

Grade 5

Reading/Language Arts

Prerequisites:

Before entering 5th grade, students should be able to

- Follow complex directions.
- Read silently on the fourth-grade level for at least 40 minutes daily at a rate of 130 words per minute in familiar material.
- Read and understand material written on grade level.
- Write legibly with correct grammar, punctuation, and capitalization.
- Use many reference tools.
- Write well-organized, multiple-paragraph compositions which include rich supporting detail.
- Write to inform, influence, and entertain.
- Judge messages found in a variety of media (examples: television, radio, and magazines).
- Make oral presentations with suitable visual-aid materials.

Competencies:

During 5th grade, students will

- Listen closely in a variety of settings to judge methods of persuasion, learn about cultures, and recognize fact and opinion.
- Speak in a variety of settings, such as while interviewing, reporting, and giving precise directions.
- Read words in fifth-grade-level material by using knowledge of phonics, context clues, prefixes/suffixes/root words, and syllable analysis.
- Establish their own purposes for reading, read silently for at least 50 minutes, adjust the reading rate to suit the need, self-correct as necessary, and maintain a rate of 130 words per minute in familiar material.
- Learn new words by studying word meanings, reading different types of literature, practicing word lists, and using vocabulary strategies (context clues, prefixes, suffixes, and root words).

- Understand written material by making predictions, analyzing characters, finding implied meanings, and summarizing.
- Use reading strategies, such as establishing a purpose for reading, creating mental images during reading, and reading aloud.
- Read a variety of classic and contemporary literature, including historical fiction, suspense stories, autobiographies, biographies, and nonfiction.
- Read and write cursive fluently.
- Write precisely, using standard English with correct spelling, punctuation, and grammar.
- Spell words correctly in all written assignments by applying spelling rules and recognizing exceptions.
- Write multiple-paragraph compositions that feature varied sentence structure and correct English usage.
- Produce well-developed written products in a variety of formats, including informative reports, editorials, and narrative writing.
- Write compositions using all stages of the writing process: prewriting, drafting, revising, proofreading, and editing.
- Use revision and editing strategies to produce a clear, well-developed, error-free final product.
- Continue improving accuracy in keyboarding skills, and use computers as a tool in the writing process to create pieces for publication.
- Research topics, using various reference sources; take notes and formulate questions for further investigation.
- Interpret and analyze visual images, messages, and meaning in graphics, video segments, computer presentations, graphic art, illustrations, and news photographs.

Outside of School:

As parents, you can provide opportunities for your 5th grader to

- Attend cultural events and talk about school cultural arts activities.
- Read and talk about a variety of materials with your child, asking him or her to explain, describe, compare, summarize, and/or predict.
- Read silently for a 45-minute time period.
- Increase his or her vocabulary each week.

- Write a new word and an easily-understood definition or synonym on a wipe-off chart or paper and post it on the refrigerator. Celebrate occasions when the word is used.
- Read practical materials, such as food labels, catalogs, the newspaper weather page, sports statistics, recipes, and the phone book.
- Practice using the Internet, if available, as a reference for planning vacations, getting information for school units, and communication by e-mail.
- Write by hand or use a computer to compose letters and thank-you notes.
- Give your child a spiral notebook to write about daily events, vacations, and/or exciting activities, and encourage your child to illustrate his or her work with drawings or photos.
- Talk about television programs and commercials with you.

Mathematics

Prerequisites: Before entering 5th grade, students should be able to

- Understand and use fourth-grade mathematics vocabulary.
- Follow a 4-step problem-solving plan (such as Big Q, window pane, or list) that uses multiple strategies to solve application-level word problems and requires students to explain and justify their thinking.

Number and Operations

- Use place value to read, write, compare, and order whole numbers through the millions place.
- Use objects and pictures to read, write, compare, and order decimals through the hundredths place.
- Round numbers to nearest ten, hundred, or thousand.
- Use pictures to recognize and compare fractions.
- Practice addition, subtraction, multiplication, and division facts with increasing speed.
- Add and subtract whole numbers to solve increasingly complex problems.
- Use pictures to add and subtract decimals to the hundredths place.

- Multiply (three digits by two digits) and divide (three digits by one digit) using whole numbers to solve increasingly complex problems.
- Estimate sums, differences, products, and quotients to solve problems.

Patterns and Relationships

- Recognize patterns in multiplication and division, and use these patterns to solve problems.
- Show that multiplication and division problems are related by fact families.
- Describe the relationship between two sets of related data, such as ordered pairs in a table.

Geometry

- Identify and use formal language to describe right, acute, and obtuse angles; parallel and perpendicular lines; symmetry; and congruence.
- Locate and name points on a number line, using whole numbers, fractions, and decimals.
- Use pictures to show translations, reflections, and rotations of triangles.

Measurement

- Solve problems using metric and customary units of measurement.
- Perform simple conversions between different units involving length, capacity, and weight.
- Solve word problems using length, time, temperature, perimeter, and area.

Probability and Statistics

- Collect, organize, display, and interpret sets of data using bar graphs, pictographs, and line graphs.
- Use concrete objects or pictures to make generalizations about determining all possible combinations of a given set of data or of objects in a problem situation.

Competencies: During 5th grade, students will

- Understand and use fifth-grade mathematics vocabulary.
- Follow a 4-step problem-solving plan (such as Big Q, window pane, or list) that uses multiple strategies to solve application-level word problems and requires students to explain and justify their thinking.

Numbers and Operations

- Use place value to read, write, compare, and order whole numbers through the billions place.

- Use place value to read, write, compare, and order decimals through the thousandths place.
- Generate equivalent fractions.
- Compare and order fractions.
- Use objects and pictures to relate fractions and decimals (to the thousandths place).
- Add and subtract whole numbers and decimals.
- Multiply (three digits by two digits) and divide (three digits by two digits) whole numbers.
- Estimate to solve problems by rounding whole numbers and decimals (to the tenths place).

Patterns and Relationships

- Identify prime and composite numbers using models and factor pairs.
- Use pictures to make generalizations about determining all possible combinations.
- Use lists, tables, charts, and diagrams to find patterns and make generalizations.
- Select from and use diagrams and number sentences to represent real-life situations.

Geometry

- Use objects and pictures to show transformations (rotations, reflections, and translations).
- Recognize the connections between ordered pairs of numbers and locations of points on a coordinate grid.
- Identify critical attributes of geometric shapes and solids including parallel, perpendicular, and congruent parts.
- Use critical attributes to define geometric shapes and solids.

Measurement

- Connect models for perimeter, area, and volume with their respective formulas.
- Use formulas to measure perimeter, area, and volume.
- Solve problems involving temperature and elapsed time.
- Perform simple conversions within the same measurement system.

Probability and Statistics

- Use fractions to describe and predict the results of a probability experiment.
- Use tables of related number pairs to make line graphs.
- Describe the characteristics of data (range, median, mode) in tables and graphs.

- Graph a given set of data using an appropriate graphical representation such as a picture or line.
- Make predictions using results of experiments.
- List all possible outcomes of a probability experiment.

Outside of School:

As parents, you can provide opportunities for your 5th grader to

- Practice addition, subtraction, multiplication, and division facts until they become automatic.
- Use concepts, such as measurement, money, and estimation in real-world applications (examples: recipes, shopping, discounts, etc.).
- Spend time doing problem-solving activities, such as puzzles, chess, computer, and board games.
- Practice making change.
- Calculate elapsed time. Have your child calculate how much time has passed, given a starting and ending time.
- Explain problem-solving strategies to you.
- See your positive attitude about math.

Science

Prerequisites:

Before entering 5th grade, students should be able to

- Use a microscope, and identify its parts.
- Collect and analyze data using tools such as hand lenses, calculators, computers, microscopes, sound recorders, stopwatches, thermometers, and metric measurement tools.
- Plan, conduct, and analyze results in investigations.
- Use critical thinking and scientific problem-solving to make informed decisions (impact of research, accuracy of promotional materials describing products and services, critique of scientific explanations for strengths and weaknesses).
- Identify the parts of systems, such as ecosystems and simple and complex machines.
- Make wise choices in the use and conservation of resources, including soil, and in the disposal or recycling of materials.
- Identify weather tools and patterns.

- Investigate physical properties of matter, such as density, buoyancy, and magnetism.
- Investigate electrical energy.
- Determine the characteristics of plants and animals that affect their adaptations for survival.
- Recognize the ocean's effects on land.
- Visit the planetarium to learn about the sun, moon phases, constellations, planets, etc.

Competencies:

During 5th grade, students will

- Explain the advantages and disadvantages of using various forms of energy (potential, kinetic, light, sound, heat, solar, electrical, chemical, etc.).
- Continue to plan, conduct, and analyze results in investigations.
- Collect and analyze data using metric units.
- Collect and analyze information using a variety of tools such as calculators, binoculars, microscopes, digital cameras, computers, magnets, compasses, collecting nets, triple-beam balances, and metric measurement tools.
- Describe and compare the characteristics and adaptations of plants and animals (vertebrates vs. invertebrates).
- Explain the interdependence of plants and animals in food webs and chains.
- Visit the nature trails to identify native plants and to study ecosystems and plant and animal adaptations.
- Identify inherited traits in plants and animals.
- Distinguish between learned and instinctive behaviors.
- Classify matter according to its physical properties (mixtures, solutions).
- Identify the significance of the rock cycle, and explain how forces change the earth over time.
- Identify changes that occur in cycles (lunar, seasonal).
- Develop an understanding of space travel and exploration.
- Develop an understanding that forces cause change.

Outside of School:

As parents, you can provide opportunities for your 5th grader to

- Review science vocabulary.

- Review science notes and study guides.
- Read nonfiction books on science topics.
- Go on nature walks, and discuss natural cycles.
- Use measurement and measurement tools in real-life situations such as cooking.
- Start or add to a collection.
- Care for a pet, or plant a garden.
- Participate in recycling, conservation of resources, and preservation.
- Practice safety rules at home.
- Discuss science journals, daily work, and homework with you.
- Watch educational programs such as *Bill Nye the Science Guy*.

Social Studies

Prerequisites:

Before entering 5th grade, students should be able to

- Identify all 50 states and capitals (year-long project).
- Explain how Texas, the United States, and other parts of the world are economically interdependent.
- Identify the settlement patterns and the geographic factors (landforms, climate, vegetation) that influence where people have chosen to live, past and present.
- Locate, describe, and compare the regions of Texas and the regions of the United States.
- Obtain and use a variety of reference/resource materials.
- Use geographic tools (grids, compass rose, map legends, symbols, scale, latitude and longitude) to collect, analyze, and interpret data.
- Create and interpret timelines, graphs, charts, tables, and grids.
- Compare the ways of life of Native American groups in Texas and the Western Hemisphere.
- Identify European explorers and the reasons for exploration in the settlement of Texas and the Western Hemisphere.
- Describe major political, economic, and social changes in Texas during the 19th and 20th centuries.
- Create, color, and label maps accurately.

Competencies:

During 5th grade, students will

- Recognize causes and effects of the major events in American history from early colonization through the 20th century (colonization and growth of America through independence, the formation of a democratic government, contributions by significant individuals, civil rights, social changes, and major wars).
- Apply geographic tools, including grid systems, legends, symbols, scales, and compass roses, in constructing and interpreting maps.
- Describe a variety of regions in the United States using characteristics such as landform, climate, vegetation, politics, population, and economy.
- Continue to create, color, and label maps accurately, using TODALS as a guide (see glossary).
- Describe the characteristics and benefits of the free enterprise system in the United States.
- Analyze the ways people in different parts of the U.S. earn a living.
- Understand the reasons for exploration and colonization and the basic economic patterns of early societies in the U.S.
- Evaluate the effects of supply and demand on business, industry, and agriculture.
- Identify the purposes and explain the importance of the *Declaration of Independence* and the *U.S. Constitution*.
- Identify and explain basic functions of the branches of the United States federal government.
- Explain how individuals can participate in civic affairs and in political parties at the national level.
- Explain the significance of selected United States patriotic symbols and landmarks.
- Identify and compare leadership qualities of national leaders, past and present.
- Know the Presidents of the United States and their importance.
- Identify examples of representative government in the American colonies, including the Mayflower Compact.
- Understand types of settlement and patterns and the ways geographic factors influence people's decisions about where to live.
- Understand how people adapt to and modify their environment.
- Identify similarities and differences among various racial, ethnic, and religious groups, their contributions, and their effects on our society.
- Explain the impact of science and technology on life in the United States, past and present.
- Create oral, written, and visual (pictures, maps, charts, graphs, timelines) presentations using social studies information.
- Apply critical thinking skills to locate, organize, and use information from a variety of sources including technology.
- Demonstrate effective oral and written communication skills using standard grammar, spelling, sentence structure, and punctuation.
- Use problem-solving and decision-making skills, working as an individual and with others, in a variety of settings.

Outside of School:

As parents, you can provide opportunities for your 5th grader to

- Watch the news with you, and discuss current issues and events.
- Share family traditions and customs.
- Keep a journal of travels, trips, and activities.
- Reinforce map-reading skills when planning family outings and trips.
- Use resources at home (computer, books, other reference materials) to discuss historical and current events.
- Work with you to learn at least three major facts about U.S. Presidents.
- Practice good citizenship skills.
- Discuss the day at school by explaining what has been learned.
- Visit the public library.
- See you perform civic duties such as voting, serving on a jury, or working on a civic committee.