

Key:

Curriculum Area

Strand

Grade

Content Standard

Benchmark

NGSS: Science Performance Expectations(2013)

4.Energy

NGSS: Grade 4

Performance Expectations

- 4-PS3-1. Use evidence to construct an explanation relating the speed of an object to the energy of that object.
 - 4-PS3-2. Make observations to provide evidence that energy can be transferred from place to place by sound, light, heat, and electric currents.
 - 4-PS3-3. Ask questions and predict outcomes about the changes in energy that occur when objects collide.
 - 4-PS3-4. Apply scientific ideas to design, test, and refine a device that converts energy from one form to another.*
 - 4-ESS3-1. Obtain and combine information to describe that energy and fuels are derived from natural resources and their uses affect the environment.
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4.Waves

Performance Expectations

- 4-PS4-1. Develop a model of waves to describe patterns in terms of amplitude and wavelength and that waves can cause objects to move.
 - 4-PS4-3. Generate and compare multiple solutions that use patterns to transfer information.*
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4.Structure, Function, and Information Processing

Performance Expectations

- 4-PS4-2. Develop a model to describe that light reflecting from objects and entering the eye allows objects to be seen.
 - 4-LS1-1. Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction.
 - 4-LS1-2. Use a model to describe that animals receive different types of information through their senses, process the information in their brain, and respond to the information in different ways.
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4.Earth's Systems: Processes that Shape the Earth

Performance Expectations

- 4-ESS1-1. Identify evidence from patterns in rock formations and fossils in rock layers for changes in a landscape over time to support an explanation for changes in a landscape over time.
 - 4-ESS2-1. Make observations and/or measurements to provide evidence of the effects of weathering or the rate of erosion by water, ice, wind, or vegetation.
 - 4-ESS2-2. Analyze and interpret data from maps to describe patterns of Earth's features.
 - 4-ESS3-2. Generate and compare multiple solutions to reduce the impacts of natural Earth processes on humans.*
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3-5.Engineering Design

Performance Expectations

- 3-5-ETS1-1. Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.
- 3-5-ETS1-2. Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.
- 3-5-ETS1-3. Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.

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