

Science

Grade 3

Advanced

Students scoring at the Advanced level in science generally exhibit the ability to:

- generate, conduct, and compare simple investigations based on testable questions; make accurate observations using appropriate tools and resources; draw and evaluate conclusions; and communicate ideas, procedures, and data appropriately;
- explain what is known and what is unknown in scientific investigations and compare the effects of scientific discoveries on society;
- compare, classify, and relate objects and substances to their appropriate uses based on their properties and physical states;
- explain how forces are pushes or pulls and analyze the relationships between motion, forces, and the masses of objects;
- compare common forms of energy and describe the connections between different forms of energy as they are used;
- describe how similar structures and functions meet the needs of different organisms and classify organisms in multiple ways;
- explain how organs of the digestive system function and describe how the components of the skeletal system function;
- explain patterns affected by the apparent movement of the Sun and Earth and differentiate the planets of the solar system;
- describe climate patterns; explain the water cycle, erosion, and weathering; differentiate types of rocks, soil components, and fossils; explain how fossils are used to determine the age of rocks; and compare the living and nonliving components in ecosystems;
- describe the effects of humans on organisms and their environments and predict the long-term consequences of these interactions; and
- classify manufactured goods; identify sources of resources; and explain how resources can be replenished, depleted, and conserved.

Mastery

Students scoring at the Mastery level in science generally exhibit the ability to:

- describe simple investigations based on testable questions; make observations using appropriate tools and resources; draw conclusions; and communicate ideas, procedures, and data in a variety of ways;
- identify what is known and what is unknown in scientific investigations and explain the effects of scientific discoveries on society;
- compare, classify, and relate objects and substances to their properties and explain how matter changes physical states;
- describe how forces are pushes or pulls and explain the relationships between the motion of objects and forces;
- describe the characteristics of sound, light, and electricity and compare common forms of energy and their uses;
- compare plant and animal structures and functions and classify organisms based on common characteristics;
- describe the function of an organ in the digestive system and describe how the components of the skeletal system function;
- describe patterns affected by the apparent movement of the Sun and Earth and identify, in order, the planets of the solar system;
- describe climate patterns from recorded weather conditions, the water cycle, erosion, and weathering;
- organize rocks by major types; compare soil components; identify fossil characteristics; and explain how fossils illustrate the past;
- describe interrelationships of components of ecosystems and describe the effects of humans on organisms and the environment; and
- classify manufactured goods by resource type and explain how resources can be replenished or depleted.

Basic

Students scoring at the Basic level in science generally exhibit the ability to:

- identify testable questions and conduct simple investigations using directions;
- use simple tools and resources to make and describe observations; draw conclusions based on data; and communicate results;
- identify testable questions and recognize what is known and what is unknown in scientific investigations;
- measure and describe properties of objects and substances and identify changes between the physical states of matter;
- identify forces as pushes or pulls and describe motion;
- identify the characteristics of sound, light, and electricity and common forms of energy and their uses;
- identify plant and animal structures and functions and compare organisms based on common characteristics;
- describe the roles of the digestive and skeletal systems;
- describe patterns of change in position of the Sun and identify planets of the solar system;
- describe precipitation, runoff, erosion, weathering, climate, and weather and give examples of each;
- describe characteristics of rocks; identify major soil components; identify fossils; and give examples of how fossils illustrate the past;
- identify living and nonliving components of an ecosystem and give examples of how humans affect the environment; and
- identify examples of manufactured products and explain the differences between renewable and nonrenewable resources.

Approaching Basic

Students scoring at the Approaching Basic level in science generally exhibit the ability to:

- recognize some testable questions and conduct steps of an investigation, given explicit directions;
- identify tools or resources needed to make and describe observations and describe the results of an experiment;
- recognize that some questions are testable and some are not;
- describe properties of objects and substances and identify freezing, melting, and boiling;
- identify forces as pushes and pulls;
- identify characteristics of sound, light, or electricity and common forms of energy or their uses;
- identify plant and animal structures and describe common characteristics of organisms;
- identify organs in the digestive system and/or components of the skeletal system;
- identify simple patterns of change in day and night and shadows and identify examples of planets of the solar system;
- recognize and identify examples of precipitation, runoff, and erosion and describe climate and weather or give examples of each;
- identify differences in some rocks; recognize and describe soil; and define *fossil* and recognize one when it is presented;
- identify basic components of an ecosystem and recognize how human activities affect the environment; and
- identify examples of manufactured products and renewable and nonrenewable resources.

Unsatisfactory

Students scoring at the Unsatisfactory level in science have not demonstrated the fundamental knowledge and skills needed for the next level of schooling. Students at this level need to develop the ability to:

- recognize some testable questions and conduct steps of an investigation, given explicit directions;
- identify tools or resources needed to make and describe observations and describe the results of an experiment;
- recognize that some questions are testable and some are not;
- describe properties of objects and substances and identify freezing, melting, and boiling;
- identify forces as pushes and pulls;
- identify characteristics of sound, light, or electricity and common forms of energy or their uses;
- identify plant and animal structures and describe common characteristics of organisms;
- identify organs in the digestive system and/or components of the skeletal system;
- identify simple patterns of change in day and night and shadows and identify examples of planets of the solar system;
- recognize and identify examples of precipitation, runoff, and erosion and describe climate and weather or give examples of each;
- identify differences in some rocks; recognize and describe soil; and define *fossil* and recognize one when it is presented;
- identify basic components of an ecosystem and recognize how human activities affect the environment; and
- identify examples of manufactured products and renewable and nonrenewable resources.