

SCIENCE STANDARDS

STANDARD #	CATEGORY	CORE	STANDARD	1ST QTR	2ND QTR	3RD QTR	4TH QTR
4.PS3	Physical Science	Energy	1) Use evidence to explain the cause and effect relationship between the speed of an object and the energy of an object.			1	
4.PS3	Physical Science	Energy	2) Observe and explain the relationship between potential energy and kinetic energy.			2	
4.PS3	Physical Science	Energy	3) Describe how stored energy can be converted into another form for practical use.			3	
4.PS4	Physical Science	Waves and their Application in Technologies for Information Transfer	1) Use a model of a simple wave to explain regular patterns of amplitude, wavelength, and direction.			4	
4.PS5	Physical Science	Waves and their Application in Technologies for Information Transfer	2) Describe how the colors of available light sources and the bending of light waves determine what we see.				1
4.PS6	Physical Science	Waves and their Application in Technologies for Information Transfer	3) Investigate how lenses and digital devices like computers or cell phones use waves to enhance human senses.				2
4.LS2	Life Science	Ecosystems: Interactions, Energy, and Dynamics	1) Support an argument with evidence that plants get the materials they need for growth and reproduction chiefly through a process in which they use carbon dioxide from the air, water, and energy from the sun to produce sugars, plant materials, and waste (oxygen); and that this process is called photosynthesis.	2			
4.LS2	Life Science	Ecosystems: Interactions, Energy, and Dynamics	2) Develop models of terrestrial and aquatic food chains to describe the movement of energy among producers, herbivores, carnivores, omnivores, and decomposers.	3			
4.LS2	Life Science	Ecosystems: Interactions, Energy, and Dynamics	3) Using information about the roles of organisms (producers, consumers, decomposers), evaluate how those roles in food chains are interconnected in a food web, and communicate how the organisms are continuously able to meet their needs in a stable food web.	4			
4.LS2	Life Science	Ecosystems: Interactions, Energy, and Dynamics	4) Develop and use models to determine the effects of introducing a species to, or removing a species from, an ecosystem and how either one can damage the balance of an ecosystem.	5			
4.LS2	Life Science	Ecosystems: Interactions, Energy, and Dynamics	5) Analyze and interpret data about changes (land characteristics, water distribution, temperature, food, and other organisms) in the environment and describe what mechanisms organisms can use to affect their ability to survive and reproduce.	6			

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4.LS4	Lfe Science	Biological Change: Unity and Diversity	1) Obtain information about what a fossil is and ways a fossil can provide information about the past.	7			
4.ESS1	Earth & Space Science	Earth's Place in the Universe	1) Generate and support a claim with evidence that over long periods of time, erosion (weathering and transportation) and deposition have changed landscapes and created new landforms.		1		
4.ESS1	Earth & Space Science	Earth's Place in the Universe	2) Use a model to explain how the orbit of the Earth and sun cause observable patterns: a. day and night; b. changes in length and direction of shadows over a day.		1		
4.ESS2	Earth & Space Science	Earth's Systems	1) Collect and analyze data from observations to provide evidence that rocks, soils, and sediments are broken into smaller pieces through mechanical weathering (frost wedging, abrasion, tree root wedging) and are transported by water, ice, wind, gravity, and vegetation.		2		
4.ESS2	Earth & Space Science	Earth's Systems	2) Interpret maps to determine that the location of mountain ranges, deep ocean trenches, volcanoes, and earthquakes occur in patterns.		3		
4.ESS2	Earth & Space Science	Earth's Systems	3) Provide examples to support the claim that organisms affect the physical characteristics of their regions.		4		
4.ESS2	Earth & Space Science	Earth's Systems	4) Analyze and interpret data on the four layers of the Earth, including thickness, composition, and physical states of these layers.		5		
4.ESS3	Earth & Space Science	Earth and Human Activity	1) Obtain and combine information to describe that energy and fuels are derived from natural resources and that some energy and fuel sources are renewable (sunlight, wind, water) and some are not (fossil fuels, minerals).		6		
4.ESS3	Earth & Space Science	Earth and Human Activity	2) Create an argument, using evidence from research, that human activity (farming, mining, building) can affect the land and ocean in positive and/or negative ways.		7		
4.ETS1	Engineering, Technology, & Applications of Science	Engineering Design	1) Categorize the effectiveness of design solutions by comparing them to specified criteria for constraints.	1			
4.ETS2	Engineering, Technology, & Applications of Science	Links Among Engineering, Technology, Science, and Society	1) Use appropriate tools and measurements to build a model.	1			
4.ETS2	Engineering, Technology, & Applications of Science	Links Among Engineering, Technology, Science, and Society	2) Determine the effectiveness of multiple solutions to a design problem given the criteria and the constraints.	1			

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4.ETS2	Engineering, Technology, & Applications of Science	Links Among Engineering, Technology, Science, and Society	3) Explain how engineers have improved existing technologies to increase their benefits, to decrease known risks, and to meet societal demands (artificial limbs, seatbelts, cell phones).	1			