Colorado Science

Grade 4

Adopted 2020

Physical Science PS1

1. **The faster an object moves the more energy it has.** PS1.4.1
   a. Use evidence to construct an explanation relating the speed of an object to the energy of that object. PS1.4.1.A

2. **Energy can be moved from place to place.** PS1.4.2
   a. Make observations to provide evidence that energy can be transferred from place to place by sound, light, heat and electric currents. PS1.4.2.A

3. **When objects collide contact forces transfer so as to change objects' motion.** PS1.4.3
   a. Ask questions and predict outcomes about the changes in energy that occur when objects collide. PS1.4.3.A

4. **Energy can be produced, used or released by converting stored energy.** PS1.4.4
   a. Apply scientific ideas to design, test and refine a device that converts energy from one form to another. PS1.4.4.A

5. **Waves are regular patterns of motion.** PS1.4.5
   a. Develop a model of waves to describe patterns in terms of amplitude and wavelength and that waves can cause objects to move. PS1.4.5.A

6. **An object can be seen when light reflected from its surface enters the eyes.** PS1.4.6
   a. Develop a model to describe that light reflecting from objects and entering the eye allows objects to be seen. PS1.4.6.A

7. **Patterns can encode, send, receive and decode information.** PS1.4.7
   a. Generate and compare multiple solutions that use patterns to transfer information. PS1.4.7.A

Life Science LS2

1. **Organisms have both internal and external structures that serve various functions.** LS2.4.1
   a. Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior and reproduction. LS2.4.1.A

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b. 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. LS2.4.1.B

Earth and Space Science ESS3

1. **Earth has changed over time.** ESS3.4.1
   a. Identify evidence from patterns in rock formations and fossils in rock layers to support an explanation for changes in a landscape over time. ESS3.4.1.A

2. **Four major earth systems interact.** ESS3.4.2
   a. Make observations and/or measurements to provide evidence of the effects of weathering or the rate of erosion by water, ice, wind, or vegetation. ESS3.4.2.A

3. **Earth's physical features occur in patterns.** ESS3.4.3
   a. Analyze and interpret data from maps to describe patterns of Earth's features. ESS3.4.3.A

4. **Energy and fuels that humans use are derived from natural sources and their use affects the environment in multiple ways.** ESS3.4.4
   a. Obtain and combine information to describe that energy and fuels are derived from natural resources and their uses affect the environment. ESS3.4.4.A

5. **A variety of hazards result from natural process; humans cannot eliminate natural hazards but can reduce their impacts' effect.** ESS3.4.5
   a. Generate and compare multiple solutions to reduce the impacts of natural Earth processes on humans. ESS3.4.5.A