Dear 2nd Grade Science Teacher:

The goal of the North Carolina Science Standard Course of Study (NC SCoS) is to achieve scientific literacy. The Second Grade Science Pacing Guide includes **Essential Standards and Clarifying Objectives** from *life, physical and earth sciences*. These standards engage students in developing problem-solving and critical thinking skills that empower them to participate in an increasingly scientific and technological world.

Second Graders Value Science Best When...

- Science is taught *daily* (30 to 45 minutes).
- Learning opportunities develop understandings and skills for problem-solving in real-world scientific and technological concepts.
- The collaborative scientific contributions of individuals from all ethnic origins are recognized and valued.
- Math and reading skills are infused into science.
- *Inquiry skills* and positive attitudes are modeled by the teacher and others involved in the education process.
- A *variety of presentation modes* are used to accommodate different learning styles; students are given opportunities to interact and share ideas and collaborate with their peers.

Second Graders Learn Science Best When…

- ✓ Involved in first-hand exploration & investigation and inquiry/processing skills are nurtured.
- ✓ Instruction builds directly on student' conceptual background.
- ✓ Science content is organized on the basis of broad conceptual themes common to all science disciplines.
- ✓ Mathematics and communication skills are an integral part of science instruction.
- ✓ Learning environment fosters positive attitudes towards self and society, as well as science.

Suggested Instructional Model: (I Do; We Do; You Do)

- **I Do: Engage** --Introduce science concept and connect to student's' prior knowledge; revealing any misconceptions.
- **We Do: Explore** --Provide an opportunity for observations and questioning prior to teacher's explaining of concepts.
- **I Do**: **Explain/Elaborate** -- Provide a clear, concise description of new concept; include labels & essential vocabulary; integrate video clip. Demonstrate the concept and/or process using visual models, technology, and text
- **We Do: Evaluate** --Assess Hands-on/Minds-on practice through guided practice
- **You Do: Evaluate—**Determine students' overall understanding of concepts and their progress made towards learning the science objectives.

Charting a New Course!
Halifax County Schools
2018-2019 Curriculum & Instruction Support Team

Halifax County Schools: Science Essential Standards Pacing Guide

2nd Grade At-A-Glance **NC Wiki:** http://www.livebinders.com/play/play_or_edit/217643

Force and Motion

2.P.1-Understand the relationship between sound and vibrating objects.	Quarters			
	1	2	3	4
2.P.1.1 Illustrate how sound is produced by vibrating objects and columns of air.	X	2	X	X
2.P.1.2 Summarize the relationship between sound and objects of the body that vibrate – eardrum and vocal cords.	X	2	X	X

Matter: Properties and Changes

2.P.2- Understand properties of solids and liquids and the changes they undergo.	Quarters			
	1	2	3	4
2.P.2.1 Give examples of matter that change from a solid to a liquid and from a liquid to a solid by heating and cooling.	X	X	3	X
2.P.2.2 Compare the amount (volume and weight) of water in a container before and after freezing.	X	X	3	X
2.P.2.3 Compare what happens to water left in an open container over time as to water left in a closed container.	X	X	3	X

Earth Systems, Structures and Processes

2.E.1- Understand patterns of weather and factors that affect weather.	Quarters			
	1	2	3	4
2.E.1.1 Summarize how energy from the sun serves as a source of light that warms the land, air and water.	1	X	X	X
2.E.1.2 Summarize weather conditions using qualitative and quantitative measures to describe: - Temperature - Wind direction - Wind speed - Precipitation	1	X	X	X

Structures and Functions of Living Organisms

2.L.1 -Understand animal life cycles.	Quarters			
	1	2	3	4
2.L.1.1 Summarize the life cycle of animals: - Birth - Developing into an adult - Reproducing - Aging and death	X	X	X	4
2.L.1.2 Compare life cycles of different animals such as, but not limited to, mealworms, ladybugs, crickets, guppies or frogs.	X	X	X	4

2.E.1.3 Compare weather patterns that occur over time and relate observable patterns to time of day and time of year.	1	X	X	X	**2.L.2- Remember that organisms differ from or are similar to their parents based on the characteristics of the organism.**	**Quarters**			
						1	**2**	**3**	**4**
2.E.1.4 Recognize the tools that scientists use for observing, recording, and predicting weather changes from day to day and during the seasons.	1	X	X	X	**2.L.2.1** Identify ways in which many plants and animals closely resemble their parents in observed appearance and ways they are different.	X	X	X	4
Note: **The Science and Engineering Practices listed below are to be integrated in daily lesson activities as often as possible:** 1. Asking questions and defining problems 2. Developing and using models 3. Planning and carrying out investigations 4. Analyzing and interpreting data 5. Using mathematics and computational thinking 6. Constructing explanations and designing solutions 7. Engaging in argument from evidence 8. Obtaining, evaluating and communicating information					**2.L.2.2** Recognize that there is variation among individuals that are related.	X	X	X	4