



MY CHILD'S LEARNING:

a Parent's Guide to the Iowa Core



This guide provides an overview of what your child will learn by the end of 8th grade as directed by the Iowa Core, our statewide academic standards. The guide focuses on the key concepts and skills in mathematics, literacy, science, social studies and 21st century skills. In addition, the Iowa Core builds a strong foundation for success in other subjects he or she studies throughout the school year. If your child is meeting the expectations outlined in the Iowa Core, he or she will be well prepared for high school.

Why are Academic Standards Important?

Academic standards are important because they help ensure that all students, no matter where they live or what school they attend, are prepared for success in college and the workforce. They help set clear and consistent expectations for what students should know and be able to do from kindergarten through 12th grade. Standards are a set of goals, not a curriculum, so decisions about teaching remain with local schools.

High standards help teachers and parents work together to ensure students succeed. They guide parents and teachers to know when students need extra assistance or when they need more challenge in the classroom. They also help your child develop critical-thinking skills that will prepare him or her for college and career.



Some content adapted from the National PTA's *Parent's Guide to Student Success*.

How are the standards organized?

Some of the Iowa Core standards are arranged grade-by-grade, while others are grouped into a span of grade levels. In all cases, the standards set appropriate expectations for what students need to learn, but not how to teach.

- Literacy, mathematics, and science: These standards are arranged grade-by-grade for kindergarten through 8th grade. For high school, literacy standards are arranged by grade span (9-10 and 11-12) and math and science standards are arranged by discipline within the content area.
- Social studies and 21st century skills: These standards are arranged in grade spans of K-2, 3-5, 6-8, and 9-12.



Mathematics

Your child will continue to learn how to write and reason with algebraic expressions. He or she also will make a thorough study of linear equations with one and two variables. By building on previous work with relationships between quantities, your child will be introduced to the idea of a mathematical function. Your child will prepare for high school geometry by learning about congruence (same shape and size) and similarity of geometric figures.

Examples of Your Child's Work at School:

- Understand that slope of a line is a constant rate of change, and relate linear equations in two variables to lines in the coordinate plane.
- Solve linear equations (e.g., $-x + 5(x + \frac{1}{3}) = 2x - 8$); solve pairs of linear equations (e.g., $x + 6y = -1$ and $2x - 2y = 12$); and write equations to solve related word problems.
- Understand functions as rules that assign a unique output number to each input number; use linear functions to model relationships.
- Analyze statistical relationships by using a best-fit line (a straight line that models an association between two quantities).
- Understand congruence and similarity by using physical models, transparencies or geometry software (e.g., when given two congruent figures, show how to obtain one from the other by a sequence of rotations, translations and/or reflections).
- Understand and apply the Pythagorean Theorem ($a^2 + b^2 = c^2$) to solve problems.

How to Help Your Child at Home:

Ask your child to share with you how to:

- Solve interesting problems that involve cylinders and spheres to figure out, for example, how much water fits inside a garden hose, or how many Earths would fit inside the sun.
- Analyze data with a scatterplot to decide, for example, how exercise and obesity are potentially related.
- Solve algebra problems, such as: "You have a coupon worth \$18 off the purchase of a scientific calculator. At the same time the calculator is offered with a discount of 15%, but no further discounts may be applied. For what tag price on the calculator do you pay the same amount for each discount?"

English Language Arts & Literacy

To prepare for bigger challenges in high school, students this year must grapple with major works of fiction and nonfiction that extend across cultures and centuries. As they work to understand precisely what an author or speaker is saying, students also must learn to question an author or speaker's assumptions and assess the accuracy of his or her claims. They also must be able to report findings from their own research and analysis of sources in a clear manner.

Examples of Your Child's Work at School:

- Analyze where materials about the same topic disagree on matters of fact, interpretation or point of view.
- Learn how authors support their ideas through word choice, sentence and paragraph structure, and other methods.
- Build writing around strong central ideas or points of view; support the ideas with sound reasoning and evidence, precise word choices, smooth transitions and different sentence structures.
- Analyze the purpose of information presented in diverse media (e.g., print, TV, web), and evaluate its social, political or commercial motives.
- Use strong, active verbs to create a clear picture for the reader (e.g., walk, skip, meander, lurch, limp).
- Interpret figures of speech (e.g., irony, puns) and develop a large vocabulary of general academic words and phrases.

How to Help Your Child at Home:

- Make time in everyone's busy schedule for family discussions about things happening around the world. Weekends can be a chance for everyone to catch up.
- Visit the campus of a local college with your teen. Begin talking about college early. What does he or she expect from college? What high school courses will your child need to pass to prepare for college?
- Keep books and magazines around the house that your child will enjoy reading and learning from.



Science

In 8th grade students' engage in Science and Engineering Practices and apply Crosscutting Concepts to deepen their understanding of science. Core ideas included in 8th grade are, *Matter and Interactions*, *Motion and Stability: Forces and Interactions*, *Energy and Waves*, *Ecosystems*, *Biological Evolution: Unity and Diversity*, *Earth's systems/Earth and Human Activity*, and *Engineering Design*. Your child will have multiple opportunities to demonstrate science learning. Including, but not limited to, using models, providing evidence to support arguments, obtaining and analyzing data about relationships and interactions among observable components of different systems.

Examples of Your Child's Work at School:

- Gather and make sense of information to describe that synthetic materials come from natural resources and impact society.
- Evaluate competing design solutions for maintaining biodiversity in ecosystems.
- Gather and synthesize information about the technologies that have changed the way humans influence inheritance of desired traits in organisms.
- Develop a model to describe the cycling of water through Earth's systems driven by energy from the sun and the force of gravity.
- Construct an argument supported by evidence for how increases in human population and per-capita consumption of natural resources impact Earth's systems.

How to Help Your Child at Home:

- Encourage finding answers to questions through research and experimentation.
- Help your child create and test a Rube Goldberg device to solve a problem.
- Join a group or club that offers activities such as robotics and computer programming.
- Provide opportunities to observe and talk about changes in matter related to cooking.
- Encourage and help design, create and maintain a terrarium to observe the interactions among Earth's spheres.
- Keep track of weather data at your home and compare with local news weather data.

Social Studies (6-8)

Children will learn about the history and culture of the world around them through the lens of history, behavioral sciences, economics, geography and civics. They will learn the various ways people live throughout the world and how it affects them on a local level. Children will begin to think globally and act locally by taking what they learn about the world and applying it to their daily lives.

Examples of Your Child's Work at School:

- Evaluate the ways in which both individual and group decisions affect society in order to understand the complexity of current social issues.
- Determine the factors that influence global economic dependence and independence.
- Understand the connections between geographic and human characteristics and how these factors influence culture and regions.
- Explain how cause and effect relationships influence historical issues and events.
- Demonstrate knowledge of the three branches of government in order to develop effective strategies for political action at the local, state and national levels.

How to Help Your Child at Home:

- Encourage your child to read every day and to especially seek out rich non-fiction materials related to social studies.
- Investigate your family's cultural heritage and discuss how this contributes to our national diversity.
- Visit local museums and cultural institutions and discuss the cause and effect of historical issues and events, both nationally and internationally.
- Ask your child what he or she is learning in social studies and encourage your child to apply his or her understandings to important issues in the greater community.



21st Century Skills (6-8)

Your child will apply literacy and critical-thinking skills to interpret and understand health, financial and technology concepts. Students will practice career-readiness skills necessary for success in every job; refine their written/oral communication skills; and choose from a variety of exploratory courses to broaden their life skill experiences. They will have opportunities to volunteer within their schools and in the community.

Examples of Your Child's Work at School:

- Use technology (monitors) to record heart rate during different types of exercise and analyze the results.
- Understand how volunteerism contributes to the good of society.
- Demonstrate legal and ethical use of technology and copyrighted material, and an understanding of how disregard for this responsibility affects others.
- Explore employability skills by creating a list based on current research from websites and/or interviews, and write and publish an article about the findings.
- Explain the difference between saving and investing money.

How to Help Your Child at Home:

- Visit www.stopbullying.gov.
- Encourage your child to read and discuss books with 21st Century skills content: *What Color Is Your Parachute for Teens: Discovering Yourself and Defining Your Future* by Carol Christen, *The 7 Habits of Highly Effective Teens* by Sean Covey, and *The Voluntweens: A Guide* by Stephanie Moncilovich.
- Help your child develop a personal spending plan for money he or she receives through gifts, allowance or work.
- Include your child in lifelong activities you enjoy, such as golf, handball, running, or tennis.



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