

2nd Grade Science



Prioritized Standards and Instructional Units 2022-2023

2nd Grade Science

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
<p style="text-align: center;"><u>PRIORITY</u></p> <p style="text-align: center;">Science and Engineering Practices</p> <p>Planning and Carrying Out Investigations</p> <ul style="list-style-type: none"> Plan and conduct an investigation collaboratively to produce data to serve as the basis for evidence to answer a question. (2-PS1-1) <p>Analyzing and Interpreting Data</p> <ul style="list-style-type: none"> Analyze data from tests of an object or tool to determine if it works as intended. (2-PS1-2) <p>Constructing Explanations and Designing Solutions</p> <ul style="list-style-type: none"> 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) <p>Engaging in Argument from Evidence</p> <ul style="list-style-type: none"> Construct an argument with evidence to support a claim. (2-PS1-4) <p style="text-align: center;"><u>SUPPORTING</u></p> <p style="text-align: center;">Performance Expectations</p> <p>2-PS1-1. Plan and conduct an investigation to describe and classify different kinds of materials by their observable properties.</p> <p>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.</p> <p>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.</p> <p>2-PS1-4. Construct an argument with evidence that some changes caused by heating or cooling can be reversed and some cannot.</p>	<p style="text-align: center;"><u>PRIORITY</u></p> <p style="text-align: center;">Science and Engineering Practices</p> <p>Developing and Using Models</p> <ul style="list-style-type: none"> Develop a model to represent patterns in the natural world. (2-ESS2-2) <p>Constructing Explanations and Designing Solutions</p> <ul style="list-style-type: none"> 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) <p>Obtaining, Evaluating, and Communicating Information</p> <ul style="list-style-type: none"> 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) <p style="text-align: center;"><u>SUPPORTING</u></p> <p style="text-align: center;">Performance Expectations</p> <p>2-ESS1-1. Use information from several sources to provide evidence that Earth events can occur quickly or slowly.</p> <p>2-ESS2-1. Compare multiple solutions designed to slow or prevent wind or water from changing the shape of the land.</p> <p>2-ESS2-2. Develop a model to represent the shapes and kinds of land and bodies of water in an area.</p> <p>2-ESS2-3. Obtain information to identify where water is found on Earth and that it can be solid or liquid.</p>	<p style="text-align: center;"><u>PRIORITY</u></p> <p style="text-align: center;">Science and Engineering Practices</p> <p>Developing and Using Models</p> <ul style="list-style-type: none"> Develop a simple model based on evidence to represent a proposed object or tool. (2-LS2-2) <p>Planning and Carrying Out Investigations</p> <ul style="list-style-type: none"> 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) <p style="text-align: center;"><u>SUPPORTING</u></p> <p style="text-align: center;">Performance Expectations</p> <p>2-LS2-1. Plan and conduct an investigation to determine if plants need sunlight and water to grow.</p> <p>2-LS2-2. Develop a simple model that mimics the function of an animal in dispersing seeds or pollinating plants.</p> <p>2-LS4-1. Make observations of plants and animals to compare the diversity of life in different habitats.</p>

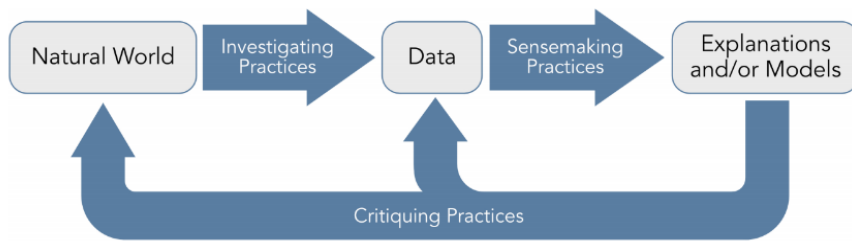
Unit/Core Idea: Earth's Systems: Processes That Shape The Earth

Pacing: 30 days

Unit/Core Idea: Earth's Systems: Processes That Shape The Earth
 Essential Question: How and why is Earth constantly changing?

Supporting Questions:

- How do Earth's major systems interact?
- Why do the continents move, and what causes earthquakes and volcanoes?
- How do the properties and movements of water shape Earth's surface and affect its systems?
- How do living organisms alter Earth's processes and structures?



	Investigating Practices	Sensemaking Practices	Critiquing Practices
	1. Asking questions	2. Developing and using models	7. Engaging in argument from evidence
Science Practices	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)

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 model to represent patterns in the natural world. (2-ESS2-2)

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 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

Obtaining, evaluating, and communicating information in K–2 builds on prior experiences and uses observations and texts to communicate new information.

Performance Expectations (Supporting)

- 2-ESS1-1. Use information from several sources to provide evidence that Earth events can occur quickly or slowly.** [Clarification Statement: Examples of events and timescales could include volcanic explosions and earthquakes, which happen quickly and erosion of rocks, which occurs slowly.]
- 2-ESS2-1. Compare multiple solutions designed to slow or prevent wind or water from changing the shape of the land.*** [Clarification Statement: Examples of solutions could include different designs of dikes and windbreaks to hold back wind and water, and different designs for using shrubs, grass, and trees to hold back 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.**

- 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)

Kentucky Academic Standards Connections

ELA/Literacy –

RI.2.1 Ask and answer such questions as who, what, where, when, why, and how to demonstrate understanding of key details in a text. (2-ESS1-1)

RI.2.3 Describe the connection between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text. (2-ESS1-1),(2-ESS2-1)

RI.2.9 Compare and contrast the most important points presented by two texts on the same topic. (2-ESS2-1)

W.2.6 With guidance and support from adults, use a variety of digital tools to produce and publish writing, including in collaboration with peers. (2-ESS1-1), (2-ESS2-3)

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-ESS1-1)

W.2.8 Recall information from experiences or gather information from provided sources to answer a question. (2-ESS1-1),(2-ESS2-3)

SL.2.2 Recount or describe key ideas or details from a text read aloud or information presented orally or through other media. (2-ESS1-1)

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-ESS2-2)

Mathematics –

MP.2 Reason abstractly and quantitatively. (2-ESS2-1),(2-ESS2-1),(2-ESS2-2)

MP.4 Model with mathematics. (2-ESS1-1),(2-ESS2-1),(2-ESS2-2)

MP.5 Use appropriate tools strategically. (2-ESS2-1)

2.NBT.A Understand place value. (2-ESS1-1) 2.NBT.A.3 Read and write numbers to 1000 using base-ten numerals, number names, and expanded form. (2-ESS2-2)

2.MD.B.5 Use addition and subtraction within 100 to solve word problems involving lengths that are given in the same units, e.g., by using drawings (such as drawings of rulers) and equations with a symbol for the unknown number to represent the problem. (2-ESS2-1)