South Dakota Science

4th Grade Science

Physical Science PS

3 Energy PS3

1 Use evidence to construct an explanation relating the speed of an object to the energy of that object. (SEP: 6; DCI: PS3.A; CCC: Energy/Matter) 4-PS3-1

2 Make observations to provide evidence for how energy can be transferred from place to place by sound, light, heat, and electric currents. (SEP: 3; DCI: PS3.A, PS3.B; CCC: Energy/Matter) 4-PS3-2

3 Ask questions and predict outcomes about the changes in energy that occur when objects collide. (SEP: 1; DCI: PS3.A, PS3.B, PS3.C; CCC: Energy/Matter) 4-PS3-3

4 Design, test, and refine a device that converts energy from one form to another. (SEP: 6; DCI: PS3.B, PS3.D, ETS1.A; CCC: Energy/Matter) Alignment my include 3-5-ETS1-1 4-PS3-4

4 Waves and Their Applications in Technologies for Information Transfer PS4

1 Develop a model of waves to describe patterns in terms of amplitude and wavelength and to provide evidence that waves can cause objects to move. (SEP: 2; DCI: PS4.A; CCC: Patterns) 4-PS4-1

2 Develop a model to describe how light reflecting from objects and entering the eye allows objects to be seen. (SEP: 2; DCI: PS4.B; CCC: Cause/Effect) 4-PS4-2

3 Create and compare multiple solutions that use patterns to transfer information. (SEP: 6; DCI: PS4.C, ETS1.C; CCC: Patterns) Alignment may include 3-5-ETS1-3 4-PS4-3

Life Science LS

1 From Molecules to Organisms: Structures and Processes LS1

1 Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction. (SEP: 7; DCI: LS1.A; CCC: Systems) 4-LS1-1

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. (SEP: 2; DCI: LS1.D; CCC: Systems) 4-LS1-2

Earth and Space Science ESS

1 Earth's Place in the Universe ESS1

1 Identify evidence from patterns in rock formations and fossils in rock layers to support an explanation for changes in a landscape over time. (SEP: 6; DCI: ESS1.C; CCC: Patterns) 4-ESS1-1

Skip to main content

2 Earth's Systems 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. (SEP: 3; DCI: ESS2.A, ESS2.E; CCC: Cause/Effect) 4-ESS2-1

2 Analyze and interpret data from maps to describe patterns of Earth's features. (SEP: 4; DCI: ESS2.B; CCC: Patterns) 4-ESS2-2

3 Earth and Human Activity ESS3

1 Obtain and combine information to describe that energy and fuels are derived from natural resources and how their uses affect the environment. (SEP: 8; DCI: ESS3.A; CCC: Cause/Effect) 4-ESS3-1

2 Generate and compare multiple solutions to reduce the impacts of natural Earth processes on humans. (SEP: 6; DCI: ESS3.B, ETS1.B; CCC: Cause/Effect) Alignment may include 3-5-ETS1-2 4-ESS3-2

Engineering, Technology, and Applications of Science ETS

1 Engineering Design ETS1

1 Define a simple design problem reflecting a need or want that includes specified criteria for success and constraints on materials, time, or cost. Alignment may include 3-PS2-4; 3-LS4-4; 3-ESS3-1; 4-PS3-4 3-5-ETS1-1

2 Generate and compare multiple solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem. Alignment may include 4-ESS3-2 3-5-ETS1-2

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. Alignment may include 4-PS4-3 3-5-ETS1-3