



KY Standards

Your home for Kentucky Academic Standards.

WELCOME TO GRADE 4!

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 4th 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 4th-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 4th-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 4 MATHEMATICS

OVERVIEW:

During 4th grade, students will develop the ability to add and subtract whole numbers greater than nine using an algorithm (a set of rules). Your child will:

- Use all four operations (addition, subtraction, multiplication and division) with whole numbers;
- Recognize the relationship between fractions and decimals and generate factors and multiples for numbers; and
- Strengthen previous understanding of properties of 2D objects and the use of them to solve problems involving symmetry.

Examples of Your Child's Work at School:

- Knowing multiplication facts up to 12×12 and their related division facts;
- Adding and subtracting fractions and mixed numbers with the same denominator;
- Multiplying fractions by a whole number;
- Converting larger units of measurement to smaller units;
- Using formulas to find area and perimeter of rectangles;
- Using tools (e.g. protractor) to measure and draw angles; and
- Finding unknown angles in a diagram to solve real-world problems.

How to Help Your Child at Home:

- Compare numbers using “times as much.” For example, “If the family cat weighs eight pounds and the family dogs weighs 56 pounds, how many times as much does the dog weigh?”
- Compare fractional amounts in recipes.
- Do activities that use fractions (for example, baking, measuring and driving). Ask your child, “How many $\frac{1}{4}$ cups would we need to make $\frac{1}{2}$ cup? How far have we walked today, if we walked $\frac{6}{4}$ of a mile in the morning and $\frac{3}{4}$ of a mile in the afternoon?”
- Encourage your 4th-grader to persevere in solving a problem, even when it becomes difficult.

Questions You Can Ask Your Child:

- We need $\frac{1}{2}$ cup of milk. How many times do we need to fill the $\frac{1}{4}$ measuring cup to make $\frac{1}{2}$ cup of milk?
- How many times older am I than you?
- What is the perimeter and area of the rectangular garden, basketball court, playground area, etc., in our backyard?

Questions You Can Ask Your Child's Teacher:

- What are some of the strategies my child is using to multiply or divide larger numbers?
- In what ways does my child show how to add and subtract fractions?
- What do you think is giving my child the most trouble? How can I help her or him improve?
- How can I support my child?

GRADE 4 READING AND WRITING

OVERVIEW:

During 4th grade, students will develop the stamina and skills to support more complex reading and thinking about text, as well as writing about what they have read. Your child will:

- Use different strategies to read unknown words and words that have many syllables;
- Listen to, read, talk and write about 4th-grade fiction and nonfiction using clues from the text to help make sense of and analyze what they have read;
- Practice writing various types of products, including opinion pieces, informational products and stories using evidence to support points and ideas;
- Speak and write appropriately using parts of speech, capitalization and punctuation, as well as language that shows a growing vocabulary; and
- Use print and digital resources to clarify pronunciation, spelling and meaning.

Examples of Your Child's Work at School:

- Reading fluently on grade-level;
- Analyzing the overall structure in a text or part of the text the author uses to organize the events, ideas, concepts or information;
- Composing opinions on topics or texts with supporting reasons and information from print or digital resources; and
- Choosing a strategy to determine the meaning of unknown and multiple-meaning words and phrases.

How to Help Your Child at Home:

- Select a poem or story on your child's reading level and practice reading it aloud repeatedly with accuracy and expression.
- Select two or three objects around your home. Ask your child to explain how the objects are similar to and different from each other.
- Talk about events that happened throughout the day. Ask your child to explain why the events happened.
- Express an opinion about a subject or issue and provide reasons to support that opinion.

Questions You Can Ask Your Child:

- What are you reading in class? What have you learned from the text/about the topic?
- Can you connect personally with what is happening in the text? Why or why not?
- Can you show me a sample of some writing you have done recently? How did you pick a topic and decide what to write? Show me a section of your writing you are proud of/still working on/would like to make better.

Questions You Can Ask Your Child's Teacher:

- What is my child reading and writing about at school, and what topics are being explored?
- What vocabulary words does my child need to learn?
- How can I encourage learning at home and what resources do I need to support my child?

GRADE 4 SCIENCE

OVERVIEW:

During 4th grade, your child will be an active learner who will be doing science to learn science. They will learn skills that promote analysis and interpretation of data, critical thinking and problem solving similar to professionals in the field while making connections across the different areas of science to develop a deeper understanding of the science concepts. Your child will:

- Develop an understanding that energy can be transferred from place to place by sound, light, heat and electric currents or from object to object through collisions;
- Develop a model to describe the height and wavelength of waves and show how wave patterns carry energy and can cause objects to move;
- Develop an understanding of the specific functions of plant and animal anatomy that support survival;
- Learn how energy is transferred and how it connects to speed;
- Identify which organisms lives in various environments long ago based on fossil records and understand how the landscape has changed over time using rock formations and fossil locations; and
- Describe that energy and fuels come from renewable and nonrenewable natural resources.

Examples of Your Child's Work at School:

- Use evidence to construct an explanation of the relationship between the speed of an object and the energy of that object;
- Design, test and refine a device that converts energy from one form to another such as electric circuits or solar panels;
- Design a way to communicate information by using patterns that can encode, send, receive and decode;
- Construct an argument using evidence that plants and animals have anatomy that supports survival and growth;
- Using patterns of rock formations and fossils to construct an explanation of how environments change over time;
- Making observations or taking measurements to determine the effects of weather and erosion on shaping the land; and
- Compare solutions to reduce the impacts of natural Earth processes on humans such as earthquake resistant buildings.

How to Help Your Child at Home:

- Take a nature walk through your neighborhood, visit parks and take advantage of hiking, biking and cross-country trails. Observe the features of plants and animals that help them to survive.
- Have your child explore Kentucky Geological Survey website. Then go to Kinds of Fossils Found in Kentucky (at this web site) and look through the photographs of the possible fossil types.
- Observe what happens when two objects collide.
- Investigate the patterns of waves that occur when a pebble is thrown into calm water.

Questions You Can Ask Your Child:

- What do you think will happen when these two objects run into each other?
- What do you notice or remember about waves?
- What causes the different layers in rock?
- Why do plants have roots?
- What structure does a snake use to smell?
- Where does the energy come from that helps us heat our home? (water, sun, coal, etc.)

Questions You Can Ask Your Child's Teacher:

- What are resources I could use at home to help my child with science concepts?
- Are there investigations we can do at home to learn more about how energy transfers to other objects?
- Where are some places in the state that we can explore to learn more about fossils?

GRADE 4 SOCIAL STUDIES

OVERVIEW:

In 4th grade, students will discover how and why people move from one place to another in their study of the migration and settlement of Colonial America. Your child will:

- Describe forms of self-government used by various groups in Colonial America while assessing the ability of various forms of government to foster civic virtues and uphold democratic principles;
- Compare and contrast different ways that the government interacts with the economy;
- Compare the distinctive cultural characteristics of groups that immigrated or were brought forcibly to the United States from other nations or regions; and
- Explain examples of conflict and collaboration among diverse groups of people as they encountered one another.

Examples of Your Child's Work at School:

- Examining why and how people move from one place to another;
- Describing life in early Colonial America;
- Analyzing how cultures of diverse groups interacted, blended and had conflict from European exploration to the Thirteen Colonies;
- Analyzing the geographic features, such as mountains or rivers, that affected human settlement during colonial times; and
- Explaining the hardships early settlers faced when they first settled in America.

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.
- Discuss how different forms of technology affect how people and resources move around Kentucky, the nation and the world. How has technology advanced? Allow them to use maps and photos to investigate.
- Ask your child to explain the cause and effect of certain events, actions or behaviors.
- Talk to your child about the importance of civic participation, such as voting, and locate examples in past and current events.

Questions You Can Ask Your Child:

- How do people change rules and laws?
- How are the prices of goods, services and resources affected by supply and demand?
- Why do people move and live where they live?
- Why is being involved in your community important?

Questions You Can Ask Your Child's Teacher:

- What books and other resources would support my child's understanding of Colonial America?
- Are there places in the local community or in Kentucky we can visit related to early settlements?
- Are there topics my child enjoys studying or researching?
- What resources are available to support her or his learning about social studies?