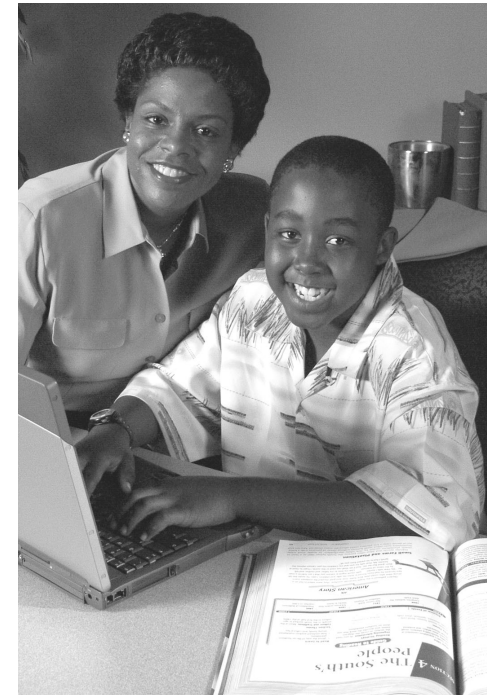


A Standards Guide for Families



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Reading
Writing
Mathematics
Science
Social Studies

What is Expected
in Grade

6



Standards now,
knowledge for a lifetime.

Dear Family,

Education in Ohio is changing. This change will help your child succeed in school. It also will better prepare your child for success in college or the work force upon high school graduation.

The basis of this change is new **academic content standards**, which define what your child should know and be able to do at every grade level. There are new standards in English language arts (reading and writing), mathematics, science and social studies.

These new standards let teachers know what they are expected to teach and students know what they are expected to learn. Standards also help educators identify and measure what students know and can do.

Part of this system will include achievement tests to determine how well your child is making progress toward these new standards. These tests will replace the current Ohio Proficiency Tests.

The information in this guide will give you a sample of some of the things your child will need to know and be able to do in reading, writing, mathematics, science and social studies for the sixth grade. The guide also has helpful practice problems, tips and activities you can do with your child to help him or her achieve the new standards.

*It is important to note that the information in this guide is **not** the complete set of standards; rather, this information is designed to highlight a select number of skills that your child should know and be able to do in the sixth grade.* The official standards documents, designed for teachers' use, are in some cases several hundred pages long. This booklet has been reduced to this size for your convenience.

To view the complete set of standards, visit the Ohio Department of Education Web site at **www.ohioacademicstandards.com**.

I sincerely thank you for the time, interest and energy you are investing in your child's education. I hope this guide is one of many tools you use to help your child reach these new standards and achieve success inside and outside the classroom.

Sincerely,

Susan Tave Zelman
Superintendent of Public Instruction

Tips and Activities

- ✓ As part of your child's study of the world regions, he or she will learn about the world's earliest civilizations. Ask about how these civilizations were the same and how they were different. Compare them to life in the United States today.
- ✓ Watch the television news together regularly. Let the events on the news – especially those about the people and circumstances of other countries — become a basis for conversation. You might also watch documentaries about other countries. Help your child to notice the type of land, the way that people make a living, the religion that they practice and their traditions.
- ✓ At the sixth-grade level, students need to become familiar with the location of places around the globe. Keep a map or globe handy and locate places mentioned in the news or in books that your child is reading. Play games which familiarize your child with countries, cities, mountains, deserts and rivers of the world.
- ✓ Find products in your home that come from other countries. Discuss some of the reasons that people in the United States might buy those products and how this causes countries to depend on each other. Think of products that the United States must trade to get such as bananas or diamonds.
- ✓ See what your child has to say about why countries need governments, and about how countries work together to solve problems.

Note: Some of the tips and activities in this guide were derived from "parent tips" posted on the Web sites of Georgetown County School District in South Carolina (www.gcsd.k12.sc.us) and Chelsea Publishing House (www.teachervision.com). These resources were used with permission of the authors whom we gratefully acknowledge.

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Language Arts



Acquisition of Vocabulary

What this means: *Being able to recognize clues in reading, ask questions, listen and converse with adults and peers*

- Know the difference between the meanings of connotation (the attitude and/or feelings associated with a word) and denotation (the actual meaning of a word).
- Identify analogies (e.g., graceful is to clumsy as early is to late) and how other words are related to determine the meaning of words.
- Recognize and use words from other languages that have been adopted into the English language (e.g., the words *ocean*, *marathon* and *echo* all come from the Greek language).
- Determine the meaning of words using dictionaries, thesauruses, glossaries, technology or footnotes.



Reading Process – Concepts of Print, Comprehension Strategies and Self-Monitoring Strategies

What this means: *Through reading, students will understand the basic concepts and meanings of different types of print materials.*

- Summarize the information and ideas in print material. Note any gaps (where ideas or words may have been left out) or contradictions (inconsistencies).
- Use graphic organizers (e.g., lists, brainstorming, webs, charts, diagrams, outlines, etc.) to interpret reading material.
- Read books for different reasons such as for enjoyment, to gain information or to perform a task.



Reading Applications – Informational, Technical and Persuasive Text

What this means: Reading, understanding, explaining and critiquing different kinds of written materials such as magazines, essays, maps and online sites.

- Understand cause and effect and fact and opinion in printed material.
- Compare reading material to a summary of the material to see if it reflects the main ideas of the original material.
- Examine information in maps, charts, tables, graphs and diagrams.
- Identify an author’s point of view or argument and judge if the details were used accurately.



Reading Applications – Literary Text

What this means: Organizing and interpreting results through collecting data to answer questions and solve problems, show relationships and make predictions about different types of literature (e.g., fables, tales, short stories).

- Explain the different ways authors describe characters such as through different points of view, or the characters’ thoughts, words or actions.
- Identify the major and minor events of the plot and explain how they influence what will happen next.
- Explain first-person, third-person and omniscient points of view and explain how each affects the reading material.



- Complete a research project that includes a bibliography.
- Communicate an opinion on a topic and support it with evidence.
- Work effectively to achieve group goals:
 - a) Engage in active listening;
 - b) Provide feedback;
 - c) Help make group goals;
 - d) Take different roles in the group;
 - e) Recognize contributions of others.



Check your understanding: **Democracy, Monarchy, Dictatorship**



- Democracy:** A government where the people have political power either directly or through their elected representatives.
- Monarchy:** A government headed by a monarch such as a king, queen, shah or sultan.
- Dictatorship:** A government in which those who rule get and keep their power by using force.



Citizenship Rights and Responsibilities

What this means: Preparing to become active citizens.

- Explain how opportunities for citizens to participate in and influence the political process differ under various systems of government.
- Compare the rights and responsibilities of citizens living under various systems of government.



Social Studies Skills and Methods

What this means: Collecting information, organizing it and using it to make decisions.

- Use almanacs, gazetteers, books, periodicals, videotapes and computers to define vocabulary and find information for a research project.
- Analyze information from primary and secondary sources to summarize and draw conclusions.
- Organize information using outlines and graphic organizers (charts or diagrams).
- Read and interpret pictographs, bar graphs, line graphs, circle graphs, tables and flow charts.

Check your understanding: **First-Person, Third-Person and Omniscient Points of View**



- First-person point of view:** The point of view is that of the main character.
- Third-person point of view:** The point of view is that of someone outside of the story.
- Omniscient point of view:** The narrator has complete awareness and understanding at all times.

- Identify themes, patterns and symbols that occur over and over again and that are found in reading materials from different eras and cultures.
- Explain what defines different kinds of writing such as poetry, drama, myths, biographies, autobiographies, fiction and non-fiction.



Writing Processes

What this means: Using the steps of prewriting, drafting, revising and editing to publish different types of writing.

- Establish a thesis (theme) statement for writing.
- Determine a purpose (e.g., to inform, to entertain) and audience for writing.
- Change the order of words, sentences and paragraphs, and add transitional words and phrases (e.g., also, in addition to, for the most part, therefore, in conclusion) to make meaning clearer.
- Use resources such as dictionaries or thesauruses to choose more effective vocabulary.
- Prepare publications for writing that follow a format appropriate to the purpose (e.g., for display or sharing with others). Use techniques such as electronic resources and graphics to enhance the final product (e.g., storyboard, collage, poster, photographs, illustrations, charts, graphs, diagrams).



Writing Applications

What this means: Learning about, using and choosing appropriate words for different kinds of writing, from letters to scientific reports, and for different audiences.

- Write stories that keep a clear focus and point of view and use sensory details (help the reader experience the story) and dialogue (conversation) to develop plot, characters and a specific setting.
- Write responses to novels, stories, poems and plays. Show understanding by using examples and evidence from the reading material.
- Write letters that state a purpose, make a request or give a compliment and use business letter format.
- Write persuasive essays that have a clear position and include organized and relevant information to support ideas.



Writing Conventions

What this means: Understanding and applying punctuation, grammar and spelling rules.

- Use all eight parts of speech including nouns, pronouns, verbs, adverbs, adjectives, conjunctions, prepositions and interjections.

Check your understanding: **Using the Eight Parts of Speech** ✓

- Nouns:** Jane went to the **store** with **Mary**.
- Pronouns:** Tom hit a home run. **He** scored the winning point.
- Verbs:** He **ran** and **played** at recess.
- Adverbs:** The man drove **slowly**.
- Adjectives:** That was a **long, difficult** test.
- Conjunctions:** I would like a hamburger **and** French fries, **but** only if I have enough money.
- Prepositions:** He played **on top of** the monkey bars, **underneath** the slide and **around** the tree.
- Interjections:** **Hey!** Look at that cat in the tree.

Check your understanding: **Supply and Demand** ✓

In general, the number of cars that people are willing to buy goes up when the price goes down. If people want to buy more cars than the producer is willing to make and sell at a certain price there is a shortage.

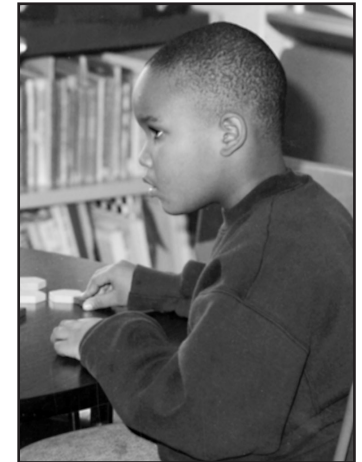
When prices are high fewer people are willing to buy cars. Some cars may remain unsold which creates a surplus. The market clearing price is the price at which the number of cars supplied by the producer is the same as the number that people are willing to buy. There would be neither a surplus nor a shortage.



Government

What this means: Understanding why government is necessary and how it works.

- Explain reasons for the creation of government such as protecting lives, liberty and property, and providing services that individuals cannot provide for themselves.
- Describe how the world is divided into countries that claim sovereignty over territory, and that countries may be further divided into states or provinces that contain cities and towns.
- Explain the ways countries interact with each other including diplomacy, treaties, international meetings and exchanges (e.g., United Nations) and military conflict.
- Describe the defining characteristics of democracies, monarchies and dictatorships.



Check your understanding: **Urbanization, Desertification, Deforestation**



Urbanization: The growth of cities.
Desertification: The growth of deserts.
Deforestation: The destruction and removal of forests.

- Describe ways humans depend on and change the environment and the positive and negative consequences of the modifications including dam building, energy production/usage, agriculture and urban growth.
- Explain push and pull factors that cause people to migrate from place to place including oppression/freedom, poverty/economic opportunity, cultural ties, political conflicts and environmental factors.
- Identify and explain primary geographic causes for world trade including the uneven distribution of natural resources.



Economics

What this means: Understanding how to make decisions in our economic system.

- Explain how the availability of resources and entrepreneurship affects the production of goods and services in different world regions.
- Explain why trade occurs when individuals, regions and countries specialize in what they can produce at the lowest opportunity cost and how this causes both production and consumption to increase.
- Identify goods and services that are imported and exported and explain how this trade causes countries to depend on each other.
- Describe how supply and demand help to set the market clearing price for goods and services and how prices reflect the relative scarcity of goods and services.

- Use subject-verb agreement with collective nouns (collective nouns name groups composed of members, usually people; e.g., army, public, team), indefinite pronouns, compound subjects and prepositional phrases.
- Use semicolons (;), colons (:), hyphens (-), dashes (—) and brackets ([]).



Research

What this means: Knowing how to gather information in all subjects using different kinds of tools (e.g., books, computers, magazines) and communicate what is found.

- Choose a topic to research that is either assigned or is of personal interest, come up with open-ended questions and create a plan for gathering information.
- Locate sources and collect information from several sources such as school library catalogs, online databases and electronic resources.
- Use quotations to support ideas.
- Use different ways of communicating such as oral (spoken), visual or written, to present information.



Communication: Oral and Visual

What this means: Delivering presentations on different topics for different types of audiences.

- Understand the main idea and draw conclusions from presentations.

- Understand the different techniques used in a presentation that is designed to persuade.
- Give presentations that:
 - a) Show an understanding of the topic and events or ideas in logical order;
 - b) Support the main idea with facts, details, examples, quotations, statistics and/or stories;
 - c) Include a clear introduction, body and conclusion;
 - d) Use visuals;
 - e) Use and name several different sources;
 - f) Establish a clear position;
 - g) Include important evidence that supports the position and addresses possible concerns of the listeners;
 - h) Follow common organization structures when appropriate (e.g., problem-solution, cause-effect).

- Describe the characteristics of the Maya, Inca, Aztec and Mississippian civilizations including location, government, religion, agriculture and cultural and scientific contributions.

Note: Students will be studying early people who lived within each region. Further study of history will continue in grades seven through ten.



People in Societies

What this means: *Identifying both similarities and differences in the traditions of various groups of people.*

- Compare the daily life of people in the societies studied including class structure, gender roles, beliefs, and customs and traditions.
- Compare religions and belief systems focusing on geographic origins, founding leaders and teaching including Buddhism, Christianity, Judaism, Hinduism and Islam.
- Explain factors that foster conflict or cooperation among countries, such as language, religion, types of government, historic relationships and economic interests.



Geography

What this means: *Identifying the location of places, understanding how places are connected and how human activity affects them.*

- Place countries, cities, deserts, mountain ranges and bodies of water on the continents on which they are located.
- Explain the distribution patterns of agriculture, mining, fishing and manufacturing and explain how changes in technology, transportation, communication and resources affect those patterns.
- Describe a variety of physical and human regions by analyzing maps, charts and graphs that show patterns of characteristics that define regions.
- Describe ways in which human migration has affected physical and human characteristics of places including urbanization, desertification and deforestation.

Tips and Activities

- ✓ Create an organized work space at home for your child. It should be well lit and have the resources a student needs for work. (e.g., dictionary, thesaurus, paper, pencils, pens, folders, etc.).
- ✓ Create a good relationship with your child's school and the teachers. Communicate your concerns and questions.
- ✓ Take your child to the library to get books and to attend special events. Have your child observe how books are displayed and promoted.
- ✓ To help your child draw conclusions, use real-life experiences and form an opinion. Use a real-life experience such as a science fair. Ask questions such as "Who do you think will win?" "Why do you think so?" "What information do you have that makes you think that way?"



Focus: World Regions

History

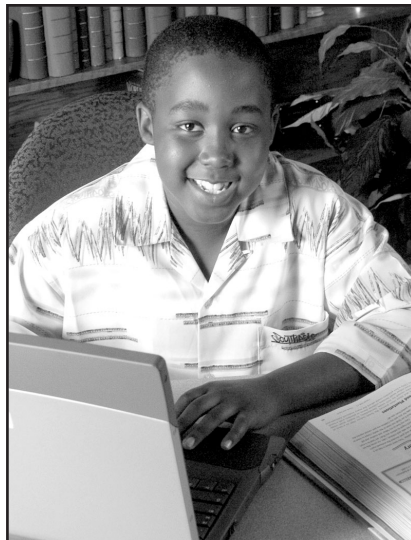
What this means: Understanding the pattern of events that have happened in the past.

- Make multiple-tier timelines from a list of events and understand how the events are related.

Check your understanding: **Timelines** ✓

Students use multiple-tier timelines to show different types of events during the same span of years. An example would show dates of new inventions on one line and lives of famous individuals on another. The students could use the timelines to see what inventions the individuals may have had available during their lifetime.

- Describe the early development of humankind from prehistoric times including:
 - a) Hunting and gathering;
 - b) Tool making;
 - c) Use of fire;
 - d) Domestication of plants and animals;
 - e) Organizing societies;
 - f) Government.
- Compare the river civilizations in the Tigris and Euphrates, Nile, Huang Ho and Indus valleys before 1000 B.C. including location, government, religion, agriculture and cultural and scientific contributions.



Numbers, Number Sense and Operations

What this means: Using number sense and number skills, from basic counting to paper and pencil calculations, to age-appropriate use of calculators and computers.

- Decompose and recompose whole numbers using factors and exponents. Understand and explain why “squared” means to the “second power” and “cubed” means to the “third power.”

Check your understanding: **Factors and Exponents** ✓

$$8 = 2 \times 2 \times 2 = 2^3 \quad \text{or} \quad 16 = 4 \times 4 = 4^2$$

- Find and use prime factorization of composite numbers.

Check your understanding: **Composite Numbers and Prime Factorization** ✓

Composite numbers: A number that has more than two factors (e.g., 8 is a composite number because it has 4 factors: 1, 2, 4 and 8).

Prime factorization: The expression of a number as a product of prime factors (e.g., the prime factorization of 12 is $2 \times 2 \times 3$).

- Describe what it means to find a specific percent of a number using real-life examples.

Check your understanding: **Finding Percent** ✓

Tennis shoes that originally sell for \$120 are now 25% off. Find the amount of the discount (= \$30 off).

- Understand that the answer to a division problem (called a quotient) might be larger than the dividend when the divisor is a fraction. For example, $6 \div \frac{1}{2} = 12$.

- Solve problems involving fractions and decimals and justify the reasonableness of the answer.
- Estimate reasonable answers to problems that involve fractions and decimals.

Check your understanding: **Estimation Involving Fractions and Decimals**

$\frac{7}{8} + \frac{12}{13} \approx 2$ because $\frac{7}{8}$ is close to 1 and $\frac{12}{13}$ is close to 1.
 $4.23 \times 5.8 \approx 25$ because 4.23 is more than 4 and 5.8 is close to 6.

- Use proportional reasoning, ratios and percents to represent problem situations and decide how reasonable the solutions are.
- Determine the percent of a number and solve related problems.

Check your understanding: **Percent of a Number**

Find the percent markdown if the original price was \$150 and the sale price is \$75 (= 50% markdown).



Measurement

What this means: Making accurate measurements using the appropriate tools, terms and technology.

- Understand the difference between surface area and volume. Surface area is the total area of the faces of a solid, while volume is the measure of the space inside of a solid.
- Estimate the perimeter, circumference and area for circles, triangles and quadrilaterals. Estimate the surface area and volume for prisms and cylinders. Do this by:
 - a) Estimating the lengths of the objects using strings or links, estimating the area using tiles or grids and estimating the volume using cubes;
 - b) Measuring features such as side lengths or heights and using formulas that already exist for circles, triangles, rectangles, parallelograms and rectangular prisms.

Tips and Activities

- ✓ Encourage your child to be a “collector.” Provide a place for collections to display rocks, insects, leaves, stamps and shells. Go to the library to find books that help your child identify characteristics of the items.
- ✓ Make certain that you teach your child rules of safety in the handling of electrical, mechanical and chemical equipment. Educationally-approved and age-appropriate toys and games are good for gift-giving: subscription to a scientific magazine for children, an easy-to-assemble radio earphone set, model airplanes, a general science kit, an aquarium or terrarium, a chemistry set, and microscope or telescope.
- ✓ Ask about the scientists your child is currently studying. Are men, women and different ethnicities represented and are any scientists from your home state? What does your child know about these scientists and their work?
- ✓ Science in the sixth grade continues to give attention to the sources of common things and to everyday processes. You and your child can investigate questions such as “Why do magnets pick up some metals and not others?” “How does electricity travel?” “How are movies made?”
- ✓ Inquire about the local ecosystem. What does your child know about the food chain and how species of birds, fish, insects and mammals fit into it? Visit a nearby wetlands or preserved area.

- Explain how the usefulness of manufactured parts of an object depends on how well their properties allow them to fit and interact with other materials.
- Design and build a product or create a solution to a problem given one constraint or limitation (e.g., limits of cost and time for the design and production; supply of materials and environmental effects).

Scientific Inquiry

What this means: *Using scientific processes to ask questions, conduct investigations, gather, analyze and communicate information.*

- Explain that there are not fixed procedures for guiding scientific investigations/experiments; however, the nature of the investigation determines what kind of process is needed.
- Choose the correct tools or instruments and use safety procedures to complete a scientific investigation.
- Know the difference between an observation and an inference.
- Explain that a single example can never prove that something is always correct, but sometimes a single example can disprove something.

Scientific Ways of Knowing


What this means: *Learning how to think scientifically and understand how people have shaped the study and practice of science.*

- Identify that hypotheses (educated guesses) are valuable, even when they are not supported.
- Describe why it is important to keep clear, thorough and accurate records.
- Describe how the pursuit of scientific knowledge can benefit any career or even daily life.
- Research how men and women of all countries and cultures have contributed to science.

Check your understanding: **Perimeter, Circumference, Area, Surface Area and Volume** 

- Perimeter:** The distance around the outside of a shape or figure.
- Circumference:** The distance around a circle.
- Area:** The number of square units in a region.
- Surface area:** The total area of the faces of a solid.
- Volume:** The measure of the space inside of the solid.

- Determine which measure (perimeter, area, surface area or volume) matches the context for a problem situation.

Check your understanding: **Determining Which Measure to Use** 

What is the measuring context for fencing a garden? (perimeter)
What is the measuring context for wrapping a box? (surface area)

Geometry and Spatial Sense

What this means: *Identifying, classifying and analyzing one-, two- and three-dimensional objects, understanding their properties and using that knowledge to solve problems.*

- Describe two-dimensional (e.g., squares, circles, triangles) and three-dimensional (e.g., cubes, cones, cylinders) shapes by using their properties.
- Use standard language to describe vertex, face, altitude, diagonal, isosceles, equilateral, acute and obtuse.

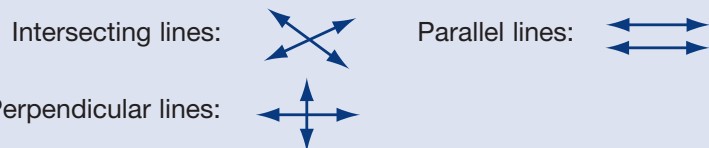


Check your understanding: **Vertex, Face, Altitude, Diagonal, Isosceles, Equilateral, Acute and Obtuse**

- Vertex:** The point at which two line segments, lines or rays meet to form an angle.
- Face:** A flat side of a solid figure.
- Altitude:** A line segment showing the height of a figure.
- Diagonal:** A line segment joining two nonconsecutive vertices.
- Isosceles:** At least two sides are the same length in a shape; e.g., triangle, trapezoid.
- Equilateral:** All sides are the same length in a shape; e.g., triangle, square.
- Acute:** An angle that measures less than 90 degrees.
- Obtuse:** An angle that measure more than 90 degrees.

- Define relationships between planes such as parallel, perpendicular and intersecting.

Check your understanding: **Relationships Between Planes**



- Predict and describe sizes, positions and orientations of two-dimensional shapes after transformations, such as reflections, rotations, translations and dilations.
- Build three-dimensional objects with cubes and draw two-dimensional representations of each side.

Patterns, Functions and Algebra

What this means: Representing patterns and relationships using tables, graphs and symbols, and using them to solve problems.

- Use words and symbols to describe numerical and geometric patterns, rules and functions.

- Describe that in physical change (e.g., state, shape or size) the chemical properties do not change. Understand that chemical and physical changes take place all around us (e.g., cooking, industry, human body).
- Explain that the energy found in nonrenewable resources such as fossil fuels (e.g., oil, coal or natural gas) originally came from the sun and may renew slowly over millions of years.
- Describe how electric energy can be produced from a variety of sources such as the sun, wind or coal.
- Describe how renewable and nonrenewable energy resources can be managed (e.g., fossil fuels, trees, water).



Science and Technology

What this means: Understanding the relationship between science and technology to design and construct devices to solve problems.

- Explain how technology influences the quality of life.

Check your understanding: **Influences of Technology**

Talk about science and technology. Ask your child about how television has changed people's lives. What was daily life like before television or other popular inventions? You can also talk about how medical research is keeping people alive longer and detecting diseases earlier, and how robots are doing the work of people in automobile factories.

- Explain how decisions about the use of the products and systems can result in desirable or undesirable social and environmental consequences.

Check your understanding: **Plant Cells vs. Animal Cells**

Plant cells differ from animal cells in that they have traits such as cell walls and chloroplasts.

- Recognize that an organism does not live forever, therefore reproduction is necessary for the continuation of a species. Traits are passed on to the next generation through reproduction.
- Understand that in asexual reproduction all traits that are inherited come from only one parent.
- Describe that in sexual reproduction an egg and a sperm unite and some traits come from each parent. Therefore, the offspring is never exactly like either of the parents.
- Recognize that the similarities between parents and their offspring such as eye color are inherited. Other similarities such as table manners are learned.
- Describe how organisms may interact with one another.



Physical Sciences

What this means: Understanding physical systems, concepts and properties of matter, energy, forces and motion.

- Explain that equal volumes of different substances usually have different masses.

Check your understanding: **Equal Volume, Different Masses**

Describe how items of equal volumes made up of different substances may have different masses. For instance, compare ball bats of the same shape and size, but with a different mass (i.e., wooden bats, plastic bats, aluminum bats) and balls of the same size with a different mass (i.e., plastic waffle ball, baseball, rubber ball).

- Describe that in a chemical change new substances are formed with different properties than the original substance (e.g., rusting, burning).

- Solve simple linear equations and inequalities using models, paper and pencil, and tables and graphs.

Check your understanding: **Linear Equations and Inequalities**

Linear equation: An equation in which variables are raised to the first power. (e.g., $3x + y = 5$).

Linear inequality: An inequality in which variables are raised to the first power (e.g., $3x - 2 > 0$).

- Make and understand graphs that represent the relationship between two variables.
- Identify and describe situations with constant or varying rates of change and compare them.
- Use technology to analyze change (e.g., use computer applications or graphing calculators to display and interpret rate of change).



Data Analysis and Probability

What this means: Organizing and interpreting results through data collection to answer questions, solve problems, show relationships and make predictions.

- Understand circle graphs, line graphs and histograms. A histogram is a graph that uses bars to show the frequency of data within equal intervals.
- Compare representations of the same data in different types of graphs such as a bar graph and circle graph.
- Describe the frequency distribution of a set of data as shown in a histogram, frequency table, or by general appearance or shape.
- Make logical inferences from statistical data.
- Design an experiment to test a theoretical probability and explain how the results vary.





Mathematical Processes

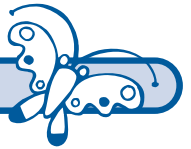
What this means: Applying problem-solving and reasoning skills and communicating mathematical ideas.

- Use logical steps to communicate mathematical thinking to support reasoning and justify solutions to problem situations. Select, apply and translate among mathematical representations to solve problems.

Tips and Activities

- ✓ Play tic-tac-toe, dots, checkers, board games, chess and increasingly complex card games with your child. All involve problem-solving and logic and all are based on mathematics.
- ✓ Ask “How could we figure out how tall our house is?” What about a local church or the school? Expect your child to come up with many suggestions for figuring out the height.
- ✓ Make up problems. For example: “It takes us 5 hours and 15 minutes to get to Aunt Ruth’s house if we average 55 miles per hour. How long would it take if we went 60 miles per hour? How about 50 or 45 miles per hour?”
- ✓ Take your child to the grocery store for comparison shopping. Ask questions such as “Are 3 oranges for \$.79 or a dozen oranges for \$3.19 the better buy?”
- ✓ Help your child find the sales tax rate for your city. Have your child select items from a sales ad in the newspaper or a catalog book. Use the sales tax rate to find the total cost of items to be purchased.

Science



Earth and Space Sciences

What this means: Understanding the interconnected cycles and systems of the universe, solar system and Earth.

- Describe the rock cycle and explain that there are sedimentary, igneous and metamorphic rocks that have distinct properties (e.g., color, texture) and are formed in different ways.

Check your understanding: **Sedimentary, Igneous and Metamorphic Rocks**



- Sedimentary rocks:** Rocks formed by cemented particles or chemical reactions in or near water.
- Igneous rocks:** Rocks formed by heat or fire that have melted, cooled and hardened.
- Metamorphic rocks:** Rocks changed by temperature and pressure within the crust of the Earth.

- Explain that rocks are made of one or more minerals.
- Identify minerals by their properties.



Life Sciences

What this means: Understanding the structure and function of living systems and how they interact with the environment.

- Explain that many of the basic functions of organisms are carried out by or within cells and are similar in all organisms.
- Explain that multi-cellular organisms have a variety of cells, tissues, organs and organ systems that perform certain functions.
- Understand how plant cells differ from animal cells.