Science Grade 3

Assessment Anchors and Eligible Content

Pennsylvania Department of Education

2010

S.3.A The Nature of Science — Reporting Category

ASSESSMENT ANCHOR

S.3.A.1   Reasoning and Analysis

		ELIGIBLE CONTENT	
S.3.A.1.1	Identify the applications of scientific, environmental, or technological knowledge to possible solutions to problems. *Reference: 3.1.3.A, 3.4.3.B. 3.4.3.D, 3.4.3.E, 4.4.3.D*	S.3.A.1.1.1	Distinguish between fact and opinion.
		S.3.A.1.1.2	Identify examples of common technological changes, past and present, in the community (e.g., energy production, transportation, communication, recycling).

ASSESSMENT ANCHOR

S.3.A.2   Processes, Procedures, and Tools of Scientific Investigations

		ELIGIBLE CONTENT	
S.3.A.2.1	Apply skills necessary to conduct an experiment or design a solution to solve a problem. *Reference: 3.1.3.A, 3.4.3.C, 4.4.3.C*	S.3.A.2.1.1	Generate questions about objects, organisms, or events that can be answered through scientific investigations.
		S.3.A.2.1.2	Make predictions based on observations.
		S.3.A.2.1.3	Identify the variables in a simple investigation.
S.3.A.2.2	Identify appropriate instruments for a specific task. *Reference: 3.1.3.A, 3.4.3.B, 3.4.3.D, 3.4.3.E, 4.4.3.C*	S.3.A.2.2.1	Identify appropriate tools or instruments for specific tasks, and describe the information they provide (i.e., measuring [length—ruler; mass—balance scale] and making observations [hand lenses—very small objects]).

S.3.A The Nature of Science | **Reporting Category**

ASSESSMENT ANCHOR			
S.3.A.3	**Systems, Models, and Patterns**		

ELIGIBLE CONTENT

S.3.A.3.1	Identify systems as either natural or human-made. *Reference: 3.1.3.A, 3.4.3.A, 4.5.3.A*	S.3.A.3.1.1	Classify systems as either human-made or natural (e.g., human-made systems [balancing systems, tops, wheel and axle systems, pencil sharpeners from manual to electric]; natural systems [plants, animals, water cycle, stream]).
		S.3.A.3.1.2	Identify changes in natural or human-made systems.
S.3.A.3.2	Use models to illustrate simple concepts. *Reference: 3.1.3.A, 3.4.3.D*	S.3.A.3.2.1	Identify what models represent (e.g., simple maps showing mountains, valleys, lakes, and rivers; dioramas).

S.3.B Biological Sciences   Reporting Category

ASSESSMENT ANCHOR		
S.3.B.1	**Structure and Function of Organisms**	

ELIGIBLE CONTENT

S.3.B.1.1	Identify and describe the similarities and differences of living things and their life processes. *Reference: 3.1.3.A, 3.1.3.B, 3.1.3.C, 4.1.3.C*	S.3.B.1.1.1	Identify and describe the functions of basic structures of animals and plants (e.g., animals [skeleton, heart, lungs]; plants [roots, stem, leaves]).
		S.3.B.1.1.2	Classify living things based on their similarities and differences.
		S.3.B.1.1.3	Describe the basic needs of plants and animals and their dependence on light, food, air, water, and shelter.
		S.3.B.1.1.4	Describe how plants and animals go through life cycles.

ASSESSMENT ANCHOR		
S.3.B.2	**Continuity of Life**	

ELIGIBLE CONTENT

S.3.B.2.1	Identify and describe characteristics of plants and animals that help with their survival. *Reference: 3.1.3.A, 3.1.3.B, 3.1.3.C, 4.2.3.B, 4.2.3.C, 4.4.3.D*	S.3.B.2.1.1	Identify adaptations of plants and animals that have helped them to survive.
		S.3.B.2.1.2	Identify and describe plant and animal characteristics that are necessary for survival.
		S.3.B.2.1.3	Identify characteristics for plant and animal survival in different environments (e.g., desert, forest, ocean).
S.3.B.2.2	Identify characteristics that are inherited. *Reference: 3.1.3.A, 3.1.3.B, 3.1.3.C*	S.3.B.2.2.1	Identify physical characteristics (e.g., height, hair color, eye color) that could be passed on to offspring.
		S.3.B.2.2.2	Identify similar physical characteristics in parents and their offspring.

S.3.B Biological Sciences   Reporting Category

ASSESSMENT ANCHOR

S.3.B.3   Ecological Behavior and Systems

		ELIGIBLE CONTENT	
S.3.B.3.1	Identify and describe living and nonliving things in an ecosystem and their interaction. *Reference: 3.1.3.A, 3.1.3.C, 4.1.3.E, 4.2.3.B, 4.2.3.C*	S.3.B.3.1.1	Identify the living and nonliving components of an ecosystem (e.g., living [plants, animals]; nonliving [water, soil, air]).
		S.3.B.3.1.2	Describe the interactions between living and nonliving components of an ecosystem (e.g., plants [water, sunlight]; animals [air, shelter]).
S.3.B.3.2	Describe changes in natural or human-made systems and the possible effects of those changes on the environment. *Reference: 3.1.3.A, 3.1.3.C, 4.1.3.E, 4.2.3.B, 4.2.3.C*	S.3.B.3.2.1	Describe what happens to an animal when its habitat is changed.
		S.3.B.3.2.2	Describe how changes in the environment (e.g., fire, flood) can affect an ecosystem.
		S.3.B.3.2.3	Describe how human interactions with the environment impact an ecosystem (e.g., road construction, pollution, urban development, dam building).

S.3.C Physical Sciences   **Reporting Category**

ASSESSMENT ANCHOR

S.3.C.1   Structure, Properties, and Interaction of Matter and Energy

		ELIGIBLE CONTENT
S.3.C.1.1	Describe the observable physical properties of matter. *Reference: 3.2.3.A, 3.2.3.B*	S.3.C.1.1.1 Describe matter in terms of its observable properties (e.g., weight, mass, shape, size, color, texture, state).
		S.3.C.1.1.2 Classify matter using observable physical properties (e.g., weight, mass, shape, size, color, texture, state).
		S.3.C.1.1.3 Classify a substance as a solid, liquid, or gas.
		S.3.C.1.1.4 Recognize and identify how water goes through phase changes (i.e., evaporation, condensation, freezing, and melting).
		S.3.C.1.1.5 Describe how the properties of matter can be changed (e.g., heating, cooling, physical weathering).

ASSESSMENT ANCHOR

S.3.C.2   Forms, Sources, Conversion, and Transfer of Energy

		ELIGIBLE CONTENT
S.3.C.2.1	Recognize basic energy types and sources and how energy can be changed from one form to another. *Reference: 3.2.3.A, 3.2.3.B*	S.3.C.2.1.1 Identify basic forms and sources of energy (e.g., Sun, heat, light, sound).
		S.3.C.2.1.2 Identify simple transformations of energy (e.g., eating food to get energy, rubbing hands together to create heat).
		S.3.C.2.1.3 Identify characteristics of sound (i.e., pitch, and loudness).

S.3.C Physical Sciences   Reporting Category

ASSESSMENT ANCHOR

S.3.C.3   **Principles of Motion and Force**

ELIGIBLE CONTENT

S.3.C.3.1 Observe and identify changes in an object's motion. *Reference: 3.2.3.B*	S.3.C.3.1.1 Identify and describe an object's motion (e.g., start/stop, up/down, left/right, faster/slower, spinning). S.3.C.3.1.2 Describe an object's position in terms of its relationship to another object or stationary background (e.g., behind, beside, on top of, above, below).

S.3.D Earth and Space Sciences   Reporting Category

ASSESSMENT ANCHOR			
S.3.D.1	**Earth Features and Processes That Change Earth and Its Resources**		
		ELIGIBLE CONTENT	
S.3.D.1.1	Describe various materials that make up Earth. *Reference: 3.3.3.A*	S.3.D.1.1.1	Recognize that rock is composed of different kinds of minerals.
		S.3.D.1.1.2	Describe the composition of soil as weathered rock and decomposed organic material.
S.3.D.1.2	Identify and describe the types of Earth's natural resources. *Reference: 3.1.3.A, 3.3.3.A, 3.4.3.B*	S.3.D.1.2.1	Describe why certain resources are renewable and other resources are nonrenewable.
		S.3.D.1.2.2	Identify and describe examples of renewable and nonrenewable resources.
		S.3.D.1.2.3	Describe the ways living things benefit from the uses of water resources.
S.3.D.1.3	Identify and describe the ways that cause Earth's surface to be in a state of constant change. *Reference: 3.3.3.A*	S.3.D.1.3.1	Identify ways that cause Earth's surface to be constantly changing (e.g., wind and water erosion, contraction and expansion of surfaces).
		S.3.D.1.3.2	Distinguish between ways that tear down the surface of Earth and those that build up the surface (e.g., erosion, weathering, volcanic activity, earthquakes).
		S.3.D.1.3.3	Distinguish between slow and rapid changes to Earth's surface (i.e., rapid [earthquakes, volcanic activity]; slow [weathering, erosion]).

S.3.D Earth and Space Sciences

ASSESSMENT ANCHOR

S.3.D.2   Weather, Climate, and Atmospheric Processes

		ELIGIBLE CONTENT	
S.3.D.2.1	Identify basic weather conditions and how they are measured. *Reference: 3.3.3.A*	S.3.D.2.1.1	Recognize that clouds have different characteristics that relate to different weather conditions.
		S.3.D.2.1.2	Describe how weather variables (i.e., temperature, wind speed, wind direction, and precipitation) are observed and measured.
		S.3.D.2.1.3	Identify appropriate instruments to study and measure weather elements (i.e., thermometer [temperature]; wind vane [wind direction]; anemometer [wind speed]; rain gauge [precipitation]).

ASSESSMENT ANCHOR

S.3.D.3   Composition and Structure of the Universe

		ELIGIBLE CONTENT	
S.3.D.3.1	Describe Earth's position and relationship to the Sun and Moon. *Reference: 3.3.3.B*	S.3.D.3.1.1	Describe how Earth rotates on its axis once every 24 hours giving rise to the cycle of night and day.
		S.3.D.3.1.2	Describe the predictable patterns of change that occur over time in the observable shape of the Moon.