South Carolina College- and Career-Ready Science

Grade 7

Adopted 2021

Matter and Its Interactions	**7-PS1-1.**	**Develop models to describe the atomic composition of simple molecules and extended structures.** 7-PS1-1
	7-PS1-2.	**Analyze and interpret data on the properties of substances before and after the substances interact to determine if a chemical reaction has occurred.** 7-PS1-2
	7-PS1-3.	**Gather and make sense of information to describe that synthetic materials come from natural resources and impact society.** 7-PS1-3
	7-PS1-5.	**Develop and use a model to describe how the total number of atoms does not change in a chemical reaction and thus mass is conserved.** 7-PS1-5
	7-PS1-6.	**Undertake a design project to construct, test, and modify a device that either releases or absorbs thermal energy by chemical processes.** 7-PS1-6
Energy	**7-PS3-1.**	**Construct and interpret graphical displays of data to describe the proportional relationships of kinetic energy to the mass of an object and to the speed of an object.** 7-PS3-1
	7-PS3-2.	**Develop a model to describe that when the arrangement of objects interacting at a distance changes, different amounts of potential energy are stored in the system.** 7-PS3-2
	7-PS3-5.	**Construct, use, and present arguments to support the claim that when the kinetic energy of an object changes, energy is transferred to or from the object.** 7-PS3-5
From Molecules to Organisms: Structures and Processes	**7-LS1-6.**	**Construct a scientific explanation based on evidence for the role of photosynthesis in the cycling of matter and flow of energy into and out of organisms.** 7-LS1-6
	7-LS1-7.	**Develop a model to describe how food molecules in plants and animals are rearranged through chemical reactions forming new molecules that support growth and/or release energy as this matter moves through an organism.** 7-LS1-7

Ecosystems: Interactions, Energy, and Dynamics	**7-LS2-1.**	**Analyze and interpret data to provide evidence for the effects of resource availability on organisms and populations of organisms in an ecosystem.** 7-LS2-1
	7-LS2-2.	**Construct an explanation that predicts patterns of interactions among organisms across multiple ecosystems.** 7-LS2-2
	7-LS2-3.	**Develop a model to describe the cycling of matter and flow of energy among living and nonliving parts of an ecosystem.** 7-LS2-3
	7-LS2-4.	**Construct an argument supported by empirical evidence that changes to physical or biological components of an ecosystem affect populations.** 7-LS2-4
	7-LS2-5.	**Evaluate competing design solutions for maintaining biodiversity and ecosystem services.** 7-LS2-5
Earth and Human Activity	**7-ESS3-1.**	**Construct a scientific explanation based on evidence for how the uneven distributions of Earth's mineral, energy, and groundwater resources are the result of past and current geoscience processes.** 7-ESS3-1
	7-ESS3-3.	**Apply scientific principles to design a method for monitoring and minimizing a human impact on the environment.** 7-ESS3-3
	7-ESS3-4.	**Construct an argument supported by evidence for how increases in human population and per-capita consumption of natural resources impact Earth's systems.** 7-ESS3-4
	7-ESS3-5.	**Ask questions to clarify evidence of the factors that have impacted global temperatures over the past century.** 7-ESS3-5