Performance Level Descriptors (PLDs)				
	Level 1	**Level 2**	**Level 3**	**Level 4**
Policy Statement	The student has a minimal understanding of grade-level standards and is likely to need additional support at this level of learning as described in the Alabama Course of Study.	The student has a partial understanding of grade-level standards and is likely to need some additional support at this level of learning as described in the Alabama Course of Study.	The student has a strong understanding of grade-level standards and demonstrates the knowledge and skills at this level of learning as described in the Alabama Course of Study.	The student has an advanced understanding of grade-level standards and exceedingly demonstrates the knowledge and skills at this level of learning as described in the Alabama Course of Study.
The performance level descriptors describe what a typical student scoring at each achievement level can do. A student who scores at a level would be expected to also be able to demonstrate the skills described in previous levels. A student would not necessarily demonstrate all the skills listed at a particular performance level on a particular test in order to score at that level.				
	Science			
	A student at this level	**A student at this level**	**A student at this level**	**A student at this level**
6.ES.1	• recognizes that some recurring patterns are the result of celestial motions.	• recognizes that the rotation of Earth results in day and night, that the revolution of Earth around the Sun and Earth's tilt result in seasons, and that the moon's revolution around Earth results in lunar phases.	• constructs and manipulates models (physical, graphical, conceptual) to explain the occurrences of patterns of day and night, seasons, years, tides, eclipses, and lunar phases based on observed motions of celestial bodies.	• predicts how patterns of day and night, seasons, years, tides, eclipses, and lunar phases are affected by changes to a model; constructs a model of a system based on provided data.

6.ES.2	• recognizes that all matter possesses an attractive force known as gravity.	• recognizes that gravity affects the position and motion of celestial bodies.	• constructs models or uses computer simulations to explain how gravity affects motion in space (e.g., diagrams of the relationship between Earth and man-made satellites, rocket launch, International Space Station, elliptical orbits, black holes, life cycles of stars, orbital periods of objects within the solar system, astronomical units and light-years).	• predicts how the motion of a celestial body would be affected if its mass or orbital distance were changed.
6.ES.3	• recognizes that the sizes of planets and their distances from the Sun varies.	• identifies objects in a model of the solar system based on relative size and distance from the Sun.	• develops and uses models to demonstrate scale properties of the sizes and distances of objects from the Sun in the solar system (e.g., based on a 1-meter Sun diameter).	• determines the scale value of a model based on provided data of distance or size; identifies flaws in a scale model of the solar system.
6.ES.4	• recognizes that Earth's surface undergoes constant change.	• identifies patterns in Earth's major historical events.	• uses geologic evidence (e.g., change or extinction of particular organisms; field evidence or representation, including models of geologic cross sections; sedimentary layering) to explain patterns in major historical events on Earth (e.g., formation of mountain chains and ocean basins, significant volcanic eruptions, fossilization,	• applies geologic patterns to predict geologic phenomena.

			folding, faulting, igneous intrusion, erosion).	
6.ES.5	• recognizes that Earth's surface is changed by geologic events.	• describes how geologic processes like erosion, tectonic plate impacts, eruptions, and meteorite impacts shape Earth's surface.	• uses evidence to explain how geologic processes (e.g., erosion, plate tectonics, volcanic eruptions, meteorite impacts, fault lines, regional geographic features) shape Earth's surface at different rates and magnitudes.	• analyzes data to explain changes in the rate and/or magnitude of geologic processes that change Earth's surface.
6.ES.6	• recognizes that tectonic plates are in constant motion.	• recognizes that past tectonic plate movement has changed Earth's surface over time.	• explains past tectonic plate motions based on data of the distribution of rocks and fossils, continental shapes, and seafloor structures.	• predicts the distribution of rocks and fossils, continental shapes, and seafloor structures based on patterns in tectonic plate motions.
6.ES.7	• recognizes that some components of Earth are recycled and reused (e.g., food is converted to sugar for energy, evaporated water falls as rainfall, earthworms recycle nutrients to the soil); recognizes that matter is conserved regardless of a physical or chemical change.	• recognizes models that represent the cycling of biogeochemicals on Earth; identifies individual processes involved in biogeochemical cycles.	• uses models to explain the biogeochemical cycles (e.g., nitrogen, carbon, water) on Earth; explains the flow of energy that powers these cycles; describes the role of individual processes (e.g., condensation, transpiration, precipitation, combustion, decomposition, photosynthesis, cellular respiration) in biogeochemical cycles.	• describes and/or predicts how changes on Earth (e.g., temperature, atmosphere, weather, wildlife) affect the biogeochemical cycles of Earth; describes how changes to one biogeochemical cycle can affect other cycles on Earth.

6.ES.8	• recognizes that different processes are responsible for the formation of different types of rocks; recognizes that rocks are composed of matter that has been recycled by Earth processes.	• connects processes with the types of rocks formed by those processes.	• plans and conducts investigations that demonstrate physical and chemical processes reflected within the rock cycle (e.g., melting, crystallization, heating, weathering, deforming, sedimentation).	• predicts how rocks in specific settings will be changed by impending processes within the rock cycle; identifies rock types based on extrapolating information from provided data.
6.ES.9	• recognizes that Earth's interior is made of different layers, each with unique characteristics.	• describes the circulation of Earth materials due to the transfer of energy; recognizes different types of tectonic plate boundaries and interactions.	• uses models to explain how the flow of Earth's internal energy drives the cycling of matter from Earth's surface and deep interior, resulting in tectonic plate motion and surface features (e.g., mid-ocean ridges, ocean trenches, volcanoes, earthquakes, mountains, rift valleys, volcanic islands).	• predicts the results of a change to a model of Earth's tectonic plate motion; predicts the effects of a change to the amount of energy flowing from Earth's core to the crust.
6.ES.10	• recognizes that fossil fuels, minerals, and groundwater are natural resources of Earth.	• uses maps or data to identify that Earth's natural resources are not evenly distributed across the globe.	• uses research-based evidence to explain how the distribution of Earth's resources, such as minerals, fossil fuels, and groundwater, is the result of ongoing geoscience processes (e.g., volcanic and geothermal activity, burial of organic sediments, active weathering of rock).	• predicts the location and relative amount of future natural resource areas based on geoscience processes.

6.ES.11	• recognizes that Earth has magnetic north and south poles; recognizes that Earth has a magnetic field.	• recognizes that Earth's magnetic field originates in the outer core; recognizes that Earth's magnetic field protects the planet from cosmic radiation.	• develops and uses models of Earth's interior composition to illustrate the resulting magnetic fields (magnetic poles) and to explain measurable effects of the magnetic field (e.g., protection from cosmic radiation).	• applies the concept of a magnetosphere to other celestial bodies; predicts the effects of changes to the strength, location, or orientation of Earth's magnetic field.
6.ES.12	• recognizes that weather is caused by the interaction of air masses.	• recognizes that air moves from areas of high pressure to areas of low pressure; identifies basic weather conditions associated with low-pressure systems or high-pressure systems; identifies basic weather instruments.	• uses qualitative scientific data (e.g., weather maps, diagrams, visualizations, radar images, computer simulations) to support the claim that air mass interactions result in changing weather conditions; describes how specific weather instruments (e.g., anemometer, barometer, rain gauge, thermometer) are used to monitor local weather; describes the conditions that can result in severe weather (e.g., tornadoes, hurricanes, fronts, blizzards, droughts).	• predicts weather using quantitative meteorological data; understands how quantitative meteorological data are used to produce qualitative weather maps and diagrams.

6.ES.13	• recognizes that energy is not distributed equally on Earth.	• identifies patterns resulting from variation in temperature and density in air and water; identifies the processes of convection and radiation in a model.	• uses models (e.g., diagrams, maps, globes, imagery) to explain how the rotation of Earth and unequal heating of its surface produce patterns of atmospheric and oceanic circulation, which influence regional climate, and conducts investigations to understand how energy from the Sun is distributed to Earth's surface and atmosphere by convection and radiation (e.g., warming water in a pan, warming hands using a fire).	• evaluates potential factors that could increase or decrease the transfer of energy on Earth's surface and the effects on atmospheric and oceanic circulation; modifies a model of the distribution of energy on Earth to change the rate of energy transfer or to change the patterns of atmospheric and oceanic circulation.
6.ES.14	• recognizes that Earth is affected by both human activities and natural phenomena.	• explains how human activities, such as the burning of fossil fuels, and natural phenomena, such as greenhouse heating, result in altered temperatures on Earth.	• analyzes and interprets data (e.g., tables, graphs, temperature maps, atmospheric gas concentrations) to describe how human activities (e.g., burning fossil fuels, building urban heat islands, agricultural processes) and natural phenomena (e.g., solar radiation, greenhouse heating, volcanic emissions) may affect local and global temperatures over time.	• constructs arguments based on data about the potential impacts of changes to current human activities on local and global climates over time; evaluates claims by analyzing data about possible ways to reduce the impact of human activities on local and global climates.

6.ES.15	• recognizes that humans affect the availability of natural resources.	• describes how human activities affect the availability of natural resources.	• analyzes evidence (e.g., data on human populations, rates of consumption of food or other natural resources) to explain how changes in human population, per capita consumption of natural resources, or other human activities (e.g., land use, resource development, water and air pollution, urbanization) affect Earth's systems.	• predicts how current changes to past trends will likely affect future availability of natural resources; predicts how decreasing amounts of natural resources will affect human activities in the future; develops arguments for or against possible effects of human activities on the natural environment.
6.ES.16	• identifies human activities that can negatively affect the environment.	• describes how specific human activities negatively impact the environment; evaluates collected data on the environment based on valid scientific processes.	• designs processes or procedures, based on scientific principles, for monitoring and minimizing human impact on the environment (e.g., withdrawal of water from aquifers and streams or rivers; building of dams or levees; land usage; urban development; agriculture; wetland development; pollution of air, water, and land).	• predicts how implementation of current proposals will affect future environments and human populations.

