Virginia Standards of Learning Assessment
Grade 5 Science (2018 SOL) Performance Level Descriptors

Fail/Does Not Meet	Pass/Proficient	Pass/Advanced
A student performing at this level should be able to recognize scientific and engineering practices (when applicable) in order to: *Reporting Category 1: Force, Motion, Energy, and Matter* ● Identify forms of energy. ● Identify kinetic energy as the energy involved with motion. ● Recognize that colliding objects can change motion. ● Recognize that mixtures may be separated based on physical properties. *Reporting Category 2: Electricity, Sound, and Light* ● Identify electrical energy transformations in basic electrical circuits. ● Identify the properties of sound waves and the characteristics of sound energy. ● Identify properties and characteristics of light and radiant energy.	A student performing at this level should be able to engage in some scientific and engineering practices (when applicable) in order to: *Reporting Category 1: Force, Motion, Energy, and Matter* ● Describe the energy changes in energy transformations. ● Describe an object's motion using direction and speed. ● Describe how colliding objects transfer energy and change motion. ● Identify techniques used to separate matter based on physical properties. *Reporting Category 2: Electricity, Sound, and Light* ● Compare electrical energy transformations in devices and basic electrical circuits, and recognize magnetic fields are produced by an electrical current. ● Describe the properties of sound waves and the characteristics of sound energy in different media.	A student performing at this level should be able to apply scientific and engineering practices (when applicable) in order to: *Reporting Category 1: Force, Motion, Energy, and Matter* ● Analyze energy systems to show transformations of energy and energy transfer. ● Evaluate an object's motion in terms of its mass, speed, and net force. ● Analyze simple systems where moving objects collide, transfer energy, and change motion. ● Differentiate techniques used to separate matter based on physical properties. *Reporting Category 2: Electricity, Sound, and Light* ● Analyze electrical energy transformations in devices and basic electrical circuits, and model that magnetic fields can be produced by an electromagnet. ● Analyze the properties of sound waves and the characteristics of sound energy in different media, and indicate current technologies using sound waves.

Fail/Does Not Meet	Pass/Proficient	Pass/Advanced
Reporting Category 3: Living Systems and Ecosystem Interactions ● Identify plant and animal structures and functions. ● Recognize components of ecosystems. ● Recognize the impact of common and extreme weather on ecosystems. ● Describe how organisms may be classified based on physical characteristics. Recognize the needs of an organism within its habitat. *Reporting Category 4: Earth/Space Systems and Earth Resources* ● Identify weather types and associated phenomena, and recognize weather instruments to measure weather conditions. ● Identify characteristics of planets in our solar system, including Earth. ● Recognize that the interactions of Earth, moon, and sun impact Earth systems. ● Recognize the physical properties and characteristics of the oceans. ● Recognize that plate tectonics and the rock cycle impact Earth systems. ● Recognize renewable and nonrenewable energy resources and their conservation.	● Describe properties of light and radiant energy, including reflection and refraction, and identify both natural and manmade radiant energy transfers. *Reporting Category 3: Living Systems and Ecosystem Interactions* ● Describe plant and animal structures and functions, and recognize that these have roles in obtaining energy. ● Describe components of ecosystems, including energy flow and interrelationships. ● Compare the impact of common and extreme weather on ecosystems. ● Classify organisms using a dichotomous key. Compare the niche and needs of an organism throughout its life cycle. *Reporting Category 4: Earth/Space Systems and Earth Resources* ● Classify weather types and interactions within Earth systems, and use weather instruments to measure weather conditions and predict small changes in weather. ● Compare characteristics of planets in our solar system, and identify characteristics that allow Earth to support life. ● Predict season and moon phase based on Earth-moon model.	● Analyze properties of light and radiant energy including reflection and refraction, and describe both natural and manmade radiant energy transfers. *Reporting Category 3: Living Systems and Ecosystem Interactions* ● Analyze plant and animal structures and functions, and interpret their role obtaining energy, and recognize that some structures are used for reproduction. ● Analyze the energy flow and interrelationships within an ecosystem. ● Predict the impact of common and extreme weather on ecosystems. ● Justify the classification of organisms referencing a dichotomous key. ● Predict how changes in the niche will impact an organism throughout its life cycle. *Reporting Category 4: Earth/Space Systems and Earth Resources* ● Differentiate between weather and climate, and use weather instruments to predict changes in weather. ● Explain characteristics of planets in our solar system, and describe the characteristics that allow Earth to support life. ● Explain the effect of Earth moon interactions on ecosystems.

Fail/Does Not Meet	Pass/Proficient	Pass/Advanced
	● Classify the physical properties and characteristics of the oceans and the physical interactions that support life. ● Relate the plate tectonics and the rock cycle to changes in geosphere. ● Compare renewable and nonrenewable energy resources and their conservation.	● Explain the physical properties and characteristics of the oceans to the physical interactions that support life. ● Use fossil records, the rock cycle and plate tectonics to describe changes in Earth systems over time. Differentiate among renewable and nonrenewable energy resources, and identify technological improvements in energy conservation.