

Grade 4		
Revised Report Card Standards		
Old Report Card	Revised Report Card	NGSS
explains friction and resistance on an object in motion		4-PS3 Energy
explains how animals and plants adapt to or choose a habitat	Explain the relationship between the speed of an object and its energy, i.e. what happens when objects collide	4-PS3-1. Use evidence to construct an explanation relating the speed of an object to the energy of that object.
demonstrates understanding of the water cycle and the effects of water on the earth's surface	Identify and explain the transfer of energy from place to place.	4-PS3-2. Make observations to provide evidence that energy can be transferred from place to place by sound, light, heat, and electric currents.
demonstrates understanding of circuits and magnetism		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-PS4 Waves and their Applications in Technologies for Information Transfer
For teachers:	Explain waves, amplitude, wavelength	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-PS4-2. Develop a model to describe that light reflecting from objects and entering the eye allows objects to be seen.
		4-PS4-3. Generate and compare multiple solutions that use patterns to transfer information.
Biomimicry Unit/Environments FOSS		4-LS1 From Molecules to Organisms: Structures and Processes
Identify and explain the transfer of energy from place to place.		4-LS1-1. Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction.
Student demonstrates an understanding of plant and animal structures that are necessary for survival.		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.
Describe and/or model the transfer of information from place to place.	Demonstrates an understanding of plant and animal structures that are necessary for survival.	4-ESS1 Earth's Place in the Universe
Student can create and compare multiple solutions when given a problem.		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-ESS2 Earth's Systems
Changing Earth/Soil, Rocks, Landforms FOSS		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.
Explain the relationship between the speed of an object and its energy, i.e. what happens when objects collide		4-ESS2-2. Analyze and interpret data from maps to describe patterns of Earth's features. [
Explain how rock formations and weathering cause changes in landscapes over time.	Explain how rock formations and weathering cause changes in landscapes over time.	4-ESS3 Earth and Human Activity
Student can create and compare multiple solutions when given a problem.		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-ESS3-2. Generate and compare multiple solutions to reduce the impacts of natural Earth processes on humans.
Earth's Energy/Energy FOSS	Explain the relationship between energy, fuel, natural resources, and our environment	3-5-ETS1 Engineering Design
Create a plan and/or model for a device that converts energy		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.
Explain waves, amplitude and wavelength.		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.
Explain the relationship between energy, fuel, natural resources, and our environment	Can create and compare multiple solutions when given a 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.
Engineering Design		
Student can create and compare multiple solutions when given a problem.		