



# KY Standards

Your home for Kentucky Academic Standards.

## WELCOME TO GRADE 7!

### A Family's Guide to the *Kentucky Academic Standards*

This guide was made to help families understand the *Kentucky Academic Standards* and to show what children will learn by the end of 7th grade. This tool provides information about the key ideas and skills teachers will introduce in mathematics, reading and writing, science and social studies. It includes possible examples of what students will be asked to do in class, how to help your child at home, questions you can ask your 7th-grader and questions families can ask their child's teacher.

This guide also was designed to help parents understand how they can work with teachers to support the learning of their 7th-grader. When teachers and families work together to help students master *Kentucky's Academic Standards*, students can succeed by developing the skills they will need for life after graduation.

If you have questions about this information or if your child needs extra help, please contact your child's teacher.

#### Why are the *Kentucky Academic Standards* important?

*Kentucky Academic Standards* are important because they help make sure that all students, no matter where they live or what school they attend, have the skills they need to go after a successful future. Standards represent a goal or outcome of a subject area (such as mathematics, reading and writing, science and social studies). They help set clear and consistent expectations for what students should know and be able to do from kindergarten through high school. The standards are not a curriculum and do not determine the design of a lesson plan or how units should be organized. Decisions on how best to help students meet the goals in the standards are left to local school districts and teachers.

#### How are the standards organized?

The *Kentucky Academic Standards* are organized differently based on the content area. Some of the *Kentucky Academic Standards* are arranged grade-by-grade, while others are grouped into several grade levels, such as "high school" for grades 9-12. In all subjects, the standards show what students should learn and be able to do, but not how those learning experiences are to be designed or what resources should be used. For more information on the *Kentucky Academic Standards*, visit <https://kystandards.org/> to read the complete standards and find standards-related resources.



kystandards.org



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# GRADE 7 MATHEMATICS

## OVERVIEW:

During 7th grade, students will develop the ability to fluently add, subtract, multiply and divide rational numbers. Your child will:

- Use algebra to figure out personal finances and make business decisions;
- Explore linear situations in great depth, including using statistics as a tool to see if there is a linear relationship between two variables; and
- Explore the connections between geometric and algebraic ideas as students are introduced to the classic formulas, like the Pythagorean Theorem.

## Examples of Your Child's Work at School:

- Solving systems of two linear equations and relating those systems to pairs of lines that either intersect, never intersect or are the same line;
- Grasping the concept of a function as a rule that assigns to each input exactly one output;
- Using ideas about distance and angles to determine how they behave under changes such as rotations or reflections,
- Using ideas about congruence and similarity to describe, analyze and solve problems involving 2D figures; and
- Understanding and applying the Pythagorean Theorem to find distances between points on a coordinate plane.

## How to Help Your Child at Home:

- If you go bowling, talk to your child about the one-time cost of renting shoes and the repeated cost of paying for each game that is bowled.
- Compare the costs involved in bowling to going skating and paying a set amount for each person that is skating.
- Use everyday “function” language, such as how time at the grocery store is likely related to how many items you are buying or how many friends you run into.
- Discuss terms that mean something specialized in math compared to how we use them in family conversations, such as similar, translation, reflection, transformation, system, origin and variable.

## Questions You Can Ask Your Child:

- Would you rather start with \$50 and save \$5 per week for a year or start at \$0 and save \$7 per week for a year?
- At what point does one option become better than the other? Are there any circumstances that would lead you to select the other option?

## Questions You Can Ask Your Child's Teacher:

- What do you think is giving my child the most trouble? How can I help him or her improve in this area?
- How much time should my child spend on homework each night?
- Are there any tools (resources, websites, videos, etc.) we can use at home for support?
- How can we access Desmos? (Desmos is the online calculator students will have access to during upcoming assessments.) Are there any features that we should use at home to support classroom learning?
- What can I do to prepare my child for high school?
- What will my child be learning this year? How can I support her or his development in that area?

# GRADE 7 READING AND WRITING

## OVERVIEW:

During 7th grade, students will become critical consumers and communicators of information. Your child will:

- Read print and digital texts from many cultures and time periods on a variety of topics;
- Analyze how authors use words, structures and evidence for different purposes;
- Write pieces using text-based evidence to communicate with a variety of audiences for a variety of purposes; and
- Think critically and analytically to become independent and proficient lifelong learners.

## Examples of Your Child's Work at School:

- Reading closely to analyze and comprehend difficult texts;
- Determining themes and central ideas of texts;
- Using grade-level vocabulary when reading, speaking and composing in all content areas;
- Writing a variety of argumentative, informational/explanatory, narrative and research products using evidence from print, non-print and digital resources; and
- Acknowledging opposing claims and countering/refuting them with logical evidence and reasons.

## How to Help Your Child at Home:

- Look for ways to make books, magazines, newspapers and digital texts available at home.
- Visit the local library to see what resources and programs are available for your child.
- Make time to discuss family history, family events and current local/world issues.
- When reading/viewing text, commercials, news, movies, TV shows and websites, critically discuss the author's and others' differing perspectives.

## Questions You Can Ask Your Child:

- What message does the text (book, movie, TV show, magazine article, news program, commercial) send to you? Do you believe the message? Why or why not?
- How did the writer choose certain words to impact how you think/feel about the topic?
- How would you challenge the information the writer presented? What evidence would you use to argue the point with him or her?
- How do writers deliver information in different formats? Movies vs. books? TV news vs. articles? Printed text vs. websites? Podcasts vs. editorials? How do different formats impact information?

## Questions You Can Ask Your Child's Teacher:

- What topics are being explored through reading and writing at school?
- How can we use my student's interests to encourage reading and writing at home?
- How can we practice critical reading and viewing at home?
- How can we practice debating claims and counterclaims about a topic?

# GRADE 7 SCIENCE

## OVERVIEW:

During 7th grade, your child will be an active learner who will be doing science to learn science. They will continue to build on concepts learned in grades K–6 and experience similar science and engineering practices (skills) as those used by professionals in the field such as developing and using models, asking questions and defining problems, analyzing and interpreting data, constructing explanations and designing solutions, planning and carrying out investigations, using mathematics and computational thinking, and engaging in arguments from evidence while making connections across the different areas of science to develop a deeper understanding of the science concepts. Your child will:

- Develop an understanding of the significant and complex issues surrounding human uses of land, energy, mineral and water resources and the resulting impacts of their development;
- Build on their understanding of how environmental and genetic factors affect growth of organisms by connecting this to the role of animal behaviors in reproduction of animals as well as the dependence of some plants on animal behaviors for their reproduction;
- Describe ways gene mutations and sexual reproduction contribute to genetic variation and how they can use ideas of genetic variation in a population to make sense of organisms surviving and reproducing, hence passing on the traits of the species.
- Examine geoscience data to understand the processes and events in Earth's history.

## Examples of Your Child's Work at School:

- Analyzing data on the properties of substances to determine if a chemical reaction has occurred;
- Design, construct and test a device that either minimizes or maximizes thermal energy such as a cup to keep a drink cool;
- Develop and use a model to describe that waves are reflected, absorbed or transmitted through various materials;
- Develop a model to describe how food is rearranged through chemical reactions forming new molecules that support growth and/or release energy as this matter moves through an organism; and
- Using arguments supported by evidence for how the body is a system of interacting subsystems composed of groups of cells.

## How to Help Your Child at Home:

- Ask your child what they are learning about in science class. Find current events and other texts to encourage discussions about their learning.
- Watch TV programs about how things are made and discuss how the object was designed, constructed and tested.
- Discuss how Minecraft and other computer games use science concepts they are learning in school.

## Questions You Can Ask Your Child:

- What are you trying to figure out in science class?
- What kinds of investigations are you doing in science class?
- When one moving object collides with a stationary object, why does one speed up and the other slow down?
- What kinds of problems are you solving? How has research helped you develop a solution?

## Questions You Can Ask Your Child's Teacher:

- What kind of phenomena are being explored?
- What are the big ideas my child will be learning about this year?
- What kinds of scientific research is my child experiencing?
- How is my child asked to include evidence into explanations and arguments?
- How are reading and writing and mathematics being included in science instruction?

# GRADE 7 SOCIAL STUDIES

## OVERVIEW:

In 7th grade, students will study how movement and migration impacted the interactions between expanding civilizations in Afro-Eurasia (North Africa, Sub-Saharan Africa, Asia and Europe) and the Americas from 600 to 1600. Your child will:

- Compare how different economic systems divide the production, distribution and consumption of resources;
- Examine ways in which one culture can both positively and negatively influence another;
- Evaluate the political, geographic, economic and social impact of the expansion of empires during this period; and
- Examine how the accomplishments, developments, conflicts, migrations and interactions of the early modern world established the foundations of modern society.

## Examples of Your Child's Work at School:

- Developing claims and arguments that are based on research and include many perspectives;
- Comparing the rights, roles, responsibilities and limitations of subjects in empires between 600 and 1600 with those of citizens in modern countries;
- Explaining how growing interdependence and advances in technology improve standards of living; and
- Evaluating the political, geographic, economic and social impact of the expansion of empires between 600 and 1600.

## How to Help Your Child at Home:

- Encourage your child to ask questions. When your child asks questions, rather than give answers immediately, suggest thinking about where the answer might be found.
- Encourage your child to read nonfiction materials, such as articles and biographies.
- Encourage your child to compare news reports of the same event from multiple news outlets.
- Encourage your child to investigate countries across the world that allow their citizens varying degrees of political involvement and freedom of speech.
- Model civic engagement by researching candidates before voting, filling out census documents as a family and participating in local events, among others.

## Questions You Can Ask Your Child:

- What opportunities are available to participate in local, state and national government and how does that look different today than it did in expanding empires?
- How do factors, such as political, geographic, economic and cultural situations, influence the movement of people and goods?
- What's the history behind current events in other countries?

## Questions You Can Ask Your Child's Teacher:

- What online resources or books might support my child's learning?
- Are there places we can visit in our community to learn more about the early settlement of this area?
- What books would support what you are teaching in class?
- What resources are available to support learning about social studies skills?