2nd Grade Science

Prioritized Standards and Instructional Units
2022-2023

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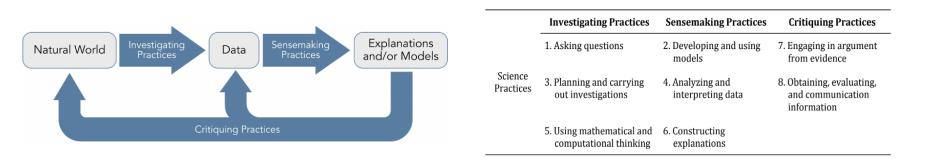| UNIT 1: Structure and Properties of Matter 30 Days	UNIT 2: Earth's Systems: Processes That Shape The Earth 30 Days	UNIT 3: Interdependent Relationships in Ecosystems 30 Days
PRIORITY **Science and Engineering Practices** **Planning and Carrying Out Investigations** ● Plan and conduct an investigation collaboratively to produce data to serve as the basis for evidence to answer a question. (2-PS1-1) **Analyzing and Interpreting Data** ● Analyze data from tests of an object or tool to determine if it works as intended. (2-PS1-2) **Constructing Explanations and Designing Solutions** ● Constructing explanations and designing solutions in K–2 builds on prior experiences and progresses to the use of evidence and ideas in constructing evidence-based accounts of natural phenomena and designing solutions. Make observations (firsthand or from media) to construct an evidence based account for natural phenomena. (2-PS1-3) **Engaging in Argument from Evidence** ● Construct an argument with evidence to support a claim. (2-PS1-4) **SUPPORTING** **Performance Expectations** **2-PS1-1.** Plan and conduct an investigation to describe and classify different kinds of materials by their observable properties. **2-PS1-2.** Analyze data obtained from testing different materials to determine which materials have the properties that are best suited for an intended purpose. **2-PS1-3**. Make observations to construct an evidence-based account of how an object made of a small set of pieces can be disassembled and made into a new object. **2-PS1-4.** Construct an argument with evidence that some changes caused by heating or cooling can be reversed and some cannot.	**PRIORITY** **Science and Engineering Practices** **Developing and Using Models** ● Develop a model to represent patterns in the natural world. (2-ESS2-2) **Constructing Explanations and Designing Solutions** ● Make observations from several sources to construct an evidence-based account for natural phenomena. (2- ESS1-1) ● Compare multiple solutions to a problem. (2-ESS2-1) **Obtaining, Evaluating, and Communicating Information** ● Obtain information using various texts, text features (e.g., headings, tables of contents, glossaries, electronic menus, icons), and other media that will be useful in answering a scientific question. (2-ESS2-3) **SUPPORTING** **Performance Expectations** **2-ESS1-1.** Use information from several sources to provide evidence that Earth events can occur quickly or slowly. **2-ESS2-1.** Compare multiple solutions designed to slow or prevent wind or water from changing the shape of the land. **2-ESS2-2.** Develop a model to represent the shapes and kinds of land and bodies of water in an area. **2-ESS2-3.** Obtain information to identify where water is found on Earth and that it can be solid or liquid.	**PRIORITY** **Science and Engineering Practices** **Developing and Using Models** ● Develop a simple model based on evidence to represent a proposed object or tool. (2-LS2-2) **Planning and Carrying Out Investigations** ● Plan and conduct an investigation collaboratively to produce data to serve as the basis for evidence to answer a question. (2-LS2-1) ● Make observations (firsthand or from media) to collect data which can be used to make comparisons. (2-LS4-1 **SUPPORTING** **Performance Expectations** **2-LS2-1.** Plan and conduct an investigation to determine if plants need sunlight and water to grow**.** **2-LS2-2.** Develop a simple model that mimics the function of an animal in dispersing seeds or pollinating plants. **2-LS4-1.** Make observations of plants and animals to compare the diversity of life in different habitats.

Unit/Core Idea: Interdependent Relationships in Ecosystems   Pacing: 30 days

Unit/Core Idea: Interdependent Relationships in Ecosystems Essential Question: How and why do organisms interact with their environment and what are the effects of these interactions?

Supporting Questions:
-How do matter and energy move through an ecosystem?
-How do organisms interact with living and nonliving environments to obtain matter and energy?
-What happens to ecosystems when the environment changes?
-How does the environment influence populations of organisms over multiple generations?

	Investigating Practices	Sensemaking Practices	Critiquing Practices
Science Practices	1. Asking questions	2. Developing and using models	7. Engaging in argument from evidence
	3. Planning and carrying out investigations	4. Analyzing and interpreting data	8. Obtaining, evaluating, and communication information
	5. Using mathematical and computational thinking	6. Constructing explanations	

Science and Engineering Practices (Priority)	Performance Expectations (Supporting)
Developing and Using Models Modeling in K–2 builds on prior experiences and progresses to include using and developing models (i.e., diagram, drawing, physical replica, diorama, dramatization, or storyboard) that represent concrete events or design solutions. ● Develop a simple model based on evidence to represent a proposed object or tool. (2-LS2-2) **Planning and Carrying Out Investigations** Planning and carrying out investigations to answer questions or test solutions to problems in K–2 builds on prior experiences and progresses to simple investigations, based on fair tests, which provide data to support explanations or design solutions. ● Plan and conduct an investigation collaboratively to produce data to serve as the basis for evidence to answer a question. (2-LS2-1) ● Make observations (firsthand or from media) to collect data which can be used to make comparisons. (2-LS4-1	**2-LS2-1. Plan and conduct an investigation to determine if plants need sunlight and water to grow.** [Assessment Boundary: Assessment is limited to testing one variable at a time.] 2-LS2-2. Develop a simple model that mimics the function of an animal in dispersing seeds or pollinating plants.* **2-LS2-2. Develop a simple model that mimics the function of an animal in dispersing seeds or pollinating plants**. **2-LS4-1. Make observations of plants and animals to compare the diversity of life in different habitats**. [Clarification Statement: Emphasis is on the diversity of living things in each of a variety of different habitats.] [Assessment Boundary: Assessment does not include specific animal and plant names in specific habitats.]

| **Kentucky Academic Standards Connections** | **ELA/Literacy –**
W.2.7 Participate in shared research and writing projects (e.g., read a number of books on a single topic to produce a report; record science observations). (2-LS2-1),(2-LS4-1)
W.2.8 Recall information from experiences or gather information from provided sources to answer a question. (2-LS2-1),(2-LS4-1)
SL.2.5 Create audio recordings of stories or poems; add drawings or other visual displays to stories or recounts of experiences when appropriate to clarify ideas, thoughts, and feelings. (2-LS2-2)
Mathematics –
MP.2 Reason abstractly and quantitatively. (2-LS2-1),(2-LS4-1)
MP.4 Model with mathematics. (2-LS2-1),(2-LS2-2),(2-LS4-1)
MP.5 Use appropriate tools strategically. (2-LS2-1)
2.MD.D.10 Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories. Solve simple put together, take-apart, and compare problems. (2-LS2-2),(2-LS4-1) |