Earth Science & Geology

Activity Name	3rd Grade Standard	4th Grade Standard	5th Grade Standard
Stream table		ESS2.A: Earth Materials and Systems Rainfall helps to shape the land and affects the types of living things found in a region. Water, ice, wind, living organisms, and gravity break rocks, soils, and sediments into smaller particles and move them around. (4-ESS2-1)	ESS2.A: Earth Materials and Systems Earth's major systems are the geosphere (solid and molten rock, soil, and sediments), the hydrosphere (water and ice), the atmosphere (air), and the biosphere (living things, including humans). These systems interact in multiple ways to affect Earth's surface materials and processes. The ocean supports a variety of ecosystems and organisms, shapes landforms, and influences climate. Winds and clouds in the atmosphere interact with the landforms to determine patterns of weather. (5-ESS2-1)
Modeling Convection Currents		ESS2.B: Plate Tectonics and Large-Scale System Interactions The locations of mountain ranges, deep ocean trenches, ocean floor structures, earthquakes, and volcanoes occur in patterns. Most earthquakes and volcanoes occur in bands that are often along the boundaries	

		between continents and oceans. Major mountain chains form inside continents or near their edges. Maps can help locate the different land and water features areas of Earth. (4-ESS2-2)	
Quakes and Plates		ESS2.B: Plate Tectonics and Large-Scale System Interactions The locations of mountain ranges, deep ocean trenches, ocean floor structures, earthquakes, and volcanoes occur in patterns. Most earthquakes and volcanoes occur in bands that are often along the boundaries between continents and oceans. Major mountain chains form inside continents or near their edges. Maps can help locate the different land and water features areas of Earth. (4-ESS2-2)	
Shake and Breakdown		ESS2.A: Earth Materials and Systems Rainfall helps to shape the land and affects the types of living things found in a region. Water, ice, wind, living organisms, and gravity break rocks, soils, and sediments into smaller particles and move	ESS2.A: Earth Materials and Systems Earth's major systems are the geosphere (solid and molten rock, soil, and sediments), the hydrosphere (water and ice), the atmosphere (air), and the biosphere (living things,

		them around. (4-ESS2-1)	including humans). These systems interact in multiple ways to affect Earth's surface materials and processes. The ocean supports a variety of ecosystems and organisms, shapes landforms, and influences climate. Winds and clouds in the atmosphere interact with the landforms to determine patterns of weather. (5-ESS2-1)
Rock Detective			
Exploring magnetic fields	PS2.B: Types of Interactions Electric, and magnetic forces between a pair of objects do not require that the objects be in contact. The sizes of the forces in each situation depend on the properties of the objects and their distances apart and, for forces between two magnets, on their orientation relative to each other. (3-PS2-1)		
Discovering Fossils	LS4.A: Evidence of Common Ancestry and Diversity Some kinds of plants and animals that once lived on Earth are no longer found anywhere. (Note: Moved from K–2) (3-LS4-1) Fossils provide evidence about		

	the types of organisms that lived long ago and also about the nature of their environments. (3-LS4-1)		
Volcano Loco		ESS2.B: Plate Tectonics and Large-Scale System Interactions The locations of mountain ranges, deep ocean trenches, ocean floor structures, earthquakes, and volcanoes occur in patterns. Most earthquakes and volcanoes occur in bands that are often along the boundaries between continents and oceans. Major mountain chains form inside continents or near their edges. Maps can help locate the different land and water features areas of Earth. (4-ESS2-2)	
Shaken Sediments		4-ESS3.B A variety of hazards result from natural processes (e.g., earthquakes, tsunamis, volcanic eruptions). Humans cannot eliminate the hazards but can take steps to reduce their impacts. (4-ESS3-2)	

Space Science

Activity Name	3rd Grade Standard	4th Grade Standard	5th Grade Standard
How Big is the Moon			5-ESS1-1. Earth's Place in the Universe. Support an argument that the apparent brightness of the sun and stars is due to their relative distances from the Earth.
Pocket Solar System			5-ESS1-2. Earth's Place in the Universe. Represent data in graphical displays to reveal patterns of daily changes in length and direction of shadows, day and night, and the seasonal appearance of some stars in the night sky.
Cooking Up Comets		5-PS1-4. Matter and Its Interactions. Conduct an investigation to determine whether the mixing of two or more substances results in new substances.	
Meteorite Impact	PS2.A: Forces and Motion Each force acts on one particular object and has both strength and a direction. An object at rest typically has multiple forces acting on it, but they add to give zero net force on the object. Forces that do not sum to zero can cause changes in the object's speed or direction of motion.	4-PS3-3. Ask questions and predict outcomes about the changes in energy that occur when objects collide. 4-PS3-1. Use evidence to construct an explanation relating the speed of an object to the energy of that object.	5-PS2-1. Support an argument that the gravitational force exerted by Earth on objects is directed down.

	(Boundary: Qualitative and conceptual, but not quantitative addition of forces are used at this level.) (3-PS2-1)		
Jumping On Jupiter			5-ESS1-2. Earth's Place in the Universe. Represent data in graphical displays to reveal patterns of daily changes in length and direction of shadows, day and night, and the seasonal appearance of some stars in the night sky.
Moon Dance			5-ESS1-2. Earth's Place in the Universe. Represent data in graphical displays to reveal patterns of daily changes in length and direction of shadows, day and night, and the seasonal appearance of some stars in the night sky.
Time of the Seasons			5-ESS1-2. Represent data in graphical displays to reveal patterns of daily changes in length and direction of shadows, day and night, and the seasonal appearance of some stars in the night sky.
The Fabric of SpaceTime	3-PS2-1. Motion and Stability: Forces and Interactions. Plan and conduct an investigation to provide evidence of the effects		5-PS2-1. Motion and Stability: Forces and Interactions. Support an argument that the gravitational force exerted by

	of balanced and unbalanced forces on the motion of an object.		Earth on objects is directed down.
Exercise like an astronaut	PS2.A: Forces and Motion Each force acts on one particular object and has both strength and a direction. An object at rest typically has multiple forces acting on it, but they add to give zero net force on the object. Forces that do not sum to zero can cause changes in the object's speed or direction of motion. (Boundary: Qualitative and conceptual, but not quantitative addition of forces are used at this level.) (3-PS2-1)		
Star Light Star Bright			5-ESS1-1. Support an argument that differences in the apparent brightness of the sun compared to other stars is due to their relative distances from Earth

Weather & Climate

Activity Name	3rd Grade Standard	4th Grade Standard	5th Grade Standard
Investigating Albedo			5-ESS2-1. Develop a model using an example to describe

			ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact.
“Is Tahoe Weirding?”	3-ESS2-1. Represent data in tables and graphical displays to describe typical weather conditions expected during a particular season.		
Updrafts in Action & Thermal Spirals			5-ESS2-1. Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact.
Cloud in a Bottle			5-ESS2-1. Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact.
Mini Greenhouse Effect			5-ESS2-1. Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact.
The Rumbling Road & The Lightning Room	3-ESS2-1. Represent data in tables and graphical displays to describe typical weather conditions expected during a particular season.		

	3-ESS2-2. Obtain and combine information to describe climates in different regions of the world		
Rising Seas		4-ESS2-2. Analyze and interpret data from maps to describe patterns of Earth's features.	5-ESS2-1. Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact.
Air is Everywhere & Stubborn Balloon & Cartesian Divers			5-ESS2-1. Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact.
Kissing Balloons			5-ESS2-1. Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact.
Carbon Footprint Wrap Up			5-ESS3-1. Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment.