

2nd Grade Science



Prioritized Standards and Instructional Units 2022-2023

2nd Grade Science

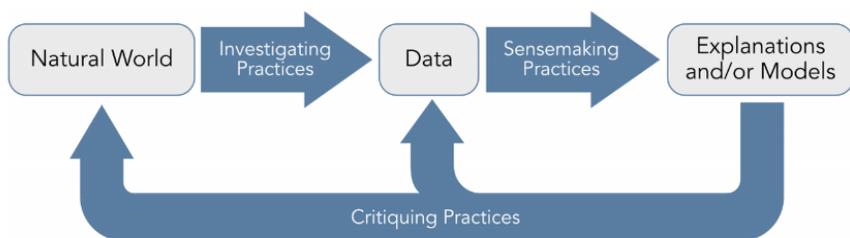
<p style="text-align: center;">UNIT 1: Structure and Properties of Matter 30 Days</p>	<p style="text-align: center;">UNIT 2: Earth's Systems: Processes That Shape The Earth 30 Days</p>	<p style="text-align: center;">UNIT 3: Interdependent Relationships in Ecosystems 30 Days</p>
<p style="text-align: 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: Structure and Properties of Matter

Essential Question: How are materials similar and different from one another, and how do the properties of the materials relate to their use?

Supporting Questions:

- How do particles combine to form the variety of matter one observes?
- How do substances combine or change (react) to make new substances? How does one characterize and explain these reactions and predictions about them?



	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)
<p>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.</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 Analyzing data in K–2 builds on prior experiences and progresses to collecting, recording, and sharing observations.</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 	<p>2-PS1-1. Plan and conduct an investigation to describe and classify different kinds of materials by their observable properties. [Clarification Statement: Observations could include color, texture, hardness, and flexibility. Patterns could include the similar properties that different materials share.]</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.* [Clarification Statement: Examples of properties could include, strength, flexibility, hardness, texture, and absorbency.] [Assessment Boundary: Assessment of quantitative measurements is limited to length.]</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. [Clarification Statement: Examples of pieces could include blocks, building bricks, or other assorted small objects.]</p> <p>2-PS1-4. Construct an argument with evidence that some changes caused by heating or cooling can be reversed and some cannot. [Clarification Statement: Examples of reversible changes could include materials such as water and butter at different temperatures. Examples of</p>

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)

irreversible changes could include cooking an egg, freezing a plant leaf, and heating paper.]

Engaging in Argument from Evidence

Engaging in argument from evidence in K–2 builds on prior experiences and progresses to comparing ideas and representations about the natural and designed world(s).

- Construct an argument with evidence to support a claim. (2-PS1-4)

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-PS1-4)

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-PS1-4)

RI.2.8 Describe how reasons support specific points the author makes in a text. (2-PS1-2),(2-PS1-4)

W.2.1 Write opinion pieces in which they introduce the topic or book they are writing about, state an opinion, supply reasons that support the opinion, use linking words (e.g., because, and, also) to connect opinion and reasons, and provide a concluding statement or section. (2-PS1-4)

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-PS1-1), (2-PS1-2),(2-PS1-3)

W.2.8 Recall information from experiences or gather information from provided sources to answer a question. (2-PS1-1),(2-PS1-2),(2-PS1-3)

Mathematics –

MP.2 Reason abstractly and quantitatively. (2-PS1-2)

MP.4 Model with mathematics. (2-PS1-1),(2-PS1-2)

MP.5 Use appropriate tools strategically. (2-PS1-2)

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 using information presented in a bar graph. (2-PS1-1),(2-PS1-2)