

# Kindergarten Science



## Prioritized Standards and Instructional Units 2022-2023

## Kindergarten Science

UNIT 1: Weather and Climate 20 Days	UNIT 2: Forces: Pushes and Pulls 10 Days	UNIT 3: Interdependent Relationships 15 Days
<p style="text-align: center;"><b>PRIORITY</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 based on observations to find more information about the designed world. (K-ESS3-2)</li> </ul> <p><b>Planning and Carrying Out Investigations</b></p> <ul style="list-style-type: none"> <li>Make observations (firsthand or from media) to collect data that can be used to make comparisons. (K-PS3-1)</li> </ul> <p><b>Analyzing and Interpreting Data</b></p> <ul style="list-style-type: none"> <li>Use observations (firsthand or from media) to describe patterns in the natural world in order to answer scientific questions. (K-ESS2-1)</li> </ul> <p><b>Constructing Explanations and Designing Solutions</b></p> <ul style="list-style-type: none"> <li>Use tools and materials provided to design and build a device that solves a specific problem or a solution to a specific problem. (K-PS3-2)</li> </ul> <p><b>Obtaining, Evaluating, and Communicating Information</b></p> <ul style="list-style-type: none"> <li>Read grade-appropriate texts and/or use media to obtain scientific information to describe patterns in the natural world. (K-ESS3-2)</li> </ul> <p style="text-align: center;"><b>SUPPORTING</b></p> <p style="text-align: center;"><b><u>Performance Expectations</u></b></p> <p><b>K-PS3-1.</b> Make observations to determine the effect of sunlight on Earth's surface.</p> <p><b>K-PS3-2.</b> Use tools and materials to design and build a structure that will reduce the warming effect of sunlight on an area.</p> <p><b>K-ESS2-1.</b> Use and share observations of local weather conditions to describe patterns over time.</p> <p><b>K-ESS3-2.</b> Ask questions to obtain information about the purpose of weather forecasting to prepare for, and respond to, severe weather.</p>	<p style="text-align: center;"><b>PRIORITY</b></p> <p style="text-align: center;"><b><u>Science and Engineering Practices</u></b></p> <p><b>Planning and Carrying Out Investigations</b></p> <ul style="list-style-type: none"> <li>With guidance, plan and conduct an investigation in collaboration with peers. (K-PS2-1)</li> </ul> <p><b>Analyzing and Interpreting Data</b></p> <ul style="list-style-type: none"> <li>Analyze data from tests of an object or tool to determine if it works as intended. (K-PS2-2)</li> </ul> <p style="text-align: center;"><b>SUPPORTING</b></p> <p style="text-align: center;"><b><u>Performance Expectations</u></b></p> <p><b>K-PS2-1.</b> Plan and conduct an investigation to compare the effects of different strengths or different directions of pushes and pulls on the motion of an object.</p> <p><b>K-PS2-2.</b> Analyze data to determine if a design solution works as intended to change the speed or direction of an object with a push or a pull.</p>	<p style="text-align: center;"><b>PRIORITY</b></p> <p style="text-align: center;"><b><u>Science and Engineering Practices</u></b></p> <p><b>Developing and Using Models</b></p> <ul style="list-style-type: none"> <li>Use a model to represent relationships in the natural world. (K-ESS3-1)</li> </ul> <p><b>Analyzing and Interpreting Data</b></p> <ul style="list-style-type: none"> <li>Use observations (firsthand or from media) to describe patterns in the natural world in order to answer scientific questions. (K-LS1-1)</li> </ul> <p><b>Engaging in Argument from Evidence</b></p> <ul style="list-style-type: none"> <li>Construct an argument with evidence to support a claim. (K-ESS2-2)</li> </ul> <p><b>Obtaining, Evaluating, and Communicating Information</b></p> <ul style="list-style-type: none"> <li>Communicate solutions with others in oral and/or written forms using models and/or drawings that provide detail about scientific ideas. (K-ESS3-3)</li> </ul> <p style="text-align: center;"><b>SUPPORTING</b></p> <p style="text-align: center;"><b><u>Performance Expectations</u></b></p> <p><b>K-ESS2-2.</b> Construct an argument supported by evidence for how plants and animals (including humans) can change the environment to meet their needs.</p> <p><b>K-ESS3-1.</b> Use a model to represent the relationship between the needs of different plants or animals (including humans) and the places they live</p> <p><b>K-ESS3-3.</b> Communicate solutions that will reduce the impact of humans on the land, water, air, and/or other living things in the local environment.</p> <p><b>K-LS1-1.</b> Use observations to describe patterns of what plants and animals (including humans) need to survive.</p>

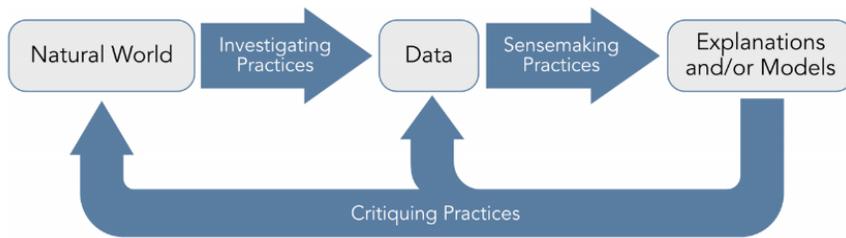
# Unit/Core Idea: Forces and Interactions: Pushes and Pulls

Pacing: 10 days

**Unit/Core Idea: Forces and Interactions: Pushes and Pulls**  
**Essential Question: What happens if you push or pull an object harder?**

**Supporting Questions:**

- How can one predict an object's continued motion, changes in motion, or stability?
- What underlying forces explain the variety of interactions observed?



	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>Planning and Carrying Out Investigations</b>                      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"> <li>• With guidance, plan and conduct an investigation in collaboration with peers. (K-PS2-1)</li> </ul> <p><b>Analyzing and Interpreting Data</b>                      Analyzing data in K–2 builds on prior experiences and progresses to collecting, recording, and sharing observations.</p> <ul style="list-style-type: none"> <li>• Analyze data from tests of an object or tool to determine if it works as intended. (K-PS2-2)</li> </ul>	<p><b>K-PS2-1. Plan and conduct an investigation to compare the effects of different strengths or different directions of pushes and pulls on the motion of an object.</b> [Clarification Statement: Examples of pushes or pulls could include a string attached to an object being pulled, a person pushing an object, a person stopping a rolling ball, and two objects colliding and pushing on each other.] [Assessment Boundary: Assessment is limited to different relative strengths or different directions, but not both at the same time. Assessment does not include non-contact pushes or pulls such as those produced by magnets.]</p> <p><b>K-PS2-2. Analyze data to determine if a design solution works as intended to change the speed or direction of an object with a push or a pull.</b> [Clarification Statement: Examples of problems requiring a solution could include having a marble or other object move a certain distance, follow a particular path, and knock down other objects. Examples of solutions could include tools such as a ramp to increase the speed of the object and a structure that would cause an object such as a marble or ball to turn.] [Assessment Boundary: Assessment does not include friction as a mechanism for change in speed.]</p>

**Kentucky Academic  
Standards Connections**

**ELA/Literacy –**

RI.K.1 With prompting and support, ask and answer questions about key details in a text. (K-PS2-2)

W.K.7 Participate in shared research and writing projects (e.g., explore a number of books by a favorite author and express opinions about them). (K-PS2-1)

SL.K.3 Ask and answer questions in order to seek help, get information, or clarify something that is not understood. (K-PS2-2)

**Mathematics –**

MP.2 Reason abstractly and quantitatively. (K-PS2-1) K.MD.A.1 Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object. (K-PS2-1)

K.MD.A.2 Directly compare two objects with a measurable attribute in common, to see which object has “more of”/“less of” the attribute, and describe the difference. (K-PS2-1)