideas" that are important to the discipline of social studies. The five Big Ideas in social studies are: Government and Civics, Cultures and Societies, Economics, Geography and Historical Perspective. The Big Ideas, which are more thoroughly explained in the pages that follow, are conceptual organizers that are the same at each grade level. This consistency ensures students have multiple opportunities throughout their school careers to develop skills and concepts linked to the Big Ideas.

Under each Big Idea are statements of Enduring Knowledge/Understandings that represent overarching generalizations linked to the Big Ideas of social studies. The understandings represent the desired results - what learning will focus upon and what knowledge students will be able to explain or apply. Understandings can be used to frame development of units of study and lesson plans.

Skills and concepts describe ways that students demonstrate their learning and are specific to each grade level. The skills and concepts for social studies are fundamental to social studies literacy and build on prior learning.

The social studies program includes strong literacy connections, active hands-on work with concrete materials, and appropriate technologies. The social studies curriculum includes and depends on a number of different types of materials such as textbooks, non-fiction texts, biographies, autobiographies, journals, maps, newspapers, photographs and primary documents. Higher order thinking skills, such as compare, explain, analyze, predict, construct and interpret, are all heavily dependent on a variety of literacy skills and processes. For example, in social studies students must be able to understand specialized vocabulary, identify and comprehend key pieces of information within texts, determine what is fact and what is opinion, relate information across texts, connect new information to prior knowledge and synthesize the information to make meaning.

## Big Idea: Government and Civics

The study of government and civics equips students to understand the nature of government and the unique characteristics of American democracy, including its fundamental principles, structure, and the role of citizens. Understanding the historical development of structures of power, authority, and governance and their evolving functions in contemporary U.S. society and other parts of the world is essential for developing civic competence. An understanding of civic ideals and practices of citizenship is critical to full participation in society and is a central purpose of the social studies.

**Academic Expectations**

**2.14** Students understand the democratic principles of justice, equality, responsibility, and freedom and apply them to real-life situations.

**2.15** Students can accurately describe various forms of government and analyze issues that relate to the rights and responsibilities of citizens in a democracy.

**Grade 6 Enduring Knowledge – Understandings**

*Students will understand that*

- the purposes and sources of power in present day governments vary, each reflecting and impacting the culture(s) of the people governed.
- individual rights of people vary under different forms of government.
- democratic governments of the present day function to protect the rights, liberty and property of their citizens while promoting the common good.
- the United States does not exist in isolation; its democratic form of government has played and continues to play a role in our interconnected society.

**Grade 6 Skills and Concepts**

*Students will*

- demonstrate an understanding (e.g., speak, draw, write, projects, present) of the nature of government:
  - describe different forms of government in the present day
  - compare purposes and sources of power in the most common forms of government (e.g., monarchy, democracy, republic, dictatorship) in the present day
  - explain how democratic governments of the present day function to preserve and protect the rights (e.g., voting), liberty, and property of their citizens by making, enacting and enforcing appropriate rules and laws
  - analyze information found in current events/news (e.g., TV, radio, Internet, articles) about different present day governments and how they may reflect/impact culture
- describe/give examples of similarities and differences between rights and responsibilities of individuals living in countries with different forms of government
- analyze information from a variety of print and non-print sources (e.g., books, documents, articles, observations, interviews) to investigate, explain and answer questions about different forms of government in the present day

## Big Idea: Cultures and Societies

Culture is the way of life shared by a group of people, including their ideas and traditions. Cultures reflect the values and beliefs of groups in different ways (e.g., art, music, literature, religion); however, there are universals (e.g., food, clothing, shelter, communication) connecting all cultures. Culture influences viewpoints, rules and institutions in a global society. Students should understand that people form cultural groups throughout the United States and the World, and that issues and challenges unite and divide them.

**Academic Expectations**

**2.16** Students observe, analyze, and interpret human behaviors, social groupings, and institutions to better understand people and the relationships among individuals and among groups.

**2.17** Students interact effectively and work cooperatively with the many diverse ethnic and cultural groups of our nation and world.

**Grade 6 Enduring Knowledge – Understandings**

*Students will understand that*

- culture is a system of beliefs, knowledge, institutions, customs/traditions, languages and skills shared by a group of people. Through a society's culture, individuals learn the relationships, structures, patterns and processes to be members of the society.
- cultures develop social institutions (e.g., government, economy, education, religion, family) to structure society, influence behavior and respond to human needs.
- interactions among individuals and groups assume various forms (e.g., compromise, cooperation, conflict, competition) and are influenced by culture.
- culture affects how people in a society behave in relation to groups and their environment.
- an appreciation of the diverse complexity of cultures is essential in our global society.

**Grade 6 Skills and Concepts**

*Students will*

- demonstrate an understanding (e.g., speak, draw, write, sing, create) of the complexity of culture by exploring cultural elements (e.g., beliefs, customs/traditions, languages, skills, literature, the arts) of diverse groups and explaining how culture serves to define present day groups and may result in unique perspectives
- investigate social institutions (e.g., family, religion, education, government, economy) in relation to how they respond to human needs, structure society and influence behavior in the present day
- explain how communications between groups can be influenced by cultural differences; explain how interactions (e.g., political, economic, religious, ethnic) can lead to conflict and competition among individuals and groups in the present day
- describe conflicts between individuals or groups and explain how compromise and cooperation are possible choices to resolve conflict among individuals and groups in the United States and across regions of the world in the present day
- compare examples of cultural elements (e.g., language, the arts, customs/traditions, beliefs, skills and literature) of diverse groups in the present day, including non-western cultures within the United States, in current events/news using information from a variety of print and non-print sources (e.g., media, literature, interviews, observations, documentaries, artifacts)

## Big Idea: Economics

Economics includes the study of production, distribution and consumption of goods and services. Students need to understand how their economic decisions affect them, others, the nation and the world. The purpose of economic education is to enable individuals to function effectively both in their own personal lives and as citizens and participants in an increasingly connected world economy. Students need to understand the benefits and costs of economic interaction and interdependence among people, societies, and governments.

**Academic Expectations**

**2.18** Students understand economic principles and are able to make economic decisions that have consequences in daily living.

**Grade 6 Enduring Knowledge – Understandings**

*Students will understand that*

- the basic economic problem confronting individuals, societies and governments across present day geographic regions is scarcity: as a result of scarcity, economic choices and decisions must be made.
- economic systems (e.g., traditional, command, market, mixed) and a variety of fundamental economic concepts (e.g., supply and demand, opportunity cost) affect individuals, societies and governments of the present day.
- individuals, businesses and governments must make economic decisions about the use of resources in the production, distribution and consumption of goods and services.
- markets are institutional arrangements that enable buyers and sellers to exchange goods and services.
- our global economy provides for a level of interdependence among individuals, regions and nations of the present day.

**Grade 6 Skills and Concepts**

*Students will*

- demonstrate an understanding of the nature of limited resources and scarcity, using a variety of print and non-print sources (e.g., news media, news magazines, textbook, Internet) to investigate present day economic problems within the U.S. and in world regions:
  - explain how scarcity requires individuals, groups and governments to make decisions about the use of productive resources (e.g., natural resources, human resources and capital goods)
  - compare economic systems (e.g., traditional, command, market, mixed)
  - explain how the prices of goods and services are determined by supply and demand in market economies
- demonstrate an understanding of markets by providing scenarios to illustrate how goods and services are exchanged; explain how money can be used to express the market value of goods and services; describe the relationship between money and ease of trading, borrowing, investing and saving; analyze the connections between economic conditions and current events of the present day
- investigate the production and distribution of goods and services in present day societies:
  - describe how competition among buyers and sellers impacts the price of goods and services
  - explain ways in which societies (within the U.S. and in world regions) address basic economic questions (e.g., how resources are used to produce goods and services, how regions increase productivity) about the production, distribution and consumption of goods and services
  - analyze examples that demonstrate interdependence of international economic activities

## Big Idea: Geography

Geography includes the study of the five fundamental themes of location, place, regions, movement and human/environmental interaction. Students need geographic knowledge to analyze issues and problems to better understand how humans have interacted with their environment over time, how geography has impacted settlement and population, and how geographic factors influence climate, culture, the economy and world events. A geographic perspective also enables students to better understand the past and present and to prepare for the future.

**Academic Expectations**

**2.19** Students recognize and understand the relationship between people and geography and apply their knowledge in real-life situations.

**Grade 6 Enduring Knowledge – Understandings**

*Students will understand that*

- the use of geographic tools (e.g., maps, globes, photographs, models, charts, graphs, databases, and satellite images) and mental maps helps interpret information, analyze patterns and spatial data, and solve geographic issues in the present day.
- patterns emerge as humans move, settle, and interact on Earth's surface and can be identified by examining the location of physical and human characteristics, how they are arranged, and why they are in particular locations. Economic, political, cultural and social processes interact to shape patterns of human populations, interdependence, cooperation and conflict.
- regions help us to see Earth as an integrated system of places and features organized by such principles as landform types, political units, economic patterns and cultural groups.
- people depend on, adapt to, or modify the environment to meet basic needs. Human actions modify the physical environment and in turn, the physical environment limits or promotes human activities in the present day.
- citizens in an interdependent global community change their environment through the use of land and other resources. Many of the important issues facing societies and nations involve the consequences of interactions between human and physical systems.

## Big Idea: Geography – Continued

**Grade 6 Skills and Concepts**
*Students will*

- demonstrate an understanding of patterns on the Earth's surface, using a variety of geographic tools (e.g., maps, globes, charts, graphs, satellite images):
  - locate, in absolute and relative terms, landforms and bodies of water
  - locate and interpret patterns on Earth's surface (e.g., how different factors, such as rivers, mountains and plains affect where human activities are located)
- investigate regions of the Earth's surface using information from print and non-print sources (e.g., books, films, magazines, Internet, geographic tools):
  - explain relationships between and among physical characteristics (e.g., mountains, bodies of water, valleys) of present day regions and how they are made distinctive by human characteristics (e.g., dams, roads, urban centers); describe advantages and disadvantages for human activities (e.g., exploration, migration, trade, settlement) that resulted
  - describe patterns of human settlement in the present day; explain relationships between these patterns and human needs; analyze how factors (e.g., war, famine, disease, economic opportunity, technology) impact human migration today
  - evaluate how availability of technology, resources and knowledge causes places and regions in the present day to change
  - interpret current events in the world from a geographic perspective
- investigate interactions among human activities and the physical environment in the present day:
  - explain how people modify the physical environment (e.g., dams, roads, bridges) to meet their needs in different regions
  - describe how the physical environment can promote or restrict human activities (e.g., exploration, migration, trade, settlement, development) in the present day
  - explain cause and effect relationships between the natural resources of a place or region and its political, social and economic development
  - describe how individual and group perspectives impact the use (e.g., urban development, recycling) of natural resources using current events

## Big Idea: Historical Perspective

History is an account of events, people, ideas, and their interaction over time that can be interpreted through multiple perspectives. In order for students to understand the present and plan for the future, they must understand the past. Studying history engages students in the lives, aspirations, struggles, accomplishments and failures of real people. Students need to think in an historical context in order to understand significant ideas, beliefs, themes, patterns and events, and how individuals and societies have changed over time in Kentucky, the United States and the World.

**Academic Expectations**

**2.20** Students understand, analyze, and interpret historical events, conditions, trends, and issues to develop historical perspective.

**Grade 6 Enduring Knowledge – Understandings**

*Students will understand that*

- interactions among countries and people are complex because of cultural, political, economic, geographic and historical differences.
- people and groups react and adapt to change over time in a variety of ways based on their needs, goals and experiences.

**Grade 6 Skills and Concepts**

*Students will*

- demonstrate an understanding of the interpretative nature of history using a variety of tools and resources (e.g., primary and secondary sources, Internet, timelines, maps):
  - investigate and chronologically describe (e.g., using timelines, charts, fictional and report writing, role playing) major events in present day regions of the world and draw inferences about their importance
  - examine potential causes of recent historical events and show connections among causes and effects; use cause-effect relationships to identify patterns of historical change influenced by government, culture, economics and/or geography
  - analyze historical events, conditions and perspectives of different individuals and groups (e.g., by gender, race, region, ethnic group, age, economic status, religion, political group) in present day regions of the world
- analyze major historical events and people in present day regions of the world using information from print and non-print sources (e.g., biographies, autobiographies, films, magazines, Internet)

# Program of Studies – Social Studies – Seventh Grade

Social studies at the middle level has a different level/grade context each year. For example, grade six includes world geography through an integrated social studies perspective. Grade seven focuses on an integrated study of world history from the earliest civilizations to 1500 A.D./C.E. Grade eight covers the history of the United States from the early inhabitants to Reconstruction. Regardless of the level/grade context, students incorporate each of the five areas of social studies in an integrated fashion to explore the content.

The primary purpose of social studies is to help students develop the ability to make informed decisions as citizens of a culturally diverse, democratic society in an interdependent world. The skills and concepts found throughout this document reflect this purpose by promoting the belief that students must develop more than an understanding of social studies content. They must also be able to apply the content perspectives of several academic fields of the social studies to personal and public experiences. By stressing the importance of both content knowledge and its application, the social studies curriculum in Kentucky provides a framework that prepares students to become productive citizens.

The social studies content standards at the middle level are directly aligned with Kentucky's **Academic Expectations**. Social Studies standards are organized around five "Big Ideas" that are important to the discipline of social studies. The five Big Ideas in social studies are: Government and Civics, Cultures and Societies, Economics, Geography and Historical Perspective. The Big Ideas, which are more thoroughly explained in the pages that follow, are conceptual organizers that are the same at each grade level. This consistency ensures students have multiple opportunities throughout their school careers to develop skills and concepts linked to the Big Ideas.

Under each Big Idea are statements of Enduring Knowledge/Understandings that represent overarching generalizations linked to the Big Ideas of social studies. The understandings represent the desired results - what learning will focus upon and what knowledge students will be able to explain or apply. Understandings can be used to frame development of units of study and lesson plans.

Skills and concepts describe ways that students demonstrate their learning and are specific to each grade level. The skills and concepts for social studies are fundamental to social studies literacy and build on prior learning.

The social studies program includes strong literacy connections, active hands-on work with concrete materials, and appropriate technologies. The social studies curriculum includes and depends on a number of different types of materials such as textbooks, non-fiction texts, biographies, autobiographies, journals, maps, newspapers, photographs and primary documents. Higher order thinking skills, such as compare, explain, analyze, predict, construct and interpret, are all heavily dependent on a variety of literacy skills and processes. For example, in social studies students must be able to understand specialized vocabulary, identify and comprehend key pieces of information within texts, determine what is fact and what is opinion, relate information across texts, connect new information to prior knowledge and synthesize the information to make meaning.

## Big Idea: Government and Civics

The study of government and civics equips students to understand the nature of government and the unique characteristics of American democracy, including its fundamental principles, structure, and the role of citizens. Understanding the historical development of structures of power, authority, and governance and their evolving functions in contemporary U.S. society and other parts of the world is essential for developing civic competence. An understanding of civic ideals and practices of citizenship is critical to full participation in society and is a central purpose of the social studies.

**Academic Expectations**

**2.14** Students understand the democratic principles of justice, equality, responsibility, and freedom and apply them to real-life situations.

**2.15** Students can accurately describe various forms of government and analyze issues that relate to the rights and responsibilities of citizens in a democracy.

**Grade 7 Enduring Knowledge – Understandings**

*Students will understand that*

- forms of government in world civilizations prior to 1500 A.D./C.E. had similarities and differences in their purposes and sources of power.
- the key ideals (e.g., citizenship, justice, equality, and rule of law) of a democratic form of government were practiced in some world civilizations prior to 1500 A.D./C.E.
- individual rights in world civilizations prior to 1500 A.D./C.E. varied under different forms of government.

**Grade 7 Skills and Concepts**

*Students will*

- demonstrate an understanding (e.g., speak, draw, write, projects, present) of the nature of government:
  - explain the role of government (e.g., establishing order, providing security, achieving common goals) in world civilizations prior to 1500 A.D./C.E. and make connections to how government influences culture, society and the economy
  - compare different forms of government, and the purposes and sources of power in the most common forms of government (e.g., monarchy, democracy, republic, dictatorship) in world civilizations prior to 1500 A.D./C.E.
  - analyze how some world civilizations prior to 1500 A.D./C.E. (e.g. Greece, Rome) demonstrated the use of democratic principles (e.g., justice, equality, responsibility, freedom)
- compare rights and responsibilities of individuals in world civilizations prior to 1500 A.D./C.E. to the rights and responsibilities of U.S. citizens today
- analyze information from a variety of print and non-print sources (e.g., books, documents, articles, observations, interviews, Internet sources) to research, explain and answer questions about governments and people of world civilizations prior to 1500 A.D./C.E.

## Big Idea: Cultures and Societies

Culture is the way of life shared by a group of people, including their ideas and traditions. Cultures reflect the values and beliefs of groups in different ways (e.g., art, music, literature, religion); however, there are universals (e.g., food, clothing, shelter, communication) connecting all cultures. Culture influences viewpoints, rules and institutions in a global society. Students should understand that people form cultural groups throughout the United States and the World, and that issues and challenges unite and divide them.

**Academic Expectations**

**2.16** Students observe, analyze, and interpret human behaviors, social groupings, and institutions to better understand people and the relationships among individuals and among groups.

**2.17** Students interact effectively and work cooperatively with the many ethnic and cultural groups of our nation and world.

**Grade 7 Enduring Knowledge – Understandings**

*Students will understand that*

- culture is a system of beliefs, knowledge, institutions, customs/traditions, languages and skills shared by a group of people. Through a society's culture, individuals learn the relationships, structures, patterns and processes to be members of the society.
- cultures develop social institutions (e.g., government, economy, education, religion, family) to structure society, influence behavior and respond to human needs.
- interactions among individuals and groups assume various forms (e.g., compromise, cooperation, conflict, competition) and are influenced by culture.
- culture affects how people in a society behave in relation to groups and their environment.

**Grade 7 Skills and Concepts**

*Students will*

- demonstrate an understanding (e.g., speak, draw, write, sing, create) of the complexity of culture by exploring cultural elements (e.g., beliefs, customs/traditions, languages, skills, literature, the arts) of diverse groups and explaining how culture served to define groups in world civilizations prior to 1500 A.D./C.E. and resulted in unique perspectives
- investigate social institutions (e.g., family, religion, education, government, economy) in relation to how they responded to human needs, structured society and influenced behavior in world civilizations prior to 1500 A.D./C.E.
- explain how communications between groups can be influenced by cultural differences; explain how interactions lead to conflict and competition (e.g., political, economic, religious, ethnic) among individuals and groups in world civilizations prior to 1500 A.D./C.E.
- describe conflicts between individuals or groups and explain how compromise and cooperation were possible choices to resolve conflict among individuals and groups in world civilizations prior to 1500 A.D./C.E.
- compare examples of cultural elements (e.g., beliefs, customs/traditions, language, skills, the arts, literature) using information from a variety of print and non-print sources (e.g., media, literature, interviews, observations, documentaries, artifacts) to analyze how cultures in world civilizations prior to 1500 C.E have influenced cultures of today

## Big Idea: Economics

Economics includes the study of production, distribution and consumption of goods and services. Students need to understand how their economic decisions affect them, others, the nation and the world. The purpose of economic education is to enable individuals to function effectively both in their own personal lives and as citizens and participants in an increasingly connected world economy. Students need to understand the benefits and costs of economic interaction and interdependence among people, societies, and governments.

**Academic Expectations**

**2.18** Students understand economic principles and are able to make economic decisions that have consequences in daily living.

**Grade 7 Enduring Knowledge – Understandings**

*Students understand that*

- the basic economic problem confronting individuals, societies and governments in world civilizations prior to 1500 A.D./C.E. was scarcity: as a result of scarcity, economic choices and decisions had to be made.
- the study of economics includes a variety of fundamental economic concepts (e.g., supply and demand, opportunity cost) that apply to individuals, societies and governments in world civilizations prior to 1500 A.D./C.E.
- individuals, groups and governments in world civilizations prior to 1500 A.D./C.E. made economic decisions about the use of resources in the production, distribution and consumption of goods and services.

**Grade 7 Skills and Concepts**

*Students will*

- demonstrate an understanding of the nature of limited resources and scarcity, using information from a variety of print and non-print sources (e.g., textbook, Internet, resource materials) to investigate world civilizations prior to 1500 A.D./C.E.:
  - explain how scarcity requires individuals, groups and governments to make decisions about use of productive resources (e.g., natural resources, human resources and capital goods)
  - compare economic systems and explain the concept of supply and demand in world civilizations prior to 1500 A.D./C.E.
  - describe how goods and services were exchanged in world civilizations prior to 1500 A.D./C.E.
- investigate the production and distribution of goods and services in world civilizations prior to 1500 A.D./C.E. explaining ways in which societies addressed basic economic questions (e.g., how resources were used to produce goods and services; how new knowledge, technology/tools, and specialization increased productivity) about the production, distribution and consumption of goods and services

## Big Idea: Geography

Geography includes the study of the five fundamental themes of location, place, regions, movement and human/environmental interaction. Students need geographic knowledge to analyze issues and problems to better understand how humans have interacted with their environment over time, how geography has impacted settlement and population, and how geographic factors influence climate, culture, the economy and world events. A geographic perspective also enables students to better understand the past and present and to prepare for the future.

**Academic Expectations**

**2.19** Students recognize and understand the relationship between people and geography and apply their knowledge in real-life situations.

**Grade 7 Enduring Knowledge – Understandings**

*Students will understand that*

- the use of geographic tools (e.g., maps, globes, photographs, models, charts, graphs) and mental maps helps interpret information, analyze patterns and spatial data, and better understand geographic issues in world civilizations prior to 1500 A.D./C.E.
- patterns emerge as humans move, settle, and interact on Earth's surface, and can be identified by examining the location of physical and human characteristics, how they are arranged, and why they are in particular locations. Economic, political, cultural and social processes interacted to shape patterns of human populations, interdependence, cooperation and conflict in world civilizations prior to 1500 A.D./C.E.
- regions help us to see Earth as an integrated system of places and features organized by such principles as landform types, political units, economic patterns and cultural groups.
- people depended on, adapted to, or modified the environment to meet basic needs. Human actions modified the physical environment and in turn, the physical environment limited or promoted human activities in world civilizations prior to 1500 A.D./C.E.

## Big Idea: Geography – Continued

**Grade 7 Skills and Concepts**
*Students will*

- demonstrate an understanding of patterns on the Earth's surface, using a variety of geographic tools (e.g., maps, globes, charts, graphs):
  - locate, in absolute or relative terms, landforms and bodies of water
  - locate and interpret patterns on Earth's surface, explaining how different factors (e.g., rivers, mountains, seacoasts, deserts) impacted where human activities were located in world civilizations prior to 1500 A.D./C.E.
- investigate regions of the Earth's surface in world civilizations prior to 1500 A.D./C.E. using information from print and non-print sources (e.g., books, films, magazines, Internet, geographic tools):
  - explain relationships between and among physical characteristics of regions during the time of world civilizations prior to 1500 A.D./C.E., and explain how regions were made distinctive (e.g., dams, irrigation, roads) by human characteristics; describe advantages and disadvantages for human activities (e.g., exploration, migration, trade, settlement) that resulted
  - describe patterns of human settlement in world civilizations prior to 1500 A.D./C.E.; explain relationships between these patterns and human needs; analyze how factors (e.g., war, famine, disease, economic opportunity and technology) impacted human migration
  - evaluate how availability of technology, resources and knowledge caused places and regions to evolve and change
  - analyze current events to compare geographic perspectives of today with those of world civilizations prior to 1500 A.D./C.E.
- investigate interactions among human activities and the physical environment:
  - explain how people of world civilizations prior to 1500 A.D./C.E. used technology (e.g., dams, roads, bridges) to modify the physical environment to meet their needs
  - describe how the physical environment promoted or restricted human activities (e.g., exploration, migration, trade, settlement, development) of world civilizations prior to 1500 A.D./C.E.
  - analyze cause and effect relationships between the natural resources of world civilizations prior to 1500 A.D./C.E. and their political, social and economic development

## Big Idea: Historical Perspective

History is an account of events, people, ideas and their interaction over time that can be interpreted through multiple perspectives. In order for students to understand the present and plan for the future, they must understand the past. Studying history engages students in the lives, aspirations, struggles, accomplishments and failures of real people. Students need to think in an historical context in order to understand significant ideas, beliefs, themes, patterns and events, and how individuals and societies have changed over time in Kentucky, the United States and the World.

**Academic Expectations**

**2.20** Students understand, analyze, and interpret historical events, conditions, trends, and issues to develop historical perspective.

**Grade 7 Enduring Knowledge – Understandings**

*Students will understand that*

- history is an account of human activities that is interpretive in nature, and a variety of tools (e.g., primary and secondary sources, timelines, Internet, maps) are needed to analyze historical events in world civilizations prior to 1500 A.D./C.E.
- world civilizations prior to 1500 A.D./C.E. can be examined in order to develop chronological understanding, recognize cause-effect relationships, and interpret historical events.
- geography and natural resources had a significant impact on world historical perspectives and events prior to 1500 A.D./C.E.
- advances in science and technology had a significant impact on historical events in world civilizations prior to 1500 A.D./C.E.
- each era (e.g., Beginnings to Human Society, Early Civilizations, Classical Civilizations, Major Civilizations, States and Empires, Medieval Europe and the Rise of Western Civilizations, and Exploration as it relates to world civilizations prior to 1500 A.D./C.E.) in the history of world civilizations had social, political, economic and/or cultural characteristics.

## Big Idea: Historical Perspective – Continued

**Grade 7 Skills and Concepts**
*Students will*

- demonstrate an understanding of the interpretative nature of history using a variety of tools and resources (e.g., primary and secondary sources, Internet, timelines, maps):
  - investigate and chronologically describe (e.g., using timelines, charts, fictional and report writing, role playing) significant events in world civilizations prior to 1500 A.D./C.E. and draw inferences about their importance
  - examine multiple cause and effect relationships that have shaped history throughout world civilizations prior to 1500 A.D./C.E.
  - analyze historical events, conditions and perspectives of different individuals and groups (e.g., by gender, race, region, ethnic group, age, economic status, religion, political group) in world civilizations prior to 1500 A.D./C.E.
- investigate, using primary and secondary sources (e.g., biographies, films, magazines, Internet resources, textbooks, artifacts), to answer questions about, locate examples of, or interpret factual and fictional accounts of major historical events and people:
  - explain how early hunters and gatherers (Paleolithic and Neolithic) developed new technologies
  - describe the contributions made by world civilizations prior to 1500 A.D./C.E. (e.g., Egypt, Mesopotamia, the Indus River Valley, the Middle East, India, China) to society and analyze the impact these contributions made to future generations
  - examine the rise of classical civilizations and empires (e.g., Greece and Rome) and analyze their lasting impacts on the world in the areas of government, philosophy, architecture, art, drama and literature
  - describe the rise of western civilizations (e.g., Mayan, Incan, Aztec) and non-western civilizations (e.g., Egyptian, Chinese, Indian, Persian) and analyze ways in which these cultures influenced government, philosophy, art, drama and literature in the present day
  - explain how the movement of goods affected settlement patterns in and relations between early civilizations, empires, nations and states (e.g., Asia, Africa, and the Americas)
  - examine developments during the Middle Ages (e.g., feudalism, nation states, monarchies, religious institutions, limited government, trade) and describe resulting influences on modern societies
  - describe how the Age of Exploration (world civilizations prior to 1500 A.D./C.E.) caused diverse cultures to interact in various forms (e.g., compromise, cooperation, conflict, competition); explain how governments expanded their territories and developed new technologies

# Program of Studies – Social Studies – Eighth Grade

Social studies at the middle level has a different level/grade context each year. For example, grade six includes world geography through an integrated social studies perspective. Grade seven focuses on an integrated study of world history from the earliest civilizations to 1500 A.D./C.E. Grade eight covers the history of the United States from the early inhabitants to Reconstruction. Regardless of the level/grade context, students incorporate each of the five areas of social studies in an integrated fashion to explore the content.

The primary purpose of social studies is to help students develop the ability to make informed decisions as citizens of a culturally diverse, democratic society in an interdependent world. The skills and concepts found throughout this document reflect this purpose by promoting the belief that students must develop more than an understanding of social studies content. They must also be able to apply the content perspectives of several academic fields of the social studies to personal and public experiences. By stressing the importance of both content knowledge and its application, the social studies curriculum in Kentucky provides a framework that prepares students to become productive citizens.

The social studies content standards at the middle level are directly aligned with Kentucky's **Academic Expectations**. Social Studies standards are organized around five "Big Ideas" that are important to the discipline of social studies. The five Big Ideas in social studies are: Government and Civics, Cultures and Societies, Economics, Geography and Historical Perspective. The Big Ideas, which are more thoroughly explained in the pages that follow, are conceptual organizers that are the same at each grade level. This consistency ensures students have multiple opportunities throughout their school careers to develop skills and concepts linked to the Big Ideas.

Under each Big Idea are statements of Enduring Knowledge/Understandings that represent overarching generalizations linked to the Big Ideas of social studies. The understandings represent the desired results - what learning will focus upon and what knowledge students will be able to explain or apply. Understandings can be used to frame development of units of study and lesson plans.

Skills and concepts describe ways that students demonstrate their learning and are specific to each grade level. The skills and concepts for social studies are fundamental to social studies literacy and build on prior learning.

The social studies program includes strong literacy connections, active hands-on work with concrete materials, and appropriate technologies. The social studies curriculum includes and depends on a number of different types of materials such as textbooks, non-fiction texts, biographies, autobiographies, journals, maps, newspapers, photographs and primary documents. Higher order thinking skills, such as compare, explain, analyze, predict, construct and interpret, are all heavily dependent on a variety of literacy skills and processes. For example, in social studies students must be able to understand specialized vocabulary, identify and comprehend key pieces of information within texts, determine what is fact and what is opinion, relate information across texts, connect new information to prior knowledge and synthesize the information to make meaning.

## Big Idea: Government and Civics

The study of government and civics equips students to understand the nature of government and the unique characteristics of American democracy, including its fundamental principles, structure, and the role of citizens. Understanding the historical development of structures of power, authority, and governance and their evolving functions in contemporary U.S. society and other parts of the world is essential for developing civic competence. An understanding of civic ideals and practices of citizenship is critical to full participation in society and is a central purpose of the social studies.

**Academic Expectations**

**2.14** Students understand the democratic principles of justice, equality, responsibility, and freedom and apply them to real-life situations.

**2.15** Students can accurately describe various forms of government and analyze issues that relate to the rights and responsibilities of citizens in a democracy.

**Grade 8 Enduring Knowledge – Understandings**

*Students will understand that*

- the American political system developed from a colonial base of representative democracy by the actions of people who envisioned an independent country and new purposes for the government.
- the United States government was formed to establish order, provide security and accomplish common goals.
- the fundamental values and principles (e.g., liberty, justice, individual human dignity, the rule of law) of American democracy as expressed in historical documents (e.g., the Declaration of Independence, the Constitution of the United States) are enduring and remain significant today.
- the Constitution of the United States establishes a government of limited powers that are shared among different levels and branches. The Constitution is a flexible document that can change over time to meet the needs of its citizens.
- as members of a democratic society, all citizens of the United States have certain rights and responsibilities, including civic participation.

## Big Idea: Government and Civics – Continued

**Grade 8 Skills and Concepts**
*Students will*

- demonstrate an understanding (e.g., illustrate, write, model, projects, present) of the nature of government:
  - explain the role of government (e.g., establishing order, providing security, achieving common goals) in the United States prior to Reconstruction and make connections to how government influences culture, society and the economy
  - describe how democratic governments in the United States prior to Reconstruction functioned to preserve and protect the rights (e.g., voting), liberty and property of their citizens by making, enacting and enforcing rules and laws (e.g., constitutions, laws, statutes)
  - compare purposes and sources of power in the most common forms of government (e.g., monarchy, democracy, republic)
- investigate the Constitution of the United States:
  - examine ways the Constitution is a flexible document that changes (through amendments) and is interpreted (by judicial review) over time to meet the needs of its citizens
  - explain the political process established by the U.S. Constitution and ways the Constitution separates power among the legislative, executive and judicial branches to prevent the concentration of political power and to establish a system of checks and balances
  - analyze why the powers of the state and federal governments are sometimes shared and sometimes separated (federalism)
- make inferences about and among significant historical events and historical documents (e.g., the Declaration of Independence, the Constitution of the United States) to illustrate connections to democratic principles and guaranteed rights for all citizens
- explain pros and cons of how citizen responsibilities (e.g., participate in community activities, vote in elections) and duties (e.g., obey the law, pay taxes, serve on a jury, register for the military) impact the U.S. government's ability to function as a democracy
- analyze information from a variety of print and non-print sources (e.g., books, documents, articles, interviews, Internet) to research answers to questions and explore issues

## Big Idea: Cultures and Societies

Culture is the way of life shared by a group of people, including their ideas and traditions. Cultures reflect the values and beliefs of groups in different ways (e.g., art, music, literature, religion); however, there are universals (e.g., food, clothing, shelter, communication) connecting all cultures. Culture influences viewpoints, rules and institutions in a global society. Students should understand that people form cultural groups throughout the United States and the World, and that issues and challenges unite and divide them.

**Academic Expectations**

**2.16** Students observe, analyze, and interpret human behaviors, social groupings, and institutions to better understand people and the relationships among individuals and among groups.

**2.17** Students interact effectively and work cooperatively with the many diverse ethnic and cultural groups of our nation and world.

**Grade 8 Enduring Knowledge – Understandings**

*Students will understand that*

- culture is a system of beliefs, knowledge, institutions, customs/traditions, languages and skills shared by a group of people. Through a society's culture, individuals learn the relationships, structures, patterns and processes to be members of the society.
- cultures develop social institutions (e.g., government, economy, education, religion, family) to structure society, influence behavior, and respond to human needs.
- interactions among individuals and groups assume various forms (e.g., compromise, cooperation, conflict, competition) and are influenced by culture.
- multiple factors contributed to the cultural diversity of the United States prior to Reconstruction; an understanding and appreciation of the diverse complexity of cultures is essential in our society.

**Grade 8 Skills and Concepts**

*Students will*

- demonstrate an understanding (e.g., speak, draw, write, sing, create) of the nature of culture by exploring cultural elements (e.g., beliefs, customs/traditions, languages, skills, literature, the arts) of diverse groups in the United States prior to Reconstruction and explain how culture served to define specific groups and resulted in unique perspectives
- investigate social institutions (e.g., family, religion, education, government, economy) in relation to how they responded to human needs, structured society and influenced behavior in the United States prior to Reconstruction
- explain how communications between groups were influenced by cultural differences; explain how interactions influenced conflict and competition (e.g., political, economic, religious, ethnic) among individuals and groups in the United States prior to Reconstruction
- describe conflicts between individuals or groups and explain how compromise and cooperation were possible choices to resolve conflict among individuals and groups in the United States prior to Reconstruction
- compare examples of cultural elements of today to those in the United States prior to Reconstruction, using information from a variety of print and non-print sources (e.g., media, literature, interviews, observations, documentaries, artifacts)

## Big Idea: Economics

Economics includes the study of production, distribution and consumption of goods and services. Students need to understand how their economic decisions affect them, others, the nation and the world. The purpose of economic education is to enable individuals to function effectively both in their own personal lives and as citizens and participants in an increasingly connected world economy. Students need to understand the benefits and costs of economic interaction and interdependence among people, societies, and governments.

**Academic Expectations**

**2.18** Students understand economic principles and are able to make economic decisions that have consequences in daily living.

**Grade 8 Enduring Knowledge – Understandings**

*Students will understand that*

- the basic economic problem confronting individuals, societies and government in the development of the United States prior to Reconstruction was scarcity; as a result of scarcity, economic choices and decisions were made.
- the development of the American economic system, institutions and markets prior to Reconstruction helped individuals, groups and governments achieve their goals and impacted life in the United States.
- the United States government and its policies played a major role in determining how the U.S. economy functioned prior to Reconstruction.
- individuals, businesses and the government of the U.S. prior to Reconstruction made economic decisions about the use of resources in the production, distribution and consumption of goods and services.

**Grade 8 Skills and Concepts**

*Students will*

- demonstrate an understanding of the nature of limited resources and scarcity in the United States prior to Reconstruction, using information from a variety of print and non-print sources (e.g., news media, news magazines, textbook, Internet):
  - explain how scarcity required individuals, groups and governments to make decisions about use of productive resources (e.g., natural resources, human resources and capital goods)
  - describe how goods and services were exchanged and how supply and demand and competition determined prices
  - analyze cause-effect relationships among financial decisions by individuals and groups and historical events
- investigate the production and distribution of goods and services in the United States prior to Reconstruction:
  - examine ways in which basic economic questions about the production, distribution and consumption of goods and services were addressed
  - explain how resources were used to produce goods and services and how profit motivated individuals and groups to take risks in producing goods and services
  - analyze how new knowledge, technology/tools and specialization influenced productivity of goods and services
- analyze interdependence of economic activities among individuals and groups in the United States prior to Reconstruction

## Big Idea: Geography

Geography includes the study of the five fundamental themes of location, place, regions, movement and human/environmental interaction. Students need geographic knowledge to analyze issues and problems to better understand how humans have interacted with their environment over time, how geography has impacted settlement and population, and how geographic factors influence climate, culture, the economy and world events. A geographic perspective also enables students to better understand the past and present and to prepare for the future.

**Academic Expectations**

**2.19** Students recognize and understand the relationship between people and geography and apply their knowledge in real-life situations.

**Grade 8 Enduring Knowledge – Understandings**

*Students will understand that*

- use of geographic tools (e.g., maps, globes, photographs, models, charts, graphs, databases) and mental maps helps to interpret information, analyze patterns and spatial data, and understand geographic issues encountered in the United States prior to Reconstruction.
- patterns emerge as humans move, settle, and interact on Earth's surface and can be identified by examining the location of physical and human characteristics, how they are arranged, and why they are in particular locations. Economic, political, cultural and social processes interact to shape patterns of human populations, interdependence, cooperation and conflict in the United States prior to Reconstruction.
- regions help us to see Earth as an integrated system of places and features organized by such principles as landform types, political units, economic patterns and cultural groups.
- people depended on, adapted to, or modified the environment to meet basic needs. Human actions modified the physical environment and in turn, the physical environment limited or promoted human activities in the United States prior to Reconstruction.

## Big Idea: Geography – Continued

**Grade 8 Skills and Concepts**
*Students will*

- demonstrate an understanding of patterns on Earth's surface using a variety of geographic tools (e.g., maps, globes, charts, graphs, photographs, models):
  - locate, in absolute or relative terms, landforms and bodies of water
  - locate, interpret patterns on Earth's surface, and explain how different physical factors (e.g., rivers, mountains, seacoasts) impacted where human activities were located in the United States prior to Reconstruction
- investigate regions of the Earth's surface in the United States prior to Reconstruction using information from print and non-print sources (e.g., books, films, magazines, Internet, geographic tools):
  - explain relationships between and among physical characteristics of regions and how they were made distinctive by human characteristics (e.g., dams, roads, urban centers); describe
  - advantages and disadvantages for human activities (e.g., exploration, migration, trade, settlement) that resulted
  - describe patterns of human settlement; explain relationships between these patterns and human needs; analyze how factors (e.g., war, famine, disease, economic opportunity, and technology) affected human migration
  - evaluate how availability of technology, resources and knowledge caused places and regions to evolve and change
  - analyze current events to compare geographic perspectives of today with those prior to Reconstruction
- investigate interactions among human activities and the physical environment in the United States prior to Reconstruction:
  - explain how people used technology to modify the physical environment to meet their needs
  - describe how the physical environment and different viewpoints promoted or restricted human activities (e.g., exploration, migration, trade, settlement, development) and land use
  - analyze cause-effect relationships between and among natural resources and political, social and economic development

## Big Idea: Historical Perspective

History is an account of events, people, ideas, and their interaction over time that can be interpreted through multiple perspectives. In order for students to understand the present and plan for the future, they must understand the past. Studying history engages students in the lives, aspirations, struggles, accomplishments and failures of real people. Students need to think in an historical context in order to understand significant ideas, beliefs, themes, patterns and events, and how individuals and societies have changed over time in Kentucky, the United States and the World.

**Academic Expectations**

**2.20** Students understand, analyze, and interpret historical events, conditions, trends, and issues to develop historical perspective.

**Grade 8 Enduring Knowledge – Understandings**

*Students will understand that*

- history is an account of human activities that is interpretive in nature, and a variety of tools (e.g., primary and secondary sources, data, artifacts) are needed to analyze and understand historical events.
- U.S. History can be analyzed by examining significant eras (Exploration as it relates to the settlement of America, The Great Convergence, Colonization and Settlement, Revolution and the New Nation, Expansion and Reform, Civil War) to develop chronological understanding and recognize cause-and-effect relationships and multiple causation.
- U.S. History (prior to Reconstruction) has been impacted by significant individuals and groups.
- geography, culture and economics have a significant impact on historical perspectives and events.
- advances in science and technology have a significant impact on historical events.

## Big Idea: Historical Perspective – Continued

**Grade 8 Skills and Concepts**
*Students will*

- demonstrate an understanding of the interpretative nature of history using a variety of tools and resources (e.g., primary and secondary sources, Internet, timelines, maps):
  - investigate, describe and analyze significant historical events and conditions in the U.S prior to Reconstruction, drawing inferences about perspectives of different individuals and groups (e.g., gender, race, region, ethnic group, age, economic status, religion, political group)
  - examine multiple cause-effect relationships that have shaped history (e.g., showing how a series of events are connected)
- investigate, using primary and secondary sources (e.g., biographies, films, magazines, Internet resources, textbooks, artifacts) to answer questions about, locate examples of, or interpret factual and fictional accounts of major historical events and people:
  - analyze how exploration and the settlement of America caused diverse cultures to interact in various forms (e.g., compromise, cooperation, conflict, competition); explain how governments expanded their territories and the impact this had on the United States prior to Reconstruction
  - describe events and conditions that led to the "Great Convergence" of European, African and Native American people beginning in the late 15th century; analyze how America's diverse society developed as a result of these events
  - explain how the ideals of equality and personal liberty (e.g., rise of individual rights, economic freedom, religious diversity) that developed during the colonial period were motivations for the American Revolution and proved instrumental in forging a new nation
  - describe how the growth of democracy and geographic expansion occurred and were significant to the development of the United States prior to Reconstruction
  - compare the political, social, economic and cultural differences (e.g., slavery, tariffs, industrialism vs. agrarianism, federal vs. states' rights) between and among regions of the U.S. and explain how these differences contributed to the American Civil War
  - evaluate how advances in science and technology contributed to the changing American society in the United States prior to Reconstruction

# MIDDLE LEVEL TECHNOLOGY

# Program of Studies – Technology – Middle School

Technology use in the 21st century has become a vital component of all aspects of life. For students in Kentucky to be contributing citizens, they must receive an education that incorporates technology literacy at all levels. Technology literacy is the ability of students to responsibly use appropriate technology to communicate, solve problems, and access, manage, integrate, evaluate, and create information to improve learning in all subject areas and to acquire lifelong knowledge and skills in the 21st century. The Technology Program of Studies provides a framework for integrating technology into all content areas. It reflects the basic skills required for each student to be competitive in the global economy.

For students to gain the technology competencies, it is essential that they have access to technology during the school day in all grade levels. Instruction should provide opportunities for students to gain and demonstrate technology skills that build primary through grade 12.

The technology content standards should be integrated into each curricular discipline. The purpose of integrating technology is to help students make useful connections between what they learn in each content area and the real world. Technology knowledge, concepts and skills should be interwoven into lessons or units and taught in partnership with other content areas. Technology lends itself to curriculum integration and team teaching. Technology can enhance learning for all students, and for some it is essential for access to learning.

The technology content standards are organized by grade spans: primary, intermediate, middle, and high. The technology program of studies at the middle level builds upon primary and intermediate experiences and includes students demonstrating competencies in technology literacy. Students use word processing, database, spreadsheet, browser, presentation and other tools. Students know the purpose and function of technology to enable them to select the appropriate tools to create original innovative work. By the end of middle school, students apply and demonstrate technology competencies across all curriculum areas. This experience will prepare them in meeting the minimum technology requirements needed for high school graduation.

The technology content standards at the middle grade span are directly aligned with Kentucky's **Academic Expectations**. Technology standards are organized around three Big Ideas that are important to the discipline of technology. The three Big Ideas in technology are: **1) Information, Communication and Productivity; 2) Safety and Ethical/Social Issues;** and **3) Research, Inquiry/Problem-Solving and Innovation**. The Big Ideas are conceptual organizers for technology. Each grade level span ensures students have multiple opportunities throughout their school careers to develop skills and concepts linked to the Big Ideas.

Under each Big Idea are statements of *Enduring Knowledge/Understandings* that represent overarching generalizations linked to the Big Ideas of Technology. The understandings represent the desired results--what learning will focus upon and what knowledge students will be able to explain or apply. *Understandings* can be used to frame development of units of study and lesson plans.

*Skills and Concepts* describe ways that students demonstrate their learning and are specific to each grade level span. The skills and concepts for technology are fundamental to technology literacy, safe use and inquiry. The skills and concepts build on prior learning.

## Big Idea: Information, Communication and Productivity

Students demonstrate a sound understanding of the nature and operations of technology systems. Students use technology to learn, to communicate, increase productivity and become competent users of technology. Students manage and create effective oral, written and multimedia communication in a variety of forms and contexts.

**Academic Expectations**

**1.11** Students write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.
**1.16** Students use computers and other kinds of technology to collect, organize, and communicate information and ideas.
**3.3** Students demonstrate the ability to be adaptable and flexible through appropriate tasks or projects.
**6.1** Students connect knowledge and experiences from different subject areas.
**6.3** Students expand their understanding of existing knowledge by making connections with new knowledge, skills, and experiences.

**Middle Enduring Knowledge – Understandings**

*Students will understand that*

- appropriate terminology, proper keyboarding, computer operations and applications assist to gain confidence in the use of technology.
- technology (e.g. keyboarding, word processing, spreadsheets, databases, hardware, scanners, digital and video cameras) is used effectively and efficiently to accomplish a task.
- technology is used to communicate in a variety of ways.
- productivity tools are used effectively and efficiently to accomplish a task.

**Middle Skills and Concepts – Information**

*Students will*

- use a variety of technology (e.g., probeware, handhelds, digital and video cameras, scanners) to collect, analyze and present in all content areas
- recognize, discuss and use terms/concepts related to the protection of computers, networks and information (e.g., virus protection, network security, passwords, firewalls, privacy laws)
- use proper keyboarding techniques, optimal posture and correct hand placement (e.g., continue appropriate finger reaches and building speed)

**Middle Skills and Concepts – Communication**

*Students will*

- use technology to communicate in a variety of modes (e.g., audio, speech to text, print, media)
- select and use appropriate technology to collect, analyze and share information
- use online collaboration and interactive projects (e.g., email, videoconferencing) to communicate with others (e.g., experts, mentors)
- use a variety of electronic formats (e.g., web publishing, oral presentations, journals and multimedia presentations) to summarize and communicate results

**Middle Skills and Concepts – Productivity**

*Students will*

- use productivity tools to complete content assignments and projects
- construct and publish information in printed and digital formats (e.g., printed reports, resumes, brochures, charts, multimedia presentations, videos and websites) for authentic audiences
- use technology to develop innovative and creative products

## Big Idea: Safety and Ethical/Social Issues

Students understand safety and ethical/social issues related to technology. Students practice and engage in safe, responsible and ethical use of technology. Students develop positive attitudes toward technology use that supports lifelong learning, collaboration, personal pursuits and productivity.

**Academic Expectations**

**2.17** Students interact effectively and work cooperatively with the many ethnic and cultural groups of our nation and world.
**3.6** Students demonstrate the ability to make decisions based on ethical values.
**4.3** Students individually demonstrate consistent, responsive and caring behavior.
**4.4** Students demonstrate the ability to accept the rights and responsibilities for self and others.
**4.5** Students demonstrate an understanding of, appreciation for and sensitivity to a multi-cultural and world view.

**Middle Enduring Knowledge – Understandings**

*Students will understand that*

- collaborative and interactive projects use technology to enhance learning.
- acceptable technology etiquette is essential to respectful social interactions and good citizenship.
- ethical use of technology is necessary to ensure safety, privacy and legal issues.
- technology is used in occupations as a basic skill to be successful and productive in a global society.
- assistive technology supports learning to ensure equitable access to a productive life.

**Middle Skills and Concepts – Safety**

*Students will*

- explain the importance of safe Internet use (e.g., iSafe skills)
- apply safe behavior when using technology

**Middle Skills and Concepts – Ethical Issues**

*Students will*

- describe intellectual property issues related to technology
- practice responsible (e.g., virus protection, passwords) use of technology adhering to the Acceptable Use Policy (AUP) as well as other state and federal laws
- model ethical behavior relating to security, privacy, passwords and personal information and recognize possible consequences of misuse
- use legal and ethical practices when completing digital projects/school work and credit all participants for their contribution to the work
- investigate basic issues related to responsible use of technology and describe personal consequences of inappropriate use
- investigate software piracy, its impact on the technology industry and possible repercussions to individuals and/or the school district

**Middle Skills and Concepts – Human Issues**

*Students will*

- use appropriate behavior related to computers, networks, digital information (e.g., security, privacy, passwords, personal information)
- use proper social etiquette with any technology (e.g., email, blogs, IM, telephone, help desk) while collaborating with peers, experts and others
- use technology to engage in interactive projects in the classroom
- describe how societal expectations drive the acceptance and use of new products and systems
- investigate how the use of technology affects humans in various ways (e.g., safety, comfort, choices and attitudes)
- explore how technology is used in different occupations
- engage technology to support learning (e.g., online courses, online assessments)
- conclude that assistive technology supports learning to ensure equitable access to a productive life

## Big Idea: Research, Inquiry/Problem-Solving and Innovation

Students understand the role of technology in research and experimentation. Students engage technology in developing solutions for solving problems in the real world. Students will use technology for original creation and innovation.

**Academic Expectations**

**1.1** Students use reference tools such as dictionaries, almanacs, encyclopedias, and computer reference programs and research tools such as interviews and surveys to find the information they need to meet specific demands, explore interests, or solve specific problems.
**2.3** Students identify and analyze systems and the ways their components work together or affect each other.
**5.1** Students use critical thinking skills such as analyzing, prioritizing, categorizing, evaluating, and comparing to solve a variety of problems in real-life situations.
**5.2** Students use creative thinking skills to develop or invent novel, constructive ideas or products.
**5.4** Students use a decision-making process to make informed decisions among options.
**5.5** Students use problem-solving processes to develop solutions to relatively complex problems.
**6.1** Students connect knowledge and experiences from different subject areas.

**Middle Enduring Knowledge – Understandings**

*Students will understand that*

- technology supports creative thinking and implementation of new ideas to reach goals.
- technology supports critical thinking skills used in inquiry/problem solving to make informed decisions.
- technology assists in researching, analyzing and evaluating information obtained from a variety of sources to answer an essential question across all content areas.
- technology is used to analyze real world data through inquiry/problem solving in order to produce results.
- technology problem solving strategies is applied to innovative design for authentic, creative and real-world applications.

## Big Idea: Research, Inquiry/Problem-Solving and Innovation – Continued

**Middle Skills and Concepts - Research**
*Students will*

- demonstrate an understanding of the strengths and limitations of the Internet
- apply a research process model (e.g., Big6, Research Cycle) to conduct online research
- locate and collect information from a variety of electronic resources (e.g. search engines, CD-ROM, online periodical databases, Virtual library/online catalogs, interactive video conferencing) and correctly cite sources
- evaluate the accuracy and appropriateness of electronic information
- organize information that is collected using a variety of tools (e.g., spreadsheet, database, saved files)
- communicate results of research and learning with others using the most appropriate tools (e.g., desktop-published or word-processed report, multimedia presentation)
- manipulate data using charting tools and graphic organizers (e.g., concept mapping, flow charting and outlining software) to connect ideas and organize information

**Middle Skills and Concepts – Inquiry/Problem-solving**
*Students will*

- use appropriate technology and strategies to solve content-specific problems in the real-world
- determine which technology is useful and select the appropriate tool(s) (e.g., calculators, data collection probes, videos, educational software) to inquire/problem- solve in self-directed and extended learning
- apply strategies for identifying and solving minor hardware and software problems
- use technology to solve problems using critical thinking and problem-solving strategies
- explore how inquiry/problem-solving impact science, technology, engineering and mathematics (STEM) (e.g., design, programming, robotics)

**Middle Skills and Concepts – Innovation**
*Students will*

- use technology to express creativity in all content areas
- design, develop, publish and present original, innovative products (e.g., Web pages, video, robotics, online content)
- collaborate with peers, experts and others to develop solutions and innovative products (e.g., design/CAD, troubleshooting, helpdesk, models, systems)
- describe how technological innovation often results when ideas, knowledge or skills are shared within a technology

# MIDDLE LEVEL VOCATIONAL STUDIES

# Program of Studies – Vocational Studies – Sixth Grade

The vocational studies program at the sixth grade develops an exploration of careers. This exploration includes the purpose of having a job, concepts of consumer-decision-making, saving money, and connections between learning and working. All content teachers are responsible for providing instruction in the vocational studies area. The vocational program provides opportunities for students to investigate career options and study the relationship between careers and life roles. Students will connect educational achievement to career opportunities and set clear directions and goals for high school and beyond.

Students in the sixth grade vocational studies area develop an understanding of career planning, consumer decision-making and financial literacy that will foster life-long learning. The curriculum relates to consumer decisions, financial literacy, employability and use resources impacting the community and environment. Vocational studies addresses strategies for choosing and preparing a career, skills and work habits needed in future schooling and work. Opportunities are provided for skill development such as: interviewing, writing résumés, and completing applications that are needed for acceptance into college, other post-secondary training or to get a job. The challenge is for students to make a successful transition from school to the world of work, from job to job, across the career life span, and to be productive citizens.

The vocational studies content standards at the sixth grade are directly aligned with Kentucky's **Academic Expectations**. Consumerism and the vocational studies standards are organized around six "Big Ideas" that are important to the discipline of vocational studies. These big ideas are: Consumer Decisions, Financial Literacy, Career Awareness, Exploration/Planning, Employability Skills, and Communication/Technology. The Big Ideas are conceptual organizers for vocational studies and are the same at each grade level. This ensures students have multiple opportunities throughout their school careers to develop skills and concepts linked to the Big Ideas.

Under each Big Idea are statements of Enduring Knowledge/Understandings that represent overarching generalizations linked to the Big Ideas of vocational studies. The understandings represent the desired results- that focus on learning, and the knowledge students will have to explain or apply. Understandings can be used to frame development of units of study and lessons plans.

Skills and concepts describe the ways students demonstrate their learning and are specific to each grade level. The skills and concepts for vocational studies are fundamental to career exploration and builds on prior learning.

Academic Expectations 2.36, 2.37 and 2.38 bring forward the career exploration in Vocational Studies. Vocational Studies provide a connection to Kentucky's Learning Goals 3 (become self-sufficient individuals) and Learning Goal 4 (become responsible group members). These connections provide a comprehensive link between essential content, skills and abilities important to learning.

## Big Idea: Consumer Decisions

Individual and families need to make consumer decisions due to the numerous products/services on the market, multiple advertising techniques, and the need to make responsible financial management decisions. Accessing and assessing consumer information, comparing and evaluating products and services, provides basis for making effective consumer decisions. Consumer decisions influence the use of resources and the impact they have on the community and environment.

**Academic Expectations**

**2.30** Students evaluate consumer products and services and make effective consumer decisions.
**2.33** Students demonstrate the skills to evaluate and use services and resources available in their community.
**4.4** Students demonstrate the ability to accept the rights and responsibilities for self and others.
**5.4** Students use a decision-making process to make informed decisions among options.

**Grade 6 Enduring Knowledge – Understandings**

*Students will understand that*

- economic and social factors affect consumer decisions.
- culture, media and technology can influence consumer decisions.
- consumer advocacy groups impact consumer's rights and responsibilities.
- consumer actions (e.g., reusing, reducing, recycling) influence the use of resources and impact the environment.
- advocacy is important for personal, family and community health and safety issues.

## Big Idea: Consumer Decisions – Continued

**Grade 6 Skills and Concepts**
*Students will*

- evaluate economic and social concepts and why they are important for consumer decisions by:
  - analyzing the differences between needs and wants and how individuals and families make choices
  - determining ways in which goods and services used by families impact the environment
  - applying decision-making strategies when buying products
  - comparing and evaluating products and services based on major factors (e.g., price, quality, features) when making consumer decisions
  - comparing the relationship between supply and demand and their role in meeting consumer needs
- investigate how culture, media and technology can influence consumer decisions by:
  - explaining how culture, media and technology impact the family and consumer decision-making
  - identifying and explaining ways consumer's buying practices are influenced by peer pressure, desire for status and advertising techniques (e.g., bandwagon, facts and figures, emotional appeal, endorsement/testimonials)
  - exploring the positive and negative effects of advertising and explain the impact they have on consumer decisions
- explain ways consumer rights and responsibilities are protected (e.g., government agencies, consumer protection agencies, consumer action groups)
- evaluate ways consumer actions (e.g., reusing, reducing, recycling) influence the use of resources and impact the environment by:
  - using resources from home, school, and community that provide accurate and relevant health information
  - describing the influence of environmental factors that positively and negatively affect health
  - researching and describing services provided by environmental agencies (e.g., Soil Conversation, Environmental Protection Agency, KY Department of Natural Resources)
  - investigating conservation issues related to consumption and waste management practices
- use a variety of sources to find examples of jobs carried out by people at school and in the community that support job success
- examine individual, family, and community roles and responsibilities by:
  - investigating a variety of resources and explain ways in which consumers are addressing the effects of renewable resources on the environment
  - describing jobs carried out by people at school and in the community that support success in school

## Big Idea: Financial Literacy

Financial literacy provides knowledge so that students are responsible for their personal economic well-being. As consumers, individuals need economic knowledge as a base for making financial decisions impacting short and long term goals throughout one's lifetime. Financial literacy will empower students by providing them with the skills and awareness needed to establish a foundation for a future of financial responsibility and economic independence.

**Academic Expectations**

**2.30** Students evaluate consumer products and services and make effective consumer decisions.
**2.33** Students demonstrate the skills to evaluate and use services and resources available in their community.
**5.4** Students use a decision-making process to make informed decisions among options.

**Grade 6 Enduring Knowledge – Understandings**

*Students will understand that*

- management of financial resources is needed to meet goals of individuals and families.
- savings plans and budgets are a basic component in making financial decisions.
- various services are provided by financial institutions (e.g., banks, credit unions).
- career choice and lifestyle impact an individual's financial future.

**Grade 6 Skills and Concepts**

*Students will*

- evaluate financial management resources and how they are needed to meet goals of individuals and families by:
  - prioritizing financial goals that might affect individuals, families and community
  - explaining various types of expenses (e.g., food, clothing, entertainment) and savings (e.g., piggy bank, bank account, savings bonds)
- investigate savings plans and budgets in making financial decisions by:
  - developing a savings plan that would achieve a specific goal
  - describing basic components of a budget (e.g., income, fixed and flexible expenses, and savings)
  - explaining when and why borrowing is used for the purchase of goods and services
- describe how basic services (e.g., deposits, checking account, savings account) are provided by financial institutions (e.g., banks, credit unions)
- explain how financial goals affect future lifestyle expectations and career choices

## Big Idea: Career Awareness, Exploration, Planning

Career awareness, exploration and planning gives students the opportunity to discover the various career areas that exist and introduce them to the realities involved with the workplace. Many factors need to be considered when selecting a career path and preparing for employment. Career awareness, exploration and planning will enable students to recognize the value of education and learn how to plan for careers. The relationship between academics and jobs/careers will enable students to make vital connections that will give meaning to their learning.

**Academic Expectations**

**2.36** Students use strategies for choosing and preparing for a career.
**2.37** Students demonstrate skills and work habits that lead to success in future schooling and work.
**2.38** Students demonstrate skills such as interviewing, writing resumes, and completing applications that are needed to be accepted into college or other postsecondary training or to get a job.
**5.4** Students use a decision-making process to make informed decision among options.

**Grade 6 Enduring Knowledge – Understandings**

*Students will understand that*

- an individual's work/career encompasses more factors than providing for basic needs.
- jobs/careers reflect both individual and societal needs and vary within communities and regions.
- career choices are available in planning for job/careers in a variety of career clusters.
- the connection between work and academic achievement can influence one's future job/career.
- an Individual Learning Plan (ILP) is an academic and career planning tool.
- self-knowledge is an important part of the career planning process.

**Grade 6 Skills and Concepts**

*Students will*

- evaluate why people need to work (e.g., earn money, contribute to community, enhance self-esteem) to meet basic needs (e.g., food, clothing, shelter), provide self-satisfaction, and enjoyment
- investigate how jobs/careers reflect both individual and societal needs and vary within communities and regions by:
  - comparing different job opportunities in the home, school, and community (e.g., home business, flexible schedule)
  - recognizing that the roles of individuals at home, in the workplace, and in the community are constantly changing
- describe a range of academic skills acquired in school (e.g., verbal and nonverbal communication, computer/technical, mathematical) and explain how these skills impact job success and future career opportunities by:
  - researching career choices through the use of technology
  - identifying jobs in career clusters (e.g., Business and Marketing, Communications, Human Services, Social Services, Information Technology, Education, Social Sciences) that vary within and among regions
  - identifying resources (e.g., Internet, newspapers, magazines, counselors) and experiences (e.g., shadowing, mentoring) that can be used for locating job and career information
- develop an educational plan that can impact their future career opportunities by:
  - creating an Individual Learning Plan (ILP) as a tool to explore self-knowledge and academic aptitude and understand that career paths should relate to interests, aptitude, and abilities
  - identifying available postsecondary options (e.g., community and technical colleges, 4-year colleges, military service) used when developing career goals that are included in the Individual Learning Plan (ILP)
- recognize how self-knowledge (e.g., interests, abilities) is helpful when selecting and preparing for a career path and that unique interests may lead to career choices

## Big Idea: Employability Skills

Employability skills will focus on student's competencies with their work habits and academic/technical skills that will impact an individual's success in school and workplace. School-to-work transition skills will help students develop interpersonal skills and positive work habits.

**Academic Expectations**

**2.36** Students use strategies for choosing and preparing for a career.
**2.37** Students demonstrate skills and work habits that lead to success in future schooling and work.
**2.38** Students demonstrate skills such as interviewing, writing résumé and completing applications that are needed to be accepted into college or other postsecondary training or to get a job.
**3.8** Students demonstrate the ability to make decisions based on ethical values.

**Grade 6 Enduring Knowledge – Understandings**

*Students will understand that*

- interpersonal skills impact individual's career choice and success in the workplace.
- attitudes and work habits contribute to success at home, school and work.
- employability skills are important to achieve success in the workplace.
- academic and technical skills contribute to obtaining and succeeding in employment.

**Grade 6 Skills and Concepts**

*Students will*

- evaluate how interpersonal skills impact individual's career choice and success in the workplace by:
  - explaining ways to cooperate at home, school and work
  - identifying available resources to locate job openings in the community
  - identifying effective group interaction strategies (e.g., communicating effectively, conflict resolution, compromise) to develop team skills
  - demonstrating how working cooperatively with people of diverse backgrounds and abilities is important to achieve success in the workplace
  - explaining the importance of working cooperatively with others by contributing ideas, suggestions and efforts to complete a task
- explain how attitudes and work habits contribute to success at home, school and work by:
  - describing leadership skills needed in the school, community and the workplace
  - explaining how attitudes and work habits transfer from the home and school to the workplace
  - identifying consequences for actions when disobeying rules and routines when employed
  - explaining the role of authority in school and the workplace
  - identifying the importance of developing good work habits (e.g., attendance, time management, problem-solving)
- describe how employability skills are important to achieve success in the workplace by:
  - explaining the components and complete a job application
  - examining potential job/careers in the community
  - explaining how success in an academic course of study could contribute to the ability to achieve and succeed in employment (e.g., Science/Medicine, Language Arts/Librarian)
- explain how academic and technical skills contribute to obtaining and succeeding in employment by:
  - explaining how effective communication skills (e.g., reading, writing, speaking, and listening) impacts work-related situations and give examples for success at home, school and work
  - explaining how success in a technical course of study could contribute to the achievement in employment (e.g., Computer and Technology Concepts/Web Design, Life Skills/Child Care)

## Big Idea: Communication/Technology

Special communication and technology skills are needed for success in schooling and in the workplace. Students will be able to express information and ideas using a variety of technologies in various ways.

**Academic Expectations**

**1.16** Students use computers and other kinds of technology to collect, organize, and communicate information and ideas.
**2.37** Students demonstrate skills and work habits that lead to success in future schooling and work.
**2.38** Students demonstrate skills such as interviewing, writing resumes, and completing applications that are needed to be accepted into college or other postsecondary training or to get a job.

**Grade 6 Enduring Knowledge – Understandings**

*Students will understand that*

- scientific and technological changes can impact a variety of careers.
- technology skills can enhance learning and be used in developing a career plan.
- communication skills are essential in seeking and maintaining jobs/careers.

**Grade 6 Skills and Concepts**

*Students will*

- explain how scientific and technological changes impact specific careers (e.g., Nursing, Meteorologist, Radio and Television Broadcaster, Journalist)
- evaluate how technology tools (e.g., computer programs, Internet, email, cell phones) are used in homes, schools and jobs by:
  - explaining how technology provides access to information and resources at home, school and the workplace
  - developing components of an on-line Individual Learning Plan (ILP) to provide a focus for academic and career planning
- demonstrate how communication skills are essential in seeking and maintaining jobs/careers by:
  - describing the role of technology within a community in maintaining safe and healthy living environment
  - demonstrating how nonverbal communication skills (e.g., body language, facial expression, posture, dress) can impact relationships at home, school and the workplace
  - explaining how written communication skills are used at school and in the workplace

# Program of Studies – Vocational Studies – Seventh Grade

The vocational studies program at the seventh grade develops an exploration of careers. This exploration includes the purpose of having a job, concepts of consumer-decision-making, saving money, and connections between learning and working. All content teachers are responsible for providing instruction in the vocational studies area. The vocational studies program provides opportunities for students to investigate career options and study the relationship between careers and life roles. Students will connect educational achievement to career opportunities and set clear directions and goals for high school and beyond.

Students in the seventh grade vocational studies area develop an understanding of career planning, consumer decision-making and financial literacy that will foster life-long learning. The curriculum relates to consumer decisions, financial literacy, employability and use resources impacting the community and environment. Vocational studies addresses strategies for choosing and preparing a career, skills and work habits needed in future schooling and work. Opportunities are provided for skill development such as: interviewing, writing résumés, and completing applications that are needed for acceptance into college, other post-secondary training or to get a job. The challenge is for students to make a successful transition from school to the world of work, from job to job, across the career life span, and to be productive citizens.

The vocational studies content standards at the seventh grade are directly aligned with Kentucky's **Academic Expectations**. The vocational studies standards are organized around five "Big Ideas" that are important to the discipline of vocational studies. These big ideas are: Consumer Decisions, Financial Literacy, Career Awareness/Exploration/Planning, Employability Skills, and Communication/Technology. The Big Ideas are conceptual organizers for vocational studies and are the same at each grade level. This ensures students have multiple opportunities throughout their school career to develop skills and concepts linked to the Big Ideas.

Under each Big Idea are statements of Enduring Knowledge/Understandings that represent overarching generalizations linked to the Big Ideas of vocational studies. The understandings represent the desired results- that focus on learning, and the knowledge students will have to explain or apply. Understandings can be used to frame development of units of study and lessons plans.

Skills and concepts describe the ways students demonstrate their learning and are specific to each grade level. The skills and concepts for vocational studies are fundamental to career exploration and builds on prior learning.

Academic Expectations 2.36, 2.37 and 2.38 bring forward the career exploration in Vocational Studies. Vocational Studies provide a connection to Kentucky's Learning Goals 3 (become self-sufficient individuals) and Learning Goal 4 (become responsible group members). These connections provide a comprehensive link between essential content, skills and abilities important to learning.

## Big Idea: Consumer Decisions

Individual and families need to make consumer decisions due to the numerous products/services on the market, multiple advertising techniques, and the need to make responsible financial management decisions. Accessing and assessing consumer information, comparing and evaluating products and services, provides basis for making effective consumer decisions. Consumer decisions influence the use of resources and the impact they have on the community and environment.

**Academic Expectations**

**2.30** Students evaluate consumer products and services and make effective consumer decisions.
**2.33** Students demonstrate the skills to evaluate and use services and resources available in their community.
**4.4** Students demonstrate the ability to accept the rights and responsibilities for self and others.
**5.4** Students use a decision-making process to make informed decisions among options.

**Grade 7 Enduring Knowledge – Understandings**

*Students will understand that*

- economic and social factors affect consumer decisions.
- culture, media and technology can influence consumer decisions.
- consumer advocacy groups impact consumer's rights and responsibilities.
- consumer actions (e.g., reusing, reducing, recycling) influence the use of resources and impact the environment.
- a variety of print and electronic resources are available in the home, school, and community that provide health and safety information.
- advocacy is important for personal, family and community health and safety issues.

**Grade 7 Skills and Concepts**

*Students will*

- evaluate economic and social concepts and why they are important for consumer decisions by:
  - examining the use of economic principles and resources when making choices to satisfy needs and wants of individuals and families
  - comparing and evaluating products and services based on major factors (e.g., brand name, price, quality, features, availability) when making consumer decisions
  - comparing the relationship between supply and demand and their role in meeting consumer needs
  - applying decision-making strategies when buying products
  - determining ways in which goods and services used by families impact the environment
- investigate how culture, media and technology impact the family and consumer decision making by:
  - explaining ways consumer's buying practices are influenced by peer pressure, desire for status and advertising techniques (e.g., bandwagon, facts and figures, emotional appeal, endorsement/testimonials)
  - exploring the positive and negative effects of advertising techniques (e.g., free samples, coupons, use of gimmicks, misleading or false information) and explain the impact they have on consumer decisions
- explain ways consumer rights and responsibilities are protected (e.g., government agencies, consumer protection agencies, consumer action groups)
- evaluate ways consumer actions (e.g., reusing, reducing, recycling) influence the use of resources and impact the environment by:
  - describing the influence of environmental factors that positively and negatively affect health
  - researching local and state environmental issues that address consumption for conservation and waste management practices
- use print and electronic resources from home, school, and community that provide accurate and relevant health and safety information
- use a variety of sources to find examples of jobs carried out by people at school and in the community that support job success

## Big Idea: Financial Literacy

Financial literacy provides knowledge so that students are responsible for their personal economic well-being. As consumers, individuals need economic knowledge as a base for making financial decisions impacting short and long term goals throughout one's lifetime. Financial literacy will empower students by providing them with the skills and awareness needed to establish a foundation for a future of financial responsibility and economic independence.

**Academic Expectations**

**2.30** Students evaluate consumer products and services and make effective consumer decisions.
**2.33** Students demonstrate the skills to evaluate and use services and resources available in their community.
**5.4** Students use a decision-making process to make informed decisions among options.

**Grade 7 Enduring Knowledge – Understandings**

*Students will understand that*

- management of financial resource practices is needed to meet goals of individuals and families.
- saving plans (e.g., investments, savings accounts, stocks, bonds) and budgets are economic practices in making financial decisions.
- financial institutions (e.g., banks, brokerage firms, credit unions) provide consumer services that help in achieving financial goals.
- career choice and lifestyle impacts an individual's financial future.

**Grade 7 Skills and Concepts**

*Students will*

- evaluate financial management practices including budgeting, savings, banking services (e.g., purpose of checking and savings accounts, debit/credit), and investing (e.g., general types and purpose of investing) and explain why these practices are important in achieving personal financial goals by:
  - constructing and using a personal spending/savings plan and evaluate according to short- and long-term goals
  - explaining the difference between credit and debit cards
- investigate savings plans and budgets in making financial decisions by:
  - describing basic components of a budget (e.g., income, fixed and flexible expenses, and savings)
- explain how financial institutions (e.g., banks, brokerage firms, credit unions) provide consumer services that help in achieving financial goals by:
  - analyzing the steps in opening and using a checking and savings account
- develop financial goals for the future based on one's lifestyle expectations and career choices

## Big Idea: Career Awareness, Exploration, Planning

Career awareness, exploration and planning gives students the opportunity to discover the various career areas that exist and introduce them to the realities involved with the workplace. Many factors need to be considered when selecting a career path and preparing for employment. Career awareness, exploration and planning will enable students to recognize the value of education and learn how to plan for careers. The relationship between academics and jobs/careers will enable students to make vital connections that will give meaning to their learning.

**Academic Expectations**

**2.36** Students use strategies for choosing and preparing for a career.
**2.37** Students demonstrate skills and work habits that lead to success in future schooling and work.
**2.38** Students demonstrate skills such as interviewing, writing resumes, and completing applications that are needed to be accepted into college or other postsecondary training or to get a job.
**5.4** Students use a decision-making process to make informed decision among options.

**Grade 7 Enduring Knowledge – Understandings**

*Students will understand that*

- an individual's work encompasses more factors than providing for basic needs.
- jobs/careers reflect both individual and societal needs and vary within communities and regions.
- career choices are available in planning for job/careers in a variety of career clusters.
- the connection between work and academic achievement can influence one's future job/career.
- an Individual Learning Plan (ILP) is an academic and career planning tool.
- self-knowledge is an important part of the career planning process.

## Big Idea: Career Awareness, Exploration, Planning - Continued

**Grade 7 Skills and Concepts**
*Students will*

- explain why people need to work (e.g., social contacts, make purchases for necessities, expand knowledge, develop skills to meet basic needs (food, clothing, shelter) and for personal satisfaction and enjoyment
- evaluate how jobs/careers reflect both individual and societal needs and vary within communities and regions by:
  - comparing and contrasting the many factors that must be considered when selecting and preparing for employment or a career path
  - recognizing that the roles of individuals at home, in the workplace, and in the community are constantly changing
- describe why attaining academic skills are important in both school and the workplace by:
  - researching career choices through the use of technology
  - describing how job and career opportunities (e.g., veterinarian, sales associate, interior designer, meteorologist, physical therapist) are grouped within career clusters (e.g., Agriculture, Arts & Humanities, Business & Marketing, Communications, Construction, Education, Health Science, Human Services, Information Technology, Manufacturing, Public Services, Science & Mathematics, Social Sciences, Transportation) that vary within and among communities and regions
- develop an educational plan that can impact their future career opportunities by:
  - accessing and using resources for locating job/career information career paths related to interests, aptitude (e.g., academic skills), and abilities
  - updating the Individual Learning Plan (ILP) as a tool to explore self-knowledge and academic aptitude and understand that career paths should relate to your individual traits (e.g., interests, abilities, learning styles)
  - exploring and describing available postsecondary options (e.g., community technical colleges, 4-year colleges, military service) to develop career goals that are included in the Individual Learning Plan (ILP)
- recognize how self-knowledge (e.g., interests, abilities) is helpful when selecting and preparing for a career path and that unique interests may lead to career choices

## Big Idea: Employability Skills

Employability skills will focus on student's competencies with their work habits and academic/technical skills that will impact an individual's success in school and workplace. School-to-work transition skills will help students develop interpersonal skills and positive work habits.

**Academic Expectations**

**2.36** Students use strategies for choosing and preparing for a career.
**2.37** Students demonstrate skills and work habits that lead to success in future schooling and work.
**2.38** Students demonstrate skills such as interviewing, writing résumé and completing applications that are needed to be accepted into college or other postsecondary training or to get a job.
**3.9** Students demonstrate the ability to make decisions based on ethical values.

**Grade 7 Enduring Knowledge – Understandings**

*Students will understand that*

- interpersonal skills impact individual's career choice and success in the workplace.
- attitudes and work habits contribute to success at home, school and work.
- employability skills are important to achieve success in the workplace.
- academic and technical skills contribute to obtaining and succeeding in employment.

**Grade 7 Skills and Concepts**

*Students will*

- evaluate how interpersonal skills impact individual's career choice and success in the workplace by:
  - identifying effective group interaction strategies (e.g., communicating effectively, conflict resolution, compromise) to develop team skills
  - evaluating the importance of working cooperatively with people of diverse backgrounds and abilities to achieve success in the workplace
  - designing a plan for working cooperatively with others by contributing ideas, suggestions and efforts to complete a task
  - explaining how effective verbal and nonverbal communication skills impacts work-related situations
- explain how attitudes and work habits contribute to success at home, school and work by:
  - demonstrating leadership skills by participating in co/extra-curricular activities, home, school and community
  - explaining how attitudes and work habits transfer from the home and school to the workplace
  - describing consequences for actions when disobeying rules and routines at the workplace
  - explaining the role of authority in school and the workplace
  - explaining the importance of developing good work habits (e.g., loyalty, initiative, assuming responsibility, time management, problem-solving)
- describe how employability skills are important to achieve success in the workplace by:
  - using available resources for locating job openings
  - using established criteria to evaluate a completed job application
  - using technology to research job/careers in the community
- examine academic and technical skills and how they contribute to obtaining and succeeding in employment by:
  - explaining how success in an academic course of study could contribute to the achievement and success in employment (e.g., Math/Teacher, Social Studies/Politician)
  - explaining how success in a technical course of study could contribute to the achievement and success in employment (e.g., AgriScience/Game Warden, Survey of Technology/Engineering)

## Big Idea: Communication/Technology

Special communication and technology skills are needed for success in schooling and in the workplace. Students will be able to express information and ideas using a variety of technologies in various ways.

**Academic Expectations**

**1.16** Students use computers and other kinds of technology to collect, organize, and communicate information and ideas.
**2.37** Students demonstrate skills and work habits that lead to success in future schooling and work.
**2.38** Students demonstrate skills such as interviewing, writing resumes, and completing applications that are needed to be accepted into college or other postsecondary training or to get a job.

**Grade 7 Enduring Knowledge – Understandings**

*Students will understand that*

- scientific and technological changes can impact a variety of careers.
- technology skills can enhance learning and be used in developing a career plan.
- communication skills are essential in seeking and maintaining jobs/careers.

**Grade 7 Skills and Concepts**

*Students will*

- explain how scientific and technological changes impact specific careers (e.g., Construction Worker, Automotive Technician, Food Service industry)
- evaluate the purposes of technology tools (e.g., word processing, databases, spreadsheets, scanners, robots, personal electronic devices, Internet, email) and analyze how these impact productivity in homes, schools and jobs by:
  - explaining how technology provides access to information and resources at home, school and the workplace
  - continuing the development of the on-line Individual Learning Plan (ILP) to provide a focus for academic and career planning
- examine how communication skills are essential in seeking and maintaining jobs/careers by:
  - explaining skills used in classroom and workplace: letter writing, nonverbal/verbal communication skills and interview skills
  - using different formats to summarize and communicate orally and in written form for use in the classroom and the workplace

# Program of Studies –Vocational Studies – Eighth Grade

The vocational studies program at the eighth grade develops an exploration of careers. This exploration includes the purpose of having a job, concepts of consumer-decision-making, saving money, and connections between learning and working. All content teachers are responsible for providing instruction in the vocational studies area. The vocational studies program provides opportunities for students to investigate career options and study the relationship between careers and life roles. Students will connect educational achievement to career opportunities and set clear directions and goals for high school and beyond.

Students in the eighth grade vocational studies area develop an understanding of career planning, consumer decision-making and financial literacy that will foster life-long learning. The curriculum relates to consumer decisions, financial literacy, employability and use resources impacting the community and environment. Vocational studies addresses strategies for choosing and preparing a career, skills and work habits needed in future schooling and work. Opportunities are provided for skill development such as: interviewing, writing résumés, and completing applications that are needed for acceptance into college, other post-secondary training or to get a job. The challenge is for students to make a successful transition from school to the world of work, from job to job, across the career life span, and to be productive citizens.

The vocational studies content standards at the eighth grade are directly aligned with Kentucky's **Academic Expectations**. The vocational studies standards are organized around five "Big Ideas" that are important to the discipline of vocational studies. These big ideas are: Consumer Decisions, Financial Literacy, Career Awareness/Exploration/Planning, Employability Skills, and Communication/Technology. The Big Ideas are conceptual organizers for vocational studies and are the same at each grade level. This ensures students have multiple opportunities throughout their school careers to develop skills and concepts linked to the Big Ideas.

Under each Big Idea are statements of Enduring Knowledge/Understandings that represent overarching generalizations linked to the Big Ideas of vocational studies. The understandings represent the desired results- that focus on learning, and the knowledge students will have to explain or apply. Understandings can be used to frame development of units of study and lessons plans.

Skills and concepts describe the ways students demonstrate their learning and are specific to each grade level. The skills and concepts for Vocational Studies are fundamental to career exploration and builds on prior learning.

Academic Expectations 2.36, 2.37 and 2.38 bring forward the career exploration in Vocational Studies. Vocational Studies provide a connection to Kentucky's Learning Goals 3 (become self-sufficient individuals) and Learning Goal 4 (become responsible group members). These connections provide a comprehensive link between essential content, skills and abilities important to learning.

## Big Idea: Consumer Decisions

Individual and families need to make consumer decisions due to the numerous products/services on the market, multiple advertising techniques, and the need to make responsible financial management decisions. Accessing and assessing consumer information, comparing and evaluating products and services, provides basis for making effective consumer decisions. Consumer decisions influence the use of resources and the impact they have on the community and environment.

**Academic Expectations**

**2.30** Students evaluate consumer products and services and make effective consumer decisions.
**2.33** Students demonstrate the skills to evaluate and use services and resources available in their community.
**4.4** Students demonstrate the ability to accept the rights and responsibilities for self and others.
**5.4** Students use a decision-making process to make informed decisions among options.

**Grade 8 Enduring Knowledge – Understandings**

*Students will understand that*

- social factors and economic principles affect consumer decisions.
- culture, media and technology can influence consumer decisions.
- consumer management practices relating to the human, economic, and environmental resources are needed to meet the goals of individual and families.
- consumer advocacy groups impact consumer's rights and responsibilities.
- consumer actions (e.g., reusing, reducing, recycling) influence the use of resources and impact the environment.
- a variety of print and electronic resources are available in the home, school, and community that provide health and safety information.
- advocacy is important for personal, family and community health and safety issues.

## Big Idea: Consumer Decisions – Continued

**Grade 8 Skills and Concepts**
*Students will*

- evaluate social factors and economic principles and their affect on consumer decisions by:
  - examining the use of economic principles and resources in making choices to satisfy needs and wants of individuals and families
  - comparing and evaluating products and services based on major factors (e.g., brand name, price, quality, features, availability) when making consumer decisions
  - comparing the relationship between supply and demand and their role in meeting consumer needs
  - analyzing the interrelationship between the economic system and consumer actions
  - apply decision-making strategies when buying products based on price, features, and quality
  - identifying practices that allow families to maintain economic self-sufficiency
- investigate how culture, media and technology impact the family and consumer decision making by:
  - exploring and using technology to access consumer information (e.g., products, services, and resources)
  - developing criteria to evaluate consumer's buying practices that are influenced by peer pressure, desire for status and advertising techniques (e.g., bandwagon, facts and figures, emotional appeal, endorsement/testimonials)
- investigate consumer advocacy groups and the impact of consumer's rights and responsibilities by:
  - examining economic impacts of laws and regulations that pertain to consumers and providers of services
  - identifying and explaining how consumer rights and responsibilities are protected (e.g., government agencies, consumer protection agencies, consumer action groups)
- evaluate ways consumer actions (e.g., reusing, reducing, recycling) influence the use of resources and impact the environment by:
  - describing the influence of environmental factors that positively and negatively affect health
  - researching local and state environmental issues that address consumption for conservation and waste management practices
- use print and electronic resources from home, school, and community that provide accurate and relevant health information
- locate and interpret career information and job opportunities in the community that support job success

## Big Idea: Financial Literacy

Financial literacy provides knowledge so that students are responsible for their personal economic well-being. As consumers, individuals need economic knowledge as a base for making financial decisions impacting short and long term goals throughout one's lifetime. Financial literacy will empower students by providing them with the skills and awareness needed to establish a foundation for a future of financial responsibility and economic independence.

**Academic Expectations**

**2.30** Students evaluate consumer products and services and make effective consumer decisions.
**2.33** Students demonstrate the skills to evaluate and use services and resources available in their community.
**5.4** Students use a decision-making process to make informed decisions among options.

**Grade 8 Enduring Knowledge – Understandings**

*Students will understand that*

- management of financial resource practices is needed to meet goals of individuals and families.
- saving plans (e.g., investments, savings accounts, stocks, bonds) and budgets are economic practices in making financial decisions.
- saving plans (e.g., investments, savings accounts, stocks, bonds) and budgets are economic practices in making financial decisions.
- financial institutions (e.g., banks, brokerage firms, credit unions) provide consumer services that help in achieving financial goals.
- career choice and lifestyle impacts an individual's financial future.

**Grade 8 Skills and Concepts**

*Students will*

- evaluate financial management practices including budgeting, savings, banking services (e.g., purpose of checking and savings accounts, debit/credit), and investing (e.g., general types and purpose of investing) and explain why these practices are important in achieving personal financial goals by:
  - describing the risks and responsibilities associated with using credit
- investigate savings plans and budgets in making financial decisions by:
  - constructing and using a personal spending/savings plan and evaluate according to short- and long-term goals
  - analyzing basic components of a budget (e.g., income, fixed and flexible expenses, and savings)
- explain how financial institutions (e.g., banks, brokerage firms, credit unions) provide consumer services that help in achieving financial goals by:
  - analyzing the steps in opening and using a checking and savings account
- develop financial goals for the future based on one's lifestyle expectations and career choices

## Big Idea: Career Awareness, Exploration, Planning

Career awareness, exploration and planning gives students the opportunity to discover the various career areas that exist and introduce them to the realities involved with the workplace. Many factors need to be considered when selecting a career path and preparing for employment. Career awareness, exploration and planning will enable students to recognize the value of education and learn how to plan for careers. The relationship between academics and jobs/careers will enable students to make vital connections that will give meaning to their learning.

**Academic Expectations**

**2.36** Students use strategies for choosing and preparing for a career.
**2.37** Students demonstrate skills and work habits that lead to success in future schooling and work.
**2.38** Students demonstrate skills such as interviewing, writing resumes, and completing applications that are needed to be accepted into college or other postsecondary training or to get a job.
**5.4** Students use a decision-making process to make informed decision among options.

**Grade 8 Enduring Knowledge – Understandings**

*Students will understand that*

- an individual's work encompasses more factors than providing for basic needs.
- jobs/careers reflect both individual and societal needs and vary within communities and regions.
- career choices are available in planning for job/careers in a variety of career clusters.
- the connection between work and academic achievement can influence one's future job/career.
- an Individual Learning Plan (ILP) is an academic and career planning tool.

**Grade 8 Skills and Concepts**

*Students will*

- analyze why people need to work (e.g., earn money, contribute to society, develop identity as a worker, enhance self-esteem) to meet basic needs (food, clothing, shelter) and for personal satisfaction and enjoyment by:
  - comparing and contrasting the many factors that must be considered when selecting and preparing for employment or a career path
- explain how jobs/careers reflect both individual and societal needs
- analyze the direct relationship of academic/technical skills, extracurricular activities, and community experiences to career preparation by:
  - researching career choice through the use of technology
- create an educational plan that will can impact their future career opportunities by:
  - describing how job and career opportunities (e.g., veterinarian, sales associate, interior designer, meteorologist, physical therapist) are grouped together in career clusters (e.g., Agriculture, Arts & Humanities, Business & Marketing, Communications, Construction, Education, Health Science, Human Services, Information Technology, Manufacturing, Public Services, Science & Mathematics, Social Sciences, Transportation) that vary within and among communities and regions
  - accessing and evaluating resources for locating job/career information career paths related to interests, aptitude (e.g., academic skills), and abilities
  - creating and updating an Individual Learning Plan (ILP) as a tool to explore self-knowledge and academic aptitude and understand that career paths should relate to your individual traits (e.g., interests, abilities, learning styles)
  - explaining with examples postsecondary options (e.g., community technical colleges, 4-year colleges, military service) used when developing career goals that are included in the Individual Learning Plan (ILP)
- analyze how self-knowledge (e.g., interests, abilities) is helpful when selecting and preparing for a career path and that unique interests may lead to career choices

## Big Idea: Employability Skills

Employability skills will focus on student's competencies with their work habits and academic/technical skills that will impact an individual's success in school and workplace. School-to-work transition skills will help students develop interpersonal skills and positive work habits.

**Academic Expectations**

**2.36** Students use strategies for choosing and preparing for a career.
**2.37** Students demonstrate skills and work habits that lead to success in future schooling and work.
**2.38** Students demonstrate skills such as interviewing, writing résumé and completing applications that are needed to be accepted into college or other postsecondary training or to get a job.
**3.6** Students demonstrate the ability to make decisions based on ethical values.

**Grade 8 Enduring Knowledge – Understandings**

*Students will understand that*

- interpersonal skills impact individual's career choice and success in the workplace.
- attitudes and work habits contribute to success at home, school and work.
- employability skills are important to achieve success in the workplace.
- academic and technical skills contribute to obtaining and succeeding in employment.

**Grade 8 Skills and Concepts**

*Students will*

- evaluate how interpersonal skills impact individual's career choice and success in the workplace by:
  - analyzing and evaluating the role of each participant's contribution in a team setting
  - evaluating the importance of working cooperatively with people of diverse backgrounds and abilities to achieve success in the workplace
  - designing a plan for working cooperatively with others by contributing ideas, suggestions and efforts to complete a task
  - explaining how effective verbal and nonverbal communication skills impacts work-related situations
- examine how attitudes and work habits contribute to success at home, school and work by:
  - identifying effective group interaction strategies (e.g., communicating effectively, conflict resolution, compromise) to develop team skills (e.g., goal-setting, questioning, dividing work)
  - demonstrating leadership skills by participating in co/extra-curricular activities, home, school and community
  - explaining how attitudes and work habits transfer from the home and school to the workplace
  - demonstrating and explaining how various forms of etiquette are used in the home, school, community, and workplace
  - describing consequences for actions when disobeying rules and routines at the workplace
  - explaining the role of authority in school and the workplace
  - explaining the importance of developing good work ethics/habits (e.g., initiative, time management, respect, self-discipline, problem-solving) that support career retention and advancement
- explain how employability skills are important to achieve success in the workplace by:
  - using available resources for locating job openings
  - using established criteria to evaluate a completed job application
- explain how academic and technical skills contribute to obtaining and succeeding in employment by:
  - using technology to research job/careers in the community
  - explaining how success in an academic course of study could contribute to the achievement and success in employment (e.g., Arts and Humanities/Museum Curator, Health Education/Personal Trainer)
  - explaining how success in a technical course of study could contribute to the achievement and success in employment (e.g., Career Choices/Nurse, Business/Marketing Career Exploration/Advertising Manager)

## Big Idea: Communication/Technology

Special communication and technology skills are needed for success in schooling and in the workplace. Students will be able to express information and ideas using a variety of technologies in various ways.

**Academic Expectations**

**1.16** Students use computers and other kinds of technology to collect, organize, and communicate information and ideas.
**2.37** Students demonstrate skills and work habits that lead to success in future schooling and work.
**2.38** Students demonstrate skills such as interviewing, writing resumes, and completing applications that are needed to be accepted into college or other postsecondary training or to get a job.

**Grade 8 Enduring Knowledge – Understandings**

*Students will understand that*

- scientific and technological changes can impact a variety of careers.
- technology skills can enhance learning and be used in developing a career plan.
- communication skills are essential in seeking and maintaining jobs/careers.

**Grade 8 Skills and Concepts**

*Students will*

- explain how jobs/careers (e.g., Physical Therapist, Radio and Television Broadcaster, Web Designer) have been created as a result of scientific and technological advancements
- evaluate the purpose of technology tools (e.g., multi-media, Internet, digital camera, teleconferencing, debit/credit cards) and analyze how these impact productivity in homes, schools and jobs by:
  - explaining how technology provides access to information and resources at home, school and the workplace
  - describing the role of technology within a community in maintaining safe and healthy living environment
  - updating the Individual Learning Plan (ILP) to provide a focus for academic and career planning
- explain how communication skills are essential in seeking and maintaining jobs/careers by:
  - describing effective speaking and listening skills used in a job interview
  - explaining skills used to seek, obtain, maintain, and change jobs/careers: written communication, nonverbal/verbal communication skills and interview skills
  - using different formats to summarize and communicate orally and in written form for use in the classroom and the workplace

# HIGH SCHOOL EDUCATION

# High School

The high school program will continue to build on rigorous and relevant learning experiences from the middle level to prepare students for successful transition to adult life.

The high school curriculum must reflect the belief that all students are capable of learning at high levels and ensure that all students have access to an academically rigorous curriculum that leads to college and work place readiness upon graduation. The high school program should be broader than the content outlined as the state minimum for high school graduation in the *Program of Studies*. The curriculum supports students in the acquisition of rigorous core knowledge, skills, habits and attitudes. Courses may be more traditional in nature or a local board of education may substitute an integrated, applied, interdisciplinary or technical/occupational course for a required course that prepares a student for a career path based on the student's Individual Learning Plan (ILP). Such substitutions provide high schools with the opportunity to offer courses that have the same academic rigor as traditional courses but deliver the content through more contextual, hands-on approaches.

Each student must be supported through transitions during their secondary experience with an ILP that provides opportunity for learning in a real-world context relevant to the student's career goals. Every student should be led through a process of academic and career awareness, exploration and planning. Postsecondary planning shall be a core activity within the high school as part of a comprehensive advising and guidance program.

Students shall be supported in the ILP through an advising and guidance process that fosters meaningful, supportive relationships with peers, highly qualified educators and postsecondary education and business communities to foster success beyond high school.

**Credits for High School Graduation**

A high school graduation credit may be awarded in either of two ways: Carnegie units (defined as at least 120 hours of instructional time in one subject) or performance-based credits, defined at the local level regardless of the number of instructional hours. Districts and schools are accountable for making sure that each student's education program includes the minimum content standards as specified in the *Program of Studies* and provides the student with the opportunity to learn the standards including appropriate supports based on the individual learning needs of a student.

The Kentucky Board of Education identifies the minimum credits required for graduation (704 KAR 3:305) and the local district sets the local requirements in their district graduation policy.

**Performance-Based Credit**

Performance-Based Credits refer to credits earned by a student outside of the traditional structure of a 120 hour instructional course. In order to award such credits, districts must establish a policy for a performance-based system that:

- provides procedures for developing and amending performance-based credit courses
- identifies related performance descriptors and assessments
- establishes grading and reporting procedures
- specifies content standards as addressed in Kentucky's *Program of Studies*
- identifies the extent to which end-of-course assessments will be used
- allows for students to demonstrate proficiency and earn credit for learning acquired outside of school or in prior learning experiences
- allows students to pursue internships, cooperative learning experiences and other learning experiences in the school and community

Performance-based credit may be awarded for these types of courses:

- course work that allows satisfactory demonstration of learning
- course work that constitutes satisfactory demonstration of learning in a course for which the student failed to earn credit when the course was previously taken
- standards-based portfolios, senior year or capstone projects
- standards-based online or other technology-mediated courses
- standards-based dual credit or other equivalency courses
- standards-based internship, cooperative learning experience or other supervised learning experience in the school and the community

**High School Credit Earned in Middle School**
It is expected that most students will earn these credits during their high school years. However, local school districts may offer these courses to middle level students if the following criteria are met:

- the content and the rigor of the course is the same as established in the *Program of Studies*
- the students demonstrate mastery of the middle level content as specified in the *Program of Studies*
- the district has criteria in place to make reasonable determination that the middle level student is capable of success in the high school course
- the middle level course is taught by teachers with either secondary or middle level certification with appropriate content specialization

**Postsecondary Credit Earned in High School**
Dual credit (articulated credit) opportunities allow students to pursue both high school and postsecondary credit-bearing work prior to their graduation from high school. A local board of education shall maintain a copy of its policy on high school graduation requirements that may contain policy regarding dual credit opportunities.

College Board Advanced Placement (AP) courses provide opportunities for students to access challenging curricula that facilitate high-level attainment of Kentucky's learning goals. The AP program provides high school students with opportunities to earn college credits at universities and colleges across the country.

AP courses require use of standardized, prescribed college-level curriculum. Course materials and resources are selected from among identified college-level texts in the appropriate content area.

The College Board has no restrictions on the age/grade level of students who take Advanced Placement courses and/or Advanced Placement examinations. College credit is solely based on the level of performance on each examination. Access to the courses may be achieved through regular classes, virtual opportunities, independent study or other means.

Dual enrollment opportunities allow students to pursue postsecondary credit bearing work prior to their graduation from high school. This differs from dual credit in that students are earning only postsecondary credit, not high school credit, for that course.

**High School Credits Earned through Career and Technical Education**
High school graduation requirements allow for interdisciplinary or applied courses to substitute for specific academic courses required for graduation. This option provides high schools the opportunity to offer courses that have the same academic rigor as traditional courses but deliver the content through more contextual, applied, hands-on approaches. Students may earn required high school credits through Career and Technical Education interdisciplinary or applied courses that include the minimum required content standards specified in the *Program of Studies*.

**Other Credits Required**

In addition to the minimum credit requirements associated with the content standards as provided in the Program of Studies, seven credits including four based on the student's Individual Learning Plan are also required. These seven credits must be based on academic content and learning goals for students.

**Program of Studies – Inquiry and Research – High School**

Embedded within each content area are Inquiry and Research standards.

## Big Idea: Inquiry and Research

The Big Idea for Inquiry and Research states: the inquiry process is an authentic method of learning that includes activities such as self-selecting topics, formulating authentic questions, gathering information, researching resources, crafting experiments, observing, interviewing, evaluating information, analyzing and synthesizing data, and communicating findings and conclusions. The information-gathering stage is a self-directed process that is owned by the engaged learner. Individually and collaboratively, students work for a particular purpose, such as to discuss a text, solve a problem, make a decision, reach new understandings, and/or create products.

**Academic Expectations**

**5.1** Students use critical thinking skills such as analyzing, prioritizing, categorizing, evaluating, and comparing to solve a variety of problems in real-life situations.
**5.2** Students use creative thinking skills to develop or invent novel, constructive ideas or products.
**5.3** Students organize information to develop or change their understanding of a concept.
**5.4** Students use a decision-making process to make informed decisions among options.
**5.5** Students use problem-solving processes to develop solutions to relatively complex problems.
**6.1** Students connect knowledge and experiences from different subject areas.
**6.2** Students use what they already know to acquire new knowledge, develop new skills, or interpret new experiences.
**6.3** Students expand their understanding of existing knowledge by making connections with new knowledge, skills, and experiences.
**1.1** Students use reference tools such as dictionaries, almanacs, encyclopedias, and computer reference programs and research tools such as interviews and surveys to find the information they need to meet specific demands, explore interests, or solve specific problems.
**2.37** Students demonstrate skills and work habits that lead to success in future schooling and work.

**Enduring Knowledge – Understandings**

*Students will understand that*

- the inquiry process is used to investigate topics or questions important to the researcher. Questions are redefined throughout the learning process. The researcher may revise the question, refine a line of query, or go in a direction that the original question did not anticipate.
- many methods of and sources for investigation exist, including interview, observation, survey, viewing, experimenting, and critical reading. The ability to synthesize meaning is the creative spark that forms new knowledge.
- inquiry integrates elements and processes of reading, writing, research, creative and critical thinking, and logic, and involves communicating findings through a product.
- collaboration involves sharing new ideas with others. Shared knowledge is a community-building process, and the meaning of research/investigation takes on greater relevance in the context of the learner's society. Comparing notes, discussing conclusions, and sharing experiences are all examples of this process in action.
- reflection is ongoing and integral to the inquiry and research processes and involves taking the time to look back at the question, the research strategy, and the conclusions made. The learner evaluates, makes observations, and possibly makes new decisions.

# HIGH SCHOOL ARTS AND HUMANITIES

# Program of Studies – Arts and Humanities – High School

At the high school level, students may choose to specialize in one or more art forms. Specialization will enable students to study an art form in an in-depth manner and work toward achieving proficiency and mastery in creating, performing, and responding to their chosen art form. Students who specialize in an art form will participate in performance-based arts courses designed to develop skills and understanding that will enable students to use the art form as a high level communication tool. This is accomplished through the development of creativity and production or performance skills. Performance-based courses also connect the arts with their historical and cultural contexts as students study exemplary works and learn the impact of time, place and personality on the arts. In addition, these courses promote an understanding of the interrelationships among the arts disciplines and connections with other academic content areas.

Students choosing not to specialize in an art form will move beyond the grounding in the arts achieved at the middle school level toward proficiency in the arts. Emphasis for these students should be placed on exposing students to a variety of arts through active experiences in all four art forms, and developing further understanding and appreciation of the historical and cultural significance of dance, drama/theatre, music and visual arts. A higher emphasis on the process of responding to the arts is a natural outcome of this more general approach to arts and humanities education, however creating and performing the arts remain as critical processes in the general education of all students and promote deep understanding and appreciation of the arts.

The arts and humanities content standards at the high school level are directly aligned with Kentucky's broad standards called the **Academic Expectations**. The **Academic Expectations** are directly related to the *National Standards for Arts Education (1994)*.

Arts and humanities grade level content standards are organized around five “Big Ideas” that are important to the arts disciplines. The five big ideas in arts and humanities are: Structures in the Arts, Humanity in the Arts, Purposes for Creating the Arts, Processes in the Arts and Interrelationships Among the Arts. The Big Ideas are conceptual organizers for arts and humanities and are similar at each grade level to ensure students have multiple opportunities throughout their school careers to develop skills and concepts linked to each Big Idea.

Under each Big Idea are statements of Enduring Knowledge/Understandings that represent overarching generalizations linked to the Big Ideas of the arts and humanities. The understandings represent the desired results - what learning will focus upon and what knowledge students will be able to explain or apply. Understandings can be used to frame development of units of study and lesson plans.

Skills and concepts describe ways that students demonstrate their learning and are specific to each grade level. The skills and concepts for arts and humanities are fundamental to arts literacy and proficiency, and build on prior learning.

The three arts processes of creating, performing and responding to the arts provide a basis for deep understanding and appreciation of the arts. In the processes of creating and performing, a variety of technologies are employed, ranging from primitive technologies to cutting edge electronic and digital technologies.

**Creating** involves planning and creating new music, dance, drama/theatre or visual arts, or it may involve improvising in music, dance or drama/theatre. Improvising is the composing of new music, reciting/acting new dramatic material, or creating new dance movements on the spur of the moment.

**Performing** is limited to the performing arts of music, dance and drama/theatre. Performing involves presenting previously created works for an audience. Although the process of performing involves following a creative plan conceived by a composer, playwright or choreographer, there is still opportunity for creative interpretations in the performance.

**Responding** to the arts involves responses on multiple levels. The arts are a tool for communication and are capable of delivering meaning through literal and emotional content. Responding to the emotional content of artworks involves actually feeling the emotion(s) set forth by the creator. Responding can also involve intellectual analysis of works of art in regard to their design, effectiveness and quality.

**Academic Expectations** 2.25 and 2.26 bring forward the study of the humanities aspects of the arts. The arts reflect time, place, and society and offer a mirror to the human experience. The powerful communication qualities of the arts also enable them to be a factor that can drive the human experience. Study of historical and cultural contexts in the arts is an essential and integral part of instruction across all the art forms and across all grade levels.

High school humanities study begins with a review of cultures and periods introduced in middle school level. This is to reinforce learning and ensure understanding of cultures and periods that will be addressed at the high school level. High school study will again return to arts of various world civilizations, but will focus more on world civilization from 1500 A. D. to the present. United States study will incorporate the time period from the reconstruction after the Civil War to the present. Students will also study unique art forms of Asia and the Middle East. Students will examine historical style periods in the arts through study of specific time periods and styles, and by studying exemplary works of art and exemplary artists of each historical period.

## Big Idea: Structure in the Arts

Understanding of the various structural components of the arts is critical to the development of other larger concepts in the arts. Structures that artists use include elements and principles of each art form, tools, media and subject matter that impact artistic products and specific styles and genre that provide a context for creating works. It is the artist's choice of these structural components in the creative process that results in a distinctively expressive work. Students make choices about how to use structural organizers to create meaningful works of their own. The more students understand, the greater their ability to produce, interpret or critique artworks from other artists, cultures and historical periods.

**Academic Expectations**

**1.12** Students speak using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.
**1.13** Students make sense of ideas and communicate ideas with the visual arts.
**1.14** Students make sense of ideas and communicate ideas with music.
**1.15** Students make sense of and communicate ideas with movement.
**2.23** Students analyze their own and others' artistic products and performances using accepted standards.

**High School Enduring Knowledge – Understandings**

*Students will understand that*

- the elements of music, dance and drama are intentionally applied in creating and performing.
- the elements and principles of design of visual art are intentionally applied in creating works of art.
- responding to or critiquing works of art involves an understanding of elements, principles and structures appropriate to each area of the arts.
- existing and emerging technologies can inspire new applications of structural components.

**High School Skills and Concepts – Music**

*Students will*

- use appropriate terminology to analyze and evaluate the use of elements in a variety of musical compositions (rhythm, tempo, melody, harmony, form, timbre, dynamics)
- apply the elements of music with technical accuracy and expression while performing, singing, playing instruments, moving, listening, reading music, writing music and creating music independently and with others
- listen to and analyze how changing different elements results in different musical effects
- recognize, describe, and compare various musical forms (rondo, theme and variation, opera – overture, aria, recitative, movements of classical symphony)

**High School Skills and Concepts – Dance**

*Students will*

- use appropriate terminology to analyze and evaluate the use of elements in a variety of dance (space, time, force)
- apply elements of dance and principles of movement (e.g., balance, initiation of movement, weight shift) to:
  - expressively create and perform a range of patterns of movement
  - analyze and evaluate the use of choreographic forms in dance (theme and variation, rondo, narrative)
  - analyze and describe how themes in dances and styles of dance communicate ideas and feelings
  - identify and explain characteristics of dance styles (ballet, tap, jazz, modern)
- describe and analyze the relationships between and among music, costumes, lighting, props/scenery and choreography

## Big Idea: Structure in the Arts – Continued

**High School Skills and Concepts – Drama/Theatre**
*Students will*

- use appropriate terminology to analyze and evaluate the use of elements of drama (literary, technical, performance) in a variety of dramatic works
- use the elements of drama to:
  - expressively create and perform dramatic works
  - explain how technical elements (staging, scenery, props, costumes, make-up, lighting, sound) and performance elements (acting, speaking, nonverbal expression) create mood, believable characters and advance the message being communicated
- use print and non-print sources to explore and evaluate a variety of dramatic works (e.g., theater and dramatic media – film, television, electronic media)

**High School Skills and Concepts – Visual Arts**
*Students will*

- use appropriate terminology to analyze and evaluate the use of elements of art (line, shape, form, texture, color) and principles of design (e.g., emphasis, pattern, balance, contrast) in a variety of visual artworks
- expressively use the elements of art, principles of design and a variety of processes in creating artworks
- apply organizational structures and evaluate what makes them effective or not effective in communicating ideas
- analyze and evaluate the use of elements of art (e.g., line, shape, color properties, color schemes/groups, form, texture, space, value) and principles of design (e.g., repetition, emphasis, pattern, balance, contrast, rhythm, proportion, movement) in a variety of two and three dimensional artworks
- identify and use a variety of subject matter in viewing and creating visual artworks (representational – e.g., landscape, portrait, still life, nonrepresentational – e.g., abstract, non-objective)

## Big Idea: Humanity in the Arts

The arts reflect the beliefs, feelings and ideals of those who create them. Experiencing the arts allows one to experience time, place and/or personality. By experiencing the arts of various cultures, students can actually gain insight into the beliefs, feelings and ideas of those cultures. Students also have the opportunity to experience how the arts can influence society through analysis of arts in their own lives and the arts of other cultures and historical periods. Studying the historical and cultural stylistic periods in the arts offers students an opportunity to understand the world past and present and to learn to appreciate their own cultural heritage. Looking at the interrelationships of multiple arts disciplines across cultures and historical periods is the focus of humanities in the arts.

**Academic Expectations**

**2.24** Students have knowledge of major works of art, music, and literature and appreciate creativity and the contributions of the arts and humanities.

**2.25** In the products they make and the performances they present, students show that they understand how time, place, and society influence the arts and humanities such as languages, literature, and history.

**2.26** Through the arts and humanities, students recognize that although people are different, they share some common experiences and attitudes.

**High School Enduring Knowledge – Understandings**

*Students will understand that*

- the arts are powerful tools for understanding human experiences both past and present.
- the arts help us understand others' (often very different) ways of thinking, working and expressing ourselves.
- the arts play a major role in the creation and defining of cultures and building civilizations.

**High School Skills and Concepts – Music**

*Students will*

- describe, analyze and evaluate distinguishing characteristics of music representing a variety of world cultures and historical/style periods (European: Renaissance, Baroque, Neo-Classicism/"Classical," Romanticism, Impressionism/Post-Impressionism, Modern and Contemporary; American: Modern and Contemporary)
- listen to, perform and classify music representing a variety of world cultures and historical/style periods
- examine music from various world cultures and explain how music reflects the culture, cultural beliefs or blending of cultures; use examples to illustrate how music has directly influenced society or culture
- examine music from various time periods and explain how the influence of time and place are reflected in the music

**High School Skills and Concepts – Dance**

*Students will*

- describe, analyze and evaluate distinguishing characteristics of dance representing a variety of world cultures and historical/style periods (European: Renaissance, Baroque, Modern and Contemporary Romantic; American: Realism, Modern and Contemporary)
- observe, classify and perform dance representing a variety of world cultures and historical/style periods
- examine dance from various world cultures and explain how dance reflects the culture, cultural beliefs or blending of cultures; use examples to illustrate how dance has directly influenced society or culture
- examine dance from various time periods and explain how the influence of time and place are reflected in the dance

## Big Idea: Humanity in the Arts – Continued

**High School Skills and Concepts – Drama/Theatre**
*Students will*

- describe, analyze and evaluate distinguishing characteristics of dramatic work representing a variety of world cultures (Japanese, American Modern and Contemporary) and historical/style periods (European: Renaissance, Neo-Classicism/"Classical, Romanticism, Realism)
- observe, classify, and perform dramatic works representing a variety of world cultures and historical/style periods
- examine dramatic works from various world cultures and explain how dramatic works reflect the culture, cultural beliefs or blending of cultures; use examples to illustrate how dramatic works have directly influenced society or culture
- examine dramatic works from various time periods and explain how the influence of time and place are reflected in them
- use print and non-print sources to explore, describe and interpret universal themes, characterization, situations in dramas and characteristics of theater from different cultures or time periods

**High School Skills and Concepts – Visual Arts**
*Students will*

- describe, analyze and evaluate distinguishing characteristics of visual art representing a variety of world cultures (Middle Eastern, Asian, Modern and Contemporary European and American) and historical/style periods (Renaissance, Baroque, Neo-Classicism, Romanticism, Realism, Impressionism/Post-Impressionism)
- observe, classify and create visual art according to styles and processes used in a variety of world cultures and historical/style periods
- examine visual artworks from various world cultures and explain how artworks reflect the culture, cultural beliefs or blending of cultures; use examples to illustrate how artworks have directly influenced society or culture
- examine visual artworks from various time periods and explain the influence of time and place are reflected in them
- use print and non-print sources to explore, describe and interpret universal themes, characterization and situations in artworks from different cultures or time periods

## Big Idea: Purposes for Creating the Arts

The arts have played a major role throughout the history of humans. As the result of the power of the arts to communicate on a basic human level, they continue to serve a variety of purposes in society. The arts are used for artistic expression to portray specific emotions or feelings, to tell stories in a narrative manner, to imitate nature and to persuade others. The arts bring meaning to ceremonies, rituals, celebrations and commemorations. Additionally, they are used for recreation and to support recreational activities. Students experience the arts in a variety of roles through their own creations and performances and through those of others. Through their activities and observations, students learn to create arts and use them for a variety of purposes in society.

**Academic Expectations**

**1.12** Students speak using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.
**1.13** Students make sense of ideas and communicate ideas with the visual arts.
**1.14** Students make sense of ideas and communicate ideas with music.
**1.15** Students make sense of and communicate ideas with movement.
**2.22** Students create works of art and make presentations to convey a point of view.
**2.26** Through the arts and humanities, students recognize that although people are different, they share some common experiences and attitudes.

**High School Enduring Knowledge – Understandings**

*Students will understand that*

- the arts fulfill a variety of purposes in society (e.g., to present issues and ideas, to entertain, to teach or persuade, to design, plan and beautify).
- the arts have value and significance for daily life. They provide personal fulfillment, whether in career settings, avocational pursuits or leisure.
- the arts provide forms of nonverbal communication that can strengthen the presentation of ideas and emotions.

**High School Skills and Concepts – Music**

*Students will*

- compare, interpret and explain purposes for which music is created to fulfill (ceremonial, recreational, artistic expression)
- create new, listen to, choose and perform music to fulfill a variety of specific purposes

**High School Skills and Concepts – Dance**

*Students will*

- compare, interpret and explain purposes for which dance is created (ceremonial, recreational, artistic expression)
- create new, observe, choose and perform dance to fulfill a variety of specific purposes

**High School Skills and Concepts – Drama/Theatre**

*Students will*

- compare, interpret and explain purposes for which drama/theatre is created (sharing the human experience, passing on tradition and culture, recreational, artistic expression)
- create or write new, observe, choose and perform dramatic works to fulfill a variety of specific purposes

**High School Skills and Concepts – Visual Arts**

*Students will*

- compare, interpret and explain purposes for which visual art is created (ceremonial, artistic expression, narrative, functional, persuasive)
- create new, choose and experience artworks created to fulfill a variety of specific purposes

## Big Idea: Processes in the Arts

There are three distinctive processes involved in the arts. These processes are creating new works, performing works for expressive purposes and responding to artworks. Each process is critical and relies on others for completion. Artists create works to express ideas, feelings or beliefs. The visual arts capture a moment in time while the performing arts (music, dance, drama/theatre) are performed for a live audience. The audience responds to the artistic expressions emotionally and intellectually based on the meaning of the work. Each process enhances understanding, abilities and appreciation of others. Students involved in these processes over time will gain a great appreciation for the arts, for artists past and present, and for the value of artistic expression.

**Academic Expectations**

**1.12** Students speak using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.
**1.13** Students make sense of ideas and communicate ideas with the visual arts.
**1.14** Students make sense of ideas and communicate ideas with music.
**1.15** Students make sense of and communicate ideas with movement.
**2.22** Students create works of art and make presentations to convey a point of view.
**2.25** In the products they make and the performances they present, students show that they understand how time, place, and society influence the arts and humanities such as languages, literature, and history.

**High School Enduring Knowledge – Understandings**

*Students will understand that*

- there are three distinct processes for involvement in the arts; creating new artworks, performing works previously created and responding to artworks and performances.
- full understanding and appreciation of the arts requires some degree of involvement in all three processes.
- openness, respect for work and an understanding of how artists apply elements and principles of design in creating and performing are personal attitudes and skills that enhance enjoyment of the observer.
- existing and emerging technologies can extend the reach of the art form to new audiences.

**High School Skills and Concepts – Music**

*Students will*

- be actively involved in creating, notating, improvising and performing music (e.g., similar style answers to musical phrases, variations on given melodies, demonstrating unity/variety, tension/release, and balance) alone and with others
- use knowledge of musical elements to create and perform music in an expressive manner
- sing or perform on instruments, alone or with others, reading basic music notation (with practice)
- use knowledge of the elements of music and music terminology to describe and critique their own performances and the performances of others
- identify and apply criteria for evaluating music (e.g., skill of performers, originality, emotional impact, variety, interest, technical accuracy)
- demonstrate behavior appropriate for observing the particular context and style of music being performed; discuss opinions with peers in a supportive and constructive way
- explore skills and training necessary for a variety of careers related to music

## Big Idea: Processes in the Arts – Continued

**High School Skills and Concepts – Dance**
*Students will*

- be actively involved (individually and in groups) in creating and performing dance (using the elements of dance: space, time and force) in a variety of choreographic forms (theme and variation, rondo, narrative)
- demonstrate appropriate alignment, strength and flexibility while performing dance movement
- apply knowledge of dance elements and dance terminology to:
  - expressively create and perform dance to communicate thoughts, ideas and/or feelings
  - describe and critique their own performances and the performances of others
- identify and apply criteria for evaluating dance (e.g., skill of performers, originality, emotional impact, variety, interest)
- demonstrate behavior appropriate for observing the particular context and style of dance being performed; discuss opinions with peers in a supportive and constructive way
- explore skills and training necessary for a variety of careers related to dance

**High School Skills and Concepts – Drama/Theatre**
*Students will*

- be actively involved in creating, improvising and performing dramatic works alone and with others, using elements of drama (Literary, Technical, Production)
- use knowledge of elements of drama to:
  - create and perform dramatic works in an expressive manner
  - describe and critique their own performances and the performances of others
- use a variety of resources (e.g., research, peers, technology) to:
  - write, refine, and record dialogue, monologues, and action
  - explore jobs/careers (e.g., playwright, director, actor) and skills associated with dramatic arts (theater, dramatic media)
- identify and apply criteria for evaluating dramatic works (e.g., skill of performers, originality, emotional impact, variety, interest, technical requirements: lighting, sound, scenery, costumes, make-up)
- demonstrate behavior appropriate for observing the particular context and style of dramatic works being performed; discuss opinions with peers in a supportive and constructive way
- explore skills and training necessary for a variety of careers related to dramatic arts

**High School Skills and Concepts – Visual Arts**
*Students will*

- be actively involved in selecting media, techniques, subject matter and processes for creating artworks for specific purposes, applying the elements of art and principles of design
- use knowledge of the elements and principles of art and art terminology to:
  - create expressive artworks
  - describe and critique their own work creations and the creations of others (e.g., how the communication of ideas relates to media, techniques, or processes used)
- identify and apply criteria for evaluating visual arts (e.g., skill of artist, originality, emotional impact, variety, interest, technical quality)
- demonstrate behavior appropriate for observing the particular context and style of the artwork being viewed; discuss opinions with peers in a supportive and constructive way
- describe personal responses to artwork; explain why there might be different responses to specific works of art (e.g., personal experience, interest, medium used, effectiveness of message)
- explore skills and training necessary for a variety of careers in visual arts

## Big Idea: Interrelationships Among the Arts

The arts share commonalities in structures, purposes, creative processes, and their ability to express ideals, feelings and emotions. Studying interrelationships among the arts enables students to get a broad view of the expressiveness of the art forms as a whole, and helps to develop a full appreciation of the arts as a mirror of human kind.

**Academic Expectations**

**1.12** Students speak using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.
**1.13** Students make sense of ideas and communicate ideas with the visual arts.
**1.14** Students make sense of ideas and communicate ideas with music.
**1.15** Students make sense of and communicate ideas with movement.
**2.22** Students create works of art and make presentations to convey a point of view.
**2.25** In the products they make and the performances they present, students show that they understand how time, place, and society influence the arts and humanities such as languages, literature, and history.
**2.26** Through the arts and humanities, students recognize that although people are different, they share some common experiences and attitudes.

**High School Enduring Knowledge – Understandings**

*Students will understand that*

- the arts are basic forms of human communication.
- music, dance, drama and visual art created in common cultures and/or common historical periods tend to reflect common attitudes, ideas, beliefs and feelings.
- the arts provide forms of non-verbal communication that can strengthen the presentation of ideas and emotions.
- the modes of thinking and methods of the arts disciplines can be used to illuminate situations in other disciplines that require creative solutions.

**High School Skills and Concepts – Arts**

*Students will*

- explain common terms and concepts used in various arts (e.g., tempo in dance and music)
- analyze and explain how ideas and emotions expressed in one art form (e.g. theatre) are similar or different to ideas and emotions expressed another art form (e.g. dance)
- interpret and explain communication of common universal themes or ideas across different art forms; compare and explain connections between and among different art forms from the same culture, the same stylistic period or the same time period
- explain commonalities between the arts and other subjects taught in the school (e.g., observation skills in visual arts and science, historical and cultural perspectives in the arts and social studies, shape in visual art and mathematics, dance and a healthy lifestyle, fractions in music notation and mathematics, composing music and writing)
- communicate common meaning through creating and performing in the arts

# HIGH SCHOOL ENGLISH LANGUAGE ARTS

# Program of Studies – English/Language Arts – High School

The English/Language Arts (ELA) content standards at the high school level are directly aligned with Kentucky's **Academic Expectations**. ELA standards are organized around Big Ideas in reading, writing, speaking, listening and observing that are important to the discipline of English/Language Arts. The Big Ideas are conceptual organizers for ELA and are similar at each grade level to ensure that students have multiple opportunities throughout their school careers to develop skills and concepts linked to the Big Ideas.

Under each Big Idea are statements of Enduring Knowledge/Understandings that represent overarching generalizations linked to the Big Ideas of ELA. The understandings represent the desired results -- what learning will focus upon and what knowledge students will be able to explain or apply. Understandings can be used to frame development of units of study and lesson plans.

Skills and concepts describe ways that students demonstrate their learning and are specific to each grade level. The skills and concepts for ELA are fundamental to the reading, writing, speaking, listening and observing processes. Lessons should offer students a wide range of experiences with print and non-print materials that have literary and informational purposes and allow for integrated, interdisciplinary or multidisciplinary programs.

**Reading**: The five Big Ideas of Reading in high school are Forming a Foundation for Reading, Developing an Initial Understanding, Interpreting Text, Reflecting and Responding to Text, and Demonstrating a Critical Stance. Literary texts include a range of genres, historical periods, and cultures. Students should be exposed to the greatest works of literature in English and other literature in translation to understand our common literary heritage and to gain an appreciation for the rich literary traditions from all cultures. Students should have the resources to develop the language skills they need to pursue life’s goals and to participate fully as informed, productive members of society. ELA courses should present a wide range of reading experiences with print and non-print materials that have literary and informational purposes. Informational texts include expository, persuasive, and procedural texts and documents. Reading instruction should focus on before, during and after reading strategies to aid in student comprehension of texts. The complexity of texts selected for instruction should be appropriate for high school students.

**Writing**: ELA standards in writing are divided into the four Big Ideas of Writing Content, Structure, Conventions and Process. Students are required to write using the criteria for effective writing included in these Big Ideas. The central idea of the writing standards is *effective communication*. Students use writing-to-learn and writing-to-demonstrate-learning strategies to make sense of their reading and learning experiences. Additionally, students will write in authentic forms for authentic purposes and audiences.

**Speaking, Listening. Observing**: These standards emphasize that speaking, listening and observing are fundamental processes which people use to express, explore and learn about ideas. The contexts of these communication functions include one-to one conversations, small group discussions, large audiences and meetings, and interactions with media.

The **Academic Expectations** for ELA are

**1.1** Students use reference tools such as dictionaries, almanacs, encyclopedias, and computer reference programs and research tools.

**1.2** Students make sense of the variety of materials they read.

**1.3** Students make sense of the various things they observe.

**1.4** Students make sense of the various messages to which they listen.

**1.11** Students write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.

**1.12** Students speak using appropriate forms, conventions, and styles to communicate ideas and ideas to different audiences for different purposes.

**5.1** Students use critical thinking skills such as analyzing, prioritizing, categorizing, evaluating, and comparing to solve a variety of problems in real-life situations.

## Big Idea: Forming a Foundation (Reading)

Forming a foundation requires readers to develop and apply basic reading skills and strategies across genres to read and understand texts at the appropriate grade level. This involves reading a variety of texts at the word, sentence, and connected text level across all content areas.

**Academic Expectations**

**1.1** Students use reference tools such as dictionaries, almanacs, encyclopedias, and computer reference programs and research tools.
**1.2** Students make sense of the variety of materials they read.
**1.3** Students make sense of the various things they observe.
**1.4** Students make sense of the various messages to which they listen.

**High School Enduring Knowledge – Understandings**

*Students will understand that*

- fluency involves reading orally and silently with speed, accuracy, proper phrasing and expression while attending to text features.
- developing breadth of vocabulary dramatically improves reading comprehension and involves applying knowledge of word meanings and word relationships. The larger the reader's vocabulary, the easier it is to make sense of text.
- many words have multiple meanings. Knowledge of syntax/language structure, semantics/meaning, context cues, and the use of resources can help in identifying the intended meaning of words and phrases as they are used in text.

**Grades 9 & 10 Skills and Concepts**

*Students will*

- apply context and self-correction strategies while reading
- make predictions while reading
- read grade-appropriate material orally—and silently—with automaticity (accuracy and fluency)
- use a variety of reading strategies to understand vocabulary and texts:
  - formulate questions to guide reading (before, during and after reading)
  - apply word recognition strategies to determine pronunciations
  - apply knowledge of synonyms, antonyms, word parts (e.g., roots, affixes, cognates), and nuances of meaning to assist comprehension
  - interpret the meaning of jargon, dialect or specialized vocabulary in context
  - interpret and explain literal and non-literal meanings of words or phrases, analogies, idioms and literary allusions based on context
  - explain and organize words and ideas in terms of categories (e.g., water is a liquid), functions (e.g., water is for drinking), or features (e.g., water flows)
  - scan to find specific key information; skim to get the general meaning of a passage
- use print and electronic resources (general and specialized dictionaries, thesauruses and glossaries) to determine the definition, pronunciation, etymology, spelling, usage of words, multiple meanings of words, or content-specific meanings of words

## Big Idea: Forming a Foundation (Reading) – Continued

**Grades 11 & 12 Skills and Concepts**
*Students will*

- apply context and self-correction strategies while reading
- read increasingly complex material--orally and silently--with automaticity (accuracy and fluency)
- use a variety of reading strategies to understand vocabulary and texts:
  - formulate questions to guide reading (before, during and after reading)
  - apply word recognition strategies to determine pronunciations
  - apply knowledge of synonyms, antonyms, word parts (e.g., roots, affixes, cognates) and nuances of meaning to assist comprehension
  - interpret the meaning of jargon, dialect, or specialized vocabulary in context
  - interpret and explain literal and non-literal meanings of words or phrases, analogies, idioms, and literary and classical allusions based on context
  - analyze words and ideas in terms of categories, functions, or features
  - scan to find specific key information; skim to get the general meaning of a passage
- describe the influence of historical events on the development of the English language
- investigate the meanings of words and their possible effect(s) on the perceptions and behavior of people

## Big Idea: Developing an Initial Understanding (Reading)

Developing an initial understanding of text requires readers to consider the text as a whole or in a broader perspective. Texts (including multicultural texts) encompass literary and informational texts (expository, persuasive, and procedural texts and documents). Strategies for gaining a broad or literal understanding of print texts can also be applied to non-print texts (e.g., digital, environmental).

**Academic Expectations**

**1.1** Students use reference tools such as dictionaries, almanacs, encyclopedias, and computer reference programs and research tools.
**1.2** Students make sense of the variety of materials they read.
**1.3** Students make sense of the various things they observe.
**1.4** Students make sense of the various messages to which they listen.

**High School Enduring Knowledge – Understandings**

*Students will understand that*

- reading a wide range of print and non-print texts builds an understanding of texts, of themselves, and of different cultures.
- different purposes to read include reading to acquire new information and reading for personal fulfillment. Among these texts are plays, fiction and non-fiction, classic and contemporary works, and foundational U.S. documents.
- the use of comprehension strategies enhances understanding of text.
- different types of texts place different demands on the reader. Understanding text features and structures, and characteristics associated with different genres (including print and non-print) facilitate the reader's ability to make meaning of the text.

## Big Idea: Developing an Initial Understanding (Reading) – Continued

**Grades 9 & 10 Skills and Concepts**
*Students will*

- use comprehension strategies (e.g., using prior knowledge, generating clarifying, literal and inferential questions, constructing sensory images, locating and using text features) while reading, listening to, or viewing literary and informational texts
- use text structure cues (e.g., chronology, cause/effect, compare/contrast, proposition/support, description, classification, logical/sequential) to aid in comprehension
- explain the meaning of concrete or abstract terms, based on the context (e.g., “loaded” words, connotation, denotation)
- paraphrase and summarize information from texts of various lengths; distinguish between a summary and a critique
- make text-based inferences; state generalizations; draw conclusions based on what is read
- demonstrate understanding of literary elements and literary passages/texts:
  - identify characteristics of different types of literary texts (e.g., short stories, poems, novels, adventure myths, dramas)
  - explain the main ideas of a passage and identify the key ideas or information that support them
- demonstrate understanding of informational passages/texts:
  - locate key ideas, information, facts or details
  - use information from text to state and support central/main idea
  - use information from texts to accomplish a specific task or answer questions
  - use text features and visual information (e.g., maps, graphs, timelines, diagrams) to understand texts

## Big Idea: Developing an Initial Understanding (Reading) – Continued

**Grades 11 & 12 Skills and Concepts**
*Students will*

- use comprehension strategies (e.g., using prior knowledge, generating clarifying, literal and inferential questions, constructing sensory images, locating and using text features) while reading, listening to, or viewing literary and informational texts
- use text structure cues (e.g., chronology, cause/effect, compare/contrast, proposition/support, description, classification, logical/sequential, deductive/inductive) to aid in comprehension
- explain the meaning of concrete or abstract terms, based on the context (e.g., “loaded” words, connotation, denotation)
- paraphrase and summarize information from texts of various lengths; distinguish between a summary and a critique
- make text-based inferences; state generalizations; draw conclusions based on what is read
- demonstrate understanding of literary elements and literary passages/texts:
  - identify characteristics of different types of literary texts (e.g., comedies, tragedies, satires, parodies)
  - explain the main ideas of a passage and identify the key ideas or information that support them
- demonstrate understanding of informational passages/texts:
  - locate key ideas, information, facts or details
  - use information from text to state and support central/main idea
  - use information from texts to accomplish a specific task or to answer questions
  - use text features and visual information (e.g., maps, charts, graphs) to understand texts

## Big Idea: Interpreting Text (Reading)

Interpreting text requires readers to extend their initial impressions of the text to develop a more complete understanding of what is read. This involves linking information across parts of a text, as well as focusing on specific information. Texts (including multicultural texts) encompass literary and informational texts (expository, persuasive, and procedural texts and documents). Strategies for interpreting print texts can also be applied to non-print texts (e.g., digital, environmental).

**Academic Expectations**

**1.1** Students use reference tools such as dictionaries, almanacs, encyclopedias, and computer reference programs and research tools.
**1.2** Students make sense of the variety of materials they read.
**1.3** Students make sense of the various things they observe.
**1.4** Students make sense of the various messages to which they listen.

**High School Enduring Knowledge – Understandings**

*Students will understand that*

- interpretations of text involve linking information across parts of a text and determining importance of the information presented.
- references from texts provide evidence to support conclusions, the information presented, or the author's perspective.
- authors make intentional choices that are designed to produce a desired effect on the reader.

## Big Idea: Interpreting Text (Reading) – Continued

**Grades 9 & 10 Skills and Concepts**
*Students will*

- use comprehension strategies while reading, listening to, or viewing literary and informational texts
- use text structure cues (e.g., chronology, cause/effect, compare/contrast, proposition and support, description, classification, logical/sequential) to aid comprehension
- use text references to explain author's purpose, author's message or theme, or supporting evidence
- organize ideas to show understanding of central ideas and interrelationships (e.g., charting, mapping, graphic organizers, outlining)
- demonstrate understanding of literary elements and literary passages/texts:
  - analyze the use of supporting details as they relate to the author's message
  - analyze the relationship between a character's motivation and behavior, as revealed by the dilemmas
  - explain or analyze how external or internal conflicts are resolved
  - explain author's craft (e.g., rhyme scheme, description, symbolism, foreshadowing, flashbacks) as appropriate to genre
- demonstrate understanding of informational passages/texts:
  - identify and explain use of persuasive techniques (e.g., logical/emotional/ethical appeal**,** repetition, allusion) or propaganda techniques (e.g., testimonial, bandwagon, transfer, personal attack)
  - explain the purpose of text features in different types of informational texts (e.g., periodicals, newspapers, online texts, public documents/public discourse, essays, editorials, textbooks, technical manuals/reports, Internet websites, electronic media)
  - use evidence from the text to state the central ideas and details that support them; analyze the importance and relevance of details used in a text
  - use text references to support conclusions about what is read; for example, an author's opinion about a subject
  - understand cause-effect inferences
  - explain the appropriateness of an argument for an intended audience
  - accept or reject an argument based on evidence
  - distinguish between facts and opinions found in texts

## Big Idea: Interpreting Text (Reading) – Continued

**Grades 11 & 12 Skills and Concepts**
*Students will*

- use comprehension strategies while reading, listening to, or viewing increasingly complex literary and informational texts
- use text structure cues (e.g., chronology, cause/effect, compare/contrast, proposition and support, description, classification, logical/sequential, deductive/inductive) to aid comprehension
- use text references to explain author's purpose, author's message or theme (including universal themes), arguments and supporting evidence
- organize ideas within and across texts to show understanding of central ideas and interrelationships (e.g., charting, semantic mapping, graphic organizers, outlining)
- demonstrate understanding of literary elements and literary passages/texts:
  - analyze the use of supporting details as they relate to the author's message
  - analyze the relationship between a character's motivation and behavior, as revealed by the dilemmas
  - explain or analyze how external or internal conflicts are resolved
  - explain author's craft as appropriate to genre (e.g., metrics, rhyme scheme, analogy, symbolism, allusion, soliloquy)
- demonstrate understanding of informational passages/texts:
  - analyze the effectiveness of use of persuasive techniques (e.g., logical/emotional/ethical appeal, repetition, allusion) or propaganda techniques (e.g., testimonial, bandwagon, transfer, personal attack)
  - explain the purpose of text features in different types of informational texts (e.g., periodicals, newspapers, online texts, public documents/public discourse, essays, editorials, textbooks, technical manuals/reports, Internet websites, electronic media)
  - use references from the text to state central ideas and details that support them; analyze the importance and relevance of details used in a text
  - use text references to support conclusions about what is read; for example, author's opinion about a subject
  - accept or reject arguments using supporting evidence

## Big Idea: Reflecting and Responding to Text (Reading)

Reflecting and responding to text requires readers to connect knowledge from the text with their own background knowledge and experience. The focus is on how the text relates to personal knowledge.

**Academic Expectations**

**1.1** Students use reference tools such as dictionaries, almanacs, encyclopedias, and computer reference programs and research tools.

Students make sense of the variety of materials they read.

**1.3** Students make sense of the various things they observe.

**1.4** Students make sense of the various messages to which they listen.

**High School Enduring Knowledge – Understandings**

*Students will understand that*

- making connections involves thinking beyond the text and applying the text to a variety of situations. Connections may be expressed as comparisons, analogies, inferences, or the synthesis of ideas.
- references from texts provide evidence of applying ideas and making text-to-self, text-to-text, and text-to-world connections.
- reading a wide range of literature by different authors, and from many time periods, cultures, and genres, builds an understanding of the extent of human experience.

**Grades 9 & 10 Skills and Concepts**

*Students will*

- use comprehension strategies while reading, listening to, or viewing literary and informational texts to analyze content or make connections
- self-select texts based on personal interests
- use evidence from text(s) to formulate and justify opinions about what is read or viewed:
  - relate texts to prior knowledge, personal experiences, other texts or ideas
  - provide text references/evidence to support connections (text-to-self, text-to-text, or text-to-world)
- read a wide range of texts, including texts by the same author, about the same subject or theme, from the same genre, and from different cultures and time periods, in order to respond and make connections (text-to-self, text-to-text, text-to-world)
- demonstrate participation in a literate community by sharing and responding to ideas and connections with others through writing and in-depth discussions about texts

**Grades 11 & 12 Skills and Concepts**

*Students will*

- use comprehension strategies while reading, listening to, or viewing literary and informational texts to analyze and evaluate content or make connections
- self-select texts based on personal interests
- use evidence from text(s) to formulate and justify opinions about what is read or viewed:
  - relate texts to prior knowledge, personal experiences, other texts or ideas
  - provide text references/evidence to support connections (text-to-self, text-to-text, or text-to-world)
- read a wide range of texts, including texts by the same author, about the same subject or theme, or from the same genre, and from different cultures and time periods in order to respond and make connections (text-to-self, text-to-text, text-to-world)
- demonstrate participation in a literate community by sharing and responding to ideas and connections with others through writing and in-depth discussions about texts

## Big Idea: Demonstrating a Critical Stance (Reading)

Demonstrating a critical stance requires readers to consider the text objectively in order to evaluate its quality and appropriateness. It involves a range of tasks, including critical evaluation, comparing and contrasting, and understanding the impact of features such as irony, humor, and organization. Knowledge of text content and structure is important.

**Academic Expectations**

**1.1** Students use reference tools such as dictionaries, almanacs, encyclopedias, and computer reference programs and research tools.
**1.2** Students make sense of the variety of materials they read.
**1.3** Students make sense of the various things they observe.
**1.4** Students make sense of the various messages to which they listen.
**5.1** Students use critical thinking skills such as analyzing, prioritizing, categorizing, evaluating, and comparing to solve a variety of problems in real-life situations.

**High School Enduring Knowledge – Understandings**

*Students will understand that*

- reading is a process that includes applying a variety of strategies to comprehend, interpret, and evaluate texts; showing evidence of responsible and warranted interpretations of text; and examining texts critically.
- references from texts provide evidence to support judgments made about why and how the text was developed, considering the content, organization and form.
- determining the usefulness of text for a specific purpose, evaluating language and textual elements, and analyzing the author's style are all ways to critically examine texts.
- all citizens need to analyze a wide variety of media messages (e.g., political, financial, social, environmental) in order to interpret matters of public policy and personal interest.
- judging the credibility of sources, evaluating arguments, and understanding and conveying information are essential skills needed for postsecondary education, the workplace, and in exercising the rights of citizenship.

## Big Idea: Demonstrating a Critical Stance (Reading) – Continued

**Grades 9 & 10 Skills and Concepts**
Students will

- analyze the effectiveness of text features in organizing information for clarity or for usefulness
- identify organizational patterns and describe how understanding the structure helps to understand the text; analyze the organizational pattern used (e.g., description, sequence, cause/effect, compare/contrast, logical/sequential, problem/solution, proposition/support, deductive/inductive) and explain how effective it is in understanding the passage and meeting the author's purpose
- evaluate what is read, based on the author's purpose, message, word choice, sentence variety, content, tone, style or use of literary elements
- form and support warranted judgments/opinions/conclusions about central ideas
- interpret the interactions between and among literary elements within and across a variety of texts
- analyze the effectiveness of literary devices or figurative language in evoking what the author intended (e.g., picturing a setting, predicting a consequence, establishing a mood or feeling)
- make comparisons and synthesize information within and across texts (e.g., comparing themes, ideas, concept development, literary elements, events, genres)
- evaluate the accuracy of information presented in texts
- evaluate arguments, interpret and analyze information from multiple sources; for example, synthesize arguments or claims to discover the relationship between the parts, understand induction and deduction, determine unstated assumptions
- identify claims and evidences and evaluate connections among evidences and inferences
- evaluate the range and quality of evidence used to support or oppose an argument
- recognize common logical fallacies (e.g., personal attacks, non-sequitor, faulty cause-effect) and false premises in an argument

## Big Idea: Demonstrating a Critical Stance (Reading) – Continued

**Grades 11 & 12 Skills and Concepts**
*Students will*

- analyze the effectiveness of text features in organizing information for clarity or for usefulness
- analyze the organizational pattern used (e.g., description, sequence, cause/effect, compare/contrast, logical/sequential, problem/solution, proposition/support, deductive/inductive) and explain how effective it is in understanding the passage and meeting the author's purpose
- evaluate what is read, based on the author's purpose, message, word choice, sentence variety, content, style, tone or use of literary elements
- form and support warranted judgments/opinions/conclusions about central ideas
- analyze the interactions between and among literary elements within and across a variety of texts
- analyze the effectiveness of literary devices or figurative language in evoking what the author intended (e.g., picturing a setting, predicting a consequence, establishing a mood or feeling)
- make comparisons and synthesize information within and across texts (e.g., comparing themes, ideas, concept development, literary elements, events, genres)
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- evaluate arguments, interpret and analyze information from multiple sources; for example, synthesize arguments or claims to discover the relationship between the parts, understand induction and deduction, determine unstated assumptions
- evaluate claims and evidences
- evaluate the range and quality of evidence used to support or oppose an argument
- recognize common logical fallacies (e.g., personal attacks, non-sequitor, faulty cause-effect) and false premises in an argument

## Big Idea: Writing Content

To communicate effectively, students should be able to write for a variety of authentic purposes and audiences in a variety of forms connecting to prior knowledge and the students' understanding of the content. In their writing, students should be able to create a focused purpose and controlling idea and develop ideas adequately considering the purpose, audience and form.

**Academic Expectations**

**1.11** Students write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.

**High School Enduring Knowledge – Understandings**

*Students will understand that*

- there are many reasons for all high school students to write including writing-to-learn, writing-to-demonstrate learning, and writing for authentic purposes and audiences.
- different forms of writing are appropriate for different purposes and audiences across the content areas and have different features (e.g. journals, on-demand responses, editorials, literary critiques).
- to be effective, writing must be a sufficiently developed, coherent unit of thought to address the needs of the intended audience.
- writing can be used to make meaning of one's own experience, as well as of other information/ ideas.

**Grades 9 & 10 Skills and Concepts**

*Students will*

- write to learn by applying strategies effectively (e.g., personal journals, writer's notebooks)
- write to demonstrate learning and understanding of content knowledge (e.g., reading responses, open responses, reflective letters, research reports)
- write for a variety of authentic purposes and audiences:
  - analyze and communicate the significance of a relationship, one's own experiences and/or the experiences of others
  - analyze and communicate through authentic literary forms to make meaning of the human condition (e.g., short stories, poetry, plays/scripts)
  - analyze and communicate through authentic transactive purposes for writing (e.g. explaining, persuading, analyzing)
  - analyze and communicate reflectively about literacy goals
  - analyze and address needs of intended audience (e.g., anticipating potential misunderstandings, providing sufficient details for clarity and revising to delete unnecessary details)
  - adjust the writing style (formal, informal, business, technical) for intended audience
- develop and communicate purpose, focus and controlling ideas authentic to the writer
- develop ideas that are logical, justified and suitable for a variety of purposes, audiences and forms of writing
- select and incorporate ideas and information (e.g., from research/inquiry and reading) and explain reflections or connections (e.g., making inferences, predicting conclusions, evaluating contradictions, offering support for conclusions, organizing prior knowledge about a topic)
- communicate understanding of a complex idea or event from multiple perspectives
- provide sufficient details and appropriate depth of elaboration for clear understanding
- use and sustain suitable voice or tone

## Big Idea: Writing Content – Continued

**Grades 11 & 12 Skills and Concepts**
*Students will*

- write to learn by applying strategies (e.g. personal journals, writer's notebooks)
- write to demonstrate learning and understanding of content knowledge (e.g., on-demand writing, research papers and essays, lab reports)
- write for a variety of authentic purposes and audiences:
  - analyze and communicate the significance of a relationship, one's own experiences and/or the experiences of others
  - analyze and communicate through authentic literary forms to make meaning of the human condition (e.g., short stories, poetry, plays/scripts)
  - analyze and communicate through authentic transactive purposes for writing (e.g. explaining, persuading, analyzing, synthesizing, evaluating)
  - analyze and communicate reflectively about literacy goals
  - analyze and address needs of intended audience (e.g., anticipating potential misunderstandings, providing sufficient details for clarity and revising to delete unnecessary details)
  - adjust the writing style (formal, informal, business, technical) for intended audience
- develop and communicate purpose, focus and controlling ideas authentic to the writer
- develop ideas that are logical, justified and suitable for a variety of purposes, audiences and forms of writing
- select and incorporate ideas and information (e.g., from research/inquiry and reading) and explain reflections or connections (e.g., making inferences, predicting conclusions, evaluating contradictions, analyzing interrelationships, offering support for conclusions, organizing prior knowledge about a topic)
- communicate understanding of a complex idea or event from multiple perspectives
- provide sufficient details and appropriate depth of elaboration for clear understanding
- use and sustain suitable voice or tone

## Big Idea: Writing Structure

To communicate effectively, students should be able to apply knowledge of language and genre structures to organize sentences, paragraphs and whole pieces logically and coherently.

**Academic Expectations**

**1.11** Students write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.

**High School Enduring Knowledge – Understandings**

*Students will understand that*

- sentences must be complete and clear. A variety in sentence structure helps to engage the reader and make meaning more clear. Sometimes unconventional structure is appropriate for an intended effect upon the reader.
- different types of structures are appropriate for different purposes, audiences and forms of writing. Texts must be unified and coherent.
- structural elements such as context, meaningful order of ideas, transitional elements and conclusions all help make meaning clear for the reader.

**Grades 9 & 10 Skills and Concepts**

*Students will*

- use complete and correct sentences of various structures and lengths (e.g., simple, compound, complex, compound/complex, including parallel structure) to enhance meaning throughout a piece of writing; apply unconventional sentence structures to achieve intended effect on audience
- develop analytical structures appropriate to purpose (e.g., sequence, problem/solution, description, cause/effect, compare/contrast, chronology, proposition/support)
- apply structures of a variety of academic and work-related texts (e.g., essay, narrative, poetry, memoir, article, job application, memo, proposal) for authentic and justifiable purposes
- establish a context, thesis and a controlling idea in the introduction; develop the piece sufficiently, arranging ideas with intent; and conclude the writing effectively
- create unified and coherent divisions of text (e.g., paragraphs, stanzas, sections under subheadings, chapters); apply paragraph structures (block and indented) appropriately
- use a variety of transitions and/or transitional elements (e.g., ellipses, time transitions, white space) with intent
- apply organizational devices (e.g., foreshadowing, flashback) to achieve intended effect on audience
- incorporate text features (e.g., bullets, subheadings, white space, photographs, diagrams, embedded visuals, charts, shape in poetry) to enhance clarity and meaning

## Big Idea: Writing Structure – Continued

**Grades 11 & 12 Skills and Concepts**
*Students will*

- use complete and correct sentences of various structures and lengths (e.g., simple, compound, complex, compound/complex, including parallel structure) to enhance meaning throughout a piece of writing; apply unconventional sentence structures to achieve intended effect on audience
- develop analytical structures appropriate to purpose (e.g., sequence, problem/solution, description, cause/effect, compare/contrast, chronology, proposition/support)
- apply structures of a variety of academic and work-related texts (e.g., argumentative essays, literary analyses, scholarship essays, personal essays, editorials, short stories, resumes, cover letters for resumes, proposals) for authentic and justifiable purposes
- establish a context, thesis and a controlling idea in the introduction; develop the piece sufficiently, arranging ideas with intent; and conclude the writing effectively
- create unified and coherent divisions of text (e.g., paragraphs, stanzas, sections under subheadings, chapters); apply paragraph structures (block and indented) appropriately
- use a variety of transitions and/or transitional elements (e.g., transitional sentences, ellipses, time transitions, white space) with intent
- apply organizational devices (e.g., foreshadowing, flashback) to achieve intended effect on audience
- incorporate text features (e.g., bullets, subheadings, white space, photographs, diagrams, embedded visuals, charts, shape in poetry) to enhance clarity and meaning

## Big Idea: Writing Conventions

To communicate effectively, students should be able to apply knowledge of language conventions and have control over standard grammar and usage. Students should be able to choose precise language appropriate to the purpose.

**Academic Expectations**

**1.11** Students write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.

**High School Enduring Knowledge – Understandings**

*Students will understand that*

- writers need to choose their language with care, depending on the content, purpose and audience.
- language should be concise and precise. Strong verbs and nouns, concrete details and sensory language help make meaning clear to the reader.
- standard grammar and usage are important in making meaning clear to the reader; non-standard and/or unconventional grammar, mechanics and usage may be used for intended effect.
- writers need to properly document sources/give credit for the ideas of others.

**Grades 9 & 10 Skills and Concepts**

*Students will*

- choose precise and descriptive language for clarity, richness and/or its effect on the reader (words with multiple meanings, words that imply different shades of meaning, words with literal and non-literal meanings, foreign words/phrases, strong nouns and verbs, concrete and sensory details, figurative language—metaphors, similes, alliteration, personification)
- use specialized content vocabulary and words used for specific contexts, as needed
- apply correct grammar skills (e.g., complete sentences, various sentence structures, subject/verb agreement, pronoun/antecedent agreement); mechanics (e.g., use of commas, semicolons); and usage (e.g., farther/further, fewer/less, amount/number)
- apply non-standard and/or unconventional language (e.g., dialects) for intended effect appropriate to purpose
- use print and electronic resources (e.g., word processing, dictionary) and apply knowledge of spelling rules to correct spelling in final drafts
- use print and electronic resources (e.g., word processing, thesaurus, stylebooks) to adhere to standard guidelines for grammar, usage and mechanics
- use a standard format (e.g., MLA, APA) to document ideas from print and non-print sources, when paraphrasing, summarizing, quoting or using graphics

## Big Idea: Writing Conventions – Continued

**Grades 11 & 12 Skills and Concepts**
*Students will*

- choose precise and descriptive language for clarity, richness and/or its effect on the reader (words with multiple meanings, words that imply different shades of meaning, words with literal and non-literal meanings, foreign words/phrases, strong nouns and verbs, concrete and sensory details, figurative language – metaphors, paradox, allusion, hyperbole)
- use specialized content vocabulary and words used for specific contexts, as needed
- apply correct grammar skills (e.g., complete sentences, various sentence structures, subject/verb agreement, pronoun/antecedent agreement, phrases, clauses); mechanics (e.g., use of commas, semicolons, colons); and usage (e.g., avoiding misplaced modifiers and shifts in tense, number, and person)
- apply non-standard and/or unconventional language (e.g., dialects) for intended effect appropriate to purpose
- use print and electronic resources (e.g., word processing, dictionary) and apply knowledge of spelling rules to correct spelling in final drafts
- use print and electronic resources (e.g., word processing, thesaurus) to adhere to standard guidelines for grammar, usage and mechanics
- use a standard format (e.g., MLA, APA) to document ideas from print and non-print sources, when paraphrasing, summarizing, quoting or using graphics

## Big Idea: Writing Process

To communicate effectively, students should engage in the various stages of the writing process including focusing, prewriting, drafting, revising, editing, publishing and reflecting. The writing process is recursive; different writers engage in the process differently and proceed through the stages at different rates.

**Academic Expectations**

**1.11** Students write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.

**High School Enduring Knowledge – Understandings**

*Students will understand that*

- the writing process is a helpful tool in constructing and demonstrating meaning of content (whether personal expressive, literary, academic or practical) through writing.
- the stages are sometimes recursive (e.g., in the process of revising, a writer sometimes returns to earlier stages of the process).
- writers work through the process at different rates. Often, the process is enhanced by conferencing with others.

**Grades 9 & 10 Skills and Concepts**

*Students will*

- focus: establish and maintain a controlling idea on a selected topic
- prewrite:
  - determine the most appropriate form to meet needs of purpose and audience
  - generate ideas to support and develop a controlling idea (e.g., journaling, webbing, freewriting, researching print/ non-print/ electronic sources, note-taking, interviewing, observing, viewing, surveying, imagining and creating novel ideas)
  - organize and present ideas by taking notes, quoting, paraphrasing, summarizing
- draft:
  - determine how, when and whether to use visuals (e.g., illustrations, charts, diagrams, photographs) or technologies (e.g., digital images, video) in lieu of or in addition to written communication
  - logically introduce and incorporate quotes
- revise:
  - reflect on own writing
  - confer with peers and other writing conferencing partners to critically analyze one's own work and the work of others
  - confer to determine where to add, delete, rearrange, define/redefine or elaborate content so that writing is coherent and effective for intended audience, then make revisions
  - identify and develop topic sentences, making sure ideas are supported appropriately with relevant details and that sentences are in sequential order; insert new sentences and delete unnecessary ones; develop effective introductions and conclusions; eliminate redundant words; choose the most precise words available
- edit for appropriate language usage, sentence structure, spelling, capitalization, punctuation and proper documentation of sources
- publish to produce products for intended audience:
  - present written material using a variety of digital presentations and graphics (e.g., spreadsheets, graphing formats)
  - present final work in a neat, legible form
- reflect and evaluate personal progress and skills in writing

## Big Idea: Writing Process – Continued

**Grades 11 & 12 Skills and Concepts**
*Students will*

- focus: establish and maintain a controlling idea on a selected topic
- prewrite:
  - determine the most appropriate form to meet needs of purpose and audience
  - generate ideas to support and develop a controlling idea (e.g., journaling, webbing, freewriting, researching print/ non-print/ electronic sources, note-taking, interviewing, observing, viewing, surveying, imagining and creating novel ideas)
  - organize and present ideas by taking notes, quoting, paraphrasing, summarizing
- draft:
  - determine how, when and whether to use visuals (e.g., illustrations, charts, diagrams, photographs) or technologies (e.g., digital images, video) in lieu of or in addition to written communication
  - logically introduce and incorporate quotes
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  - reflect on own writing
  - confer with peers and other writing conferencing partners to critically analyze one's own work and the work of others
  - confer to determine where to add, delete, rearrange, define/redefine or elaborate content so that writing is coherent and effective for intended audience, then make revisions
  - identify and develop topic sentences, making sure ideas are supported appropriately with relevant details and that sentences are in sequential order; insert new sentences and delete unnecessary ones; develop effective introductions and conclusions; eliminate redundant words; choose the most precise words available
- edit for appropriate language usage, sentence structure, spelling, capitalization, punctuation and proper documentation of sources
- publish to produce products for intended audience:
  - present written material using a variety of digital presentations and graphics (e.g., spreadsheets, graphing formats)
  - present final work in a neat, legible form
- reflect and evaluate personal progress and skills in writing

## Big Idea: Speaking, Listening and Observing

Speaking, listening and observing are fundamental processes which people use to express, explore and learn about ideas. The functions of speaking, listening and observing include gathering and sharing information, persuading others, expressing and understanding ideas, and selecting and critically analyzing messages. The contexts of these communication functions include one-to one conversations, small group discussions, large audiences and meetings, and interactions with media.

**Academic Expectations**

**1.2** Students make sense of the variety of materials they read.
Students make sense of the various messages they observe.
Students make sense of the various messages to which they listen.

**1.11** Students write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.

**1.12** Students speak using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.

**High School Enduring Knowledge – Understandings**

*Students will understand that*

- communication, both formal and informal, is an interpretative process that integrates listening, observing, reading, writing and speaking with confidence. Different levels of discourse are appropriate for different contexts, occasions, purposes and audiences.
- regardless of the topic, the context or the intended audience, students need to be able to communicate ideas effectively. Effective communication involves verbal and nonverbal techniques to enhance or emphasize content. These techniques aid the listener's ability to interpret the information.
- language usage is related to successful communication; language patterns and vocabulary transmit culture and affect meaning.
- observation involves interpreting and constructing meaning. By viewing in context, students infer, construct meaning, draw conclusions and form opinions about the world around them.

## Big Idea: Speaking, Listening and Observing – Continued

**Grades 9 & 10 Skills and Concepts**

*In formal speaking situations, students will*

- create oral presentations that
  - are appropriate for the purpose (e.g., to inform, persuade, entertain), audience, context and occasion
  - support judgment with sound evidence and appropriate details
  - maintain a consistent focus
  - exhibit a logical structure appropriate to audience, context and purpose
  - organize ideas in a coherent, meaningful way, including an introduction, transitions and a conclusion
  - make skillful use of rhetorical devices
- apply delivery techniques
  - both verbal (e.g., tone, volume, rate, articulation, inflection, pacing) and nonverbal (e.g., gestures, facial expressions, eye contact)
  - avoid distracting delivery behaviors (e.g. excessive verbal pauses, fidgeting)
  - use language appropriate to audience; use specialized content vocabulary as needed
  - adhere to standard guidelines for grammar, usage, mechanics, or use non-standard language for effect when appropriate (e.g., word plays, common figures of speech)
  - choose language for its effect on the audience (e.g., strong nouns, active verbs, concrete and sensory details, figurative language)
- use visual aids, media and tools of technology to support oral communication
- document ideas from outside sources using appropriate formats (e.g., citing authors, titles, websites)

*In informal speaking situations, students will*

- give spoken instructions to perform specific tasks
- ask and respond to questions as a way to enrich class discussions
- play a variety of roles in group discussions (e.g., discussion leader, facilitator, responder)

*When listening, students will*

- follow spoken instructions to perform specific tasks
- identify the thesis/controlling idea of a speech and key ideas that support it
- respond critically (e.g., analyze the style of a speech, including the speaker's choice of language to evoke a response, evaluate conclusions, credibility of information presented)
- respond to information in a variety of ways: summarizing, taking useful notes, organizing, analyzing or recording that which is meaningful and useful
- respond appropriately/respectfully (e.g., ask questions, respond with civility/respect)
- follow the organization of a presentation and recognize the speaker's use of transitions
- interpret and evaluate the effectiveness of verbal and nonverbal delivery techniques, including visual cues
- build on the ideas of others and contribute relevant information or ideas
- use self-evaluations and feedback from teachers and peers to improve presentations

*When observing, students will*

- use a variety of criteria (e.g., clarity, accuracy, effectiveness, bias, relevance of facts) to evaluate media
- evaluate the role of media in focusing attention and in forming opinion
- interpret a variety of advertising techniques
- analyze the effectiveness of visual and auditory cues (e.g., cutaway, crawler, voiceover, sound effects) to enhance the message or understand context

## Big Idea: Speaking, Listening and Observing – Continued

**Grade 11 & 12 Skills and Concepts**

*In formal speaking situations, students will*

- create oral presentations that
  - are appropriate for the purpose (e.g., to inform, persuade, entertain), audience, context and occasion
  - support judgment with sound evidence and appropriate details
  - maintain a consistent focus
  - exhibit a logical structure appropriate to audience, context and purpose
  - organize ideas in a coherent, meaningful way, including an introduction, transitions and a conclusion
  - make skillful use of rhetorical devices
- apply delivery techniques
  - both verbal (e.g., tone, volume, rate, articulation, inflection, pacing) and nonverbal (e.g., gestures, facial expressions and eye contact)
  - avoid distracting delivery behaviors (e.g. excessive verbal pauses, fidgeting)
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  - choose language for its effect on the audience (e.g., strong nouns, active verbs, concrete and sensory details, figurative language)
- use visual aids, media and tools of technology to support oral communication
- document ideas from outside sources using appropriate formats (e.g., citing authors, titles, websites)

*In informal speaking situations, students will*

- give and follow spoken instructions to perform specific tasks
- ask and respond to questions as a way to enrich class discussions
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*When listening, students will*

- give and follow spoken instructions to perform specific tasks
- identify the thesis/controlling idea of a speech and key ideas that support it
- respond critically (e.g., analyze the style of a speech, including the speaker's choice of language to evoke a response, evaluate conclusions, credibility of information presented)
- respond to information in a variety of ways: summarizing, taking useful notes, organizing, analyzing or recording that which is meaningful and useful
- respond appropriately/respectfully (e.g., ask questions, respond with civility/respect)
- follow the organization of a presentation and recognize the speaker's use of transitions
- interpret and evaluate the effectiveness of verbal and nonverbal delivery techniques, including visual cues
- build on the ideas of others and contribute relevant information or ideas
- use self-evaluations and feedback from teachers and peers to improve presentations

*When observing, students will*

- use a variety of criteria (e.g., clarity, accuracy, effectiveness, bias, relevance of facts) to evaluate media
- evaluate the role of media in focusing attention and in forming opinion
- interpret a variety of advertising techniques
- analyze the effectiveness of visual and auditory cues (e.g., cutaway, crawler, voiceover, sound effects) to enhance the message or understand context

# HIGH SCHOOL MATHEMATICS

# Program of Studies – Mathematics – High School

The high school mathematics program includes strong literacy connections, active and hands-on work with concrete materials and appropriate technologies. High school problem solving, mathematical communication, connections, mathematical reasoning and multiple representations should be a part of the mathematics curriculum. The use of these techniques enhances and extends students' mathematics skills. Accuracy is an integral part of the mathematics program. The minimum high school graduation requirements, which take effect with the graduating Class of 2012, will require that students take a mathematics course each year they are in high school.

Students should have opportunities to work individually and in groups of varying size and composition in order to conduct investigations, process information and discuss important mathematical concepts. Students must have regular opportunities to share their ideas with others and to solve problems generated as a result of their learning experiences.

The mathematics content standards at the high school level are directly aligned with Kentucky's Academic Expectations. Mathematics standards are organized around five “Big Ideas” that are important to the discipline of mathematics. The five big ideas in mathematics are: Number Properties and Operations, Measurement, Geometry, Data Analysis and Probability and Algebraic Thinking. The Big Ideas are conceptual organizers for mathematics and are similar at each grade level to ensure students have multiple opportunities throughout the students’ school careers to develop skills and concepts linked to the Big Ideas.

Under each Big Idea are statements of Enduring Knowledge/Understandings that represent overarching generalizations linked to the Big Ideas of mathematics. The understandings represent the desired results – what learning will focus upon and what knowledge students will be able to explain or apply. Understandings can be used to frame development of units of study and lesson plans.

Skills and concepts describe ways that students demonstrate their learning and are specific to each grade level. The skills and concepts for mathematics are fundamental to mathematical literacy, mathematical power and build on prior learning.

Effectively implementing the Program of Studies requires a common understanding of the process standards below.

**Problem solving** includes modeling and formulating problems based in real-world situations, within and outside mathematics, and aids in investigating and understanding mathematical content.

**Mathematical communication** includes both words and symbols, enabling students to clarify their thinking, create definitions, share mathematical ideas, ask questions and develop facility in using mathematical notation (letters and marks used in mathematics to name numbers, operations, sets, relations and so on).

**Mathematical connections** include the use of equivalent representations of a concept or a procedure and extend to both topics within mathematics and to other disciplines.

**Mathematical reasoning** includes the use of logical skills in the context of testing conjectures, creating counter examples (an example that shows a general statement to be false), and composing and understanding valid arguments.

**Multiple representations** include the more symbolic and abstract aspects of mathematics (e.g., translating between the different modes of representing functions; making the connections between visual and analytical geometry).

**Academic Expectation** 1.5-1.9 (Students use mathematical ideas and procedures to communicate, reason, and solve problems.) is infused throughout the mathematics instruction P-12 and is integral to the content and instruction across all grade levels.

**Academic Expectation** 1.16 (Students will use computers and other kinds of technology to collect, organize, and communicate information and ideas.) is an essential and integral part of instruction across the content and the mathematics Program of Studies.

## Big Idea: Number Properties and Operations

High school students should enter high school with a strong background in rational numbers and numerical operations and expand this to real numbers. Solving quadratic equations produces a working knowledge of complex numbers. This becomes the foundation for algebra and working with algebraic symbols. They understand large and small numbers and their representations, powers and roots. They compare and contrast properties of numbers and number systems and develop strategies to estimate the results of operations on real numbers. Students will use and understand the limitations of, graphing calculators and computer spreadsheets appropriately as learning tools.

**Academic Expectations**

**2.7** Students understand number concepts and use numbers appropriately and accurately.
**2.8** Students understand various mathematical procedures and use them appropriately and accurately.
**2.12** Students understand mathematical structure concepts including the properties and logic of various mathematical systems.

**High School Enduring Knowledge – Understandings**

*Students will understand that*

- numbers, ways of representing numbers, relationships among numbers and number systems are means of representing real-world quantities.
- meanings of and relationships among operations provide tools necessary to solve realistic problems encountered in everyday life and problems encountered in mathematical situations.
- computing fluently and accurately with real numbers and making reasonable estimates increases the ability to solve realistic problems encountered in everyday life.
- problem solving and connections with other content areas require a strong sense of number, including applications of absolute value (magnitude) and the ordering of numbers.
- proportional reasoning is a tool for modeling and solving problems encountered in everyday situations.

**High School Skills and Concepts – Number Sense**

*Students will*

- compare real numbers using order relations
- locate the position of a real number on the number line, find its distance from the origin (absolute value/magnitude) and find the distance between two numbers on the number line (the absolute value of their difference)
- determine the relative position on the number line of real numbers, including very large and very small numbers, and the relative magnitude of numbers expressed in fractional form, in decimal form, as roots or in scientific notation
- explore vectors and matrices as systems that have some of the properties of the real number system
- compare and contrast number systems, including complex numbers as solutions to quadratic equations that do not have real solutions

**High School Skills and Concepts – Estimation**

*Students will*

- use calculators appropriately and regularly make estimations without a calculator to detect potential errors
- estimate solutions to problems with real numbers (including very large and very small quantities) in both realistic and mathematical situations
- establish and apply benchmarks for real numbers in context

## Big Idea: Number Properties and Operations – Continued

**High School Skills and Concepts – Number Operations**
*Students will*

- add, subtract, multiply and divide real numbers
- add, subtract and multiply complex numbers
- multiply and divide numbers expressed in scientific notation
- apply absolute value, integer exponents, roots and factorials to solve problems
- determine a specific term of a sequence given an explicit formula
- describe and extend arithmetic and geometric sequences
- determine an explicit rule for the *n*th term of an arithmetic sequence
- apply sequences and arithmetic and geometric series to solve realistic problems
- solve realistic problems to a specified degree of accuracy
- judge the effects of multiplication, division and computing powers and roots on the magnitudes of quantities
- develop an understanding of the properties and representations for the addition and multiplication of vectors and matrices
- develop fluency in operations with real numbers and matrices, using mental computation or paper-and-pencil calculations for simple cases and calculators and/or computers for more-complicated cases
- use concrete, pictorial and abstract models to develop and/or generalize a procedure

**High School Skills and Concepts – Ratios and Proportional Reasoning**
*Students will*

- calculate and apply ratios, proportions, rates and percentages to solve problems
- translate real-world proportional relationships into mathematical expressions and vice versa
- represent slope graphically, numerically and symbolically and relate it to a graph of an equation based on a realistic situation

**High School Skills and Concepts – Properties of Numbers and Operations**
*Students will*

- identify and apply real number properties
- use equivalence relations of real numbers to solve problems
- compare and contrast the number systems according to their properties
- justify the solution steps in simplifying expressions or solving an equation

## Big Idea: Measurement

High school students continue to measure and estimate measurements including fractions and decimals. They use formulas to find surface areas and volumes. They use US Customary and metric units of measurement. They use the Pythagorean theorem and other right triangle relationships to solve realistic problems.

**Academic Expectations**

**2.9** Students understand space and dimensionality concepts and use them appropriately and accurately.
**2.10** Students understand measurement concepts and use measurements appropriately and accurately.

**High School Enduring Knowledge – Understandings**

*Students will understand that*

- measurable attributes of objects and the units, systems and processes of measurement are powerful tools for making sense of the world around them.
- numerical values associated with measurements of physical quantities must be assigned units of measurement or dimensions.
- measurements are determined by using appropriate techniques, tools, formulas and degree of accuracy needed for the situation.

**High School Skills and Concepts – Measuring Physical Attributes**

*Students will*

- apply units of measurements of physical quantities correctly in expressions, equations and problem solutions that involve measurement
- analyze precision, accuracy and approximate error in measurement situations
- determine the surface area and volume of right rectangular prisms, pyramids, cylinders, cones and spheres in realistic problems
- describe how change in one or more dimensions of a geometric figure or object affects the perimeter, circumference, area and/or volume of the figure or object
- explore the relationships between the right triangle trigonometric functions, using technology (e.g., graphing calculator) as appropriate
- apply definitions and properties of right triangle relationships (basic right triangle trigonometry and the Pythagorean theorem) to determine length and angle measures to solve realistic problems
- apply special right triangles and the converse of the Pythagorean theorem to solve realistic problems
- explore periodic real-world phenomena, using technology (e.g., graphing calculator) as appropriate

**High School Skills and Concepts – Systems of Measurement**

*Students will*

- convert a measurement using one unit of measurement to another unit of measurement given the relationship between the units (e.g., miles per hour to feet per second, ˚F to ˚C)
- apply to both real world and mathematical situations US Customary and metric systems of measurement
- make decisions about units and scales that are appropriate for problem solving situations involving measurement
- use unit analysis to check measurement computations
- compare and contrast the use of US Customary and metric systems of measurement

## Big Idea: Geometry

High school students expand analysis of two-dimensional figures and three-dimensional objects. They translate figures in a coordinate plane. They extend work with congruent and similar figures, including proportionality.

**Academic Expectations**

**2.9** Students understand space and dimensionality concepts and use them appropriately and accurately.
**2.10** Students understand measurement concepts and use them appropriately and accurately.
**2.12** Students understand mathematical structure concepts including the properties and logic of various mathematical systems.

**High School Enduring Knowledge – Understandings**

*Students will understand that*

- characteristics and properties of two-dimensional figures and three-dimensional objects describe the world and are used to develop mathematical arguments about geometric relationships and to evaluate the arguments of others.
- representational systems, including coordinate geometry, are means for specifying locations and describing spatial relationships and are organizers for making sense of the world around them.
- transformations and symmetry are used to analyze real-world situations (e.g., art, nature, construction and scientific exploration).
- similarity of figures and scale factors are used to analyze and solve problems.
- visualization, spatial reasoning and geometric relationships model real-world situations.

**High School Skills and Concepts – Shapes and Relationships**

*Students will*

- identify and apply the definitions, properties and theorems about line segments, rays and angles and use them to prove theorems in Euclidean geometry, solve problems and perform basic geometric constructions using a straight edge and a compass
- identify and apply properties and theorems about parallel and perpendicular lines and use them to prove theorems and to perform constructions
- analyze and apply angle relationships (e.g., linear pairs, vertical, complementary, supplementary, corresponding and alternate interior angles) in real-world or mathematical situations
- use the definitions, properties and theorems about congruent and similar triangles and other figures to prove additional theorems and apply these to solve real-world problems
- use the definitions and basic properties of a circle (e.g., arcs, chords, central angles, inscribed angles) to prove basic theorems and solve problems
- analyze and apply spatial relationships (not using Cartesian coordinates) among points, lines and planes (e.g., “betweenness” of points, midpoint, segment length, collinear, coplanar, parallel, perpendicular, skew)
- classify, determine attributes of, analyze and apply properties of two-dimensional geometric figures and three-dimensional objects
- describe the intersection of lines, planes and solids and visualize three-dimensional objects and spaces from different perspectives and analyze their cross sections
- classify and apply properties of three-dimensional geometric figures
- visualize solids and surfaces in three-dimensional space when given two-dimensional representations and create two-dimensional representations for the surfaces of three-dimensional objects
- draw and construct representations of two-dimensional figures and three-dimensional objects using a variety of tools
- use geometric models and ideas to gain insights into and answer questions in other areas of mathematics and into other disciplines and areas of interest, such as art and architecture
- explore geometry to make and test conjectures using geometric tools and technology

## Big Idea: Geometry – Continued

**High School Skills and Concepts – Transformations of Shapes**
*Students will*

- understand and represent transformations within a plane (translations, reflections, rotations and dilations) of figures by using sketches, coordinates, vectors, function notation, matrices and technology
- use various representations, including electronic displays, to understand the effects of simple transformations within a plane and compositions of transformations

**High School Skills and Concepts – Coordinate Geometry**
*Students will*

- express the intuitive concept of the “slant” of a line as slope, use the coordinates of two points on a line to determine its slope and use slope to express the parallelism and perpendicularity of lines
- describe a line by a linear equation
- find the distance between two points using their coordinates and the Pythagorean theorem or the distance formula
- find the equation of a circle given its center and radius; given the equation of a circle, find its center and radius
- find the midpoint of a segment when the coordinates of the endpoints are identified
- use Cartesian coordinates and other coordinate systems (e.g., navigational, polar, spherical systems) to analyze geometric situations
- investigate conjectures and solve problems involving two-dimensional figures and three-dimensional objects represented graphically
- use a variety of technological tools to explore and test conjectures about slope, midpoints and other geometric ideas that can be expressed using the Cartesian plane

**High School Skills and Concepts – Foundational Statements**
*Students will*

- identify, explain the necessity of and give examples of definitions, axioms and theorems
- explore geometries other than Euclidean geometry, in which the parallel postulate is not true
- establish the validity of geometric conjectures using deduction, prove theorems and critique arguments made by others
- perform constructions such as a line parallel to a given line through a point not on the line, the perpendicular bisector of a line and the bisector of an angle

## Big Idea: Data Analysis and Probability

High school students extend data representations, interpretations and conclusions. They describe data distributions in multiple ways and connect data gathering issues with data interpretation issues. They relate curve-of-best-fit with two-variable data and determine a line-of-best-fit for a given set of data. They distinguish between combinations and permutations and compare and contrast theoretical and experimental probability.

**Academic Expectations**

**2.8** Students understand various mathematical procedures and use them appropriately and accurately.
**2.13** Students understand and appropriately use statistics and probability.

**High School Enduring Knowledge – Understandings**

*Students will understand that*

- quantitative literacy is a necessary tool to be an intelligent consumer and citizen.
- data analysis requires developing a plan for collecting, organizing and analyzing data in order to make decisions.
- graphical and numerical techniques can be used to study patterns and analyze data.
- the choice of data display can affect the visual message communicated.
- inferences and predictions from data are used to make critical and informed decisions.
- probability can be used to make decisions or predictions or to draw conclusions.

**High School Skills and Concepts – Data Representations**

*Students will*

- be familiar with the definitions of measurement data and categorical data, univariate and bivariate data and the term variable
- apply histograms, parallel box plots and scatterplots to display data
- display the distribution, analyze patterns and describe relationships in paired data for univariate measurement data
- display a scatterplot and describe its shape for bivariate data
- display and discuss bivariate data where at least one variable is categorical
- organize and display data using appropriate methods (e.g., spreadsheets and graphing calculators) to detect patterns and departures from patterns
- identify and explain misleading uses of data displays

## Big Idea: Data Analysis and Probability – Continued

**High School Skills and Concepts – Characteristics of Data Sets**
*Students will*

- understand the distinction between a statistic and a parameter
- describe the shape and select and calculate summary statistics for univariate measurement data, using technological tools as necessary
- recognize how linear transformations of univariate data affect shape, center and spread
- determine regression coefficients, regression equations and correlation coefficients for bivariate data using technological tools
- apply line-of-best fit equations for a set of two-variable data to make predictions
- collect, organize and display bivariate data and use a curve of best fit as a model to make predictions
- identify trends in bivariate data and find functions that model the data or transform the data, so that they can be modeled
- understand how simple statistics reflect the values of population parameters and use sampling distributions as the basis for informal inference
- explore how basic statistical techniques monitor process characteristics in the workplace
- compare data sets using graphs and summary statistics
- know the characteristics of the Gaussian normal distribution (bell-shaped curve)
- evaluate reports based on data published in the media by considering the source of the data, the design of the study and the way the data are displayed and analyzed
- identify and explain misleading uses of data

**High School Skills and Concepts – Experiments and Samples**
*Students will*

- understand and explain the differences among various kinds of studies (e.g., randomized experiments and observational studies) and which types of inferences can be legitimately be drawn from each
- know the characteristics of well-designed studies, including the role of randomization in surveys and experiments
- use simulations to explore the variability of sample statistics from a known population and to construct sampling distributions
- evaluate published reports that are based on interpretations of data by examining the design of the study, the appropriateness of the data analysis and the validity of the conclusions
- explain the impact of sampling methods, bias and the phrasing of questions asked during data collection and the conclusions that can be justified
- design and conduct simple experiments or investigations to collect data to answer student-generated questions

## Big Idea: Data Analysis and Probability – Continued

**High School Skills and Concepts – Probability**
*Students will*

- design and conduct probability simulations and interpret the results
- apply the concepts of sample space and probability distribution to construct sample spaces and distributions in simple cases
- design simulations to construct empirical probability distributions and report/interpret the results
- compute and interpret the expected value of random variables in simple cases
- apply the concepts of conditional probability and independent events and be able to compute those probabilities
- compute the probability of a compound event
- explain how probability quantifies the likelihood that an event occurs in terms of numbers
- explain how the relative frequency of a specified outcome of an event can be used to estimate the probability of the outcome
- explain how the law of large numbers can be applied in simple examples
- determine and compare theoretical and experimental probabilities
- determine the probability of an event and the probability of its complement
- make predictions and draw inferences from probabilities. and apply probability concepts to practical situations to make informed decisions
- determine probabilities involving replacement and non-replacement
- recognize and identify the differences between combinations and permutations and use them to count discrete quantities
- represent probabilities in multiple ways (e.g., fractions, decimals, percentages, geometric area models)

## Big Idea: Algebraic Thinking

High school students extend analysis and use of functions and focus on linear, quadratic, absolute value and exponential functions. They explore parametric changes on graphs of functions. They use rules and properties to simplify algebraic expressions. They combine simple rational expressions and simple polynomial expressions. They factor polynomial expressions and quadratics of the form $1x^2+bx+c$.

**Academic Expectations**

**2.7** Students understand number concepts and use numbers appropriately and accurately.
**2.8** Students understand various mathematical procedures and use them appropriately and accurately.
**2.11** Students understand mathematical change concepts and use them appropriately and accurately.
**2.12** Students understand mathematical structure concepts including the properties and logic of various mathematical systems.

**High School Enduring Knowledge – Understandings**

*Students will understand that*

- patterns, relations and functions are tools that help explain or predict real-world phenomena.
- there are relationships between and among patterns and functions, their representations and their properties.
- algebra represents mathematical situations and structures for analysis and problem solving.
- real-world situations can be represented using mathematical models to analyze quantitative relationships.
- functions are used to analyze change in various contexts and model real-world phenomena.
- functions can be written in words, in a symbolic sentence or in a table or graph.

**High School Skills and Concepts – Patterns, Relations and Functions**

*Students will*

- use explicitly-defined or recursively defined functions to generalize patterns
- understand relations and functions and use various representations for them
- analyze functions by investigating rates of change, intercepts, zeros, asymptotes and local and global behavior
- transform functions (e.g., arithmetically combining, composing and inverting commonly used functions), using technology on more complicated symbolic expressions
- understand and compare the properties of classes of functions (e.g., absolute value, step, exponential, polynomial, rational, logarithmic, periodic)
- interpret representations of functions of two variables
- use a variety of symbolic representations, including recursive and parametric equations, for functions and relations
- identify essential quantitative relationships in a situation and determine the class or classes of functions that might model the relationship
- determine whether a relationship given in symbolic or graphical form is a function
- determine the domain of a function represented in either symbolic or graphical form
- understand functional notation and evaluate a function at a specified point in its domain
- combine functions by addition, subtraction, multiplication and compositions
- graph linear, absolute value, quadratic and exponential functions and identify their key characteristics
- recognize and solve problems that can be modeled using linear, absolute value, quadratic or exponential functions
- extend the ideas of transformations and parametric changes of linear function, such as vertical and horizontal shifts, to transformations of non-linear functions
- see the patterns in arithmetic and geometric sequences using recursion
- see patterns in other sequences (e.g., quadratic, cubic)
- relate the patterns in arithmetic sequences to linear functions
- relate the patterns in geometric sequences to exponential functions
- solve problems that have direct or inverse relationships for any variable

## Big Idea: Algebraic Thinking – Continued

**High School Skills and Concepts – Variables, Expressions and Operations**
*Students will*

- write expressions, equations, inequalities and relations in equivalent forms
- use symbolic algebra to represent and explain mathematical relationships
- use symbolic expressions, including iterative and recursive forms, to represent relationships among various contexts
- judge the meaning, utility and reasonableness of the results of symbol manipulations, including those carried out using technology
- understand the properties of integer exponents and roots and apply these properties to simplify algebraic expressions
- add, subtract and multiply polynomials
- divide a polynomial by a first-degree polynomial
- factor polynomials by removing the greatest common factor
- factor quadratic polynomials
- determine when an expression is undefined
- add, subtract, multiply, divide and simplify rational expressions
- evaluate polynomial and rational expressions and expressions containing radicals and absolute values at specified values of their variables

**High School Skills and Concepts – Equations and Inequalities**
*Students will*

- write equivalent forms of equations, inequalities and systems of equations and inequalities and solve them with fluency - mentally or with paper and pencil in simple cases and using technology in all cases
- draw reasonable conclusions about a situation being modeled
- solve one-variable equations and inequalities using manipulatives, symbols, procedures and graphing, including graphing the solution set on a number line
- solve linear equations and inequalities in one variable including those involving the absolute value of a linear function
- solve an equation involving several variables for one variable in terms of the others
- solve systems of two linear equations in two variables
- solve systems of three linear equations in three variables
- solve quadratic equations in one variable
- approximate and interpret rates of change from graphical and numerical data
- graph a linear equation and demonstrate that it has a constant rate of change
- relate the coefficients of a linear equation and the slope and x- and y-intercepts of its graph
- relate a solution of a system of two linear equations in two variables and the graphs of the corresponding lines
- graph the solution set of a linear inequality and identify whether the solution set is an open or closed half-plane
- graph the solution set of a system of two or three linear inequalities
- read information and draw conclusions from graphs and identify properties of a graph that provide useful information about the original problem
- graph a quadratic function and understand the relationship between its real zeros and the x-intercepts of the graph
- write and solve linear sentences, describing real-world situations by using and relating formulas, tables, graphs and equations
- recognize and solve problems that can be modeled using a linear equation in one variable, a quadratic equation or a system of linear equations
- use the skills learned to solve linear equations and inequalities to solve numerically, graphically or symbolically non-linear equations (e.g., absolute value, quadratic, exponential equations)
- use graphing technology to explore the meaning of quadratic equations with complex solutions

# HIGH SCHOOL PRACTICAL LIVING

## (HEALTH AND PHYSICAL EDUCATION)

# Program of Studies – Practical Living – High School

The purpose of health education is to help students acquire an understanding of health concepts and skills and to apply them in making healthy decisions to improve, sustain and promote personal, family and community health.

The high school health education course provides students with an opportunity to integrate a variety of health concepts, skills and behaviors to plan for their personal health goals. These include prevention of disease and chemical addiction for the promotion of a healthy lifestyle. Students demonstrate comprehensive health knowledge and skills. Their behaviors reflect a conceptual understanding of the issues associated with maintaining good personal health. Students see themselves as having a role in creating a healthy lifestyle for themselves as individuals, for their families and for the larger community. They serve the community through the practice of health-enhancing behaviors that promote wellness throughout life.

Physical Education plays an important role in every student's physical, mental and social well-being. The physically educated student understands and seeks the benefits of a healthy and physically active life. Every student, regardless of physical ability or background, should have the opportunity to pursue and enjoy these benefits, which help to motivate a commitment to fitness throughout life. Physical Education also provides significant opportunities for learning those social skills that are important for cooperation and individual success. Students in high school are proficient in all fundamental movement skills and skill combinations and are competent in self-selected physical activities that they are likely to participate in throughout life. They understand and apply key movement and fitness principles and concepts for all activities in which they demonstrate competence. They develop the ability to understand and anticipate how physical activity interests and abilities change across a lifetime. Students demonstrate competency in a variety lifetime physical activities and plan, implement, self-assess and modify a personal fitness plan.

The Health and Physical Education content standards at the high school level are directly aligned with Kentucky's **Academic Expectations.** The Health and Physical Education standards are organized around five "Big Ideas" that are important to the discipline of health and physical education. These big ideas are: Personal Wellness, Nutrition, Safety, Psychomotor Skills and Lifetime Physical Wellness. The Big Ideas are conceptual organizers for health and physical education and are the same at each grade level. This ensures students have multiple opportunities throughout their school careers to develop skills and concepts linked to the Big Ideas.

Under each Big Idea are statements of Enduring Knowledge/Understandings that represent overarching generalizations linked to health and physical education. The understandings represent the desired results- what learning will focus upon and what knowledge students will be able to explain or apply. Understandings can be used to frame development of units of study and lessons plans.

Skills and concepts describe the ways that students demonstrate their learning and are specific to each grade level. The skills and concepts for health and physical education are fundamental to health literacy and build on prior learning.

The health and physical education program provides a connection to Kentucky's Learning Goals 3 (self-sufficient individuals) and Learning Goal 4 (responsible group member), which are included in Kentucky statue, but they are not included in the state's academic assessment program. These connections provide a comprehensive link between essential content, skills and abilities important to learning. In addition Learning Goal 5 (think and solve problems) and Learning Goal 6 (connect and integrate knowledge) are addressed in health and physical education.

All physical education courses taught in the state of Kentucky must be in compliance with the Federal Special Education Law and Title IX and shall not include practice for or participation in interscholastic athletics.

## Big Idea: Personal Wellness (Health Education)

Wellness is maximum well-being or total health. Personal wellness is a combination of physical, mental, emotional, spiritual and social well-being. It involves making behavioral choices and decisions each day that promote an individual's physical well-being, the prevention of illnesses and diseases and the ability to remain, physically, mentally, spiritually, socially and emotionally healthy.

**Academic Expectations**

**2.29** Students demonstrate skills that promote individual well-being and healthy family relationships.
**2.31** Students demonstrate the knowledge and skills they need to remain physically healthy and to accept responsibility for their own physical well-being.
**2.32** Students demonstrate strategies for becoming and remaining mentally and emotionally healthy.
**3.2** Students demonstrate the ability to maintain a healthy lifestyle.
**4.1** Students effectively use interpersonal skills.
**4.4** Students demonstrate the ability to accept the rights and responsibilities for self and others.
**5.1** Students use critical thinking skills such as analyzing, prioritizing, categorizing, evaluating and comparing to solve a variety of problems in real-life situations.
**5.4** Students use a decision-making process to make informed decisions among options.

**High School Enduring Knowledge – Understandings**

*Students will understand that*

- individuals have a responsibility to advocate for personal, family and community health.
- inter and intrapersonal communication skills are needed to enhance individual well-being and healthy relationships.
- physical, social, emotional and mental changes occur during adolescence and throughout life.
- decisions regarding sexuality have short and long term consequences and responsibilities.
- the environment, lifestyle, family history, peers and other factors impact physical, social, mental and emotional health.
- culture, values (e.g., individual, family and community) media and use of technology (e.g., television, computers, MP3 Players, electronic/arcade games) can influence personal behavioral choices.
- behavioral choices affect physical, mental, emotional and social well-being and can have positive or negative consequences on one's health.
- positive health habits can help prevent injuries and spreading of diseases to self and others.
- self-management and coping strategies can enhance mental and emotional health.
- a variety of resources are available to inform, treat and counsel individuals with physical, mental, social and emotional health needs.

## Big Idea: Personal Wellness (Health Education) – Continued

**High School Skills and Concepts – Personal and Physical Health**
*Students will*

- understand the importance of assuming responsibility for personal health behaviors by:
  - predicting how decisions regarding health behaviors have consequences for self and others
  - explaining how body system functions can be maintained and improved (e.g., exercise, nutrition, safety)
  - explaining how decision-making relates to responsible sexual behavior (e.g., abstinence, preventing pregnancy, preventing HIV/STDs), impacts physical, mental and social well being of an individual
- apply goal-setting and decision-making skills in developing, implementing and evaluating a personal wellness plan
- evaluate the effectiveness of communication methods for expressing accurate health information and ideas
- evaluate how an individual's behaviors and choices of diet, exercise and rest affect the body

**High School Skills and Concepts – Growth and Development**
*Students will*

- explain basic structures and functions of the reproductive system as it relates to the human life cycle (e.g., conception, birth, childhood, adolescence, adulthood)

**High School Skills and Concepts – Social, Mental and Emotional Health**
*Students will*

- demonstrate social interaction skills by:
  - identifying and utilizing management techniques needed for dealing with intrapersonal and interpersonal relationships throughout life
  - using and explaining the importance of effective social interaction skills (e.g., respect, self-advocacy, cooperation, communication, identifying different perspectives and points of view, empathy, friendship)
  - recommending and justifying effective strategies (e.g., problem solving, decision making, refusal skills, anger management, conflict resolution) for responding to stress, conflict, peer pressure and bullying
  - identifying and explaining changes in roles, responsibilities and skills needed to effectively work in groups throughout life (e.g., setting realistic goals, time and task management, planning, decision- making process, perseverance)
- recommend and justify effective self-management and coping strategies (e.g., setting realistic goals, time, task and stress management, decision making, learning style preference, perseverance) for maintaining mental and emotional health
- demonstrate the ability to use various strategies when making decisions related to health needs and risks of young adults
- demonstrate refusal, negotiation and collaboration skills to use in avoiding potential harmful situations

## Big Idea: Personal Wellness (Health Education) – Continued

**High School Skills and Concepts – Family and Community Health**
*Students will*

- access and use a variety of resources from home, school and community that provide valid health information
- understand and analyze how personal, family and community health can be influenced and challenged by:
  - family traditions/values
  - peer pressure
  - technology and media messages
  - cultural beliefs and diversity
  - interrelationships between environmental factors and community health
- use print and non-print sources to:
  - analyze how the prevention and the control of health problems are influenced by research and medical advances
  - investigate the role of health care providers in disease prevention
  - analyze how public health policies and government regulations influence health promotion and disease prevention

**High School Skills and Concepts – Communicable, Non-Communicable and Chronic Diseases Prevention**
*Students will*

- demonstrate an understanding of diseases by:
  - describing symptoms, causes, patterns of transmission, prevention and treatments of communicable diseases (colds, flu, mononucleosis, hepatitis, HIV/STD, tuberculosis)
  - describing symptoms, causes, patterns of transmission, prevention and treatments of non-communicable diseases (cancer, cardiovascular disease, diabetes, obesity, asthma, emphysema)
- explore family history, environment, lifestyle and other risk factors related to the cause or prevention of disease and other health problems
- demonstrate an understanding of how to maintain a healthy body by:
  - analyzing the impact of personal health behaviors on the functioning of body systems
  - analyzing how behavior can impact health maintenance and disease prevention during adolescence and adulthood

**High School Skills and Concepts – Alcohol, Tobacco and Other Drugs**
*Students will*

- demonstrate an understanding of the use and misuse of alcohol, tobacco and other drugs by:
  - distinguishing between legal (e.g., over the counter, prescription drugs) and illegal drugs (e.g., inhalants, marijuana, stimulants, depressants) and describing how their usage affects the body systems
  - predicting the immediate/long-term effects of alcohol, tobacco and illegal drug usage and analyzing the impact on an individual's health
  - recommending interventions (e.g., cease enabling activities), treatments (e.g., AA, outpatient therapy, group therapy) and other strategies (e.g., enhancing self esteem, building skills for success) as forms of help for negative behaviors or addictions (e.g., drug addictions, eating disorders)

## Big Idea: Nutrition (Health Education)

Proper nutrition is critical to good health. To maintain a healthy weight, good dietary habits and physical activity are essential. Nutritious foods are necessary for growth, development and maintenance of healthy bodies.

**Academic Expectations**

**2.30** Students evaluate consumer products and services and make effective consumer decisions.
**2.31** Students demonstrate the knowledge and skills they need to remain physically healthy and to accept responsibility for their own physical well-being.
**3.2** Students will demonstrate the ability to maintain a healthy lifestyle.
**3.5** Students will demonstrate self-control and self-discipline.
**5.1** Students use critical thinking skills such as analyzing, prioritizing, categorizing, evaluating and comparing to solve a variety of problems in real-life situations.
**5.4** Students use decision-making process to make informed decisions among options.

**High School Enduring Knowledge – Understandings**

*Students will understand that*

- nutritional choices affect an individual's physical, mental, emotional and social well being.
- nutrients have a role in the development of an individual's health.
- resources (e.g., Food Guide Pyramid, Dietary Guidelines for Americans, United States Department of Agriculture (USDA), National Dairy Council) are available to assist in making nutritional choices.
- individuals, families and community values influence nutritional choices.

**High School Skills and Concepts**

*Students will*

- create meal plans utilizing print and non-print resources (e.g., Food Guide Pyramid (FGP), Dietary Guidelines for Americans, United States Department of Agriculture (USDA), National Dairy council)
- evaluate healthy nutritional practices (e.g., meal planning, food selection, reading labels, weight control, special nutritional needs) for a variety of dietary needs
- analyze and evaluate the positive and negative impact of food selections on maintaining and promoting health
- identify issues, problems and solutions related to extreme eating behaviors (overeating, obesity, anorexia, bulimia)
- analyze factors (e.g., geography, family, cultural background, convenience, cost, advertising, friends, personal taste) that influence healthy food choices
- evaluate the role of nutrients and food sources in the growth and development of healthy bodies
- evaluate nutritional resources from home, school and community that provide valid health information

## Big Idea: Safety (Health Education)

Accidents are a major cause of injury and death to children and adolescents. Unintentional injuries involving a motor vehicle, falls, drowning, fires, firearms and poisons can occur at home, school and work. Safe behavior protects a person from danger and lessens the effects of harmful situations.

**Academic Expectations**

**2.31** Students demonstrate the knowledge and skills they need to remain physically healthy and to accept responsibility for their own physical well-being.
**2.33** Students demonstrate the skills to evaluate and use services and resources available in their community.
**3.2** Students will demonstrate the ability to maintain a healthy lifestyle.
**4.3** Students individually demonstrate consistent, responsive and caring behavior.
**4.4** Students demonstrate the ability to accept the rights and responsibilities for self and others.
**5.1** Students use skills such as analyzing, prioritizing, categorizing, evaluating and comparing to solve a variety of problems in real-life situations.
**5.4** Students use a decision-making process to make informed decisions among-options.

**High School Enduring Knowledge – Understandings**

*Students will understand that*

- safety practices and procedures help to prevent injuries and provide a safe environment.
- community, state, federal and international resources are available to assist in hazardous situations.
- proper procedures must be used in emergency situations.

**High School Skills and Concepts**

*Students will*

- analyze how responsible use of machinery and motorized vehicles (e.g., all terrain vehicle, motorcycle, automobile, personal watercraft) and firearms reduce the risk of accidents and save lives
- identify and describe potential hazards in home and schools and explain how to prevent injuries
- identify components of safety needed in developing a personal plan for emergency situations (e.g., weather, fire, tornado, lock down) at home or school
- demonstrate proper first-aid procedures (e.g., CPR/rescue breathing) for responding to emergency situations (e.g., falls, drowning, choking, bleeding, shock, poisons, burns, temperature-related emergencies, allergic reactions, broken bones, overdose, heart attacks, seizures) and explain how they help reduce the severity of injuries and save lives
- demonstrate refusal, negotiation and collaboration skills needed to avoid potentially harmful situations
- identify and access the available local, state, federal and international health and safety agencies (e.g., World Health Organization, Peace Corp, Center for Disease Control and Prevention (CDC), Armed Forces) and explain the services they provide
- use reliable safety resources and guidelines to help in avoiding injuries and dangerous situations (e.g., internet use, vehicles, firearms, watercraft)
- demonstrate communications skills needed in emergency situations
- explain safety practices needed when assuming responsibilities (e.g., child care, house-sitting, elderly care, pet care) in caring for animals, property and other individuals

## Big Idea: Psychomotor Skills (Physical Education)

Cognitive information can be used to understand and enhance the development of motor skills such as movement sequences and patterns. Individuals who understand their bodies and how to perform various movements will be safer and more productive in recreation and work activities. Development of psychomotor skills contributes to the development of social and cognitive skills.

**Academic Expectations**

**2.31** Students demonstrate the knowledge and skills they need to remain physically healthy and to accept responsibility for their own physical well-being.
**2.34** Students perform physical movements skills effectively in a variety of settings.
**2.35** Students demonstrate knowledge and skills that promote physical activity and involvement in physical activity throughout lives.
**4.1** Students effectively use interpersonal skills.

**High School Enduring Knowledge – Understandings**

*Students will understand that*

- movement concepts, principles, strategies and tactics apply to the learning and performance of physical activities.
- motor skills and movement patterns allow individuals to perform a variety of physical activities and to achieve a degree of success that make the activities enjoyable.
- basic and advance skills and tactics need to be refined, combined and varied in the development of specialized skills.

**High School Skills and Concepts**

*Students will*

- identify and describe the mechanical principles (e.g., force, rotation, extension, leverage) that apply to movement skills in physical activities
- analyze the contribution mechanical principles have in improving movement performance
- explain how successful performance is impacted by physical, intellectual and emotional behaviors
- provide examples of how basic technical skills can help overcome certain physical limitations (e.g., height, muscle development)
- explain the role the body (e.g., muscles, bones) has in the performance of skills and tactics used in sports and other physical activities
- recognize physical activity as an opportunity for positive social and group interaction
- evaluate how an analysis of specialized movement patterns (e.g., golf club swing, shooting a basketball) and sequence evaluation (e.g., positioning, performing, follow through) can be used to detect and correct errors in performances

## Big Idea: Lifetime Physical Wellness (Physical Education)

Lifetime wellness is health-focused. The health-related activities and content utilized are presented to help students become more responsible for their overall health status and to prepare each student to demonstrate knowledge and skills that promote physical activity throughout their lives. Physical education uses physical activity as a means to help students acquire skills, fitness, knowledge and attitudes that contribute to their optimal development and well-being. Physical, mental, emotional and social health is strengthened by regular involvement in physical activities.

**Academic Expectations**

**2.31** Students demonstrate the knowledge and skills they need to remain physically healthy and to accept responsibility for their own physical well-being.
**2.34** Students perform physical movements skills effectively in a variety of settings.
**2.35** Students demonstrate knowledge and skills that promote physical activity and involvement in physical activity throughout lives.
**3.1** Students demonstrate positive growth in self-concept through appropriate tasks or projects.
**3.2** Students demonstrate the ability to maintain a healthy lifestyle.
**3.7** Students demonstrate the ability to learn on one's own.
**4.2** Students use productive team membership skills.

**High School Enduring Knowledge – Understandings**

*Students will understand that*

- leisure/recreational or competitive physical activities provide opportunities for self-expression, social interactions and can be enjoyable and challenging.
- regular participation in health-enhancing and personally rewarding physical activities has physical, emotional/mental and social benefits.
- techniques, strategies and practice are important for improving performance of sport skills.
- adhering to rules and procedures, etiquette, cooperation and team work, ethical behavior and positive social interaction impacts the effective participation in sports and physical activities.
- basic components of fitness impacts lifetime physical wellness.
- principles and techniques are used to improve/maintain physical fitness levels throughout life.
- an individual needs a personal plan for achieving and maintaining fitness goals.

## Big Idea: Lifetime Physical Wellness (Physical Education) – Continued

**High School Skills and Concepts**
*Students will*

- design and implement a personal lifetime leisure/recreational plan that includes challenging and enjoyable physical activities
- evaluate the personal benefits derived from regular participation in leisure/recreational or competitive physical activities as it relates to the quality and quantity of life
- analyze (e.g., through self-assessment) the relationship between and among effort, persistence, practice and improvement as they relate to skill development
- evaluate the impact of techniques used to improve motor skills (e.g., self-evaluation, individualized coaching, feedback)
- participate regularly in physical activity
- when participating in a variety of physical activities, sports and games:
  - identify and apply rules of behavior and fair play (e.g., accepting authoritative decisions, assessing one's own performance level, accepting skills and abilities of others through verbal and nonverbal actions for spectators and/or participants)
  - analyze the value of rules, fair play, cooperation, sportsmanship, teamwork and conflict resolution
  - develop and compare effectiveness of game strategies for offensive and defensive play
- design, implement, assess and refine a personal fitness plan based on the FITT Principle (Frequency, Intensity, Type, Time)
- compare and contrast lifetime activities (e.g., golf, tennis, walking, dance, yoga, swimming) that improve or maintain the components of fitness (muscular strength, muscular endurance, flexibility, body composition, cardio-respiratory endurance)
- explain how the systems of the body (e.g., muscular, skeletal, nervous, respiratory, circulatory) respond to exercise
- analyze and explain the relationships between caloric intake and caloric expenditure in relation to body composition, nutrition and physical activity

# HIGH SCHOOL SCIENCE

# Program of Studies – Science – High School

The science program in high school should provide opportunities for students to think and work like scientists. Applying factual knowledge in real-world scientific contexts allows students to refine the abilities that are the basis of scientific inquiry. These abilities include: (1) identifying questions and concepts that guide scientific investigations, (2) designing and conducting scientific investigations, (3) using technology and mathematics to improve investigations and communications, (4) formulating and revising scientific explanations and models using logic and evidence, (5) recognizing and analyzing alternative explanations and models and (6) communicating and defending a scientific argument.

Students should have opportunities to work individually and in groups of varying size and composition in order to conduct investigations, process information and discuss/debate important scientific concepts. Students must have regular opportunities to share their ideas with others and to test questions they generate as a result of their learning experiences.

In our technologically advanced society, information gathering must extend beyond the classroom walls and must involve a variety of credible sources. Scientists also place a high value on accurate record keeping and open communication of findings. The science classroom should mirror this by emphasizing multiple, varied and consistent methods of documenting and communicating learning.

The scientific content standards at the high school level are directly aligned with Kentucky's **Academic Expectations**. Science standards are organized around seven “Big Ideas” that are important to the discipline of science. These big ideas are: Structure and Transformation of Matter, Motion and Forces, The Earth and the Universe, Unity and Diversity, Biological Change, Energy Transformations and Interdependence. The Big Ideas are conceptual organizers for science and are the same at each grade level. This ensures students have multiple opportunities throughout their school careers to develop skills and concepts linked to the Big Ideas.

Under each Big Idea are statements of Enduring Knowledge/Understandings that represent overarching generalizations linked to the Big Ideas of science. The understandings represent the desired results - what learning will focus upon and what knowledge students will be able to explain or apply. Understandings can be used to frame development of units of study and lesson plans.

Skills and concepts describe ways that students demonstrate their learning and are specific to each grade level. The skills and concepts for science are fundamental to scientific literacy, scientific inquiry and build on prior learning.

In order to effectively implement the Program of Studies, teachers must have a common understanding of some of the terms referenced throughout this document;

> **Investigate/Explore-** compile a variety of information through hands-on experiences (utilizing process skills such as measuring, observing, questioning, classifying, predicting and inferring) and/or consult a variety of print and non-print media in order to formulate conclusions and/or gather evidence/data.

**Experiment/Test-** conduct a scientifically valid and controlled investigation, collecting and analyzing data. Use findings and conclusions to form logical explanations and openly share.

**Research-** consult of a variety of credible sources of information to gain knowledge, answer questions and support conclusions and explanations.

**Model-** represent a phenomenon or concept. Models are often conceptual in nature, and the term ‘model’ does not always imply a physical product.

## Big Idea: Structure and Transformation of Matter (Physical Science)

A basic understanding of matter is essential to the conceptual development of other big ideas in science. By high school, students will be dealing with evidence from both direct and indirect observations (microscopic level and smaller) to consider theories related to change and conservation of matter. The use of models (and an understanding of their scales and limitations) is an effective means of learning about the structure of matter. Looking for patterns in properties is also critical to comparing and explaining differences in matter.

**Academic Expectations**

**2.1** Students understand scientific ways of thinking and working and use those methods to solve real-life problems.

**2.2** Students identify, analyze, and use patterns such as cycles and trends to understand past and present events and predict possible future events.

**2.4** Students use the concept of scale and scientific models to explain the organization and functioning of living and nonliving things and predict other characteristics that might be observed.

**2.5** Students understand that under certain conditions nature tends to remain the same or move toward a balance.

**High School Enduring Knowledge – Understandings**

*Students will understand that*

- the configuration of atoms in a molecule determines the molecule's properties. Shapes are particularly important in how molecules interact with others.
- an enormous variety of biological, chemical and physical phenomena can be explained by changes in the arrangement and motion of atoms and molecules.
- when elements are listed in order by their number of protons, the same sequence of properties appears over and over again in the list. The structure of the periodic table reflects this sequence of properties, which is caused by the repeating pattern of outermost electrons.
- not all atoms of an element are truly identical. Some may vary in their number of neutrons (isotopes) or electrons (ions). These variations result in properties which are different than the more common forms of that element.
- Changes of state occur when enough energy is added to or removed from the atoms/molecules of a substance to change their average energy of vibration. Most solids expand as they are heated, and if sufficient energy is added the atoms/molecules lose their rigid structure and become free to move past each other as a liquid. In gases the energy of vibration is enough that individual atoms/molecules are free to move independently.
- elements are able to form an almost limitless variety of chemical compounds by the sharing or exchange of their electrons. The rate at which these combinations occur is influenced by a number of variables. The compounds produced may vary tremendously in their physical and chemical properties.
- chemical reactions have a variety of essential real-world applications, such as oxidation and various metabolic processes.
- a system may stay the same because nothing is happening or because things are happening but exactly counterbalance one another.
- accurate record-keeping, openness and replication are essential for maintaining credibility with other scientists and society.

## Big Idea: Structure and Transformation of Matter (Physical Science) – Continued

**High School Skills and Concepts**
*Students will*

- classify samples of matter from everyday life as being elements, compounds, or mixtures
- Investigate the kinetic molecular theory of matter
- construct and/or interpret diagrams that illustrate ionic and covalent bonding
- predict compound formation and bond type as either ionic or covalent
- identify and test variables that affect reaction rates
- use evidence/data from chemical reactions to predict the effects of changes in variables (concentration, temperature, properties of reactants, surface area and catalysts)
- explore the relationships among temperature, particle number, pressure and volume in the Universal Gas Law
- explain the organizational structure (design) and communicate the usefulness of the Periodic Table to determine potential combinations of elements
- investigate the role of intermolecular or intramolecular interactions on the physical properties (solubility, density, polarity, boiling/melting points) of compounds
- relate the chemical behavior of an element, including bonding, to its location on the periodic table
- relate the structure of water to its function as the universal solvent
- design and conduct experiments to determine the conductivity of various materials
- create and/or interpret graphs and equations to depict and analyze patterns of change
- explore real-life applications of a variety of chemical reactions (e.g., acids and bases, oxidation, rusting, tarnishing) and communicate findings/present evidence in an authentic form (transactive writing, public speaking, multimedia presentations)
- generate investigable questions and conduct experiments or non-experimental research to address them, using evidence to defend conclusions

## Big Idea: Motion and Forces (Physical Science)

Whether observing airplanes, baseballs, planets, or people, the motion of all bodies is governed by the same basic rules. At the middle level, qualitative descriptions of the relationship between forces and motion will provide the foundation for quantitative applications of Newton's Laws. These ideas are more fully developed at the high school level along with the use of models to support evidence of motion in abstract or invisible phenomena such as electromagnetism.

**Academic Expectations**

**2.1** Students understand scientific ways of thinking and working and use those methods to solve real-life problems.

**2.2** Students identify, analyze and use patterns such as cycles and trends to understand past and present events and predict possible future events.

**2.3** Students identify and analyze systems and the ways their components work together or affect each other.

**High School Enduring Knowledge – Understandings**

*Students will understand that*

- representing and describing motion in a variety of ways provides data that can be used to construct explanations and make predictions about real-life phenomena.
- the usefulness of a model can be tested by comparing its predictions to actual observations in the real world. But a close match does not necessarily mean that the model is the only "true" model or the only one that would work.
- all motion is relative to whatever frame of reference is chosen, for there is no motionless frame from which to judge all motion.
- the strength of the gravitational force between objects is proportional to the masses and weakens rapidly with increasing distance between them.
- electricity and magnetism are two inseparable aspects of the same force (electromagnetism). Moving electrical charges produce magnetic forces and moving magnetic fields produce electrical forces. Electrical current is due to the motion of charge and has a specific direction.
- electromagnetic forces acting within and between atoms are vastly stronger than the gravitational forces acting between the atoms. At the atomic level, electric forces between oppositely charged electrons and protons hold atoms and molecules together and thus are involved in all chemical reactions. On a larger scale, these forces hold solid and liquid materials together and act between objects when they are in contact—as in sticking or sliding friction.
- the forces that hold the nucleus of an atom together are much stronger than the electromagnetic force. That is why such great amounts of energy are released from the nuclear reactions in the sun and other stars.

## Big Idea: Motion and Forces (Physical Science) – Continued

**High School Skills and Concepts**
*Students will*

- design and conduct investigations involving the motion of objects and report the results in a variety of ways
- investigate Newton's Laws of Motion and Gravitation. Experimentally test inertia and gravitational acceleration
- experimentally test conservation of momentum. Use tables, charts and graphs in making arguments and claims in oral and written presentations
- create and analyze graphs, ensuring that they do not misrepresent results by using inappropriate scales or by failing to specify the axes clearly
- develop investigable questions that guide explorations of the interrelationship between electricity and magnetism
- investigate the attraction and repulsion of electrical charges to predict the behavior of charged objects
- create conceptual and mathematical models of motion and test them against real-life phenomena
- explain why the strength of the nuclear force is responsible for the great energy release involved in nuclear reactions
- predict which forces would be predominant in a given system and explain

## Big Idea: The Earth and the Universe (Earth/Space Science)

The Earth system is in a constant state of change. These changes affect life on Earth in many ways. At the high school level, most of the emphasis is on why these changes occur. An understanding of systems and their interacting components will enable students to evaluate supporting theories of Earth changes. The use of models and observance of patterns to explain common phenomena is essential to building a conceptual foundation and supporting ideas with evidence at all levels. Patterns play an important role as students seek to develop a conceptual understanding of gravity in their world and in the universe. High school is the time to bring all of the ideas together to look at the universe as a whole. Students will use evidence to evaluate and analyze theories related to the origin of the universe and all components of the universe.

**Academic Expectations**

**2.1** Students understand scientific ways of thinking and working and use those methods to solve real-life problems.

**2.2** Students identify, analyze, and use patterns such as cycles and trends to understand past and present events and predict possible future events.

**2.3** Students identify and analyze systems and the ways their components work together or affect each other.

**2.4** Students use the concept of scale and scientific models to explain the organization and functioning of living and nonliving things and predict other characteristics that might be observed.

**High School Enduring Knowledge – Understandings**

*Students will understand that*

- gravity played an essential role in the formation of the universe and is one of the fundamental forces that controls the function of the universe and the systems within it.
- current estimates of the ages of the Earth (4.6 billion years) and the universe (10+ billion years) are based on a variety of measurement techniques that have unique strengths and limitations. The same evidence that establishes the extreme age of the universe also indicates its vastness.
- stars have cycles of birth and death, and the lives of large stars end in explosions that provide the elements to create new stars and planets. All living things on Earth are also formed from this recycled matter.
- the speed of light is dwarfed by the vastness of the universe, resulting in the human view of the sky being essentially a “look back in time” as we view light that was emitted long in the past and has been traveling across the cosmos to reach Earth.
- the shape and location of the continents have been gradually changing for millions of years because density differences inside the mantle result in convection currents. These changes, as well as more rapid ones (e.g. earthquakes, volcanoes, tsunamis) can impact living organisms.
- mathematical models and computer simulations are used in studying evidence from many sources to form a scientific account of the universe.
- scientists rely on increasingly sophisticated methods of measurement in order to investigate a variety of phenomena that were previously immeasurable.
- curiosity, honesty, openness and skepticism are highly regarded in science, and are incorporated into the way science is carried out.

## Big Idea: The Earth and the Universe (Earth/Space Science) -Continued

**High School Skills and Concepts**
*Students will*

- compare methods used to measure the ages of geologic features
- research the historical rise in acceptance of the theory of Plate Tectonics and the geological/biological consequences of plate movement
- analyze the supporting evidence for the nebular theory of formation of the solar system
- analyze the supporting evidence for the Big Bang theory of formation of the universe
- explain the role of gravity in the formation and function of the universe
- investigate, describe and document patterns of interaction of matter and gravity
- describe the life cycle of stars and the products/consequences of their deaths
- explain how technological solutions permit the study of phenomena too faint, small, distant or slow to be directly measured
- employ scientific notation to communicate and compare astronomical phenomena
- explore real-life implications of current findings in Earth/space research and communicate findings in an authentic form, exemplifying the traits of curiosity, honesty, openness and skepticism

## Big Idea: Unity and Diversity (Biological Science)

All matter is comprised of the same basic elements, goes through the same kinds of energy transformations, and uses the same kinds of forces to move. Living organisms are no exception. At the high school level, an in-depth study of the specialization and chemical changes occurring at the cellular level builds upon the foundational ideas developed earlier to investigate deoxyribonucleic acid (DNA) and effects of alterations in DNA for an individual organism as well as for a species. Emphasis at every level should be placed upon the understanding that while every living thing is composed of similar small constituents that combine in predictable ways, it is the subtle variations within these small building blocks that account for both the likenesses and differences in form and function that create the diversity of life.

**Academic Expectations**

**2.1** Students understand scientific ways of thinking and working and use those methods to solve real-life problems.

**2.3** Students identify and analyze systems and the ways their components work together or affect each other.

**2.4** Students use the concept of scale and scientific models to explain the organization and functioning of living and nonliving things and predict other characteristics that might be observed.

**2.5** Students understand that under certain conditions nature tends to remain the same or move toward a balance.

**High School Enduring Knowledge – Understandings**

*Students will understand that*

- the many body cells in an individual can be very different from one another even though they are all descended from a single cell and thus have essentially identical genetic instructions. Different parts of the instructions are used in different types of cells.
- within every cell are specialized parts for the transport of materials, energy transfer, protein building, waste disposal, information feedback and even movement. In addition, most cells in multi-cellular organisms perform specialized functions that others do not.
- DNA, composed of 4 nucleic acids, serves as the blueprint for the production of a variety of proteins. These dynamic and complicated proteins facilitate practically every function/process that occurs within the cell.
- the information passed from parents to offspring is coded in DNA molecules. The sorting and recombination of genes through sexual reproduction results in a great variety of gene combinations that can be used to make predictions about the potential traits of offspring.
- some new gene combinations make little difference, some can produce offspring with new and perhaps enhanced capabilities, while some may reduce the ability of the offspring to survive.
- the degree of kinship between organisms or species can be estimated from the similarity of their DNA sequences, which often closely matches their classification based on anatomical similarities.
- in all organisms and viruses, the instructions for specifying the characteristics are carried in nucleic acids. The chemical and structural properties of nucleic acids determine how the genetic information that underlies heredity is both encoded in genes and replicated.

## Big Idea: Unity and Diversity (Biological Science) – Continued

**High School Skills and Concepts**
*Students will*

- analyze the parts within a cell responsible for particular processes and create analogous models for those processes
- identify a variety of specialized cell types and describe how these differentiated cells contribute to the function of an individual organism as a whole
- investigate the role of genes/chromosomes in the passing of information from one generation to another (heredity)
- graphically represent (e.g., pedigrees, punnet squares) and predict the outcomes of a variety of genetic combinations
- investigate the roles of genetic mutation and variability in contributing to the survival of offspring
- describe the structure of DNA and explain its role in protein synthesis, cell replication and reproduction
- describe and classify a variety of chemical reactions required for cell functions
- describe the processes by which cells maintain their internal environments within acceptable limits
- compare internal, external and metabolic characteristics of organisms in order to classify them into groups using taxonomic nomenclature to describe and justify these classifications
- compare the structures and functions of viruses to cells and describe the role of viruses in causing a variety of diseases or conditions (e.g., AIDS, common cold, smallpox, warts)
- identify and investigate areas of current research/innovation in biological science. Make inferences/predictions of the effects of this research on society and/or the environment and support or defend these predictions with scientific data

## Big Idea: Biological Change (Biological Science)

The only thing certain is that everything changes. At the high school level, students evaluate the role natural selection plays in the diversity of species. Modern ideas of evolution provide a scientific explanation for three main sets of observable facts about life on Earth: the enormous number of different life forms we see about us, the systematic similarities in anatomy and molecular chemistry we see within that diversity, and the sequence of changes in fossils found in successive layers of rock that have been formed over more than a billion years.

**Academic Expectations**

**2.1** Students understand scientific ways of thinking and working and use those methods to solve real-life problems.

**2.2** Students identify, analyze, and use patterns such as cycles and trends to understand past and present events and predict possible future events.

**2.5** Students understand that under certain conditions nature tends to remain the same or move toward a balance.

**2.6** Students understand how living and nonliving things change over time and the factors that influence the changes.

**High School Enduring Knowledge – Understandings**

*Students will understand that*

- the survival of any given species is not assured. There are a variety of factors (e.g. reproductive success, mutation, availability of resources, competition) that may determine if a species flourishes, declines, or eventually becomes extinct.
- the Earth's present-day species developed from earlier, distinctly different species through a process of natural selection. All living things share a common genetic heritage.
- some organisms have greater adaptive capabilities than others, giving them a greater chance of survival under changing environmental conditions. These adaptations may be patterns of behavior as well as physical characteristics.
- the endangerment/ and/or extinction of a species cannot be slowed or prevented without sufficient data to model the interactions of the factors involved.
- in science the term theory is reserved to describe only those ideas that have been well tested through scientific investigation. Scientific theories are judged by how well they fit with other theories, the range of observations they explain, how well they explain observations and their usefulness in predicting new findings. Scientific theories usually grow slowly through contributions from many investigators.

**High School Skills and Concepts**

*Students will*

- identify evidence of change in species using fossils, DNA sequences, anatomical similarities, physiological similarities and embryology
- explain the role of natural selection in speciation, adaptation, diversity and phylogeny
- compare variations, tolerances and adaptations (behavioral and physiological) of plants and animals in different biomes
- generate possible solutions to real-world problems of endangered and extinct species and predict the impact of a variety of change
- predict the likelihood of survival for a variety of existing species based upon predicted changes in environmental conditions (e.g., global warming, continental drift) and propose methods to prevent the extinction of species with insufficient ability to adapt
- distinguish between a scientific law, theory, hypothesis and unsupported supposition/claim
- investigate the historical development and revision of a variety of accepted scientific laws, theories and claims

## Big Idea: Energy Transformations (Unifying Concepts)

Energy transformations are inherent in almost every system in the universe—from tangible examples at the elementary level, such as heat production in simple Earth and physical systems to more abstract ideas beginning at middle school, such as those transformations involved in the growth, dying and decay of living systems. The use of models to illustrate the often invisible and abstract notions of energy transfer will aid in conceptualization, especially as students move from the macroscopic level of observation and evidence (primarily elementary school) to the microscopic interactions at the atomic level (middle and high school levels). Students in high school expand their understanding of constancy through the study of a variety of phenomena. Conceptual understanding and application of the laws of thermodynamics connect ideas about matter with energy transformations within all living, physical and Earth systems.

**Academic Expectations**

**2.1** Students understand scientific ways of thinking and working and use those methods to solve real-life problems.

**2.2** Students identify, analyze, and use patterns such as cycles and trends to understand past and present events and predict possible future events.

**2.3** Students identify and analyze systems and the ways their components work together or affect each other.

**2.4** Students use the concept of scale and scientific models to explain the organization and functioning of living and nonliving things and predict other characteristics that might be observed.

**2.5** Students understand that under certain conditions nature tends to remain the same or move toward a balance.

## Big Idea: Energy Transformations (Unifying Concepts) – Continued

**High School Enduring Knowledge – Understandings**
*Students will understand that*

- transformations that occur within the nuclei of atoms release vastly greater energy than those that involve only electrons, and result in the emission of radiation and/or transformation of elements.
- while the total amount of energy in the universe is constant, the amount that is available for useful transformations is always decreasing. Systems within the universe will cease to function once the energy differential becomes zero.
- waves, including electromagnetic radiation, are an important form of energy transfer. Waves are governed by rules that can be investigated and used to predict/explain their behavior.
- many elements and compounds are involved in continuous cyclic processes where they are stored by and/or flow between organisms and the environment. These processes require a continuous supply of energy to occur.
- radiant energy from the sun is stored in a chemical form in plants as a result of photosynthesis. This energy transformation allows plants to use simple molecules, such as carbon dioxide and water, to assemble the complex molecules needed to increase their mass.
- energy stored in food is released by a series of internal chemical reactions that reorganize the molecules into a form useable by the organism.
- a variety of carbon compounds are essential to the processes that occur in all organisms.
- heat is a manifestation of the random motion and vibrations of atoms or molecules within a substance. Interactions between or among atoms or molecules naturally move toward states of higher disorder.
- many different sources of energy are used for a variety of purposes, including powering machines designed to do useful work. Regardless of function or energy source, the useful energy output of any machine is always less than the total energy input.
- all Earth systems/processes require either an internal or external source of energy to function. Changes to any component, or to the quantity or type of energy input, may influence all components of the system.
- weather and climate are the direct or indirect result of transfer of solar energy, and changes in one part of the system may influence all of the others. The complexity of the system and the number of variables involved requires very complex mathematical models in order to make accurate predictions.
- technological problems often create a demand for new scientific knowledge, and new technologies make it possible for scientists to conduct their research more effectively or to conduct new lines of research. The availability of new technology often sparks scientific advances.
- technology affects society because it solves practical problems and serves human needs. Science affects society by stimulating thought or satisfying curiosity, or by influencing views of the world, or by providing knowledge necessary for new technological advances.

## Big Idea: Energy Transformations (Unifying Concepts) – Continued

**High School Skills and Concepts**
*Students will*

- classify and describe nuclear reactions and their products
- investigate the forces inside the nucleus and evaluate the risk/benefits of nuclear energy
- apply the law of conservation of energy and explore heat flow in real-life phenomena
- investigate waves, the rules describing wave behavior and energy transfer via waves in real life phenomena (e.g., nuclear medicine, industrial applications)
- investigate the flow of matter and energy between organisms and the environment and model the cyclic nature of this process
- explain the metabolic process of photosynthesis and describe the molecules it assembles to store solar energy
- describe the metabolic processes that allow energy stored in food to be made available to the organism
- explore the composition and function of the carbon compounds involved in metabolism
- apply the concept of entropy to molecular interactions and to interactions within the universe
- analyze a variety of energy sources, their potential uses and their relative costs/benefits
- investigate the relationship of energy input vs. useful energy output in mechanical systems
- model and explain the relationships and energy flow existing in various Earth systems
- use weather data to model the complex interactions responsible for weather and climate
- describe how science and technology interact. Research and investigate the impact of technology on society and how technological advances have driven scientific research

## Big Idea: Interdependence (Unifying Concepts)

It is not difficult for students to grasp the general notion that species depend on one another and on the environment for survival. But their awareness must be supported by knowledge of the kinds of relationships that exist among organisms, the kinds of physical conditions that organisms must cope with, the kinds of environments created by the interaction of organisms with one another and their physical surroundings, and the complexity of such systems At the high school level, the concept of an ecosystem should bring coherence to the complex array of relationships among organisms and environments that students have encountered. Students growing understanding of systems in general will reinforce the concept of ecosystems. Stability and change in ecosystems can be considered in terms of variables such as population size, number and kinds of species, productivity and the effect of human intervention.

**Academic Expectations**

**2.1** Students understand scientific ways of thinking and working and use those methods to solve real-life problems.

**2.2** Students identify, analyze, and use patterns such as cycles and trends to understand past and present events and predict possible future events.

**2.3** Students identify and analyze systems and the ways their components work together or affect each other.

**2.4** Students use the concept of scale and scientific models to explain the organization and functioning of living and nonliving things and predict other characteristics that might be observed.

**High School Enduring Knowledge – Understandings**

*Students will understand that*

- human beings are part of the Earth's ecosystems. Human activities can, deliberately or inadvertently, alter the equilibrium in ecosystems.
- unique among organisms, humans have the capability to impact other species on a global scale both directly (e.g. selective breeding, genetic engineering, foreign species introductions) and indirectly (e.g. habitat crowding, pollution, climate change).
- the appearance of new species always impacts the environment. In some cases this impact can have global and profound significance (e.g. when ancient bacteria transformed the atmosphere to an oxygen-rich environment).
- every ecosystem contains natural checks and balances, both biotic and abiotic, that serve to limit the size and range of the populations contained within it.
- human creativity, inventiveness and ingenuity have brought new risks as well as improvements to human existence. People control technology and are ultimately responsible for its effects.
- science/technology occasionally provides the means to do questionable things. Decisions about doing these things require exercising a sense of responsibility. Just because something can be done does not mean it should be done.
- the critical assumptions behind any line of reasoning must be made explicit, so that the validity of the position being taken can be judged.

## Big Idea: Interdependence (Unifying Concepts) – Continued

**High School Skills and Concepts**
*Students will*

- explore ways to eradicate or lessen environmental problems caused by human interaction (e.g., examine programs for habitat restoration or wildlife protection, automotive/industrial emissions standards)
- investigate changes in ecosystems and propose potential solutions to problems by documenting and communicating solutions to others through multi-media presentations
- analyze and describe the effects of events (e.g., fires, hurricanes, deforestation, mining, population growth and municipal development) on environments from a variety of perspectives. Use data to propose ways of lessening impacts perceived as negative
- examine existing models of global population growth and the factors affecting population change (e.g., geography, diseases, natural events, birth/death rates). Propose and defend solutions to identified problems of population change
- analyze examples of environmental changes resulting from the introduction, removal, or reintroductions of indigenous or non-indigenous species to an ecosystem. Use information to predict future impacts of similar changes in other ecosystems
- analyze and synthesize research, for questions about, theories and related technologies that have advanced our understanding of interdependence
- explore the causes, consequences and possible solutions to persistent, contemporary and emerging global issues relating to environmental quality
- Investigate controversial scientific proposals (e.g., human cloning, genetic modification of crops, nuclear waste storage), use scientific evidence/data to support or defend a position and debate the ethical merits of implementing the proposed actions

# HIGH SCHOOL SOCIAL STUDIES

# Program of Studies – Social Studies – High School

Districts and schools can arrange the essential high school social studies content within the three-credit requirement to best meet the needs of their students. A local board of education may substitute an integrated, applied, interdisciplinary, or higher level course for a required course if the alternative course provides rigorous content and addresses the same academic expectations.

The primary purpose of social studies is to help students develop the ability to make informed and reasoned decisions for the public good as citizens of a culturally diverse, democratic society in an interdependent world. The skills and concepts found throughout this document reflect this purpose by promoting the belief that students must develop more than an understanding of content. They must also be able to apply the content perspectives of the several academic fields of the social studies to personal and public experiences. By stressing the importance of both content knowledge and its application, the social studies curriculum in Kentucky provides a framework that promotes citizenship for all of our students.

The social studies content standards at the high school level are directly aligned with Kentucky's **Academic Expectations**. Social Studies standards are organized around five “Big Ideas” that are important to the discipline of social studies. The five Big Ideas in social studies are: Government and Civics, Cultures and Societies, Economics, Geography and Historical Perspective. The Big Ideas, which are more thoroughly explained in the pages that follow, are conceptual organizers that are the same at each grade level. This consistency ensures students have multiple opportunities throughout their school careers to develop skills and concepts linked to the Big Ideas.

Under each Big Idea are statements of Enduring Knowledge/Understandings that represent overarching generalizations linked to the Big Ideas of social studies. The understandings represent the desired results - what learning will focus upon and what knowledge students will be able to explain or apply. Understandings can be used to frame development of units of study and lesson plans.

Skills and concepts describe ways that students demonstrate their learning and are specific to each grade level. The skills and concepts for social studies are fundamental to social studies literacy and build on prior learning.

The social studies program includes strong literacy connections, active, hands-on work with concrete materials, and appropriate technologies. The social studies curriculum includes and depends on a number of different types of materials such as textbooks, non-fiction texts, biographies, autobiographies, journals, maps, newspapers, photographs and primary documents. Higher order thinking skills, such as compare, explain, analyze, predict, construct and interpret, are all heavily dependent on a variety of literacy skills and processes. For example, in social studies students must be able to understand specialized vocabulary, identify and comprehend key pieces of information within texts, determine what is fact and what is opinion, relate information across texts, connect new information to prior knowledge and synthesize the information to make meaning.

Although the social studies program for the high school is divided into five areas, each area is designed to interact with the others in an integrated fashion. Because of this integration, students are able to develop broad conceptual understandings in social studies. This style of learning reflects the developmental nature of children.

## Big Idea: Government and Civics

The study of government and civics equips students to understand the nature of government and the unique characteristics of American democracy, including its fundamental principles, structure, and the role of citizens. Understanding the historical development of structures of power, authority, and governance and their evolving functions in contemporary U.S. society and other parts of the world is essential for developing civic competence. An understanding of civic ideals and practices of citizenship is critical to full participation in society and is a central purpose of the social studies.

**Academic Expectations**

**2.14** Students understand the democratic principles of justice, equality, responsibility, and freedom and apply them to real-life situations.

**2.15** Students can accurately describe various forms of government and analyze issues that relate to the rights and responsibilities of citizens in a democracy.

**High School Enduring Knowledge – Understandings**

*Students will understand that*

- people form governments to establish order, provide security and accomplish common goals. Governments in the world vary in terms of their sources of power, purposes and effectiveness.
- the Government of the United States, established by the Constitution, embodies the purposes, values and principles (e.g., liberty, justice, individual human dignity, the rules of law) of American democracy.
- the Constitution of the United States establishes a government of limited powers that are shared among different levels and branches. The flexible nature of the U.S. Constitution has allowed our government to change over time to meet the changing needs of our society.
- all citizens of the United States have certain rights and responsibilities as members of a democratic society.
- individual rights in a democracy may, at times, be in conflict with others' individual rights, as well as with the responsibility of government to protect the "common good."
- the United States does not exist in isolation; its democratic form of government has played and continues to play a considerable role in our interconnected world.
- the level of individual civic engagement in a democracy can impact the government's effectiveness.
- the development and ongoing functions of a political system (e.g., elections, political parties, campaigns, political identity and culture, the role of the media) is necessary for a democratic form of government to be effective.

## Big Idea: Government and Civics – Continued

**High School Skills and Concepts**
*Students will*

- demonstrate an understanding (e.g., illustrate, write, model, present, debate) of the nature of government:
  - examine ways that democratic governments do or do not preserve and protect the rights and liberties of their constituents (e.g., U.N. Charter, Declaration of the Rights of Man, U.N. Declaration of Human Rights, U.S. Constitution)
  - compare purposes and sources of power of various forms of government in the world, and analyze their effectiveness in establishing order, providing security and accomplishing goals
  - evaluate the relationship between and among the U.S. government's response to contemporary issues and societal problems (e.g., education, welfare system, health insurance, childcare, crime) and the needs, wants and demands of its citizens (e.g., individuals, political action committees, special interest groups, political parties)
  - examine conflicts within and among different governments and analyze their impacts on historical or current events
- examine issues related to the intent of the Constitution of the United States and its amendments:
  - explain the principles of limited government (e.g., rule of law, federalism, checks and balances, majority rule, protection of minority rights, separation of powers) and how effective these principles are in protecting individual rights and promoting the "common good”
  - analyze how powers of government are distributed and shared among levels and branches, and how this distribution of powers works to protect the "common good" (e.g., Congress legislates on behalf of the people, the President represents the people as a nation, the Supreme Court acts on behalf of the people as a whole when it interprets the Constitution)
- investigate the rights of individuals (e.g., Freedom of Information Act, free speech, civic responsibilities in solving global issues) to explain how those rights can sometimes be in conflict with the responsibility of the government to protect the "common good" (e.g., homeland security issues, environmental regulations, censorship, search and seizure), the rights of others (e.g., slander, libel), and civic responsibilities (e.g., personal belief/responsibility versus civic responsibility)
- evaluate the impact citizens have on the functioning of a democratic government by assuming responsibilities (e.g., seeking and assuming leadership positions, voting) and duties (e.g., serving as jurors, paying taxes, complying with local, state and federal laws, serving in the armed forces)
- analyze and synthesize a variety of information from print and non-print sources (e.g., books, documents, articles, interviews, Internet, film, media) to research issues, perspectives and solutions to problems

## Big Idea: Cultures and Societies

Culture is the way of life shared by a group of people, including their ideas and traditions. Cultures reflect the values and beliefs of groups in different ways (e.g., art, music, literature, religion); however, there are universals (e.g., food, clothing, shelter, communication) connecting all cultures. Culture influences viewpoints, rules and institutions in a global society. Students should understand that people form cultural groups throughout the United States and the World, and that issues and challenges unite and divide them.

**Academic Expectations**

**2.16** Students observe, analyze, and interpret human behaviors, social groupings, and institutions to better understand people and the relationships among individuals and among groups.

**2.17** Students interact effectively and work cooperatively with the many ethnic and cultural groups of our nation and world.

**High School Enduring Knowledge – Understandings**

*Students will understand that*

- culture is a system of beliefs, knowledge, institutions, customs/traditions, languages and skills shared by a group. Through a society's culture, individuals learn the relationships, structures, patterns and processes to be members of the society.
- social institutions (e.g., government, economy, education, religion, family) respond to human needs, structure society, and influence behavior within different cultures.
- interactions among individuals and groups assume various forms (e.g., compromise, cooperation, conflict, competition) and are influenced by culture.
- culture affects how people in a society behave in relation to groups and their environment.
- a variety of factors promote cultural diversity in a society, a nation, and the world.
- an appreciation of the diverse nature of cultures is essential in our global society.

**High School Skills and Concepts**

*Students will*

- demonstrate an understanding of the nature of culture:
  - analyze cultural elements of diverse groups in the United States (Reconstruction to present)
  - describe how belief systems, knowledge, technology, and behavior patterns define cultures
  - analyze historical perspectives and events in the modern world (1500 A.D./C.E. to present) and United States (Reconstruction to present) in terms of how they have affected and been affected by cultural issues and elements
- describe and compare how various human needs are met through interactions with and among social institutions (e.g., family, religion, education, government, economy) in the modern world (1500 A.D./C.E. to present) and the United States (Reconstruction to present)
- explain or give examples of how communications between groups can be influenced by cultural differences; explain the reasons why conflict and competition (e.g., violence, difference of opinion, stereotypes, prejudice, discrimination, genocide) developed as cultures emerged in the modern world (1500 A.D./C.E. to present) and in the United States (Reconstruction to present)
- describe how compromise and cooperation are characteristics that influence interaction (e.g., peace studies, treaties, conflict resolution) in the modern world (1500 A.D./C.E. to present) and the United States (Reconstruction to present)
- compare examples of cultural elements (e.g., beliefs, customs/traditions, languages, skills, literature, the arts) of diverse groups today to those of the past, using information from a variety of print and non-print sources (e.g., autobiographies, biographies, documentaries, news media, artifacts)

## Big Idea: Economics

Economics includes the study of production, distribution and consumption of goods and services. Students need to understand how their economic decisions affect them, others, the nation and the world. The purpose of economic education is to enable individuals to function effectively both in their own personal lives and as citizens and participants in an increasingly connected world economy. Students need to understand the benefits and costs of economic interaction and interdependence among people, societies, and governments.

**Academic Expectations**

**2.18** Students understand economic principles and are able to make economic decisions that have consequences in daily living.

**High School Enduring Knowledge – Understandings**

*Students will understand that*

- the basic economic problem confronting individuals, societies and governments is scarcity; as a result of scarcity, economic choices and decisions must be made.
- economic systems are created by individuals, societies and governments to achieve broad goals (e.g., security, growth, freedom, efficiency, equity).
- markets (e.g., local, national, global) are institutional arrangements that enable buyers and sellers to exchange goods and services.
- all societies deal with questions about production, distribution and consumption.
- a variety of fundamental economic concepts (e.g., supply and demand, opportunity cost) affect individuals, societies and governments.
- our global economy provides for a level of interdependence among individuals, societies and governments of the world.
- the United States Government and its policies play a major role in the performance of the U.S. economy at both the national and international levels.
- in a global economy, interdependence results in economic conditions and policies in one nation affecting economic conditions in other nations.

## Big Idea: Economics – Continued

**High School Skills and Concepts**
*Students will*

- demonstrate an understanding of the nature of limited resources and scarcity in the modern world (1500 A.D./C.E. to present) and the United States (Reconstruction to present):
  - explain how scarcity of resources necessitates choices at both the personal and societal levels, and explain the impact of those choices
  - explain how governments with limited budgets consider revenues, costs and opportunity when planning expenditures
  - describe how economic institutions (e.g., corporations, labor unions, banks, stock markets, cooperatives, partnerships) help to deal with scarcity
- compare and contrast economic systems (e.g., traditional, command, market, mixed), and evaluate their effectiveness in achieving broad social goals (e.g., freedom, efficiency, equity, security)
- analyze free enterprise systems, and explain strategies for maximizing profits based on different roles in the economy (e.g., producers, entrepreneurs, workers, savers and investors)
- describe relationships between and among markets (e.g., local, national, global) and exchange of goods and services:
  - explain factors that influence the supply and demand of products (e.g., supply—technology, cost of inputs, number of sellers; demand—income, utility, price of similar products, consumers' preferences)
  - describe how financial and non-financial incentives influence individuals differently (e.g., discounts, sales promotions, trends, personal convictions)
  - explain or model cause-effect relationships between the level of competition in a market and the number of buyers and sellers
  - research laws and government mandates (e.g., anti-trust legislation, tariff policy, regulatory policy) and analyze their purposes and effects in the United States and in the global marketplace
- investigate the production, distribution, and consumption of goods and services:
  - analyze changing relationships between and among business, labor and government (e.g., unions, anti-trust laws, tariff policy, price controls, subsidies, tax incentives), and examine the effects of those changing relationships on production, distribution and consumption in the United States
  - describe how different factors (e.g., new knowledge, technological change, investments in capital goods and human capital/resources) have increased productivity in the world
- explain results and issues related to interdependence of personal, national and international economic activities (e.g., natural resource dependencies, economic sanctions, environmental and humanitarian issues) in the modern world (1500 A.D./C.E. to present) and the United States (Reconstruction to present):
  - analyze how economies of nations around the world (e.g., China, India, Japan) affect and are affected by American economic policies

## Big Idea: Geography

Geography includes the study of the five fundamental themes of location, place, regions, movement and human/environmental interaction. Students need geographic knowledge to analyze issues and problems to better understand how humans have interacted with their environment over time, how geography has impacted settlement and population, and how geographic factors influence climate, culture, the economy and world events. A geographic perspective also enables students to better understand the past and present and to prepare for the future.

**Academic Expectations**

**2.19** Students recognize and understand the relationship between people and geography and apply their knowledge in real-life situations.

**High School Enduring Knowledge – Understandings**

*Students will understand that*

- patterns emerge as humans move, settle and interact on Earth's surface, and can be identified by examining the location of physical and human characteristics, how they are arranged, and why they are in particular locations. Economic, political, cultural and social processes interact to shape patterns of human populations, interdependence, cooperation and conflict.
- regions help us to see the Earth as an integrated system of places and features organized by such principles as landform types, political units, economic patterns and cultural groups. People vary in how they organize, interpret and use information about places and regions.
- human actions modify the physical environment and, in turn, the physical environment limits or promotes human activities.
- human and physical features of the Earth's surface can be identified by absolute and relative location.
- the use of maps, geographic tools, and mental maps helps interpret information, analyze patterns and spatial data, predict consequences and find/propose solutions to world problems.
- citizens in an interdependent global community impact their physical environments through the use of land and other resources.
- environmental changes and physical and human geographic factors have influenced world economic, political, and social conditions.
- many of the important issues facing societies involve the consequences of interactions between human and physical systems. Complex interrelationships between societies and their physical environments influence conditions locally, regionally and globally.

## Big Idea: Geography – Continued

**High School Skills and Concepts**
*Students will*

- use a variety of geographic tools (e.g., maps, globes, charts, graphs, photographs, models, data bases, satellite images):
  - analyze the distribution of physical and human features on Earth's surface
  - interpret patterns and develop rationales for the location and distribution of Earth's human features (e.g., available transportation, location of resources and markets, individual preference, centralization versus dispersion)
- investigate regions of the Earth's surface using information from print and non-print sources (e.g., books, films, periodicals, Internet, geographic tools, news media):
  - interpret how places and regions serve as meaningful symbols for individuals and societies (e.g., Jerusalem, Vietnam Memorial, Ellis Island, the Appalachian region)
  - analyze pros and cons of physical (e.g., climate, mountains, rivers) and human characteristics (e.g., interstate highways, urban centers, workforce) of regions in terms of human activity
  - evaluate reasons for stereotypes (e.g., all cities are dangerous and dirty; rural areas are poor) associated with places or regions
  - explain how cultural differences and perspectives sometimes result in conflicts in the modern world (1500 A.D./C.E. to present) and United States (Reconstruction to present)
- describe movement and settlement patterns in the modern world (1500 A.D./C.E. to present) and United States (Reconstruction to present):
  - analyze the causes of movement and settlement (e.g., famines, military conflicts, climate, economic opportunity) and their impacts in different places and at different times in history
  - explain how technology has facilitated the movement of goods, services and populations, increased economic interdependence, and influenced development of centers of economic activity (e.g., cities, interstate highways, airports, rivers, railroads, computers, telecommunications)
- investigate interactions among human activities and the physical environment in the modern world (1500 A.D./C.E. to present) and United States (Reconstruction to present):
  - describe human strategies (e.g., transportation, communication, technology) used to overcome limits of the physical environment
  - interpret and analyze possible global effects (e.g., global warming, destruction of the rainforest, acid rain) of human modifications to the physical environment (e.g., deforestation, mining), perspectives on the use of natural resources (e.g., oil, water, land), and natural disasters (e.g., earthquakes, tsunamis, floods)

## Big Idea: Historical Perspective

History is an account of events, people, ideas, and their interaction over time that can be interpreted through multiple perspectives. In order for students to understand the present and plan for the future, they must understand the past. Studying history engages students in the lives, aspirations, struggles, accomplishments and failures of real people. Students need to think in an historical context in order to understand significant ideas, beliefs, themes, patterns and events, and how individuals and societies have changed over time in Kentucky, the United States and the World.

**Academic Expectations**

**2.20** Students understand, analyze, and interpret historical events, conditions, trends, and issues to develop historical perspective.

**High School Enduring Knowledge – Understandings**

*Students will understand that*

- history is an account of human activities that is interpretive in nature, and a variety of tools (e.g., primary and secondary sources, data, artifacts) are needed to analyze historical events.
- history is a series of connected events shaped by multiple cause-effect relationships, tying past to present.
- geography and natural resources have a significant impact on historical perspectives and events.
- advances in research, science and technology have a significant impact on historical events, American society, and the global community.

**High School Understandings (specific to United States History, from Reconstruction to the Present)**

- U.S. History can be analyzed by examining significant eras (Reconstruction, Industrialization, Progressive Movement, World War I, Great Depression and the New Deal, World War II, Cold War, Contemporary United States) to develop chronological understanding and recognize cause-and-effect relationships and multiple causation.
- U.S. History has been impacted by significant individuals and groups.
- each era in the history of the United States has social, political and economic characteristics.
- the role of the United States in the global community has evolved into that of a world power.

**High School Understandings (specific to World Civilizations History, 1500 A.D./C.E. to the Present)**

- world civilizations (e.g., African, Asian, European, Latin American, Middle Eastern) can be analyzed by examining significant eras (Renaissance, Reformation, Age of Exploration, Age of Revolution, Nationalism and Imperialism, Technological Age, 21st Century) to develop chronological understanding and recognize cause-effect relationships and multiple causation.
- world civilizations share common characteristics (e.g., government, belief system, economy) and have been impacted by significant individuals and groups.
- each era in the history of the world has social, political and economic characteristics.
- an increasingly interdependent world provides challenges and opportunities.

## Big Idea: Historical Perspective – Continued

**High School Skills and Concepts**
*Students will*

- demonstrate an understanding of the interpretative nature of history using a variety of tools (e.g., primary and secondary sources, Internet, timelines, maps, data):
  - investigate and analyze perceptions and perspectives (e.g., gender, race, region, ethnic group, nationality, age, economic status, religion, politics, geographic factors) of people and historical events in the modern world (world civilizations, U.S. history)
  - examine multiple cause-effect relationships that have shaped history (e.g., showing how a series of events are connected)
- analyze how the United States participates with the global community to maintain and restore world peace (e.g., League of Nations, United Nations, Cold War politics, Persian Gulf War), and evaluate the impact of these efforts
- research issues or interpret accounts of historical events in U.S. history using primary and secondary sources (e.g., biographies, films, periodicals, Internet resources, textbooks, artifacts):
  - compare, contrast and evaluate the approaches and effectiveness of Reconstruction programs
  - explain how the rise of big business, factories, mechanized farming, and the labor movement have impacted the lives of Americans
  - examine the impact of massive immigration (e.g., new social patterns, conflicts in ideas about national unity amid growing cultural diversity) after the Civil War
  - explain and evaluate the impact of significant social, political and economic changes (e.g., imperialism to isolationism, industrial capitalism, urbanization, political corruption, initiation of reforms) during the Progressive Movement, World War I and the Twenties
  - evaluate how the Great Depression, New Deal policies, and World War II transformed America socially and politically at home (e.g., stock market crash, relief, recovery, reform initiatives, increased role of government in business, influx of women into workforce, rationing) and reshaped its role in world affairs (emergence of the U.S. as economic and political superpower)
  - analyze economic growth in America after WWII (e.g., suburban growth), struggles for racial and gender equality (e.g., Civil Rights Movement), the extension of civil liberties, and conflicts over political issues (e.g., McCarthyism, U.S. involvement in Vietnam)

## Big Idea: Historical Perspective – Continued

- research issues or interpret accounts of historical events in world history using primary and secondary sources (e.g., biographies, films, periodicals, Internet resources, textbooks, artifacts):
  - explain how ideas of the Classical Age (e.g., humanism, developments in art and architecture, literature, political theories, rediscovery of Greco-Roman philosophies) impacted people's perspectives during the Renaissance and Reformation
  - analyze how new ideas and technologies of the Age of Exploration by Europeans brought great wealth to the absolute monarchies and resulted in political, economic and social changes (e.g., disease, religious ideas, technologies, new plants/animals, forms of government) to the other regions of the world
  - investigate how political, social and cultural revolutions (e.g., French, Industrial, Bolshevik, Chinese) brought about changes in science, thought, government, or industry and had long-range impacts on the modern world
  - examine how nationalism, militarism, expansionism and imperialism led to conflicts (e.g., World War I, Japanese aggression in China and the Pacific, European imperialism in Africa, World War II) and the rise of totalitarian governments (e.g., Communism in Russia, Fascism in Italy, Nazism in Germany)
  - analyze the impact of the rise of both the United States and the Soviet Union to superpower status following World War II, development of the Cold War, and the formation of new nations in Africa, Asia, Eastern Europe, and the Middle East
  - examine how countries around the world have addressed the challenges of rapid social, political and economic changes during the second half of the 20th century (e.g., population growth, diminishing natural resources, environmental concerns, human rights issues, technological and scientific advances, shifting political alliances, globalization of the economy)

# HIGH SCHOOL TECHNOLOGY

# Program of Studies – Technology – High School

Technology use in the 21st century has become a vital component of all aspects of life. For students in Kentucky to be contributing citizens, they must receive an education that incorporates technology literacy at all levels. Technology literacy is the ability of students to responsibly use appropriate technology to communicate, solve problems, and access, manage, integrate, evaluate, and create information to improve learning in all subject areas and to acquire lifelong knowledge and skills in the 21st century. The Technology Program of Studies provides a framework for integrating technology into all content areas. It reflects the basic skills required for each student to be competitive in the global economy.

For students to gain the technology competencies, it is essential that they have access to technology during the school day in all grade levels. Instruction should provide opportunities for students to gain and demonstrate technology skills that build primary through grade 12.

The technology content standards should be integrated into each curricular discipline. The purpose of integrating technology is to help students make useful connections between what they learn in each content area and the real world. Technology knowledge, concepts and skills should be interwoven into lessons or units and taught in partnership with other content areas. Technology lends itself to curriculum integration and team teaching. Technology can enhance learning for all students, and for some it is essential for access to learning.

The technology content standards are organized by grade spans: primary, intermediate, middle, and high. Throughout high school, students continue to develop and demonstrate the skills gained from primary, intermediate and middle grade levels. The technology program of studies at the high level includes more opportunities for students to apply technology in their course work, thus becoming more adept in using technology. As the high school curriculum demands more complicated learning tasks, students discover more advanced capabilities in applications. Students will develop an appreciation for the capabilities of technology resources and an understanding of how these can be used for career and lifelong learning. By the end of high school, students will apply technology across all curriculum areas and demonstrate competencies needed for high school graduation.

The technology content standards at the high school grade span are directly aligned with Kentucky's **Academic Expectations**. Technology standards are organized around three Big Ideas that are important to the discipline of technology. The three Big Ideas in technology are: **1) Information, Communication and Productivity; 2) Safety and Ethical/Social Issues;** and **3) Research, Inquiry/Problem-Solving and Innovation**. The Big Ideas are conceptual organizers for technology. Each grade level span ensures students have multiple opportunities throughout their school careers to develop skills and concepts linked to the Big Ideas.

Under each Big Idea are statements of *Enduring Knowledge/Understandings* that represent overarching generalizations linked to the Big Ideas of Technology. The understandings represent the desired results--what learning will focus upon and what knowledge students will be able to explain or apply. *Understandings* can be used to frame development of units of study and lesson plans.

*Skills and Concepts* describe ways that students demonstrate their learning and are specific to each grade level span. The skills and concepts for technology are fundamental to technology literacy, safe use and inquiry. The skills and concepts build on prior learning.

## Big Idea: Information, Communication and Productivity

Students demonstrate a sound understanding of the nature and operations of technology systems. Students use technology to learn, to communicate, increase productivity and become competent users of technology. Students manage and create effective oral, written and multimedia communication in a variety of forms and contexts.

**Academic Expectations**

**1.11** Students write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.
**1.16** Students use computers and other kinds of technology to collect, organize, and communicate information and ideas.
**3.3** Students demonstrate the ability to be adaptable and flexible through appropriate tasks or projects.
**6.1** Students connect knowledge and experiences from different subject areas.
**6.3** Students expand their understanding of existing knowledge by making connections with new knowledge, skills, and experiences.

**High Enduring Knowledge – Understandings**

*Students will understand that*

- proficient use of emerging technology is needed for competitive entry into the workforce.
- technology allows the exchange of information and ideas to enable participation in the global society.
- collaborative online projects impact life-long learning and global interactions.
- productivity tools are used effectively and efficiently to enhance lifelong learning.

**High Concepts and Skills - Information**

*Students will*

- apply, consolidate and extend the skills, knowledge and experiences acquired earlier to exhibit competence in the use of technology
- use appropriate technology terminology
- apply basic care and maintenance when using technology
- explore and analyze the impact of current and emerging technology

**High Concepts and Skills – Communication**

*Students will*

- use technology to communicate in a variety of modes (e.g., audio, speech to text, print, media)
- participate in electronic communities (e.g., virtual learning) as learners, initiators, contributors and mentors
- use online collaboration and interactive projects (e.g., email, videoconferencing) to communicate with others (e.g., experts, mentors)
- select and use appropriate technology to collect, analyze present information

**High Concepts and Skills – Productivity**

*Students will*

- use and apply a repertoire of technology skills regularly in the preparation of content assignments and authentic projects
- use a variety of formats (web publishing, oral presentations, journals and multimedia presentations) to summarize and communicate the results
- create professional electronic products (e.g., resumes, letters of applications, portfolios) for employment and post-secondary education

## Big Idea: Safety and Ethical/Social Issues

Students understand safe and ethical/social issues related to technology. Students practice and engage in safe, responsible and ethical use of technology. Students develop positive attitudes toward technology use that supports lifelong learning, collaboration, personal pursuits and productivity.

**Academic Expectations**

**2.17** Students interact effectively and work cooperatively with the many ethnic and cultural groups of our nation and world.
**3.6** Students demonstrate the ability to make decisions based on ethical values.
**4.3** Students individually demonstrate consistent, responsive, and caring behavior.
**4.4** Students demonstrate the ability to accept the rights and responsibilities for self and others.
**4.5** Students demonstrate an understanding of, appreciation for, and sensitivity to a multi-cultural and world view.

**High Enduring Knowledge – Understandings**

*Students will understand that*

- interactive technology projects and online courses enhance learning to ensure global awareness.
- acceptable social technology practices is essential to post-secondary career choices.
- ethical use of technology is necessary to ensure safety, privacy and legal issues.
- new technology development and deployment creates social, cultural, political and economic issues that requires citizens to make informed decisions.
- positive attitudes and practices towards technology support lifelong learning.
- assistive technology supports learning to ensure equitable access to a productive life.

**High Concepts and Skills – Safety**

*Students will*

- explain the importance of safe Internet use (e.g., iSafe skills)
- apply safe behavior when using technology

**High Concepts and Skills – Ethical Issues**

*Students will*

- describe intellectual property issues related to technology
- practice responsible, ethical and safe behavior (e.g., security, privacy, passwords, personal information virus protection and iSafe skills) while using technology and adhering to the Acceptable Use Policy (AUP) as well as other state and federal laws
- investigate basic issues related to responsible use of technology and describe personal consequences of inappropriate use
- use legal and ethical practices when completing digital projects/schoolwork and credit all participants for their contribution to the work
- investigate software piracy, its impact on the technology industry and possible repercussions to individuals and/or the school district

**High Concepts and Skills – Social Issues**

*Students will*

- forecast the impact of technological products and systems in a global society
- use appropriate etiquette when interacting with global environments (e.g., video conferencing, IM)
- analyze economic, political and cultural issues influenced by the development and use of technology
- investigate how technology supports their interests and career opportunities
- engage with technology to support lifelong learning (e.g., online courses, online assessments, interactive video conferencing)
- describe/ explain how assistive technology supports learning to ensure equitable access to a productive life
- explain how emerging technology is exponential and shapes economic factors and cultural influences

## Big Idea: Research, Inquiry/Problem-Solving and Innovation

Students understand the role of technology in research and experimentation. Students engage technology in developing solutions for solving problems in the real world. Students will use technology for original creation and innovation.

**Academic Expectations**

**1.1** Students use reference tools such as dictionaries, almanacs, encyclopedias, and computer reference programs and research tools such as interviews and surveys to find the information they need to meet specific demands, explore interests, or solve specific problems.
**2.3** Students identify and analyze systems and the ways their components work together or affect each other.
**5.1** Students use critical thinking skills such as analyzing, prioritizing, categorizing, evaluating, and comparing to solve a variety of problems in real-life situations.
**5.2** Students use creative thinking skills to develop or invent novel, constructive ideas or products.
**5.4** Students use a decision-making process to make informed decisions among options.
**5.5** Students use problem-solving processes to develop solutions to relatively complex problems.
**6.1** Students connect knowledge and experiences from different subject areas.

**High Enduring Knowledge – Understandings**

*Students will understand that*

- technology supports critical thinking skills used in inquiry/problem solving to make informed decisions for independent learning.
- technology can assist in researching, analyzing and evaluating information obtained from a variety of sources to answer an essential question across all content areas.
- technology supports research and development to solve problems and produce results in authentic situations.
- ideas, solutions and designs (e.g., intellectual property) created through technology are used in a knowledge-based economy.

## Big Idea: Research, Inquiry/Problem-Solving and Innovation – Continued

**High Skills and Concepts – Research**
*Students will*

- apply a research process model (e.g., Big6, Research Cycle) to conduct online research
- select and evaluate appropriateness of information (authenticity) from a variety of resources, including online research databases, online catalogs/virtual library and web sites to answer the essential questions
- evaluate the accuracy and appropriateness of electronic information and correctly note the appropriate citations (e.g., APA, MLA)
- organize information that is collected using a variety of tools (e.g., spreadsheet, database, saved files)
- manipulate data using charting tools and graphic organizers (e.g., concept mapping, flow charting and outlining software) to connect ideas and organize information
- express and synthesize digital information collected in research effectively and accurately to produce original work (e.g., desktop-published or word-processed report, multimedia presentation, engineering design)

**High Skills and Concepts – Inquiry/Problem-solving**
*Students will*

- select and apply technology in content learning to solve authentic problems and make informed decisions
- apply teamwork and critical thinking strategies to solve technology problems
- explain how technology can be used for problem solving and creativity (e.g., simulation software, environmental probes, computer-aided design, geographic information systems, dynamic geometric software, graphing calculators, art and music composition software)
- analyze and troubleshoot software and hardware problems
- investigate and apply expert systems and simulations in real-world situations
- identify open-ended, unresolved problems and select and use appropriate technology to develop solutions
- explore how inquiry/problem-solving impact science, technology, engineering and mathematics (STEM) (e.g., design, programming, robotics)

**High Skills and Concepts – Innovation**
*Students will*

- use technology to express creativity in all content areas
- design, develop, publish and present original innovative products (e.g., Web pages, video, robotics, online content)
- produce an innovative product or system using an engineering design process
- collaborate with peers, experts and others to develop solutions and innovative products (e.g., design/CAD, troubleshooting, helpdesk, models, systems)
- recognize that innovative ideas, products and skills lead to intellectual property and copyrights
- describe how technological innovation leads to entrepreneurial opportunities

# HIGH SCHOOL VOCATIONAL STUDIES

# Program of Studies – Vocational Studies – High School

Students in the high school vocational studies program develop an understanding of career planning as well as consumer decision-making and financial literacy that will foster life-long learning. The vocational studies program at the high school level develops a career plan. All content teachers are responsible for providing instruction in the vocational studies area. Students need to know the demands of a career and how it will affect their multiple roles in life. While in high school, they should focus on acquiring the knowledge and skills necessary for making successful transitions to college, technical school, military service, and/or work. Students must exhibit those attributes that are valued by employers and demonstrate the techniques for marketing themselves, which will serve them throughout life in a rapidly changing technological society.

The content in vocational studies addresses strategies for choosing and preparing a career, skills and work habits that lead to success in future schooling and work, and skills such as interviewing, writing résumés, and completing applications that are needed for acceptance into college, or other post-secondary training or to the workforce. Vocational studies at this level enable students to acquire the consumer skills and planning of careers. The challenge is to empower students to make a successful transition from school to the world of work, from job to job, across the career life span, and to be productive citizens.

The vocational studies content standards at the high school level are directly aligned with Kentucky's **Academic Expectations**. The vocational studies standards are organized around five "Big Ideas" that are important to the discipline of vocational studies. These big ideas are: Consumer Decisions, Financial Literacy, Career Awareness/Exploration/Planning, Employability Skills, and Communication/Technology. The Big Ideas are conceptual organizers for vocational studies and are the same at each grade level. This ensures students have multiple opportunities throughout their school careers to develop skills and concepts linked to the Big Ideas.

Under each Big Idea are statements of Enduring Knowledge/Understandings that represent overarching generalizations linked to the Big Ideas of vocational studies. The understandings represent the desired results- that focus on learning, and the knowledge students will have to explain or apply. Understandings can be used to frame development of units of study and lessons plans.

Skills and concepts describe the ways students demonstrate their learning and are specific to each grade level. The skills and concepts for Vocational Studies are fundamental to career planning and builds on prior learning.

Academic Expectations 2.36, 2.37 and 2.38 bring forward the career planning in Vocational Studies. Vocational Studies provide a connection to Kentucky's Learning Goals 3 (become self-sufficient individuals) and Learning Goal 4 (become responsible group members). These connections provide a comprehensive link between essential content, skills and abilities important to learning.

## Big Idea: Consumer Decisions

Individual and families need to make consumer decisions due to the numerous products/services on the market, multiple advertising techniques, and the need to make responsible financial management decisions. Accessing and assessing consumer information, comparing and evaluating products and services, provides basis for making effective consumer decisions. Consumer decisions influence the use of resources and the impact they have on the community and environment.

**Academic Expectations**

**2.30** Students evaluate consumer products and services and make effective consumer decisions. Students demonstrate the skills to evaluate and use services and resources available in their community.
**4.4** Students demonstrate the ability to accept the rights and responsibilities for self and others.
**5.4** Students use a decision-making process to make informed decisions among options.

**High School Enduring Knowledge – Understandings**

*Students will understand that*

- social factors and economic principles impact consumer decisions.
- consumer decisions are impacted by the global economy, national trends, societal issues, family and economic principles.
- culture, media and technology can influence consumer decisions.
- consumer management practices relating to the human, economic, and environmental resources are needed to meet the goals for individuals and families.
- consumer advocacy groups impact consumer's rights and responsibilities.
- consumer actions influence the use of resources and the impact they have on the environment.
- a variety of print and electronic resources are available in the home, school, and community that provide health and safety information.

## Big Idea: Consumer Decisions – Continued

**High School Skills and Concepts**
*Students will*

- evaluate social factors and economic principles and their impact on consumer decisions by:
  - explaining how buying and selling practices impact consumer decisions
  - examining the use of economic principles and resources in making choices to satisfy needs and wants of individuals and families
  - comparing and contrasting the selection of goods and services by applying effective consumer strategies
  - recognizing the relationship between supply and demand and their role in meeting consumer needs
- analyze consumer decisions and how they impact the global economy, national trends, societal issues, family and economic principles by:
  - analyzing interrelationship between the economic system and consumer actions
  - explaining practices that will assist families to achieve and maintain economic self-sufficiency
- investigate how culture, media and technology impact the family and consumer decision making by:
  - comparing and evaluating products and services based on major factors (e.g. price, quality, availability, warranties, comparison shopping, impulse buying, features, peer pressure, culture, technology) when making consumer decisions
  - analyzing and evaluating ways consumer's buying practices are influenced by peer pressure, desire for status and advertising techniques (e.g., jingles/slogans, plain folks, magic ingredients, facts and figures, glittering generalities, endorsement/testimonial, bandwagon, snob appeal, emotional appeal, free gifts/rewards)
  - comparing and contrasting the relationship of the environment to family and consumer resources
- evaluate management practices (e.g., budgeting, time management, decision-making) of individual and families relating to food, clothing, shelter, health care, recreation and transportation
- examine economic impacts of laws and regulations that pertain to consumers and providers of services and explain how consumer rights and responsibilities are protected (e.g., government agencies, consumer protection agencies, consumer action groups)
- evaluate consumer actions (e.g., reuse, reduce, recycle, choosing renewable energy sources, using biodegradable packaging materials, composting) and analyze how these actions impact the environment (e.g., conserving resources, reducing water, air, and land pollution, reducing solid waste, conserving energy, greenhouse effect, slowing global warming) by:
  - describing the influence of environmental factors that positively and negatively affect health
  - researching local, state, national and international environmental issues that address consumption for conservation and waste management practices
- use print and electronic resources from home, school, and community that provide accurate and relevant health information

## Big Idea: Financial Literacy

Financial literacy provides knowledge so that students are responsible for their personal economic well-being. As consumers, individuals need economic knowledge as a base for making financial decisions impacting short and long term goals throughout one's lifetime. Financial literacy will empower students by providing them with the knowledge, skills and awareness needed to establish a foundation for a future of financial responsibility and economic independence.

**Academic Expectations**

**2.30** Students evaluate consumer products and services and make effective consumer decisions.
**2.33** Students demonstrate the skills to evaluate and use services and resources available in their community.
**5.4** Students use a decision-making process to make informed decisions among options.

**High School Enduring Knowledge – Understandings**

*Students will understand that*

- management of financial resource practices is needed to meet goals of individuals and families across the life span.
- saving plans (e.g., investments, savings accounts, stocks, bonds) and budgets are economic practices in making financial decisions.
- financial institutions (e.g., banks, brokerage firms, credit unions) provide consumer services that help in achieving financial goals.
- career choice and lifestyle impacts an individual's financial future.
- usage of credit involves risks and responsibilities for an individual's financial future.

**High School Skills and Concepts**

*Students will*

- analyze financial management practice, including budgeting, banking (e.g., check writing, balancing a checking account), savings and investments (e.g., advantages and disadvantages of savings accounts, stocks, bonds, mutual funds, certificates of deposit, IRAs, 401Ks) and explain their importance in achieving short and long-term financial goals by:
  - describing the risks and responsibilities associated with using credit (e.g., use of debit and credit cards, establishing and maintaining good credit, cause and effect of bankruptcy)
- create and evaluate a personal spending/savings plan determined by an individual's short- and long-term financial goals
- compare an electronic means of transfer (e.g., debit cards, ATM, automatic deposits/payments) offered by various financial institutions
- develop financial goals for the future based on one's lifestyle expectations and career choices

## Big Idea: Career Awareness, Exploration, Planning

Career awareness, exploration and planning gives students the opportunity to discover the various career areas that exist and introduce them to the realities involved with the workplace. Many factors need to be considered when selecting a career path and preparing for employment. Career awareness, exploration and planning will enable students to recognize the value of education, learn how to plan for careers and integrate academic subjects.

**Academic Expectations**

**2.36** Students use strategies for choosing and preparing for a career.
**2.37** Students demonstrate skills and work habits that lead to success in future schooling and work. Students demonstrate skills such as interviewing, writing resumes, and completing applications that are needed to be accepted into college or other postsecondary training or to get a job.
**5.4** Students use a decision-making process to make informed decision among options.

**High School Enduring Knowledge – Understandings**

*Students will understand that*

- career choices impact life-long earning potential, career opportunities and job satisfaction.
- jobs/careers reflect both individual and societal needs and vary within communities and regions.
- resources are available in planning for an occupation in a career cluster.
- academic and technical skills in a variety of jobs are transferable and have commonalities.
- an Individual Learning Plan (ILP) is an academic and career planning tool.
- the transition process is continuous and focuses on post school outcomes.
- life-long learning in a global society is important for personal and professional growth.

**High School Skills and Concepts**

*Students will*

- analyze and evaluate why people need to work and how a person's career choice impacts life long earning potential, career opportunities, and job satisfaction
- explain how jobs/careers reflect both individual and societal needs by:
  - comparing and contrasting the many factors (e.g., family, environment, location) that must be considered when selecting and preparing for employment or a career path
- analyze the direct relationship of academic/technical skills, extracurricular activities, and community experiences to career preparation by:
  - researching career choice through the use of technology
  - evaluating job and career opportunities (e.g., veterinarian, sales associate, interior designer, meteorologist, physical therapist) in career clusters (e.g., Agriculture, Arts & Humanities, Business & Marketing, Communications, Construction, Education, Health Science, Human Services, Information Technology, Manufacturing, Public Services, Science & Mathematics, Social Sciences, Transportation) that vary within and among communities and regions
- create an educational plan that can impact their future career opportunities by:
  - accessing and evaluating resources for locating job/career information career paths related to interests, aptitude (e.g., academic skills), and abilities
  - updating and maintaining an Individual Learning Plan (ILP) to explore self-knowledge and academic aptitude and understand that career paths should relate to your individual traits (e.g., interests, abilities, learning styles, achievements, career goals)
  - explaining with examples postsecondary options (e.g., community technical colleges, 4-year colleges, military service) used when developing career goals that are included in the Individual Learning Plan (ILP)
- analyze how the changing roles of individuals and the workplace relate to the new opportunities for careers in a global society
- analyze how life-long learning in a global society is important for personal and professional growth

## Big Idea: Employability Skills

Employability skills will focus on student's competencies with their work habits and academic/technical skills that will impact an individual's success in school and workplace. School-to-work transition skills will help students develop interpersonal skills and positive work habits.

**Academic Expectations**

**2.36** Students use strategies for choosing and preparing for a career.

Students demonstrate skills and work habits that lead to success in future schooling and work.

**2.38** Students demonstrate skills such as interviewing, writing résumé and completing applications that are needed to be accepted into college or other postsecondary training or to get a job.

**3.6** Students demonstrate the ability to make decisions based on ethical values.

**High School Enduring Knowledge – Understandings**

*Students will understand that*

- interpersonal skills impact individual's career choice and success in the workplace.
- employability skills are important to achieve success in the workplace.
- academic and technical skills prepare them for obtaining, maintaining, advancing and changing employment.
- team skills are essential in achieving success in the workplace.

## Big Idea: Employability Skills – Continued

**High School Skills and Concepts**
*Students will*

- analyze how interpersonal skills impact individual's career choice and success in the workplace by:
  - identifying effective group interaction strategies (e.g., communicating effectively, conflict resolution, compromise) to develop team skills (e.g., goal-setting, questioning, dividing work)
  - analyzing and evaluating the role of each participant's contribution in a team setting
  - evaluating the importance of working cooperatively with people of diverse backgrounds and abilities to achieve success in the workplace
  - designing a plan for working cooperatively with others by contributing ideas, suggestions and efforts to complete a task
  - explaining how effective verbal and nonverbal communication skills impacts work-related situations
- evaluate how employability skills are important to achieve success in the workplace by:
  - demonstrating leadership skills by participating in co/extra-curricular activities, home, school and community
  - analyzing the leadership qualities of a successful person and explain how the qualities described are essential to successful employment in any career (e.g., self-directed, effective at time management, problem-solving skills, positive attitude)
  - evaluating personal attitudes and work habits that support career retention and advancement
  - describing consequences for actions when disobeying rules and routines at the workplace
  - explaining the role of authority in school and the workplace
  - explaining the importance of developing good work ethics/habits (e.g., initiative, time management, respect, self-discipline, problem-solving) that support career retention and advancement
- examine how academic and technical skills prepare them for obtaining, maintaining, advancing and changing employment by:
  - using technology to research job/careers in the community
  - explaining how success in an academic course of study could contribute to the achievement and success in employment (e.g., Physical Education/Personal Trainer, Arts and Humanities/Musician)
  - explaining how success in an technical course of study could contribute to the achievement and success in employment (e.g. Information Technology/Programmer, Communications/Broadcast Technician)
  - demonstrating the relationship between academic achievement and how it effects success in the workplace by creating or evaluating an Individual Learning Plan (ILP)

## Big Idea: Communication/Technology

Special communication and technology skills are needed for success in schooling and in the workplace. Students will be able to express information and ideas using a variety of technologies in various ways.

**Academic Expectations**

**1.16** Students use computers and other kinds of technology to collect, organize, and communicate information and ideas.
**2.37** Students demonstrate skills and work habits that lead to success in future schooling and work.
**2.38** Students demonstrate skills such as interviewing, writing resumes, and completing applications that are needed to be accepted into college or other postsecondary training or to get a job.

**High School Enduring Knowledge – Understandings**

*Students will understand that*

- scientific and technological advancements can impact careers in the global economy.
- technology skills can enhance learning and be used in developing a career plan.
- communication and technological skills are used to seek, obtain and change jobs/careers.

**High School Skills and Concepts**

*Students will*

- describe how job market changes have resulted from scientific advancements and the increase use of technology in the global economy
- evaluate the purpose of technology tools (e.g., satellite, automated phone systems, on-line courses, computer-aided drafting (CAD), graphing calculators, spreadsheets, databases, Internet, on-line banking) and multi-media (Internet, digital camera, teleconferencing, debit/credit cards) and analyze how these impact productivity in homes, schools and jobs by:
  - demonstrating how to work cooperatively and collaboratively with peers when using technology in the workplace
  - explaining how technology provides access to information and resources at home, school and the workplace
  - practicing social/work etiquette needed when using telephone/cell phone, Internet and email at home, school and in the workplace
  - continuing to update the Individual Learning Plan (ILP) to provide a focus for transitioning to post school outcomes
  - describing the role of technology within a community in maintaining safe and healthy living environment
  - assessing the availability of emerging technology and the impact that it has on individuals, families, and workplace
- explain how communication and technological skills are used to seek, obtain and change jobs/careers by:
  - examining effective speaking and listening skills used in a job interview
  - applying skills used to seek, obtain, maintain, and change jobs/careers and transition to postsecondary opportunities: conducting a job search, writing letters, completing an application, securing a letter of reference, preparing a résumé, applying interview techniques, and using proper procedures when changing jobs

# ADDITIONAL CURRICULUM EXPERIENCES

# Military Science
# (Junior Reserve Officers Training Corps)

Kentucky high schools are accountable for helping students make a successful transition to work, postsecondary studies and the military. Courses in the military science program or Junior Reserve Officers Training Corps (ROTC) provide high school students with opportunities to develop leadership and management skills they can carry into adult life.

The Junior ROTC program offers training that develops a student's citizenship, self-discipline, character, team-building skills and respect for authority in a democratic society. Students also gain an understanding of national security requirements.

Career counseling and communications skills are combined with problem-solving and logical thinking to aid students in pursuing career paths or choices in the military or other occupations. Integration of knowledge with other core content areas, such as mathematics, science, social studies, health and physical education, is encouraged.

Field experiences, close-order drill, marksmanship training, uniform inspections and ceremonies also are part of the military science program curriculum. The program also stresses hygiene, physical fitness, first-aid and survival skills, and a healthy lifestyle.

Students in these programs receive an introduction to the organization of specific military branches. Four military science programs may be offered in Kentucky high schools: Air Force, Army, Marine and Navy Junior ROTC. The content in each program varies with the nature of the military branch.

# World Language

All Kentucky students are expected to be able to communicate effectively in a second language, according to Academic Expectation 2.28. Postsecondary education often expects entering students to have a basic competency in at least one world language. Kentucky students also are expected to be able to demonstrate interculturality: to be able to interact effectively and work cooperatively with the diverse ethnic and cultural groups of our nation and world, interpreting and adapting to different cultures' perspectives, practices and products across languages.

Competency in at least one other world (foreign) language is a vital skill in today's global society. World Language is a term that refers to any language that is not the student's mother tongue. This language could be, for example, American Sign Language, Arabic, Chinese, French, German, Greek, Italian, Japanese, Latin, Spanish and English for Limited English Proficient (LEP) students.

World language learning experiences prepare Kentucky students:

- to enter postsecondary studies with skills on par with students from other states and countries
- to compete in the global marketplace and ensure Kentucky's international and economic vitality
- to interact with Kentucky's increasingly multilingual and multicultural population
- to participate as global citizens in a diverse intercultural and plurilingual society

One of the most important factors influencing development of language proficiency is the amount of time devoted to working in the language. Developing second language skills at the expected level of competency suggests an early start in well-articulated sequences of learning.

All language learning programs should focus on developmentally appropriate experiences that build communicative and cultural competence, support first language literacy, reinforce the core content, offer students meaningful opportunities beyond the classroom, and present an inclusive approach to culture.

In preschool, kindergarten and primary grades, an emphasis is typically placed on the development of oral language and literacy skills in the second language. Instruction is most effective if delivered in the target language while engaging children in language acquisition activities that include conversation, music, games, Total Physical Response and hands-on projects.

Research shows that early language learning increases cognitive development in areas of critical thinking, problem solving, creativity, conceptualization and reasoning. Early language learning also develops literacy skills that transfer to and reinforce the student's first language.

Middle level programs build on this early language learning experience by focusing on language production; increasing content-related, inquiry-based, integrated and thematic learning; introducing career topics and service-learning activities that connect students to the community; and, when possible, allowing students to layer on the learning of yet another language. Language learning at the middle level has been shown to increase students' positive attitudes toward cultural diversity, to facilitate the acquisition of subsequent languages and to build English language skills.

In high school, a variety of language learning opportunities exist to meet diverse student needs. These may include access to a range of study from beginning level through Advanced Placement courses, virtual or distance learning courses, units of study in technical areas (i.e., Spanish for agriculture or medicine, business German), work experience (i.e., in a migrant worker day care facility), dual credit courses (i.e., Arts and Humanities content taught in French at the third- or fourth-year level or in postsecondary courses), international study trips, and performance-based credit.

# SPECIAL CONSIDERATIONS

# ADDITIONAL TOPICS

# Children and Youth with Disabilities

Kentucky expects all students to achieve at high levels and holds schools accountable for providing standards-based curricula and learning experiences that ensure this achievement. Kentucky's Learning Goals and Academic Expectations define a broad framework of what all students, including students with disabilities, should know and be able to do as a result of progressing through an educational course of study in Kentucky's schools. *Program of Studies for Kentucky Schools P-12* is written to be inclusive of all students. The document contains the minimum content standards for each subject area – primary through high school – including the high school graduation requirements.

A comprehensive curriculum framework, or course of study for children and youth with disabilities, is based on Kentucky's learning goals, academic expectations, the content standards in the *Program of Studies* and each school's curricula. This course of study also addresses other educational needs that result from the student's disability. The course of study enables students with disabilities to access and participate in the general curriculum. Schools extend and modify curricula for students with disabilities to facilitate attainment of Kentucky's learning goals, academic expectations, the required content standards and each individual student's Individual Education Program (IEP) goals and objectives.

Children and youth with educational disabilities, as defined by federal statutes and regulations, as well as Kentucky Revised Statues and Administrative Regulations, need specially designed instruction. For a student with educational disabilities, the Admissions and Release Committee (ARC) or 504 Committee develops a student's IEP or 504 Plan to support the student's opportunity to learn, to assist a student with disabilities to access the general education curriculum, achieve performance or achievement standards and attain the content standards designed for all students.

The IEP and 504 Plan identify the specially designed instruction, research-based instructional strategies, any special services and accommodations, extensions and modifications needed by an individual student to make sure the student has the supports needed to learn and to earn a diploma or a Certificate of Work Readiness and Employability Program for Students with Disabilities. The IEP and 504 Plan, however, are not a comprehensive curriculum. They are a support system.

For students with disabilities, achieving high levels of learning and being prepared for postsecondary education, work and the community requires alignment of a student's course of study with the knowledge, concepts and skills for each required content area outlined in the *Program of Studies*. Highly qualified teachers, as defined by state and federal statutes and regulations, must deliver curriculum content. Therefore, planning, designing and delivering the curriculum must be a collaborative effort between general education and special education teachers to assure appropriate instruction for students with disabilities.

At all levels (primary, intermediate, middle level and high school), the curriculum, coursework and standards for students with disabilities shall be aligned with *Kentucky's Academic Expectations*, the content standards outlined in the *Program of Studies,* and the student's IEP or 504 Plan.

Students with disabilities pursue a course of study leading to a standard diploma or a Certificate of Work Readiness and Employability Program for Students with Disabilities. A brief synopsis of these courses of study follows.

**Standard Diploma Course of Study Program**

Schools are to provide students with disabilities the opportunity and necessary instructional supports and accommodations to progress through a course of study leading to a standard diploma. Courses include the required content standards as outlined in the *Program of Studies* for each content area. Students with disabilities who earn the required high school credits through successful completion of content area and elective coursework as described in the *Program of Studies* and consistent with 704 KAR 3:305 shall be awarded a diploma.

Students with disabilities may pursue a course of study leading to a diploma in one or a combination of the following ways:

- completion of at least 22 credits as described in 704 KAR 3:305 and the *Program of Studies*; or
- completion of at least 22 credits based on submission by a local board of education of a substitute functional, integrated, applied interdisciplinary or higher-level course for a required course if the alternative course provides rigorous content and addresses the same academic expectations and same applicable components of 703 KAR 4:060. For the graduating class of 2012 a technical/occupational course also may be considered as an alternative. The technical/occupational course of study shall be based on grade-level content standards and may allow for a narrower breadth or depth or complexity of the standard/general grade-level content standards. The course of study shall provide the opportunity for students to be involved in and to progress in the general education curriculum regardless of where instructional services are provided. The course of study must be challenging for the eligible students with disabilities, and must support individual growth and build on the individual student's present level of performance preparing him or her for continued postsecondary education, work and the community.

**Certificate Program for Students with Disabilities**

Until the graduating class of 2012, schools and districts may continue to provide a course of study leading to a certificate recognizing the achievement of students with disabilities whose disabilities preclude a course of study leading to a standard high school diploma. Beginning with the graduating class of 2012, schools and districts shall provide a course of study leading to a certificate. This certificate shall verify a student's successful preparation for transition from high school to work. Districts and schools may provide a course of study leading to such a certificate to students prior to the graduating class of 2012.

For a student whose disability precludes a course of study leading to a standard diploma consistent with the requirements of 704 KAR 3:305, a student's ARC shall determine eligibility for the alternative course of study by documenting that the following criteria are met:

- The student's demonstrated cognitive disability and adaptive behavior itself prevent completing the regular course of study leading to a standard diploma, even with program modifications, adaptations and extended school services;
- The student's current adaptive behavior requires extensive direct instruction in multiple settings to apply and generalize functional and work-readiness skills in school, work, home and community environments;

- The student's inability to complete the course of studies is not the result of excessive or extended absences nor the result of visual or auditory disabilities; specific learning disabilities; emotional behavioral disabilities; or social, cultural or socioeconomic differences;
- The student, when instructed solely or primarily through school-based instruction, is unable to apply academic skills at a minimal competency level in natural settings; and
- The student is unable to acquire, maintain and generalize skills without intensive, frequent and individualized community-based instruction

The ARC makes the decision that a student is eligible for the alternative course of study only after a thorough review and documentation that the student meets the criteria stated above. The ARC must clearly document the decision in the student's records and reflect the course of study in the student's IEP. This decision is reviewed annually by the student's ARC to make sure the decision is still appropriate and that there have not been changes that would enable the student to pursue a standard diploma and achieve the content and performance standards of the standard curriculum/course of study.

At all levels (primary, intermediate, middle level and high school), the curriculum, coursework and standards for students pursuing a work-readiness and employability certificate shall be aligned with *Kentucky's Academic Expectations*, the content standards outlined in the *Program of Studies* and the student's IEP. The course of study may be adjusted and based on a narrower breadth, depth and complexity of content standards and reflect alternative performance or achievement standards. It must promote access to the standard/general curriculum and provide the opportunity for students to be involved in and to progress in the general education curriculum regardless of where instructional services are provided. The course of study, including the content and achievement standards, must be challenging for the eligible students with disabilities, must support individual growth and must build on the individual student's present level of performance.

There are a variety of ways a student with significant disabilities pursuing this course of study may access the standard/general curriculum. Some options include students participating in:

- curricular activities in the same way as other students
- the same activities but different levels than other students
- the same activities but different educational goals that are embedded into the classroom activities and routines
- a different activity with different goals but related to the classroom activities

Typically this course of study includes a range of curricular options critical to successful transition based on the general/standard curriculum and such life domains as career/vocational (e.g., job exploration, job skills, career and transition planning), recreation/leisure, communication and personal management (e.g., community and daily living). Instruction and student learning is in the context of real-life applications that students experience at school, in the home and community or on the job.

Students with disabilities who complete this course of study are not eligible for a standard diploma as defined in 704 KAR 3:305.

# Programs for Students with Limited English Proficiency (LEP)

Kentucky offers equal educational opportunities for all students identified as Limited English Proficient (LEP) across all grade levels, primary through grade 12, as outlined by Title VI of the federal Civil Rights Act of 1964, and Title I and Title III of the federal No Child Left Behind Act of 2001. The term “limited English proficient” is used for a student aged 3 through 21 who was not born in the United States or whose native language is a language other than English or who comes from an environment where a language other than English has significantly affected the student’s ability to meet Kentucky’s proficient level of achievement on state assessments or the student’s ability to achieve success in classrooms where the language of instruction is English.

Schools and districts must provide students with limited English proficiency the educational opportunities to meet the same standards for academic performance expected for all Kentucky children and to participate in the same range of course offerings and content as all Kentucky students. A comprehensive curriculum framework or course of study for students with limited English proficiency will promote language and cognitive development and include consideration of a student’s native language and cultural background.

To ensure that students with limited English proficiency have access to the school’s curriculum, an alternative language program that is recognized by experts in the field may be provided. The alternative language program should effectively implement the educational theory adopted by the school and demonstrate success in helping students overcome language barriers.

School personnel are allowed flexibility in designing the educational program, interventions and instructional strategies necessary to meet the unique needs of students with limited English proficiency based on proven practices in second language acquisition. Models for delivering the course of study may include alternative language programs: English as a Second Language (ESL), sheltered instruction in English or content-based programs, structured immersion programs, bilingual programs and modified general education classes. Other models that meet the above Office for Civil Rights criteria also may be considered.

Schools shall provide students with limited English proficiency the opportunity and necessary instructional and program supports, including necessary accommodations, to progress through a course of study leading to a high school diploma. Students with limited English proficiency may pursue a course of study in an alternative language program leading to a high school diploma if the alternative course of study includes the minimum rigorous content standards defined in the *Program of Studies* for each content area. In high school programs, English as a Second Language may be offered for credit in accordance with these requirements.

Students with limited English proficiency may pursue a course of study leading to a diploma in one or a combination of the following ways:

- completion of at least 22 credits as described in 704 KAR 3:305 and the *Program of Studies*; or
- completion of 22 credits based on submission by a local board of education of an integrated, applied, interdisciplinary, or higher level course for a required course if the alternative course provides rigorous content and addresses the same academic expectations and same applicable components of 703 KAR 4:060. For the graduating class of 2012 a technical/occupational course may also be considered as an alternative.

# Programs for the Gifted and Talented

Kentucky offers educational services for all students across all grade levels, primary through grade 12, who are identified as gifted and talented as outlined in Kentucky Revised Statute (KRS) 157.230 (Programs for Exceptional Children). “Gifted and talented” is defined as a student identified as possessing potential or demonstrated ability to perform at an exceptionally high level in general intellectual aptitude, specific academic aptitude, creative or divergent thinking, psychosocial or leadership skills, and/or the visual or performing arts.

Students who are gifted and talented have special learning needs that are commonly addressed through curricula modifications such as differentiation, resource services or advanced placement courses. A student, primary through grade 12, who is identified as possessing gifted characteristics, behaviors or talents shall be provided services articulated with the general education program. They include curricular and instructional experiences matched to the specific interests, needs, age and abilities of the student and accommodate the different types of giftedness. Differentiation may require modifying the complexity, depth, and pace of the curriculum. These services and learning experiences are designed to supplement and build on the required content standards, including the enduring knowledge, concepts and skills for each content area in the Program of Studies. They are generally differentiated to meet the needs of the student, often providing opportunities for students to enrich comprehension of the curriculum, construct multiple connections among content areas and pursue content deeply. These experiences also provide for continuous progress. For students in the primary program, services shall be provided within the framework of the primary program and the primary talent pool.

For students in grades 4-12 who are formally identified, districts and schools must provide service options outlined in a student’s Gifted Student Services Plan (GSSP) consistent with the requirements of 703 KAR 3:285.

# Career and Technical Education

Career and Technical Education is an essential component of the high school curriculum. It is critical in meeting the needs of all students in academic achievement, career exploration, career preparation and leadership development. Career and Technical Education assists schools in providing students with skills necessary for a successful transition to postsecondary education, the work place or military and a desire for lifelong learning in a global society.

High-quality career and technical programs prepare students for further study at the postsecondary level in a technical field or for successful entry into the work force after high school graduation. These programs are in the areas of Agriculture, Business, Family and Consumer Sciences, Health Science, Information Technology, Industrial Education, Marketing, Pathway to Careers and Technology Education.

The major components of Career and Technical Education programs include the following:

- career advising and guidance to help all students develop the state-required Individual Learning Plan
- career pathways in which sequences of rigorous, academic, and career and technical courses are aligned with career clusters and linked to postsecondary education
- occupational Skill Standards and Assessments to identify and measure skills determined most critical by business and industry (Industry-recognized occupational skill standard certificates endorsed by business and industry will be awarded to students who meet certification requirements.)
- instructional content aligned with academic expectations and state or national occupational skill standards recognized by business and industry
- career and Technical student organizations (CTSO), which are integral parts of the specific program areas and available to all students enrolled
- work-based learning opportunities such as cooperative education or internships relevant to the programs in which students are enrolled and to their career goals
- real-world contextual learning experiences that provide students with increased opportunities to apply academic content within a career area
- opportunity for students to earn certificates upon completing four credits in a career major or completion of specified tasks within a career area

High school graduation requirements allow for interdisciplinary or applied courses to substitute for specific academic courses required for graduation. This option provides high schools the opportunity to offer courses that have the same academic rigor and include the required content standards for specific content areas as traditional courses but deliver the content through more contextual, hands-on approaches.

Several interdisciplinary courses that meet the high school graduation requirements have been developed in Career and Technical Education.  Any high school, career and technical center, or area technology center would be eligible to offer interdisciplinary courses.

Career and Technical Student Organizations provide a unique program of career and leadership development for middle level and high school students enrolled or who have been enrolled in Career and Technical Education programs. A CTSO is a powerful instructional tool when integrated into the classroom by a Career and Technical Education teacher committed to the development of the total student. Organized activities provide opportunities for students to gain personal and leadership skills that help make them more employable, prepare them to become productive citizens and assist them in assuming positive roles in home and community.