Maryland Science - Next Generation

Grade 4

Adopted 2013

Energy 4-PS3	**4-PS3-1.**	**Use evidence to construct an explanation relating the speed of an object to the energy of that object.** 4-PS3-1
	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-PS3-2
	4-PS3-3.	**Ask questions and predict outcomes about the changes in energy that occur when objects collide.** 4-PS3-3
	4-PS3-4.	**Apply scientific ideas to design, test, and refine a device that converts energy from one form to another.** 4-PS3-4
Waves and their Applications in Technologies for Information Transfer 4-PS4	**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-PS4-1
	4-PS4-2.	**Develop a model to describe that light reflecting from objects and entering the eye allows objects to be seen.** 4-PS4-2
	4-PS4-3.	**Generate and compare multiple solutions that use patterns to transfer information.** 4-PS4-3
From Molecules to Organisms: Structures and Processes 4-LS1	**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-LS1-1
	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.** 4-LS1-2
Earth's Place in the Universe 4-ESS1	**4-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.** 4-ESS1-1
Earth's Systems 4-ESS2	**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-ESS2-1

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	4-ESS2-2.	**Analyze and interpret data from maps to describe patterns of Earth's features.** 4-ESS2-2
Earth and Human Activity 4-ESS3	**4-ESS3-1.**	**Obtain and combine information to describe that energy and fuels are derived from natural resources and their uses affect the environment.** 4-ESS3-1
	4-ESS3-2.	**Generate and compare multiple solutions to reduce the impacts of natural Earth processes on humans.** 4-ESS3-2
Engineering Design 3-5-ETS1	**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-ETS1-1
	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-ETS1-2
	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.** 3-5-ETS1-3