WAVES AND THEIR APPLICATIONS

Performance Expectation	Plan and conduct investigations to provide evidence that vibrating materials can make sound and that sound can make materials vibrate.
Clarification Statement	Examples of vibrating materials that make sound could include tuning forks or plucking a stretched string. Examples of how sound can make matter vibrate could include holding a piece of paper near a speaker making sound or holding an object near a vibrating tuning fork.

Science & Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
1. Asking questions and defining problems 2. Developing and using models 3. **Planning and carrying out investigations:** Planning and carrying out investigations to answer questions (science) or test solutions (engineering) to problems in K-2 build on prior experiences and progresses to simple investigations, based on fair tests, which provide data to support explanations or design solutions. • Plan and conduct investigations collaboratively to produce data to serve as the basis for evidence to answer a question. 4. Analyzing and interpreting data 5. Using mathematics and computational thinking 6. Constructing explanations and designing solutions 7. Engaging in argument from evidence 8. Obtaining, evaluating, and communicating information	**WAVE PROPERTIES** Sound can make matter vibrate, and vibrating matter can make sound. (LE.PS4A.a)	**CAUSE AND EFFECT** Simple tests can be designed to gather evidence to support or refute student ideas about causes.

FROM MOLECULES TO ORGANISMS: STRUCTURES AND PROCESSES

Performance Expectation	Read grade-appropriate texts and use media to determine patterns in behavior of parents and offspring that help offspring survive.
Clarification Statement	Examples of patterns of behaviors could include the signals that offspring make (such as crying, cheeping, and other vocalizations) and the responses of the parents (such as feeding, comforting, and protecting the offspring).

Science & Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
1. Asking questions and defining problems 2. Developing and using models 3. Planning and carrying out investigations 4. Analyzing and interpreting data 5. Using mathematics and computational thinking 6. Constructing explanations and designing solutions 7. Engaging in argument from evidence 8. **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. • Read grade-appropriate texts and/or use media to obtain scientific and/or technical information to determine patterns in and/or evidence about the natural and designed world(s).	**GROWTH AND DEVELOPMENT OF ORGANISMS** Adult plants and animals can have offspring. In many kinds of animals, parents and the offspring themselves engage in behaviors that help the offspring to survive. (LE.LS1B.a)	**PATTERNS** Patterns in the natural and human designed world can be observed, used to describe phenomena, and used as evidence.

EARTH'S PLACE IN THE UNIVERSE

Performance Expectation	Use observations of the sun, moon, and stars to describe patterns that can be predicted.
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.

Science & Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
1. Asking questions and defining problems 2. Developing and using models 3. Planning and carrying out investigations 4. **Analyzing and interpreting data:** Analyzing and interpreting data in K-2 builds on prior experiences and progresses to collecting, recording, and sharing observations. • Use observations to describe patterns in the natural world in order to answer scientific questions. 5. Using mathematics and computational thinking 6. Constructing explanations and designing solutions 7. Engaging in argument from evidence 8. Obtaining, evaluating, and communicating information	**THE UNIVERSE AND ITS STARS** Patterns of the motion of the sun, moon, and stars in the sky can be observed, described, and predicted. (LE.ESS1A.a)	**PATTERNS** Patterns in the natural and human designed world can be observed, used to describe phenomena, and used as evidence.