

FOURTH GRADE SCIENCE

Science and Engineering Practices

- Asking Questions or Defining Problems
- Developing and Using Models
- Planning and Carrying Out Investigations
- Analyzing and Interpreting Data
- Using Mathematics and Computational Thinking
- Constructing Explanations and Designing Solutions
- Engaging in Argument from Evidence
- Obtaining, Evaluating, and Communicating Information

Organisms Functioning in their Environment: Construct an explanation for how structures support growth, behavior, and survival of organisms and how both living and fossilized plants and animals can provide evidence of changes that have occurred in environments over time.

- Construct an explanation from evidence that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction.
- Develop and use a model of a system to describe how animals receive different types of information from their environment through their senses, process the information in their brain and respond to the information.
- Analyze and interpret data from fossils to provide evidence of the stability and change in organisms and environments from long ago.
- Engage in argument from evidence based on patterns in rock layers and fossils found in those layers to support an explanation that environments have changed over time.

Energy Transfer: Plan and carry out investigations to gather evidence that energy can be transferred from place to place by sound, light, heat, and electrical currents.

- Construct an explanation to describe the cause and effect relationship between the speed of an object and the energy of that object.
- Ask questions and make observations about the changes in energy that occur when objects collide.
- Plan and carry out an investigation to gather evidence from observations that energy can be transferred from place to place by sound, light, heat, and electrical currents.
- Design a device that converts energy from one form to another.

Wave Patterns: Develop and use models to describe regular patterns of waves and how they transfer energy.

- Develop and use a model to describe the regular patterns of waves.
- Develop and use a model to describe how visible light waves reflected from objects enter the eye causing objects to be seen.
- Design a solution to an information transfer problem using wave patterns.

Observable Patterns in the Sky: Construct an explanation using evidence from observable patterns to describe the Sun-Earth System.

- Construct an explanation that differences in the apparent brightness of the Sun compared to other stars is due to the relative distance (scale) of stars from Earth.
- Analyze and interpret data of observable patterns to show that Earth rotates on its axis and revolves around the Sun.



