

Learning Objectives

Grade Four



Dear Parents/Guardians:

As part of our commitment to you as our stakeholders, the Curriculum Department of the Fulton County School System has identified learning objectives for all content areas taught in our schools. These learning objectives specify what a learner should know and be able to do at each grade level.

The learning objectives are organized by grade and reflect the Georgia Performance Standards (GPS) as appropriate (i.e., Language Arts, Mathematics, Science and Social Studies), and the Quality Core Curriculum (QCC) standards from the State of Georgia as well as national standards. We hope this will be helpful to you as you support your child's success in school. Please let us know how this document can be improved to best meet your needs.

Sincerely,
K-12 Curriculum Staff

Language Arts

Reading and Literature

- Identify the speaker in poems and/or stories
- Identify literary themes and forms (poetry, folktale, fable, tall tale)
- Understand the informational text features (paragraphs, topic sentences, concluding sentences and organizational structures (comparison, cause-effect))
- Understand and acquire new vocabulary and use it correctly in reading and writing
- Recognize elements and details of story structure such as sequence of events, character, plot, and setting
- Read aloud accurately in the range of 95% familiar material that makes meaning clear to listeners
- Identify text and graphic features of information text

Writing

- Adjust writing for a variety of purposes and audiences using the writing process
- Summarize main ideas and supporting details
- Produce a narrative, a response to literature, an informational and a persuasive essay that engages the reader by establishing a context, creating a speaker's voice, and developing reader interest
- Produce a narrative that establishes plot, setting, conflict, and/or significance of events
- Produce informational writing that uses a range of appropriate strategies, such as providing facts and details, describing or analyzing the subject, and narrating a relevant anecdote

- Produce a response to literature that advances a judgment that is interpretive, evaluative, or reflective
- Produce a persuasive writing that states a clear position
- Use the steps of the writing process

Conventions

- Apply grammatical rules and conventions of language in the writing process: recognize and use basic parts of speech
- Edit by correcting for standard conventions of spelling, capitalization, and punctuation
- Recognize subject-predicate relationship in sentences

Listening, Speaking and Viewing

- Demonstrate an awareness of the presence of media
- Evaluate the role of the media
- Engage the audience with appropriate verbal cues and eye contact
- Present information orally with clear purpose and knowledge of audience

Mathematics

By the end of grade four, students will add and subtract decimal fractions and common fractions with common denominators. They will also understand how and when it is appropriate to use rounding. Students will use common measurement units to determine weight. Students will develop their understanding of measuring angles with appropriate units and tools. Students will understand the characteristics of geometric plane and solid figures. They will also use tables, graphs, and charts to record and analyze data.

Instruction and assessment will include the use of manipulatives and appropriate technology. Topics will be represented in multiple ways including concrete/pictorial, verbal/written, numeric/data-based, graphical, and symbolic. Concepts will be introduced and used in the context of real world phenomena.

Numbers and Operations

Students will further develop their understanding of whole numbers and master the four basic operations with whole numbers by solving problems. They will also understand rounding and when to appropriately use it. Students will add and subtract decimal fractions and common fractions with common denominators.

- Further develop their understanding of the structure of place value and the base-ten numeration system
- Understand and apply the concept of rounding numbers to the nearest ten, hundred and thousand
- Understand and apply the concepts of rounding decimals to the nearest whole number or tenth
- Further develop their understanding of division of whole numbers and divide in problem solving situations with out calculators
- Solve problems involving multiplication of 2-3 digit numbers by 1 or 2 digit numbers
- Further develop their understanding of the meaning of decimals and use them in computations
- Further develop their understanding of the meaning of common fractions and decimal fractions and use them in computations
- Describe situations in which the four arithmetic operations may be used and the relationship among them

Geometry

Students will understand and construct plane and solid geometric figures. They will also graph points on the coordinate plane.

- Define and identify the characteristics of geometric figures through examination and construction
- Understand fundamental solid figures
- Understand and apply ordered pairs in the first quadrant of the coordinate system
- Further develop their understanding of the attributes of 2- and 3-dimensional shapes

Measurement

Students will measure weight in appropriate metric and standard units. They will also measure angles.

- Understand the concept of weight and how to measure it
- Understand the concept of angles and how to measure them

Algebra

Students will investigate and represent mathematical relationships between quantities using mathematical expressions in problem-solving situations.

- Represent and interpret mathematical relations in quantitative expressions by recognizing and applying patterns, representing unknowns using symbols, and writing and evaluating mathematical expressions

Data Analysis and Probability

Students will gather, organize, and display data. They will also compare features of graphs.

- Gather, organize, and display data

according to the situation using bar, line and pictographs

- Investigate the features and tendencies of graphs

Process Standards

Each topic studied in this course is developed with careful thought toward helping every student achieve the following process standards.

- Solve problems (using appropriate technology)
- Reason and evaluate mathematical arguments
- Communicate mathematically
- Make connections among mathematical ideas and to other disciplines
- Represent mathematics in multiple ways

Science

Characteristics of Science (Habits of Mind & The Nature of Science)

- Measure, keep records, and offer reasons for scientific findings
- Understand the importance of safety
- Use computational skills to analyze scientific data correctly
- Use the relevant tools of science, including computers, to explore scientific matters
- Understand and communicate scientific ideas clearly
- Be familiar with both old and new scientific knowledge

Physical Science

- Describe the physical attributes of lenses and prisms and how light passes through them
- Demonstrate how sound is produced and the conditions that can cause pitch to vary

- Identify and explain the uses of simple machines
- Observe how force and gravity affect the speed and motion of an object

Earth Science

- Recognize the physical attributes of stars and how they compare with planets in the night sky
- Describe patterns of stars in a constellation and explain why their relationships in the pattern remain the same while planets move relative to the stars
- Model the position and motion of objects in the solar system and relate them to seasonal changes
- Differentiate between states of water and relate this to the water cycle, clouds, and weather
- Identify weather instruments and use them to predict weather events and seasonal patterns

Life Science

- Describe the roles of various organisms in the flow of energy in an ecosystem
- Predict how changes in the environment affect a community and the population of organisms
- Identify factors that affect the survival or extinction of organisms

*Science Glossary

Community is all the populations of different species that live in the same area.

Constructing hypotheses includes formulating generalizations that include all objects or events of the same class.

Questions, inferences, and predictions can lead to the formation of a hypothesis. The hypothesis must

be tested if its credibility is to be established.

Consumers are living things that eat other living things for energy.

Decomposers are living things that feed on the remains of once living organisms.

Drawing conclusions includes interpreting data acquired through experimentation to determine whether a hypothesis is supported.

Ecosystem is a complex community where living things and nonliving components of the environment interact.

Evaporation is the change of state from a liquid to a gas. (Under the hot sun, water in a puddle changes to water vapor through the process of evaporation.)

Experimenting includes the design and implementation of procedures to obtain reliable information about interrelationships between objects and events. Investigating includes formulating and solving a problem, experimenting and drawing conclusions.

Formulating models includes describing or constructing physical, verbal, mental, or mathematical explanations of systems and interrelated phenomena that cannot be observed readily or directly. Models may be used in predicting outcomes of planned experiments.

Intensity is a measure of the amount of energy of sound. A sound that has high intensity is loud enough to be heard from a distance.

Interpreting data includes the identification of trends or patterns in sets of data. Patterns in data may be used to establish generalizations, make predictions, and formulate hypotheses.

Niche is the role or part played by an organism in its habitat.

Opaque means to not allow the transmission of light through; objects cannot be seen through opaque materials.

Photosynthesis is the process by which producers, such as plants, make their own food by using energy from the sun. Photosynthesis takes place primarily in the leaves of the plants.

Pitch is the highness or lowness of a sound.

Population is all the individuals of the same species living in the same place at the same time.

Precipitation is any form of water that falls from clouds to Earth's surface (rain, snow, sleet, hail).

Producers, such as a plant, are living things that produce their own food.

Reflection is the bouncing of light or sound off a surface.

Refraction is the bending of light as it passes from one material into another (as light travels from air into water).

Revolution is the movement of any object in an orbit, such as Earth moving around the sun.

Rotation is the motion of a planet or other object as it turns on its axis.

Translucent materials let light through but scatter the light; objects cannot be seen clearly through translucent material.

Transparent means to let light through; objects can be seen clearly through transparent materials. Window glass is usually transparent so that people can see through it.

Speed is a measure of the distance an object moves in a given amount of time.

Velocity is an object's speed in a particular direction.

Social Studies

(The Early Development of the United States)

History

- Describe how early Native American cultures developed in North America
- Describe European exploration in North America
- Explain the factors that shaped British colonial America
- Explain the causes, events, and results of the American Revolution
- Analyze the challenges faced by the new nation
- Explain westward expansion of America between 1801 and 1861
- Examine the main ideas of the abolitionist and suffrage movements

Geography

- Locate important physical and man-made features in the United States
- Describe how physical systems affect human systems

Civics and Government

- Describe the meaning of:
 - a. Natural rights as found in the Declaration of Independence (the right to life, liberty, and the pursuit of happiness)
 - b. "We the people" from the preamble of the U.S. Constitution as reflecting consent of the governed or popular sovereignty

- c. The federal system of government in the U.S.
- Explain the importance of freedom of expression as written in the First Amendment to the U.S. Constitution
- Describe the functions of government
- Explain the importance of Americans sharing certain democratic beliefs and principles, both personal and civic
- Name positive character traits of key historic figures and government leaders (honesty, patriotism, courage, trustworthiness)

Economics

- Use the basic economic concepts of trade, opportunity cost, specialization, voluntary exchange, productivity, and price incentives to illustrate historical events
- Identify the elements of a personal budget and explain why personal spending and saving decisions are important

Health Education

Safety and Injury Prevention

- Explain how to get assistance in threatening situations
- Practice conflict resolution skills and avoid discrimination (listening, ‘I messages’)

Nutrition

- Make food selections that reduce the risk of disease

Personal Health

- Make responsible decisions by using resistance skills when appro-

priate

- Communicate with others in healthful ways (expressing anger appropriately)
- Choose reliable sources of health related information, products, and services

Family Living/Growth and Development

- Describe characteristics needed to be a responsible friend and family member:
 - recognize harmful relations
 - adjust to family changes
- Accept physical uniqueness (physical features, disabilities)

Communicable and Chronic Diseases

- Recognize that some diseases are communicable while others are non-communicable (hepatitis versus cancer)

Alcohol, Tobacco, and Other Drugs

- Recognize the relationship between personal health behavior and individual well being by identifying behaviors that are safe, risky, or harmful to self and others
- Know that the use of alcohol, tobacco, and other drugs can be harmful

Environmental Health

- Identify community and government agencies that advocate and support healthy families, individuals, and communities (EPA)

Physical Education

Fitness

- Identify and participate in activities for strength, heart-lung and muscular endurance, flexibility,

speed, balance, power, and agility (shuttle run, jumping rope, stretching)

- Participate in physical fitness testing and appraisal, interpret results

Motor Skills

- Demonstrate beginning skills while participating in varied sequential stunts, tumbling, and balancing patterns and demonstrate these skills in apparatus activities
- Demonstrate competencies in adapting and varying basic movement skills and transfer these to games, sports, dances, and gymnastics
- Participate in lead-up or modified sports activities

Movement Awareness

- Participate in creative, complex, and aerobic rhythmic activities (lummi sticks, schottische, polka, two step, and aerobic workout to music)

Cognitive (*Knowledge Gained*)

- Identify and participate in activities for strength, heart-lung and muscular endurance flexibility, speed, balance power, and agility
- Demonstrate a basic understanding of strategy, rules, and concepts

Affective/Social

(Relating to Emotions/Feelings, Group Learning)

- Demonstrate how to deal with cooperation, success, competition, frustration, leading, following, responsibility, following rules, procedures, and etiquette
- Demonstrate expressive (emotions, feelings, thoughts), creative (rhythms, dance, combination of

movements), and skilled movement

Art

Production

- Use themes/ideas of art from the past; current life and world, re-search of regional history
- Draw from observation - contour line, value to model form, abstraction based on observation; movement/gesture; thumbnail sketches to document thinking and plan work

Criticism

- Compare and contrast pairs of artwork, include representational, abstract and nonobjective art
- Support interpretations with clues from artwork

History

- Match description of culture with artwork representative of that culture; accurate statements about functions (purposes) of particular artwork and the culture that produced them
- Recognize relationships between artists and their cultures (geographic, political, religious, economic)
- Recognize selected famous artwork, artists and styles (at least 3 major artists)

Aesthetics

- Interpret how personal experiences influence response to and preferences for art; develop and apply criteria for personal decisions about artwork
- Respond to questions:
 - Does the intent of the artwork seem to be to imitate? (Realism)
 - Is the artwork primarily con-

cerned with design or composition? (Formalism)

--Is the work trying to express a feeling or emotion? (Expressionism)

Relationship to Other Subjects

- Adjust writing about art for purpose and audience; capture feeling in artwork in words
- Discuss the similarity between planning and revising artwork and the writing process - develop, evaluate, revise
- “Read” artwork as visual text: Identify and infer main idea, supporting details; generate questions to improve interpretation; distinguish fact from opinion; make inferences and support with evidence; observe explicit facts and infer implicit facts; connect artwork with personal experiences; recognize artist’s purpose; summarize artwork content/meaning
- Read about art for understanding; facts and implied meaning; distinguish between fact and opinion
- Make natural connections/extensions of each art unit with math, language arts, science, social studies
- Keep journal/sketchbook

Habits of Mind

- Build visualization, observation skills
- Understand that problems have more than one solution
- Develop care in craftsmanship; understand how the whole is larger than the parts
- Practice self-evaluation skills: understand learning goals for each art work; evaluate when goals are reached

- Evaluate work in progress and adjust as necessary

Music

Performing

- Sing a varied repertoire of songs representing styles from different cultures (sing, “En La Feria De San Juan” in Spanish)

Listening, Responding, and Creating

- Develop criteria for evaluating live and recorded music (use of timing, different textures, vocal or instrumental tone color)

Historical and Cultural Context

- Demonstrate appropriate audience behavior for the context and style of music performed

Relationship to Other Subjects

- Compare critiquing a musical performance to critiquing a story or a book

Technology Literacy

Ethics

- Understand plagiarism (to use and pass off as one’s own the ideas and words of another) and paraphrasing (restatement of a passage of text in another form or other words)
- Understand the need for software licensing

Communication

- Use draw tools (pencil, paintbrush, paint bucket)
- Use shape tools (paint and draw)
- Frame, import, and reformat

Information Processing

- Utilize search engine to locate, bookmark, and print resources

Productivity

- Identify/explain components of the computer (internal modem, remote server, network applications)
- Define and use terminology (hard drive, memory folders)

Information Literacy Standards

Access Information (Inquire, Think Critically, and Gain Knowledge)

Formulate and revise plans for accessing information for a range of needs and situations. (Locate relevant information within a source quickly and effectively based on the format and organization of the source: (e.g., textual, visual, media, or digital)

- Refine the question or problem
- Identify initial and secondary key words
- Read, view, and listen for information presented in any format (e.g., textual, visual, media, digital) in order to make inferences and gather meaning
- Read, view, and listen for information presented in any format (e.g., textual, visual, media, digital) in order to make inferences and gather meaning

Evaluate Information Critically and Completely

Construct strategies for locating information. (Use logic and informed judgment to accept, reject, or replace information: accuracy, validity, relevance, completeness,

etc.)

- Identify types of information needed
- Consider and prioritize possible sources of information
- Identify subject headings and key words

Use Information

Locate and access information.

- Use information to draw conclusions and develop new understandings.
- Recognize a variety of formats for organizing information (i.e., posters, displays, skits, electronic presentations, etc.)
- Use organizational features of print and electronic resources, with assistance
- Share knowledge and learning with others, both in face-to-face situations and through technology (e.g., blogs, wikis, podcasts, etc.)

Appreciate Literature

Select, read and appreciate books from different types of genres (fiction, nonfiction, science fiction, historical fiction, poetry, sports, music, art, etc.)

- Read widely, fluently, and independently to understand self, the world, and previous reading
- Use reading to pursue personal goals and interests

Apply Principles of Information Literacy

Evaluate the process (strategies used) and the product (results) related to topics of personal interest using multiple literacies, including digital, visual, textual, and technological as crucial skills.

- Self-assess performance according to given criteria (i.e., respond to feedback, reflect on

how changes can be made, etc.)

- Self-assess the product according to established criteria or rubric (i.e. respond to feedback, reflect on how changes can be made, etc.)
- Use creative and artistic formats to express personal learning

Talented and Gifted

Advanced Communication Skills

- Use written, spoken, and technological media to convey new learning or challenge existing ideas
- Produce written and/or oral work that is complex, purposeful, and organized, includes relevant supporting examples and manipulation of language
- Create products and/or presentations that synthesize information from diverse sources and communicate expertise to a variety of authentic audiences
- Use a variety of multi-media and innovative technology to create illustrations, models, charts, tables, and graphs as tools for communication
- Apply interviewing techniques for a variety of purposes
- Anticipate and address potential misunderstandings, biases, and expectations in communication with others
- Respond to contributions of others, considering all available information
- Participate in small group discussions to argue persuasively or reinforce others' good points
- Maintain a journal or log for self-reflection and/or self-evaluation
- Support and defend one's own opinions while respecting the opinions of others

Advanced Research Skills

- Use a variety of print and non-print resources to investigate a

topic of interest

- Formulate original and appropriate questions to test the limits of an existing body of knowledge
- Use concepts within and across disciplines to develop valid hypotheses, thesis statements, or alternative interpretations of data
- Select appropriate research tools and methodologies (e.g., historical, descriptive, developmental, case, field, correlational, action, survey, interview) to conduct scientific investigations
- Gather, organize, analyze, and synthesize data from multiple sources to support or disprove a hypothesis
- Develop and use systematic procedures for recording and organizing information
- Evaluate research methodologies and data to detect validity, bias, reliability, and applicability to real-world problems and/or solutions
- Allow for and accept alternative interpretations of data
- Use APA or MLA style to document/cite references, resources, quotations, notes and biographies
- Defend research findings in a presentation or exhibit
- Apply ethical standards to research and analyses

Creative Thinking/

Creative Problem Solving Skills

- Question accepted practices, rules, and existing principles to discover new knowledge
- Design, apply, evaluate, and adapt a variety of innovative strategies when problem solving (e.g., recognizes problems, defines problems, identifies possible solutions, selects optimal solution, implements solution, and evaluates solution).
- Incorporate brainstorming and other idea-generating

techniques (synectics, SCAMPER, etc.) to solve problems or create new products

- Demonstrate skills in fluency and flexibility to solve problems or create new product
- Develop original ideas, presentations, or products through synthesis and evaluation
- Clarify, illustrate, or elaborate on an idea for product improvement
- Use analogies, metaphors, illustrations, and/or models to explain complex concepts
- Tolerate ambiguity when solving problems
- Recognize and assume risks as a necessary part of problem solving
- Monitor and reflect on the creative process of problem solving for future applications

Higher Order and Critical Thinking

- Ask probing, insightful, and relevant questions
- Respond to questions with supporting information that reflects an in-depth knowledge of a topic
- Conduct comparisons using criteria
- Make and evaluate decisions using criteria
- Predict probable consequences of decisions
- Extrapolate verbal-linguistic (e.g., analogies) and visual-spatial patterns (e.g., tessellations) to determine relationships
- Examine an issue from more than one point of view
- Separate one's own point of view from that of others
- Identify stereotypes, biases, and prejudices in one's own reasoning and that of others

- Distinguish between assumptions, inferences and conclusions
- Draw conclusions based upon relevant information while discarding irrelevant information
- Evaluate conclusions based upon relevance, depth, breadth, logic and fairness
- Trace the source of any large disparity in data and resolve the disparity
- Identify and illustrate basic principles and the foundational concepts that are central to understanding the essence of a field of study
- Recognize that the responsibility to examine and challenge existing ideas and theories is an ongoing process

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