3rd Grade Science

Prioritized Standards and Instructional Units 2022-2023

3rd Grade Science

UNIT 1: **Forces and Interactions** 25 Days	UNIT 2: **Weather and Climate** 25 Days
PRIORITY **Science and Engineering Practices** **Asking Questions and Defining Problems** ● Ask questions that can be investigated based on patterns such as cause and effect relationships. (3-PS2-3) ● Define a simple problem that can be solved through the development of a new or improved object or tool. (3-PS2-4) **Planning and Carrying Out Investigations** ● Plan and conduct an investigation collaboratively to produce data to serve as the basis for evidence, using fair tests in which variables are controlled and the number of trials considered. (3-PS2-1) ● Make observations and/or measurements to produce data to serve as the basis for evidence for an explanation of a phenomenon or test a design solution. (3-PS2-2) **SUPPORTING** **Performance Expectations** **3-PS2-1.** Plan and conduct an investigation to provide evidence of the effects of balanced and unbalanced forces on the motion of an object. **3-PS2-2.** Make observations and/or measurements of an object's motion to provide evidence that a pattern can be used to predict future motion. **3-PS2-3**. Ask questions to determine cause and effect relationships of electric or magnetic interactions between two objects not in contact with each other. **3-PS2-4.** Define a simple design problem that can be solved by applying scientific ideas about magnets.	**PRIORITY** **Science and Engineering Practices** **Analyzing and Interpreting Data** ● Represent data in tables and various graphical displays (bar graphs, pictographs and/or pie charts) to reveal patterns that indicate relationships. (3-ESS2-1) **Engaging in Argument from Evidence** ● Make a claim about the merit of a solution to a problem by citing relevant evidence about how it meets the criteria and constraints of the problem. (3-ESS3-1) **SUPPORTING** **Performance Expectations** **3-ESS2-1.** Represent data in tables and graphical displays to describe typical weather conditions expected during a particular season. **3-ESS2-2.** Obtain and combine information to describe climates in different regions of the world. **3-ESS3-1.** Make a claim about the merit of a design solution that reduces the impacts of a weather-related hazard.

3rd Grade Science

UNIT 3: Inheritance and Variation of Traits 25 Days	UNIT 4: Interdependent Relationships in Ecosystems 25 Days
PRIORITY **Science and Engineering Practices** **Developing and Using Models** ● Develop models to describe phenomena. (3-LS1-1) **Analyzing and Interpreting Data** ● Analyze and interpret data to make sense of phenomena using logical reasoning. (3-LS3-1) **Constructing Explanations and Designing Solutions** ● Use evidence (e.g., observations, patterns) to support an explanation. (3-LS3-2) ● Use evidence (e.g., observations, patterns) to construct an explanation. (3-LS4-2) **SUPPORTING** **Performance Expectations** **3-LS1-1.** Develop models to describe that organisms have unique and diverse life cycles but all have in common birth, growth, reproduction, and death. **3-LS3-1**. Analyze and interpret data to provide evidence that plants and animals have traits inherited from parents and that variation of these traits exists in a group of similar organisms. **3-LS3-2.** Use evidence to support the explanation that traits can be influenced by the environment. **3-LS4-2.** Use evidence to construct an explanation for how the variations in characteristics among individuals of the same species may provide advantages in surviving, finding mates, and reproducing.	**PRIORITY** **Science and Engineering Practices** **Analyzing and Interpreting Data** ● Analyze and interpret data to make sense of phenomena using logical reasoning. (3-LS4-1) **Engaging in Argument from Evidence** ● Construct an argument with evidence, data, and/or a model. (3-LS2-1) ● Construct an argument with evidence. (3- LS4-3) ● Make a claim about the merit of a solution to a problem by citing relevant evidence about how it meets the criteria and constraints of the problem. (3-LS4-4) **SUPPORTING** **Performance Expectations** **3-LS4-1.** Analyze and interpret data from fossils to provide evidence of the organisms and the environments in which they lived long ago. **3-LS4-3.** Construct an argument with evidence that in a particular habitat some organisms can survive well, some survive less well, and some cannot survive at all. **3-LS4-4.** Make a claim about the merit of a solution to a problem caused when the environment changes and the types of plants and animals that live there may change. **3-LS2-1.** Construct an argument that some animals form groups that help members survive.

Unit/Core Idea: Weather and Climate — Pacing: 25 days

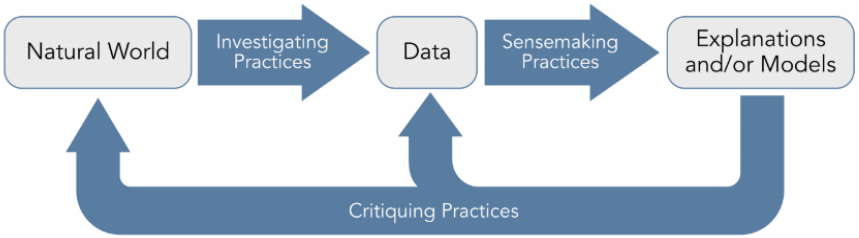
Unit/Core Idea: Weather and Climate
Essential Question: What is typical weather in different parts of the world and during different times of the year? How can the impact of weather-related hazards be reduced?

Supporting Questions:
-How do Earth's major systems interact?

-How do the properties and movements of water shape Earth's surface and affect its systems?

-What regulates weather and climate?

-How do natural hazards affect individuals and societies?



	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)
Analyzing and Interpreting Data Analyzing data in 3–5 builds on K–2 experiences and progresses to introducing quantitative approaches to collecting data and conducting multiple trials of qualitative observations. When possible and feasible, digital tools should be used. ● Represent data in tables and various graphical displays (bar graphs, pictographs and/or pie charts) to reveal patterns that indicate relationships. (3-ESS2-1) **Engaging in Argument from Evidence** Engaging in argument from evidence in 3–5 builds on K–2 experiences and progresses to critiquing the scientific explanations or solutions proposed by peers by citing relevant evidence about the natural and designed world(s). ● Make a claim about the merit of a solution to a problem by citing relevant evidence about how it meets the criteria and constraints of the problem. (3-ESS3-1)	**3-ESS2-1. Represent data in tables and graphical displays to describe typical weather conditions expected during a particular season.** [Clarification Statement: Examples of data could include average temperature, precipitation, and wind direction.] [Assessment Boundary: Assessment of graphical displays is limited to pictographs and bar graphs. Assessment does not include climate change.] **3-ESS2-2. Obtain and combine information to describe climates in different regions of the world** **3-ESS3-1. Make a claim about the merit of a design solution that reduces the impacts of a weather-related hazard.*** [Clarification Statement: Examples of design solutions to weather-related hazards could include barriers to prevent flooding, wind resistant roofs, and lightning rods.]

Obtaining, Evaluating, and Communicating Information Obtaining, evaluating, and communicating information in 3–5 builds on K–2 experiences and progresses to evaluating the merit and accuracy of ideas and methods. ● Obtain and combine information from books and other reliable media to explain phenomena. (3- ESS2-2)	

Kentucky Academic Standards Connections	**ELA/Literacy –** RI.3.1 Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers. (3-ESS2-2) RI.3.9 Compare and contrast the most important points and key details presented in two texts on the same topic. (3-ESS2-2) W.3.1 Write opinion pieces on topics or texts, supporting a point of view with reasons. (3-ESS3-1) W.3.7 Conduct short research projects that build knowledge about a topic. (3-ESS3-1) W.3.9 Recall information from experiences or gather information from print and digital sources; take brief notes on sources and sort evidence into provided categories. (3-ESS2-2) **Mathematics –** MP.2 Reason abstractly and quantitatively. (3-ESS2-1),(3-ESS2-2),(3-ESS3-1) MP.4 Model with mathematics. (3-ESS2-1),(3-ESS2-2), (3-ESS3-1) MP.5 Use appropriate tools strategically. (3-ESS2-1) 3.MD.A.2 Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l). Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units, e.g., by using drawings (such as a beaker with a measurement scale) to represent the problem. (3-ESS2-1) 3.MD.B.3 Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step “how many more” and “how many less” problems using information presented in bar graphs. (3-ESS2-1)