



6th Grade Science Pacing Guide 2020-2021

4.0 Target	3.0 Target	2.0 Target	Tri 1	Tri 2	Tri 3
Unit 1: Environmental Geoscience					
Analyze data on continental shapes and seafloor structure for past or to predict future continental movement over time.	ESS2-3: Analyze and interpret data to develop a claim supported by evidence on the distribution of fossils and rocks, continental shapes, and seafloor structures to provide evidence of the past plate motions.	Recognize patterns exist in distribution of rocks and fossils, continental shapes, and seafloor structures.	X		
Analyze and interpret multiple sources of data to make a claim about how a system is affected if a new component is introduced in an ecosystem.	LS2-1: Analyze and interpret data to develop a claim supported by evidence on the effects of resource availability on organisms and populations of organisms in an ecosystem.	Describes the effects of resource availability on organisms and populations in an ecosystem, however, lacks evidence to support claim.	X		
Unit 2: Chemistry in Action					
Create a model to describe the atomic composition of a complex molecule.	PS1-1: Develop models to describe the atomic composition of simple molecules and extended structures.	Demonstrates developing understanding of models that describe the atomic composition of simple molecules.	X		
Analyze whether a real world example represents an endothermic or an exothermic reaction.	PS1-6: Undertake a design project to construct, test, and modify a device that either releases or absorbs thermal energy by chemical processes.*	Determine whether an experiment is an exothermic or endothermic process.		X	
Explain the law of conservation of mass using a balanced chemical equation.	PS1-5: Develop and use a model, with written explanation, to describe how the total number of atoms does not change in a chemical reaction and thus mass is conserved.	Define the law of conservation of mass.		X	
Unit 3: Cycles of Matter					
Interprets and analyzes data in order to explain factors that alters the rate of photosynthesis and/or flow of energy into and out of organisms.	LS1-6: Construct a written scientific explanation based on evidence for the role of photosynthesis in the cycling of matter and flow of energy into and out of organisms.	Demonstrates developing understanding of the role of photosynthesis in the cycling of matter and flow of energy into and out of organisms.		X	
Explain how disruptions in the cycling of matter and/or the flow of energy impact the health of an ecosystem.	LS2-3: Develop a model, with written explanation, to describe the cycling of matter and flow of energy among living and nonliving parts of an ecosystem.	Identify elements key to the cycling of matter and the flow of energy between living and nonliving parts of an ecosystem.			X
Unit 4: Energy All Around Us					
Provide a real world example, explaining the energy conversion occurring and what has been done to make it more efficient.	PS3-5: Construct, use, and present oral or written arguments to support the claim that when the kinetic energy of an object changes, energy is transferred to or from the object.	Explain the difference between potential and kinetic energy.			X
Explain how thermal energy transfer occurs using a real world example.	PS3-3: Apply scientific principles to design, construct, and test a device that either minimizes or maximizes thermal energy transfer, and explain how the principles aided in the design and construction of the device.	Describe the difference between minimizing and maximizing thermal energy transfer.			X
Engineering Design					
N/A	ETS1-1: Define the criteria and constraints of a design problem with sufficient precision to ensure a successful solution, taking into account relevant scientific principles and potential impacts on people and the natural environment that may limit possible solutions.	N/A		X	
N/A	ETS1-2: Evaluate competing design solutions using a systematic process to determine how well they meet the criteria and constraints of the problem.	N/A		X	
N/A	ETS1-3: Analyze data from tests to determine similarities and differences among several design solutions to identify the best characteristics of each that can be combined into a new solution to better meet the criteria for success.	N/A		X	
N/A	ETS1-4: Develop a model to generate data for iterative testing and modification of a proposed object, tool, or process such that an optimal design can be achieved.	N/A		X	