

2019 Minnesota Academic Standards in Science

6th Grade			
Strand	Code	Benchmark	
Exploring Phenomena or Engineering Problems	6E.1.1.1.1	Ask questions that arise from observations of patterns in the movement of night sky objects to test the limitations of a solar system model.	
	6E.1.1.1.2	Ask questions to examine an interpretation about the relative ages of different rock layers within a sequence of several rock layers.	
	6E.1.1.1.3	Ask questions to clarify evidence of the factors that have caused the rise in global temperatures over the past century.	
Looking at data and empirical evidence to understand phenomena or solve problems	6E.1.2.1.1	Collect data and use digital data analysis tools to identify patterns to provide evidence for how the motions and complex interactions of air masses result in changes in weather conditions.**	
	6E.2.1.1.1	Analyze and interpret data to determine similarities and differences among features and processes occurring on solar system objects.	
	6E.2.1.1.2	Analyze and interpret data on the distribution of fossils, rocks, continental shapes, and seafloor structures to provide evidence of past plate motions.	
	6E.2.1.1.3	Analyze and interpret data on natural hazards to forecast future catastrophic events and inform the development of technologies to mitigate their effects.*	
	Developing possible explanations of phenomena or designing solutions to engineering problems	6E.3.1.1.1	Develop and use scale models of solar system objects to describe the sizes of objects, the location of objects, and the motion of the objects; and include the role that gravity and inertia play in controlling that motion.

	6E.3.1.1.2	Develop a model, based on observational evidence, to describe the cycling and movement of Earth's rock material and the energy that drives these processes.
	6E.3.1.1.3	Develop a model, based on observational and experimental evidence, to describe the cycling of water through Earth's systems driven by energy from the sun and the force of gravity.
	6E.3.2.1.1	Construct a scientific explanation based on evidence from rock strata for how the geologic time scale is used to organize Earth's 4.6-billion-year-old history.
	6E.3.2.1.2	Construct a scientific explanation based on evidence for how the uneven distribution of Earth's mineral, energy, or groundwater resources is the result of past geological processes.
	6E.3.2.1.3	Apply scientific principles to design a method for monitoring and minimizing a human impact on the environment.*
Communicating reasons, arguments and ideas to others	6E.4.1.1.1	Construct an argument, supported by evidence, for how geoscience processes have changed Earth's surface at varying time and spatial scales.
	6E.4.2.2.1	Communicate how a series of models, including those used by Minnesota American Indian Tribes and communities and other cultures, are used to explain how motion in the Earth-Sun-Moon system causes the cyclic patterns of lunar phases, eclipses and seasons.