Science Pacing Guide

Third Grade

	Unit 1: Introduction to the Scientific Method	**Quarterly Benchmark Assessment Window (October 5-9, 2015)**
Time Frame	2 weeks /Utilized throughout the year	
Instructional Days	August 10 – August 21, 2015	
Georgia Content Focus Standards	***Habits of Mind / Nature of Science – See Page 3***	
	Unit 2: Magnetism	
Time Frame	3 weeks	
Instructional Days	August 24---September 14, 2015	
Georgia Content Focus Standards	***Habits of Mind / Nature of Science – See Page 3*** **S3P2.** Students will investigate magnets and how they affect other magnets and common objects. a. Investigate to find common objects that are attracted to magnets. b. Investigate how magnets attract and repel each other. c.	
	Unit 3: Is It Hot Enough?	
Time Frame	5 weeks	
Instructional Days	September 15—October 20, 2015	
Georgia Content Focus Standards	***Habits of Mind / Nature of Science – See Page 3*** **S3P1 Students will investigate how heat is produced and the effects of heating and cooling, and will understand a change in temperature indicates a change in heat.** **a. Categorize ways to produce heat energy such as burning, rubbing (friction), and mixing one thing with another.** **b. Investigate how insulation affects heating and cooling.** c. Investigate the transfer of heat energy from the sun to various materials. d. Use thermometers to measure the changes in temperatures of water samples (hot, warm, cold) over time. **BOLD underlined standards will be assessed on Q1 Quarterly Benchmark Assessment.** Others will be assessed in **Q2.**	

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	Unit 4: Minerals/Rocks	**Quarterly Benchmark Assessment Window (December 7 - 11, 2015)**
Time Frame	5 weeks	
Instructional Days	October 21—December 3, 2015	
Georgia Content Focus Standards	***Habits of Mind / Nature of Science – See Page 3*** **S3E1Students** will investigate the physical attributes of rocks and soils. a. Explain the difference between a rock and a mineral. b. Recognize the physical attributes of rocks and minerals using observation (shape, color, texture), measurement, and simple tests (hardness).	
	Unit 5: Weathering/Erosion/Deposition/SOIL	
Time Frame	2 weeks	
Instructional Days	December 4—December 18, 2015	
Georgia Content Focus Standards	***Habits of Mind / Nature of Science – See Page 3*** **S3E1** Students will investigate the physical attributes of rocks and soils. c. Use observation to compare the similarities and differences of texture, particle size, and color in top soils (such as clay, loam or potting soil, and sand). d. Determine how water and wind can change rocks and soil over time using observation and research.	

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	Unit 6: Fossils	**Quarterly Benchmark Assessment Window (March 7-March 11, 2016)**
Time Frame	2 weeks	
Instructional Days	January 5-January 15, 2016	
Georgia Content Focus Standards	***Habits of Mind / Nature of Science – See Page 3*** **S3E2** Students will investigate fossils as evidence of organisms that lived long ago. a. Investigate fossils by observing authentic fossils or models of fossils or view information resources about fossils as evidence of organisms that lived long ago. b. Describe how a fossil is formed	
	Unit 7: Habitats of Georgia/Adaptations	
Time Frame	5 weeks	
Instructional Days	January 19—February 24, 2016	
Georgia Content Focus Standards	***Habits of Mind / Nature of Science – See Page 3*** **S3L1.** Students will investigate the habitat of different organisms and the dependence of organisms on their habitat. a. Differentiate between habitats of Georgia (mountains, marsh/swamp, coast, Piedmont, Atlantic Ocean) and the organisms that live there. b. Identify features of green plants that allow them to live and thrive in different regions of Georgia. c. Identify features of animals that allow them to live and thrive in different regions of Georgia. d. Explain what will happen to an organism if the habitat is changed.	
	Unit 8: Interdependence of Man—Pollution/Conservation	
Time Frame	2 weeks	
Instructional Days	February 25—March 4, 2016	
Georgia Content Focus Standards	***Habits of Mind / Nature of Science – See Page 3*** **S3L2.** Students will recognize the effects of pollution and humans on the environment. a. Explain the effects of pollution (such as littering) to the habitats of plants and animals. b. Identify ways to protect the environment. • Conservation of resources • Recycling of materials	

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	Benchmark Review	Benchmark Review and Next Grade Preview
Time Frame	3-4 weeks	3 weeks
Instructional Days	March 7 until GMAS EOG Science	May 2 – May 20, 2016
Georgia Content Focus Standards Review	Whole group, small group and individual benchmark review based on spiraled quarterly benchmark assessment data	Additional benchmark review for targeted non-proficiency students 3rd grade content enrichment activities

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Georgia Supporting Standards Descriptions

HABITS of MIND

S3CS1. Students will be aware of the importance of curiosity, honesty, openness, and skepticism in science and will exhibit these traits in their own efforts to understand how the world works.

a. Keep records of investigations and observations and do not alter the records later.

b. Offer reasons for findings and consider reasons suggested by others.

c. Take responsibility for understanding the importance of being safety conscious.

S3CS2. Students will have the computation and estimation skills necessary for analyzing data and following scientific explanations.

a. Add, subtract, multiply, and divide whole numbers mentally, on paper, and with a calculator.

b. Use commonly encountered fractions – halves, thirds, and fourths (but not sixths, sevenths, and so on) – in scientific calculations.

c. Judge whether measurements and computations of quantities, such as length, weight, or time, are reasonable answers to scientific problems by comparing them to typical values.

S3CS3. Students will use tools and instruments for observing, measuring, and manipulating objects in scientific activities utilizing safe laboratory procedures.

a. Choose appropriate common materials for making simple mechanical constructions and repairing things.

b. Use computers, cameras and recording devices for capturing information.

c. Identify and practice accepted safety procedures in manipulating science materials and equipment.

S3CS4. Students will use ideas of system, model, change, and scale in exploring scientific and technological matters.

a. Observe and describe how parts influence one another in things with many parts.

b. Use geometric figures, number sequences, graphs, diagrams, sketches, number lines, maps, and stories to represent corresponding features of objects, events, and processes in the real world.

c. Identify ways in which the representations do not match their original counterparts.

S3CS5. Students will communicate scientific ideas and activities clearly.

a. Write instructions that others can follow in carrying out a scientific procedure.

b. Make sketches to aid in explaining scientific procedures or ideas.

c. Use numerical data in describing and comparing objects and events.

d. Locate scientific information in reference books, back issues of newspapers and magazines, CD-ROMs, and computer databases.

S3CS6. Students will question scientific claims and arguments effectively.

a. Support statements with facts found in books, articles, and databases, and identify the sources used.

NATURE of SCIENCE

S3CS7. Students will be familiar with the character of scientific knowledge and how it is achieved. Students will recognize that:

a. Similar scientific investigations seldom produce exactly the same results, which may differ due to unexpected differences in whatever is being investigated, unrecognized differences in the methods or circumstances of the investigation, or observational uncertainties.

b. Some scientific knowledge is very old and yet is still applicable today.

S3CS8. Students will understand important features of the process of scientific inquiry. Students will apply the following to inquiry learning practices:

a. Scientific investigations may take many different forms, including observing what things are like or what is happening somewhere, collecting specimens for analysis, and doing experiments.

b. Clear and active communication is an essential part of doing science. It enables scientists to inform others about their work, expose their ideas to criticism by other scientists, and stay informed about scientific discoveries around the world.

c. Scientists use technology to increase their power to observe things and to measure and compare things accurately.

d. Science involves many different kinds of work and engages men and women of all ages and backgrounds.

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Quarterly Formative Assessments (cumulative)

Question Types
Q1 – 25 MC
Q2 – 30 MC
Q3 – 35 MC

Time

- No more than 60 minutes
- Must be scheduled during a single day test session

Georgia Milestones End of Grade Measures: Domain Structures and Content Weights	Domain	Standard	Approximate Weight
Science	Earth Science	S3E1 (1a,1b,1c,1d) and S3E2 (2a, 2b)	34%
	Life Science	S3P1 (1a,1b,1c,1d) and S3P2 (2a, 2b)	33%
	Physical Science	S3P1 (1a,1b,1c,1d) and S3P2 (2a,2b)	33%

Pertinent GMS Assessment Information

Question Types

- **75 Selected-response items**
  - 65- Operational items which contribute to student's criterion-referenced and/or norm-referenced score
    - 45 points- 45 items (criterion-referenced score/ proficiency designation only)
    - 10 points- 10 items (criterion-referenced score/proficiency designation **and** norm-referenced score)
    - 10 points- 10 items (norm-referenced score only)
  - 10- Field test items (Do not contribute to student's score)
  - Four answer choices
    - Incorrect choices, called distractors, usually reflect common errors
    - The student's task is to choose, from the alternatives provided, the best answer to the question posed in the stem (the question)

Time

- Two sections
- 70 minutes per section

Sections 1 and 2 must be scheduled to be administered on the same day in one test session