

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
4.PS.1	<ul style="list-style-type: none"> recognizes that objects contain energy. 	<ul style="list-style-type: none"> recognizes that objects moving faster have more energy than objects moving slower. 	<ul style="list-style-type: none"> uses evidence to explain the relationship between the speed of an object and the energy of that object. 	<ul style="list-style-type: none"> uses data to predict and explain the relationship between the speed of an object and the energy of that object.
4.PS.2	<ul style="list-style-type: none"> recognizes that sound, light, heat, and electricity are all forms of energy. 	<ul style="list-style-type: none"> identifies a simple method for producing heat; recognizes that energy can be absorbed, reflected, or transferred; recognizes that the energy found in sound, light, heat, and electricity can be transferred from one place to another. 	<ul style="list-style-type: none"> plans and conducts investigations that provide evidence to demonstrate and explain that heat is produced and then transferred by conduction; that energy in the form of sound, light, heat, and electricity can be absorbed, reflected, or conducted; and that electrical energy is transferred through a closed circuit. 	<ul style="list-style-type: none"> uses evidence to predict how factors can affect the transfer of heat; the absorption, transference, and reflection of energy in the form of sound, light, and heat; and the transference of electrical energy through a closed circuit.

<p>4.PS.3</p>	<ul style="list-style-type: none"> recognizes that a collision affects the motion of an object. 	<ul style="list-style-type: none"> recognizes that an object moving fast transfers more energy than the same object moving slowly. 	<ul style="list-style-type: none"> conducts investigations to show changes in energy resulting from increases or decreases in speed during a collision. 	<ul style="list-style-type: none"> plans an investigation to provide evidence that changes in energy result from increases or decreases in speed during a collision.
<p>4.PS.4</p>	<ul style="list-style-type: none"> identifies that energy can be changed from one form to another 	<ul style="list-style-type: none"> describes and tests a device that converts one form of energy to another. 	<ul style="list-style-type: none"> designs, constructs, and tests a device that converts energy from one form to another (e.g., electrical energy to motion, light, or sound; solar energy to light or heat). 	<ul style="list-style-type: none"> evaluates faulty test designs and/or provides modifications to improve a device intended to convert energy from one form to another.
<p>4.PS.5</p>	<ul style="list-style-type: none"> recognizes the differences between renewable and nonrenewable resources. 	<ul style="list-style-type: none"> recognizes that the use of renewable and nonrenewable resources has both positive and negative effects on the environment. 	<ul style="list-style-type: none"> uses multiple sources of information to explain how obtaining and using energy from both renewable and nonrenewable resources affect the environment (e.g., constructing dams to harness energy from water, a renewable resource, while causing a loss of animal habitats; burning of fossil fuels, a nonrenewable resource, while causing an increase in air pollution; installing solar panels to harness energy from the sun, a renewable resource, while requiring specialized materials that necessitate mining). 	<ul style="list-style-type: none"> uses multiple sources of information to compare the possible long-term environmental effects of using both renewable and nonrenewable resources; describes how changes in habits will contribute to future environmental conditions.

<p>4.PS.6</p>	<ul style="list-style-type: none"> recognizes that waves can cause objects to move. 	<ul style="list-style-type: none"> recognizes that waves have predictable patterns; identifies the properties of amplitude and wavelength on a wave model. 	<ul style="list-style-type: none"> constructs a wave model and demonstrates the patterns of wavelength and amplitude of the wave and the movement of particles within the wave. 	<ul style="list-style-type: none"> compares wave models to identify differences in wavelengths (frequencies) and amplitudes to describe the motions of particles in the waves.
<p>4.PS.7</p>	<ul style="list-style-type: none"> recognizes that there are ways to transfer information through a coded message. 	<ul style="list-style-type: none"> identifies patterns in codes that are used to transfer information or decode messages. 	<ul style="list-style-type: none"> develops and uses models and explains how patterns are used to transfer information (e.g., using a grid of 1s and 0s representing black and white to send information about a picture, using drums to send coded information through sound waves, using Morse code to send a message). 	<ul style="list-style-type: none"> develops ways to improve the efficiency of or add security to existing methods to transfer information.
<p>4.PS.8</p>	<ul style="list-style-type: none"> recognizes that light reflects off the surface of objects. 	<ul style="list-style-type: none"> recognizes that for an object to be seen, light must be reflected from that object to the eyes. 	<ul style="list-style-type: none"> constructs a model to demonstrate and explain the pathway of light (reflection) when objects are observed. 	<ul style="list-style-type: none"> constructs and uses a model showing the pathway of light with multiple reflections, using reflective surfaces, to demonstrate how objects can be seen (reflection).

<p>4.LS.9</p>	<ul style="list-style-type: none"> identifies common plant structures and common animal structures 	<ul style="list-style-type: none"> describes the basic purpose of specific features of plants and animals that support survival, growth, behavior, and reproduction. 	<ul style="list-style-type: none"> uses evidence to support an argument that the internal and external structures of plants and animals (e.g., thorns, stems, leaves, roots, petals, xylem, phloem in plants; heart, stomach, lungs, brain, skin in animals) affect their survival, growth, behavior, and reproduction. 	<ul style="list-style-type: none"> analyzes how changes in the environment affect the internal and external structures of plants and animals for survival, growth, behavior, and reproduction.
<p>4.LS.10</p>	<ul style="list-style-type: none"> recognizes that humans have systems with specific purposes. 	<ul style="list-style-type: none"> recognizes that some human systems work together (e.g., digestion and circulation, respiration and circulation, circulation and excretion, circulation and protection from infection). 	<ul style="list-style-type: none"> explains and provides information that human body systems interact with each other to accomplish specific processes (digestion, circulation, respiration, excretion, movement, control, coordination, protection from infection). 	<ul style="list-style-type: none"> explains how changes in one body system may affect other body systems; explains how more than two body systems work together for specific functions.
<p>4.LS.11</p>	<ul style="list-style-type: none"> recognizes that animals receive information about their environment via their senses. 	<ul style="list-style-type: none"> identifies how different animals respond to specific stimuli. 	<ul style="list-style-type: none"> investigates how different animals receive information from their environment, how they process that information, and how they are most likely to respond to stimuli. 	<ul style="list-style-type: none"> predicts how specific animals will respond to new environmental stimuli; designs an investigation with the goal of producing a specific response.

<p>4.ES.12</p>	<ul style="list-style-type: none"> recognizes that Earth changes over time. 	<ul style="list-style-type: none"> recognizes that some Earth processes happen slowly (e.g., weathering, erosion, deposition) and some happen quickly (e.g., landslide, earthquake). 	<ul style="list-style-type: none"> cites evidence from fossils found in rock layers and patterns in rock formations to explain that slow and rapid processes have altered the surface of Earth over time (e.g., rock layers containing shell fossils appearing above rock layers containing plant fossils and no shells indicating a change from land to water over time, a canyon with different rock layers in the walls and a river in the bottom indicating that over time a river cut through the rock). 	<ul style="list-style-type: none"> predicts changes to Earth's surface as a result of specific geologic processes.
<p>4.ES.13</p>	<ul style="list-style-type: none"> recognizes that different soils have different properties. 	<ul style="list-style-type: none"> describes the outcomes of investigations designed to test the properties of soils. 	<ul style="list-style-type: none"> plans and carries out investigations to describe the properties of different types of soil (e.g., color, texture, porosity, ability to hold water, ability to support plant life). 	<ul style="list-style-type: none"> proposes changes that modify the test design of or provide additional evidence for an investigation designed to test the properties of soil; determines applications of soils based on observed properties.
<p>4.ES.14</p>	<ul style="list-style-type: none"> recognizes that there are constructive and destructive forces that affect Earth. 	<ul style="list-style-type: none"> identifies Earth processes or events as constructive or destructive. 	<ul style="list-style-type: none"> describes evidence that supports the claim that landforms are the result of constructive and destructive forces (e.g., eruptions, deformation, deposition, erosion, weathering). 	<ul style="list-style-type: none"> sequences constructive and destructive processes and events that have produced specific existing landforms.

<p>4.ES.15</p>	<ul style="list-style-type: none"> recognizes that water, wind, ice, and vegetation physically affect an environment. 	<ul style="list-style-type: none"> describes how water, wind, ice, and vegetation can affect an environment. 	<ul style="list-style-type: none"> analyzes and interprets data (e.g., angle of slope in downhill movement of water, volume of water flow, cycles of freezing and thawing of water, cycles of heating and cooling of water, speed of wind, relative rate of soil deposition, amount of vegetation) to determine the effects of weathering and the rate of erosion by one of the following agents: water, ice, wind, or vegetation. 	<ul style="list-style-type: none"> predicts how different environments will be affected based on changing exposure to water, ice, wind, and vegetation.
<p>4.ES.16</p>	<ul style="list-style-type: none"> recognizes surface features of Earth. 	<ul style="list-style-type: none"> recognizes that different maps represent different surface features of Earth. 	<ul style="list-style-type: none"> uses maps to describe the patterns of Earth's surface features on land and in the ocean (e.g., topographic maps of Earth's land and ocean floor; maps of locations of mountains, continental boundaries, volcanoes, and earthquakes). 	<ul style="list-style-type: none"> identifies the general patterns in the locations of surface features of Earth and provides reasoning for why these features occur and exist in these locations.
<p>4.ES.17</p>	<ul style="list-style-type: none"> recognizes that natural Earth processes affect humans. 	<ul style="list-style-type: none"> identifies potential impacts of specific Earth processes on humans. 	<ul style="list-style-type: none"> designs and evaluates solutions that limit the effects of Earth processes on humans (e.g., designing earthquake-, tornado-, or hurricane-resistant buildings; improving monitoring of volcanic activity). 	<ul style="list-style-type: none"> proposes changes to existing solutions designed to reduce the effects of natural Earth processes on humans.

