

A Family Guide  
To Mastering The TEKS  
The Texas Essential Knowledge and Skills  
**Sixth Grade**

# Language Arts

## Expectations at School

### **During Sixth Grade, students will:**

- Listen and speak for a variety of purposes and audiences
- Acquire an extensive vocabulary through reading and systematic word study such as context clues, Greek and Latin roots, and multiple reference aids
- Develop higher-level thinking skills by using a variety of literacy strategies
- Understand the distinguishing features of genres, including biography, historical fiction, informational texts, drama, and poetry
- Recognize, apply, and analyze various literary devices such as style, tone, and mood
- Recognize and discuss themes and connections within and across cultures
- Read and respond to classical and contemporary literature
- Write for a variety of audiences and purposes (to inform, to influence, and to entertain)
- Compose original text and apply the conventions of standard grammar, usage, and sentence structure
- Use media and various forms technology to interpret, analyze, and produce visual images and messages
- Use the writing process to create, revise, edit, and publish written work
- Use research skills to create a publishable product.

# Language Arts

## Support at Home

### **As parents, provide opportunities for your 6<sup>th</sup> grader to:**

- Read aloud with you on a regular basis
- Read a book together
- Observe and talk about real-life applications of reading and writing
- Read from various sources such as magazines, newspapers, and books
- Visit libraries and bookstores regularly
- Communicate in writing through letters, thank you notes, to do lists and Email
- Increase writing fluency by keeping a journal or personal diary
- Observe you reading and writing
- Attend professional and/or amateur dramatic productions.

# Mathematics

## Expectations at School

### During Sixth Grade, students will:

- Compare and order non-negative rational numbers
- Generate fraction, decimal, and whole number and mixed number equivalencies.
- Use integers to represent real-life situations.
- Write the prime factors of a number using exponents.
- Identify factors and multiples including common factors and common multiples.
- Use addition and subtraction to solve problem involving fractions
- Use multiplication and division of whole numbers to solve problems
- Estimates and round to approximate reasonable results and to solve problems where exact answers are not required.
- Use ratios to describe proportional situations.
- Represent ratios and percents with models, fractions, and decimals
- Use ratios to make predictions in proportional situations
- Create tables to represent data.
- Use tables to develop formulas for perimeter, area, and volume.
- Formulate an equation from a problem situation.
- Measure and draw angles using a protractor and classify them as acute, obtuse, or right.
- Identify and analyze sides and angles of quadrilaterals and triangles.
- Identify parts of a circle (radius, diameter, and circumference) and understand how they are related.
- Locate and name points on a coordinate plane (using numbers  $\geq 0$ ).
- Estimate measurements evaluate the reasonableness of results.
- Solve problems involving length, area, time, temperature, capacity and weight using appropriate units, tools, or formulas.
- Convert measures within the customary system.
- Convert measures within the metric system.
- Arrange data into lists, tables, and tree diagrams to represent combinations resulting from experiments such as spinning a spinner or flipping a coin.
- Determine the probability of a simple event and its complement
- Collect, organize, display, and interpret data using various kinds of graphs.
- Sketch circle graphs.
- Use mean, median, mode and range to describe data.
- Use a problem solving model to solve problems connected to everyday experiences.
- Select an appropriate problem solving strategy in order to solve non-routine problems.

# Mathematics

## Expectations at School (Continued)

### During Sixth Grade, students will:

- Use tools such as manipulatives, paper/pencil, mental math, number sense, and technology to solve problems.
- Communicate mathematical ideas using language, graphical, numerical, physical, or algebraic models.
- Evaluate the effectiveness of different representations to communicate ideas.
- Use logical reasoning to make conjectures and verify/validate conclusions.

# Mathematics

## Support at Home

### As parents, provide opportunities for your 6<sup>th</sup> grader to:

- Look to you as a positive role model in learning math.
- See you as a problem solver – someone who questions, investigates, and explores a variety of solutions to problems.
- Find the practical applications of the various math concepts he/she is studying.
- Apply math in real-life situations (budgeting an allowance, managing a savings account, cooking, shopping, hobbies).
- Explain his or her thinking or processes for problems solving (ideas, steps in a process, etc.)
- Solve problems using strategies such as making a list, making a simpler problem, drawing a picture, trial and error, and using computational skills.
- Talk to you about mathematical representations found in media (newspaper and other print materials, television and film).
- Have a set time and place for completing homework and other assignments.
- Participate in family activities that incorporate mathematical concepts such as games (including cards), and puzzles.

# Science

## Expectations at School

### In Sixth Grade, your child will:

#### Safety

- Demonstrate safe practices during field and laboratory investigations
- Use and conserve resources and dispose of or recycle materials

#### Use of Scientific Tools

- Use scientific tools to collect, analyze and record information using tools including beakers, petri dishes, meter sticks, graduated cylinders, weather instruments, timing devices, hotplates, test tubes, safety goggles, spring scales, magnets, balances, calculators, field equipment, microscope telescopes, thermometers, computers, and computer probes

#### Scientific Inquiry Methods and Critical Thinking

- Identify patterns in information- percent, average, range, frequency
- Plan and implement investigative procedures- ask questions, formulate hypotheses, select and use equipment and technology
- Collect data- observe and measure
- Analyze and interpret information to construct explanations from direct and indirect evidence.
- Communicate valid conclusions
- Construct graphs, tables, maps, and charts to organize, examine, and evaluate data
- Analyze, review, critique scientific explanations- hypotheses, theories as to strengths and weaknesses
- Draw inferences based on data related to promotional materials for products and services
- Represent the natural world using models and identify their limitations
- Evaluate the impact of research on scientific thought, society, and environment
- Connect science concepts with the history of science and scientists

#### Life Science

- Differentiate between structure and function of living systems
- Determine that all organisms are composed of cells whose functions sustain life
- Identify how structure complements function organs, organ systems, organisms, and populations
- Identify responses in organisms to external and internal stimuli
- Identify changes in traits that occur over several generations
- Identify cells as structures containing genetic material and interpret the role of genes in inheritance
- Describe energy flow in living systems

#### Earth Science

- Identify characteristics of objects in our solar system (sun, planets, moons, comets, asteroids)

# Science

## Expectations at School (Continued)

### In Sixth Grade, your child will:

- Describe equipment and transportation for space travel
- Summarize the rock cycle
- Identify relationships between groundwater and surface water
- Describe components of the atmosphere and identify the role of atmospheric movement in weather changes
- Identify forces that shape Earth
- Identify and describe a system that results from combining two or more systems
- Describe how properties of a system differ from the properties of its parts

### Physical Science

- Identify energy transformations occurring in energy production
- Compare methods used for transforming energy in devices such as water heaters, cooling systems, hydroelectric and wind power plants
- Define matter and energy
- Identify and describe changes in position, direction of motion, and speed of objects when acted upon by a force
- Measure and graph changes in motion
- Explain and illustrate interactions between matter and energy in the water cycle and in decay of biomass
- Demonstrate that new substances can be made by combining two or more substances and compare the new substance to the original
- Classify substances by their physical and chemical properties

# Science

## Support at Home

### As parents, provide opportunities for your 6<sup>th</sup> grader to:

- Safely engage in investigations to answer their questions
- Justify their conclusions citing evidence
- Challenge and debate ideas
- Predict and explain phenomena
- Discuss current science and technology events in the news
- Read and interpret graphs and charts in the newspaper
- Research to find answers to questions about objects, events, and organisms

# Science

## Support at Home (Continued)

As parents, provide opportunities for your 6<sup>th</sup> grader to:

- Watch and discuss science-oriented programs on television such as the Discovery Channel
- Read nonfiction books and magazines on science topics
- Visit museums, zoos, parks, libraries, etc.
- Participate in science oriented events such as science summer camps

# Social Studies

## Expectations at School

During Sixth Grade, students will:

- Analyze characteristics of various contemporary cultures and societies.
- Understand how history impacts contemporary societies.
- Explain how changes in technology, communication, and transportation have influenced societies of select regions of the world.
- Identify and analyze ways people have adapted to and modified the physical environment.
- Describe the nature of citizenship in various societies including rights and responsibilities.
- Compare/contrast different ways of organizing economic and governmental systems.
- Understand the basic institutions of culture in all societies and compare/contract differences and similarities.
- Continue to practice reading skills appropriate to the grade-level, such as locating the main idea, sequencing, comparing/contrasting, etc.
- Write for a variety of audiences and purposes using standard grammar and punctuation.
- Use social studies terminology correctly.
- Use critical thinking skills appropriate to the content and grade level, including problem-solving and decision-making skills.
- Locate and uses a variety of primary and secondary sources to create oral, written, and visual presentations on social studies topics.
- Analyze information gathered from a variety of sources.
- Use main and supporting ideas in oral and written communications/
- Identify different points of view about an issue or topic.
- Demonstrate grade appropriate technology proficiency.
- Create products using computer data and publishing technology.

# Social Studies

## Support at Home

**As parents, provide opportunities for your 6<sup>th</sup> grader to:**

- Attend cultural activities and festivals.
- Visit museums.
- Discuss family heritage.
- Read newspapers.
- Watch the news with you and discuss current issues and world events.
- Use social studies software on your home computer.
- Visit the public library.
- Visit ethnic restaurants.
- Read historical novels and biographies.
- Develop critical thinking skills. Respond to his or her questions by asking further questions instead of giving direct answers.