Science Pacing Guide

2nd Grade

	Unit 1: Matter	**Quarterly Benchmark Assessment Window (October 5-9, 2015)**
Time Frame	9 weeks	
Instructional Days	August 10 – October 9, 2015	
Georgia Content Focus Standards	**RITUALS AND ROUTINES** *Habits of Mind / Nature of Science – See Page 3* **Physical Science** **S2P1. Students will investigate the properties of matter and changes that occur in objects.** a. Identify the three common states of matter as solid, liquid, or gas. b. Investigate changes in objects by tearing, dissolving, melting, squeezing, etc.	
	Unit 2: Look Outside	**Quarterly Benchmark Assessment Window (December 7-11, 2015)**
Time Frame	9 weeks	
Instructional Days	October 12 - December 18, 2015	
Georgia Content Focus Standards	*Habits of Mind / Nature of Science – See Page 3* **Earth Science** **S2E1. Students will understand that stars have different sizes, brightness, and patterns.** a. Describe the physical attributes of stars—size, brightness, and patterns. **S2E2. Students will investigate the position of sun and moon to show patterns throughout the year.** a. Investigate the position of the sun in relation to a **f**ixed object on earth at various times of the day. b. Determine how the shadows change through the day by making a shadow stick or using a sundial. c. Relate the length of the day and night to the change in seasons (for example: Days are longer than the night in the summer.). d. Use observations and charts to record the shape of the moon for a period of time. **S2E3. Students will observe and record changes in their surroundings and infer the causes of the changes.** a. Recognize effects that occur in a specific area caused by weather, plants, animals, and/or people	
	Unit 3: Energy and Force	**Quarterly Benchmark Assessment Window (March 7-11, 2016)**
Time Frame	9 weeks	
Instructional Days	January 5 – March 4, 2016	
Georgia Content Focus Standards	*Habits of Mind / Nature of Science – See Page 3* **Physical Science** **S2P2. Students will identify sources of energy and how the energy is used.** a. Identify sources of light energy, heat energy, and energy of motion. b. Describe how light, heat, and motion energy are used. **S2P3. Students will demonstrate changes in speed and direction using pushes and pulls.** a. Demonstrate how pushing and pulling an object affects the motion of the object. b. Demonstrate the effects of changes of speed on an object.	

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	Unit 4: Life Cycles		
Time Frame	7 weeks	3 weeks	**Quarterly Benchmark Assessment Window (TBA May 2 - 13, 2016)**
Instructional Days	March 7 – April 29, 2016	May 2 – May 20, 2016	
Georgia Content Focus Standards	*Habits of Mind / Nature of Science – See Page 3* **Life Science** **S2L1. Students will investigate the life cycles of different living organisms.** a. Determine the sequence of the life cycle of common animals in your area: a mammal such as a cat or dog or classroom pet, a bird such as a chicken, an amphibian such as a frog, and an insect such as a butterfly. b. Relate seasonal changes to observations of how a tree changes throughout a school year. c. Investigate the life cycle of a plant by growing a plant from a seed and by recording changes over a period of time. d. Identify fungi (mushroom) as living organisms.	Additional Formative Learning review for targeted non-proficiency students 2nd grade content enrichment activities	

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Georgia Supporting Standards Descriptions

Habits of Mind

S2CS1. 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.Raise questions about the world around them and be willing to seek answers to some of the questions by making careful observations and measurements and trying to figure things out.

S2CS2. Students will have the computation and estimation skills necessary for analyzing data and following scientific explanations.

a. Use whole numbers in ordering, counting, identifying, measuring, and describing things and experiences.

b. Readily give the sums and differences of single-digit numbers in ordinary, practical contexts and judge the reasonableness of the answer.

c. Give rough estimates of numerical answers to problems before doing them formally.

d. Make quantitative estimates of familiar lengths, weights, and time intervals, and check them by measuring.

S2CS3. Students will use tools and instruments for observing, measuring, and manipulating objects in scientific activities.

a. Use ordinary hand tools and instruments to construct, measure, and look at objects.

b. Assemble, describe, take apart, and reassemble constructions using interlocking blocks, erector sets and other things.

c. Make something that can actually be used to perform a task, using paper, cardboard, wood, plastic, metal, or existing objects.

S2CS4. Students will use the ideas of system, model, change, and scale in exploring scientific and technological matters.

a. Identify the parts of things, such as toys or tools, and identify what things can do when put together that they could not do otherwise.

b. Use a model—such as a toy or a picture—to describe a feature of the primary thing.

c. Describe changes in the size, weight, color, or movement of things, and note which of their other qualities remain the same during a specific change.

d. Compare very different sizes, weights, ages (baby/adult), and speeds (fast/slow) of both human made and natural things.

S2CS5. Students will communicate scientific ideas and activities clearly.

a. Describe and compare things in terms of number, shape, texture, size, weight, color, and motion.

b. Draw pictures (grade level appropriate) that correctly portray features of the thing being described.

c. Use simple pictographs and bar graphs to communicate data.

The Nature of Science

S2CS6. Students will be familiar with the character of scientific knowledge and how it is achieved. Students will recognize that:

a. When a science investigation is done the way it was done before, we expect to get a similar result.

b. Science involves collecting data and testing hypotheses.

c. Scientists often repeat experiments multiple times and subject their ideas to criticism by other scientists who may disagree with them and do further tests.

d. All different kinds of people can be and are scientists.

S2CS7. Students will understand important features of the process of scientific inquiry. Students will apply the following to inquiry learning practices:

a. Scientists use a common language with precise definitions of terms to make it easier to communicate their observations to each other.

b. In doing science, it is often helpful to work as a team. All team members should reach their own individual conclusions and share their understandings with other members of the team in order to develop a consensus.

c. Tools such as thermometers, rulers and balances often give more information about things than can be obtained by just observing things without help.

d. Much can be learned about plants and animals by observing them closely, but care must be taken to know the needs of living things and how to provide for them. Advantage can be taken of classroom pets.

Pertinent Assessment Information

Quarterly Formative Assessments (cumulative)

Question Types

- Q1 – 20 MC
- Q2 – 19 MC and 1 OER
- Q3 – 23 MC and 3 OER
- Q4 – 29 MC and 1 OER

Time

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