

# 3rd Grade Science



## Prioritized Standards and Instructional Units 2022-2023

## 3rd Grade Science

<b>UNIT 1: Forces and Interactions 25 Days</b>	<b>UNIT 2: Weather and Climate 25 Days</b>
<p style="text-align: center;"><b><u>PRIORITY</u></b></p> <p style="text-align: center;"><b><u>Science and Engineering Practices</u></b></p> <p><b>Asking Questions and Defining Problems</b></p> <ul style="list-style-type: none"><li>• Ask questions that can be investigated based on patterns such as cause and effect relationships. (3-PS2-3)</li><li>• Define a simple problem that can be solved through the development of a new or improved object or tool. (3-PS2-4)</li></ul> <p><b>Planning and Carrying Out Investigations</b></p> <ul style="list-style-type: none"><li>• 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)</li><li>• 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)</li></ul> <p style="text-align: center;"><b><u>SUPPORTING</u></b></p> <p style="text-align: center;"><b><u>Performance Expectations</u></b></p> <p><b>3-PS2-1.</b> Plan and conduct an investigation to provide evidence of the effects of balanced and unbalanced forces on the motion of an object.</p> <p><b>3-PS2-2.</b> Make observations and/or measurements of an object's motion to provide evidence that a pattern can be used to predict future motion.</p> <p><b>3-PS2-3.</b> Ask questions to determine cause and effect relationships of electric or magnetic interactions between two objects not in contact with each other.</p> <p><b>3-PS2-4.</b> Define a simple design problem that can be solved by applying scientific ideas about magnets.</p>	<p style="text-align: center;"><b><u>PRIORITY</u></b></p> <p style="text-align: center;"><b><u>Science and Engineering Practices</u></b></p> <p><b>Analyzing and Interpreting Data</b></p> <ul style="list-style-type: none"><li>• Represent data in tables and various graphical displays (bar graphs, pictographs and/or pie charts) to reveal patterns that indicate relationships. (3-ESS2-1)</li></ul> <p><b>Engaging in Argument from Evidence</b></p> <ul style="list-style-type: none"><li>• 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)</li></ul> <p style="text-align: center;"><b><u>SUPPORTING</u></b></p> <p style="text-align: center;"><b><u>Performance Expectations</u></b></p> <p><b>3-ESS2-1.</b> Represent data in tables and graphical displays to describe typical weather conditions expected during a particular season.</p> <p><b>3-ESS2-2.</b> Obtain and combine information to describe climates in different regions of the world.</p> <p><b>3-ESS3-1.</b> Make a claim about the merit of a design solution that reduces the impacts of a weather-related hazard.</p>

## 3rd Grade Science

<b>UNIT 3:</b> <b>Inheritance and Variation of Traits</b> 25 Days	<b>UNIT 4:</b> <b>Interdependent Relationships in Ecosystems</b> 25 Days
<p style="text-align: center;"><b>PRIORITY</b></p> <p style="text-align: center;"><b>Science and Engineering Practices</b></p> <p><b>Developing and Using Models</b></p> <ul style="list-style-type: none"><li>• Develop models to describe phenomena. (3-LS1-1)</li></ul> <p><b>Analyzing and Interpreting Data</b></p> <ul style="list-style-type: none"><li>• Analyze and interpret data to make sense of phenomena using logical reasoning. (3-LS3-1)</li></ul> <p><b>Constructing Explanations and Designing Solutions</b></p> <ul style="list-style-type: none"><li>• Use evidence (e.g., observations, patterns) to support an explanation. (3-LS3-2)</li><li>• Use evidence (e.g., observations, patterns) to construct an explanation. (3-LS4-2)</li></ul> <p style="text-align: center;"><b>SUPPORTING</b></p> <p style="text-align: center;"><b>Performance Expectations</b></p> <p><b>3-LS1-1.</b> Develop models to describe that organisms have unique and diverse life cycles but all have in common birth, growth, reproduction, and death.</p> <p><b>3-LS3-1.</b> 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.</p> <p><b>3-LS3-2.</b> Use evidence to support the explanation that traits can be influenced by the environment.</p> <p><b>3-LS4-2.</b> 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.</p>	<p style="text-align: center;"><b>PRIORITY</b></p> <p style="text-align: center;"><b>Science and Engineering Practices</b></p> <p><b>Analyzing and Interpreting Data</b></p> <ul style="list-style-type: none"><li>• Analyze and interpret data to make sense of phenomena using logical reasoning. (3-LS4-1)</li></ul> <p><b>Engaging in Argument from Evidence</b></p> <ul style="list-style-type: none"><li>• Construct an argument with evidence, data, and/or a model. (3-LS2-1)</li><li>• Construct an argument with evidence. (3-LS4-3)</li><li>• 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)</li></ul> <p style="text-align: center;"><b>SUPPORTING</b></p> <p style="text-align: center;"><b>Performance Expectations</b></p> <p><b>3-LS4-1.</b> Analyze and interpret data from fossils to provide evidence of the organisms and the environments in which they lived long ago.</p> <p><b>3-LS4-3.</b> 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.</p> <p><b>3-LS4-4.</b> 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.</p> <p><b>3-LS2-1.</b> Construct an argument that some animals form groups that help members survive.</p>

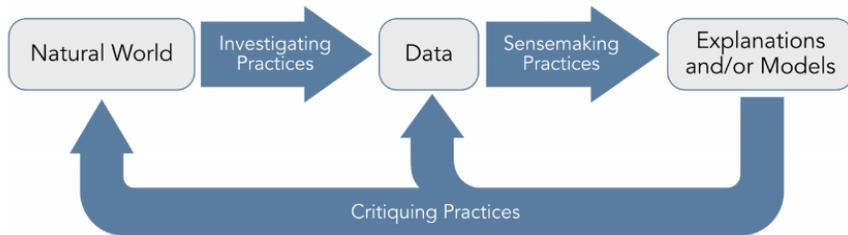
# Unit/Core Idea: Interdependent Relationships in Ecosystems

Pacing: 25 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 does the environment influence populations of organisms over multiple generations?
- What happens to ecosystems when the environment changes?
- How do organisms interact in groups so as to benefit individuals?



	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)	Performance Expectations (Supporting)
<p><b>Analyzing and Interpreting Data</b>                      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.</p> <ul style="list-style-type: none"> <li>• Analyze and interpret data to make sense of phenomena using logical reasoning. (3-LS4-1)</li> </ul> <p><b>Engaging in Argument from Evidence</b>                      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 worlds.</p> <ul style="list-style-type: none"> <li>• Construct an argument with evidence, data, and/or a model. (3-LS2-1)</li> <li>• Construct an argument with evidence. (3-LS4-3)</li> </ul>	<p><b>3-LS4-1. Analyze and interpret data from fossils to provide evidence of the organisms and the environments in which they lived long ago.</b>                      [Clarification Statement: Examples of data could include type, size, and distributions of fossil organisms. Examples of fossils and environments could include marine fossils found on dry land, tropical plant fossils found in Arctic areas, and fossils of extinct organisms.] [Assessment Boundary: Assessment does not include identification of specific fossils or present plants and animals. Assessment is limited to major fossil types and relative ages.]</p> <p><b>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.</b>                      [Clarification Statement: Examples of evidence could include needs and characteristics of the organisms and habitats involved. The organisms and their habitat make up a system in which the parts depend on each other.]</p> <p><b>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</b></p>

- 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)

**live there may change.\*** [Clarification Statement: Examples of environmental changes could include changes in land characteristics, water distribution, temperature, food, and other organisms.] [Assessment Boundary: Assessment is limited to a single environmental change. Assessment does not include the greenhouse effect or climate change.]

**3-LS2-1. Construct an argument that some animals form groups that help members survive.**

### 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-LS2-1),(3-LS4-1),(3-LS4-3),(3-LS4-4)

RI.3.2 Determine the main idea of a text; recount the key details and explain how they support the main idea. (3-LS4-1),(3-LS4-3),(3-LS4-4)

RI.3.3 Describe the relationship between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text, using language that pertains to time, sequence, and cause/effect. (3-LS2-1),(3-LS4-1),(3-LS4-3),(3-LS4-4)

W.3.1 Write opinion pieces on topics or texts, supporting a point of view with reasons. (3-LS2-1),(3-LS4-1),(3-LS4-3),(3-LS4-4)

W.3.2 Write informative/explanatory texts to examine a topic and convey ideas and information clearly. (3-LS4-1),(3-LS4-3),(3-LS4-4)

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-LS4-1)

SL.3.4 Report on a topic or text, tell a story, or recount an experience with appropriate facts and relevant, descriptive details, speaking clearly at an understandable pace. (3-LS4-3),(3-LS4-4)

#### Mathematics –

MP.2 Reason abstractly and quantitatively. (3-LS4-1),(3-LS4-4)

MP.4 Model with mathematics. (3-LS2-1),(3-LS4-1),(3-LS4-4)

MP.5 Use appropriate tools strategically. (3-LS4-1)

3.NBT Number and Operations in Base Ten (3-LS2-1)

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 scaled bar graphs. (3-LS4-3)

3.MD.B.4 Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Show the data by making a line plot, where the horizontal scale is marked off in appropriate units—whole numbers, halves, or quarters. (3-LS4-1)