Learning Objectives

Grade Five

Fulton County Schools
Where Students Come First

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

- Read and comprehend literary genres (drama, poetry, narratives, and informational texts)
- Identify imagery and figurative language when responding to literature
- Identify common structures and stylistic elements in traditional literature
- Identify and use knowledge of common textual features, organizational features, and common graphic features in informational text
- Understand, acquire, and use new vocabulary correctly in reading and writing
- Read aloud accurately, in the range of 95%, familiar material in a way that makes meaning clear to listeners

Writing

- Select a focus and organizational structure based on audiences and purposes (narrative, persuasive, response to literature, informational) using the writing process
- Apply grammatical rules and conventions of language in the writing process
- Write narrative that establishes plot, setting, conflict and/or significance of events
- Write a response to literature including literature about other cultures
- Write informational pieces that use and acknowledge various reference materials
- State and support a position in a persuasive writing
- Use various reference materials as aids in writing

Conventions

- Apply knowledge of Standard English when writing and revising
- Use eight parts of speech
- Edit for capitalization, punctuation, spelling, and word choice

Listening, Speaking/Viewing

- Respond appropriately to comments and questions
- Volunteer contributions and respond when solicited by teacher or leader
- Give reasons in support of opinions
- Present information to an audience using effective preparation
- Demonstrate an awareness of the presence of the media in the daily lives of most people
- Use technology or other memory aids to structure presentations

Mathematics

By the end of grade five, students will further develop their understanding of multiplication and division of whole numbers, decimals, and fractions. They will also understand and investigate algebraic mathematical expressions. Students will also expand their understanding of computing area and volume of simple geometric figures. Students will understand the meaning of congruent geometric shapes and the relationship of the circumference of a circle to its diameter. They will also use percentages and circle graphs to interpret statistical 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 the concept of whole numbers. They will also understand the meanings of multiplication and division of decimals and use decimals and common fractions in computation, as well as in problem solving situations.

- Further develop their understanding of whole numbers
- Further develop their understanding of decimals as part of the base-ten number system
- Further develop their understanding of the meaning of multiplication and division with decimals and use them
- Continue to develop their understanding of the meaning of common fractions, compare fractions, and compute with them (add and substract fractions with unlike demoninators, and estimate products and quotients).
- Understand the meaning of percentage

Geometry

Students will further develop their understanding of geometric figures.

- Understand congruence of geometric figures and the correspondence of their vertices, sides, and angles
- Understand the relationship of the circumference of a circle to its diameter is pi ($\Pi = 3.14$).

Measurement

Students will compute the area of geometric plane figures. They will also understand the concept of volume and compute the volume of simple geometric solids and measure capacity. Students will convert from one unit to another within one system of measurement.

- Extend their understanding of area of geometric plane figures
- Extend their understanding of perimeter to include circumference
- Measure capacity with appropriately chosen units and tools
- Understand and compute the volume of a simple geometric solid

Algebra

Students will represent and investigate mathematical expressions algebraically by using variables.

- Represent and interpret the relationships between quantities algebraically

Data Analysis and Probability

Students will gather, organize, and display data and interpret graphs.

- Analyze graphs (circle graphs, line graphs, line plots, pictographs, Venn diagrams, and bar graphs)
- Collect, organize, and display data using the most appropriate graph
- Determine and justify the mean, range, mode, and median of a set of data

Process Standards

Each topic studied in this course should be 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
- Distinguish observations from ideas and speculations
- Understand the importance of safety
- Use computational skills to analyze scientific data correctly
- Use the relevant tools of science, including computers, to explore science
- Understand and communicate scientific ideas clearly
- Be familiar with both old and new scientific knowledge

Physical Science

- Demonstrate that the mass of an object is equal to the sum of its parts to include atoms and subatomic parts
- Investigate physical change (separating mixtures, phases of water) and chemical change (burning and rusting)
- Investigate static and current electricity and determine the necessary components of an electric circuit
- Investigate common materials to determine if they are insulators or conductors
- Compare a bar magnet to an electromagnet

Earth Science

- Identify the surface features of the earth caused by constructive (deposition, volcanoes, earthquakes, etc.) and destructive (erosion, weathering, volcano, earthquake, etc.) processes

Life Science

- Demonstrate how animals and plants are sorted into groups
- Compare and contrast characteristics of learned behaviors and inherited traits
- Diagram and identify parts of various cells using microscopes
- Relate how microorganisms benefit and harm larger organisms

***Science Glossary**

Acceleration is a change in motion caused by unbalanced forces or a change in velocity.

Atom is the smallest unit of an element that has all the properties of the element.

Compound is a substance made of the atoms of two or more elements.

Condensation is the change of state from a gas to a liquid. (Drops of water form on the outside of a very cold glass because of the condensation of water vapor in the air.)

Conductors are materials that allow heat to pass through them most easily (ex., copper).

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.

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

Deposition is the process of dropping or depositing sediment in a new location.

*Electron i*s a subatomic particle with a negative charge.

Erosion is the process of moving sediment from one place to another.

Experimenting includes the design and implementation of procedures to obtain reliable information about interrelationships among objects and events. Investigating includes formulating and solving a problem and 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 directly. Models may be used in predicting outcomes of planned experiments.

Identifying variables includes finding the variables of a system and selecting those to be held constant.

Insulators are materials that do not let electricity move easily through them (plastics, rubber, wood, paper, cloth, ceramics).

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.

Invertebrates are animals without a backbone.

Manipulating variables includes changing one thing in an experiment to determine how the results will change.

Molecule is a grouping of two or more atoms bonded together.

Neutron is a subatomic particle with no charge.

Nucleus of an atom is found in the center of the atom and contains protons and neutrons.

Plate tectonics is the moving of irregularly shaped slabs (plates) that make up the Earth's lithosphere (topmost solid part of the Earth, which is composed of the crust and some of the mantle).

Proton is a subatomic particle with a positive charge.

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.

Vertebrates are animals with a backbone.

Social Studies

(The United States Through Modern Times)

History

- Explain the causes, major events, and consequences of the Civil War
- Analyze the effects of Reconstruction on American life
- Describe how life changed in America at the turn of the century
- Describe U.S. involvement in World War I and post-World War I America
- Explain how the Great Depression and New Deal affected the lives of millions of Americans
- Explain the reasons for America's involvement in World War II
- Discuss the origins and consequences of the Cold War
- Describe the importance of key people, events, and developments between 1950-1975
- Trace important developments in America since 1975

Geography

- Locate important places in the United States
- Explain the reasons for the spatial patterns of economic activities

Civics and Government

- Explain how a citizen's rights are protected under the U.S. Constitution
- Explain the process by which amendments to the U.S. Constitution are made
- Explain how amendments to the U.S. Constitution have maintained a representative democracy

Economics

- Use the basic economic concepts of trade, opportunity cost, specialization, voluntary exchange, productivity, and price incentives to illustrate historical events
- Describe the functions of the four major sectors in the United States economy
- Describe how consumers and businesses interact in the United States economy across time
- Identify the elements of a personal budget and explain why personal spendinbg and savinbg decisions are important

Health Education

Safety and Injury

- Describe ways to get help for emergency situations and demonstrate skill in basic first aid procedures (calling 911, using fire alarm button)
- Choose behaviors to reduce risk of violence and protect self (do not touch guns, travel with a friend/ adult)

Nutrition

- Follow dietary guidelines, eat for healthful reasons, and maintain desirable weight
- Read food labels

Personal Health

- Explain the relationship between positive health behaviors and the prevention of injury, illness, disease, and premature death
- Identify ways to reduce risks related to health problems of adolescence
- Identify suicide prevention skills (talking with an adult)
- Spend money and time wisely (homework before television)

Family Living/ Growth and Development

- Develop relationship skills:

  a) avoid discrimination (racial, gender, religious, ethnic)

  b) recognize harmful relationships (peer pressure)

  c) practice conflict resolution (listening skills, getting help when needed)

- Describe how the human body systems are interrelated (seeing that what one eats affects how one feels)
- Recognize how the body changes as it grows and identify changes of puberty (height, weight, facial hair, menstruation)
- Achieve developmental tasks for own age level (begin to seek independence)

Communicable and Chronic Disease

- Choose behaviors to reduce the risk of infection with HIV/STDs (not sharing personal items like razors or toothbrushes, not touching body fluids from another person)

Alcohol, Tobacco, and Other Drugs

- Identify school and community resources for intervention (school clinic assistant, school counselor, local health department)
- Recognize the harmful effects of alcohol and remain safe and drug free
- Demonstrate the ability to influence and support others in making positive health choices, using resistance skills when pressured to use drugs
- Identify responsible ways to use over the counter and prescription drugs (not sharing prescription drugs, taking as directed)
- Reduce the risk of HIV infection by refraining from the use of injecting drugs or drugs that dull decision-making skills

Environmental Health

- Increase awareness of community environmental issues (air, water, noise) by proposing solutions
- Understand the costs/benefits of recycling, overcrowding

Physical Education

Fitness

- Participate in and demonstrate progress toward developing health-related fitness and skill-related fitness (flexibility, speed)

Motor Skills

- Demonstrate competencies in adapting and varying basic movement skills (walking, skipping, throwing) and transfer these skills to games, sports, dance, and gymnastics
- Participate alone and with others in lead-up or modified sports (striking foam tennis ball with partner in small space) activities
- Adapt and vary sequential stunts, tumbling, and balancing patterns and demonstrate these skills in apparatus activities (beam, floor, and bars)

Cognitive *(Knowledge Gained)*

- Demonstrate understanding of the difference between health-related and skill-related fitness and the resulting benefits of each
- Count exercise heart rate and adjust activity level appropriately
- Demonstrate a basic understanding of strategy, rules, and concepts (taking turns, alternating serves, offense and defense)

Affective/Social *(Relating to Emotions/Feelings, Group Learning)*

- Demonstrate basic understanding of cooperation, competition, fair play, and leadership
- Demonstrate how to compete, succeed, deal with frustration, lead, follow (being a good winner or loser, following rules); become responsible, expressive, creative, and skilled

Art

Production

- Develop ideas for art work through research of historical events, thumbnail sketches, personal symbols to communicate a message

Criticism

- Articulate artist's message based on evidence in artwork; recognize subject matter, symbols, and formal qualities communicate meaning
- use the art criticism process to develop and communicate personal evaluations of artwork: description, analysis, interpretation, evaluation

History

- Interpret art based on historical facts, theories and other information compiled by art historians
- Recognize famous artwork, artists and styles
- Compare and contrast art works of the same style produced by two different artists
- Discuss how technological advances change the way artists work (e.g. steel and architecture, digital camera and photographer, camera and painter)

Aesthetics

- Communicate a personal position on "big" questions about art such as: Why are certain objects considered art and others not? Must art be beautiful? Does art have to be functional?
- Discuss how personal experiences influence response to and preferences for art

Relationship to Other Subjects

- Read about art for understanding: fact and implied meaning; distinguish between fact and opinion
- Adjust writing about art for purpose and audience; capture feeling in artwork in words
- Understand similarity between planning and revising artwork and the

writing process - develop, evaluate, revise, evaluate

- "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
- Keep a journal/sketchbook

Habits of Mind

- 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
- Build persistence; change approach as needed
- Evaluate work in progress

Music

Performing

- Sing with good breath control throughout the appropriate singing range/or perform on at least one instrument alone and in small and large ensembles

Listening, Responding, and Creating

- Improvise simple harmonic accompaniments
- Describe specific music events in a selected passage of recorded music

Historical and Cultural Context

- Describe distinguishing characteristics of representative musical forms from a variety of cultures (how rhythm is used in songs from different countries)

Relationship to Other Subjects

- Connect musical selections to units covered in the Social Studies curriculum

Technology Literacy

Ethics

- Use paraphrasing (restatement of a passage of text in another form or other words) as an acceptable procedure
- Respect software licensing

Communication

- Make digital movies with sound recordings
- Define and use terms: spreadsheet, cells, and mathematical operations (add, subtract, divide, and multiply numbers)
- Insert graphics

Information Processing

- Recognize Boolean logic (use of terms "and", "or", "not" to build or narrow information) and advance search engine strategies

Productivity

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

Talented & 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 as communications
- 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 prob-

lems and/or solutions

- Allow for and accept alternative interpretations of data
- Use APA or MLA style to document/cite references, resources, quotations, notes, and bibliographies
- Defend research findings in a presentation or exhibit
- Apply ethical standards to research and analyses

Creative Thinking/Creative Problem Solving

- Question accepted practices, rules, and existing principles to discovery 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 products
- 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 Critical Thinking Skills

- 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

We welcome your comments and suggestions. Please forward them to:
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