

# 1st Grade Science



## Prioritized Standards and Instructional Units 2022-2023

## 1st Grade Science

<b>UNIT 1:</b> <b>Space Systems: Patterns and Cycles</b> 20 Days	<b>UNIT 2:</b> <b>Waves: Light and Sound</b> 25 Days	<b>UNIT 3:</b> <b>Structure, Function, and Information Processing</b> 25 Days
<p style="text-align: center;"><b><u>PRIORITY</u></b></p> <p style="text-align: center;"><b>Science and Engineering Practices</b></p> <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. (1-ESS1-2)</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. (1-ESS1-1)</li> </ul> <p style="text-align: center;"><b><u>SUPPORTING</u></b></p> <p style="text-align: center;"><b>Performance Expectations</b></p> <p><b>1-ESS1-1.</b> Use observations of the sun, moon, and stars to describe patterns that can be predicted.</p> <p><b>1-ESS1-2.</b> Make observations at different times of year to relate the amount of daylight to the time of year.</p>	<p style="text-align: center;"><b><u>PRIORITY</u></b></p> <p style="text-align: center;"><b>Science and Engineering Practices</b></p> <p><b>Planning and Carrying Out Investigations</b></p> <ul style="list-style-type: none"> <li>Plan and conduct investigations collaboratively to produce data to serve as the basis for evidence to answer a question. (1-PS4-1),(1-PS4-3)</li> </ul> <p><b>Constructing Explanations and Designing Solutions</b></p> <ul style="list-style-type: none"> <li>Make observations (firsthand or from media) to construct an evidence-based account for natural phenomena (1- PS4-2)</li> <li>Use tools and materials provided to design a device that solves a specific problem. (1-PS4-4)</li> </ul> <p style="text-align: center;"><b><u>SUPPORTING</u></b></p> <p style="text-align: center;"><b>Performance Expectations</b></p> <p><b>1-PS4-1.</b> Plan and conduct investigations to provide evidence that vibrating materials can make sound and that sound can make materials vibrate.</p> <p><b>1-PS4-2.</b> Make observations to construct an evidence-based account that objects can be seen only when illuminated.</p> <p><b>1-PS4-3.</b> Plan and conduct an investigation to determine the effect of placing objects made with different materials in the path of a beam of light.</p> <p><b>1-PS4-4.</b> Use tools and materials to design and build a device that uses light or sound to solve the problem of communicating over a distance.</p>	<p style="text-align: center;"><b><u>PRIORITY</u></b></p> <p style="text-align: center;"><b>Science and Engineering Practices</b></p> <p><b>Constructing Explanations and Designing Solutions</b></p> <ul style="list-style-type: none"> <li>Make observations (firsthand or from media) to construct an evidence-based account for natural phenomena. (1-LS3-1)</li> <li>Use materials to design a device that solves a specific problem or a solution to a specific problem. (1-LS1-1)</li> </ul> <p><b>Obtaining, Evaluating, and Communicating Information .</b></p> <ul style="list-style-type: none"> <li>Read grade-appropriate texts and use media to obtain scientific information to determine patterns in the natural world. (1-LS1-2)</li> </ul> <p style="text-align: center;"><b><u>SUPPORTING</u></b></p> <p style="text-align: center;"><b>Performance Expectations</b></p> <p><b>1-LS1-1.</b> Use materials to design a solution to a human problem by mimicking how plants and/or animals use their external parts to help them survive, grow, and meet their needs.</p> <p><b>1-LS1-2.</b> Read texts and use media to determine patterns in behavior of parents and offspring that help offspring survive.</p> <p><b>1-LS3-1.</b> Make observations to construct an evidence-based account that young plants and animals are like, but not exactly like, their parents.</p>

# Unit/Core Idea: Space Systems: Patterns and Cycles

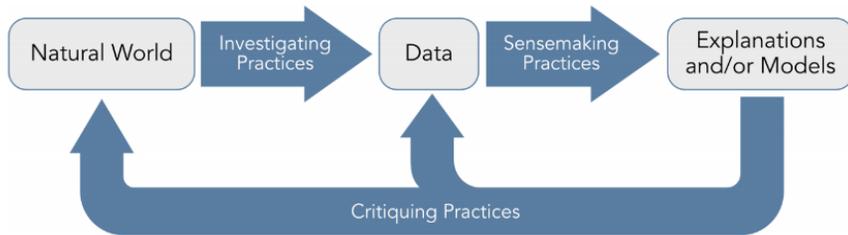
**Pacing: 20 days**

(10 days in Sept./Oct., follow-up with 5 days in Jan. and 5 days in April)

**Unit/Core Idea: Space Systems: Patterns and Cycles**  
**Essential Question: What objects are in the sky and how do they seem to move?**

**Supporting Questions:**

-What are the predictable patterns caused by Earth's movement in the solar system?



	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>Make observations (firsthand or from media) to collect data that can be used to make comparisons. (1-ESS1-2)</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>Use observations (firsthand or from media) to describe patterns in the natural world in order to answer scientific questions. (1-ESS1-1)</li> </ul>	<p><b>1-ESS1-1. Use observations of the sun, moon, and stars to describe patterns that can be predicted.</b> [Clarification Statement: Examples of patterns could include that the sun and moon appear to rise in one part of the sky, move across the sky, and set; and stars other than our sun are visible at night but not during the day.] [Assessment Boundary: Assessment of star patterns is limited to stars being seen at night and not during the day.]</p> <p><b>1-ESS1-2. Make observations at different times of year to relate the amount of daylight to the time of year.</b> [Clarification Statement: Emphasis is on relative comparisons of the amount of daylight in the winter to the amount in the spring or fall.] [Assessment Boundary: Assessment is limited to relative amounts of daylight, not quantifying the hours or time of daylight.]</p>

<b>Kentucky Academic Standards Connections</b>	<p><b>ELA/Literacy –</b>                      W.1.7 Participate in shared research and writing projects (e.g., explore a number of “how-to” books on a given topic and use them to write a sequence of instructions). (1-ESS1-1),(1-ESS1-2)                      W.1.8 With guidance and support from adults, recall information from experiences or gather information from provided sources to</p>
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answer a question. (1-ESS1-1),(1-ESS1-2)

**Mathematics –**

MP.2 Reason abstractly and quantitatively. (1-ESS1-2)

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

MP.5 Use appropriate tools strategically. (1-ESS1-2) 1.

OA.A.1 Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations to represent the problem. (1-ESS1-2)

1.MD.C.4 Organize, represent, and interpret data with up to three categories; ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category than in another. (1-ESS1-2)