Proficiency Scales

Science
GRADE 6
2020

SOUTHWESTERN UNION
EDUCATION

PROFICIENCY SCALES

Proficiency scales serve as a starting point for unit planning, creating assessments, delivering instruction, grading, and reporting progress, as well as making teaching visible to students and guiding their growth on the standards. Specifically, a proficiency scale is a continuum or learning progression that articulates distinct levels of knowledge and skills relative to specific standards. It shows teachers and students what proficiency looks like, what knowledge and skills students need to achieve proficiency, and how students might go beyond proficiency.

A proficiency scale is composed of a series of levels as follows:

Score 3.0—Heart of the proficiency scale; it defines the target content that teachers expect all students to know and be able to do. I CAN statements are provided for this level.

Score 2.0—Simpler content; it describes the foundational knowledge and skills that students will need to master before progressing to proficiency.

Score 4.0—Challenging content; it provides students the opportunity to go above and beyond expectations by applying their knowledge in new situations or demonstrating understanding beyond what the teacher teaches in class. A generic statement is provided for this level.

Scores 1.0 and 0.0—No specific content; 1.0 indicates that a student can demonstrate some knowledge or skill with help from the teacher, but not independently; 0.0 means that, even with help, a student cannot show any understanding. Generic statements are provided for these levels.

Half-point Scores—More precise measurement of knowledge and skills that is between two levels. Generic statements are provided for these levels.

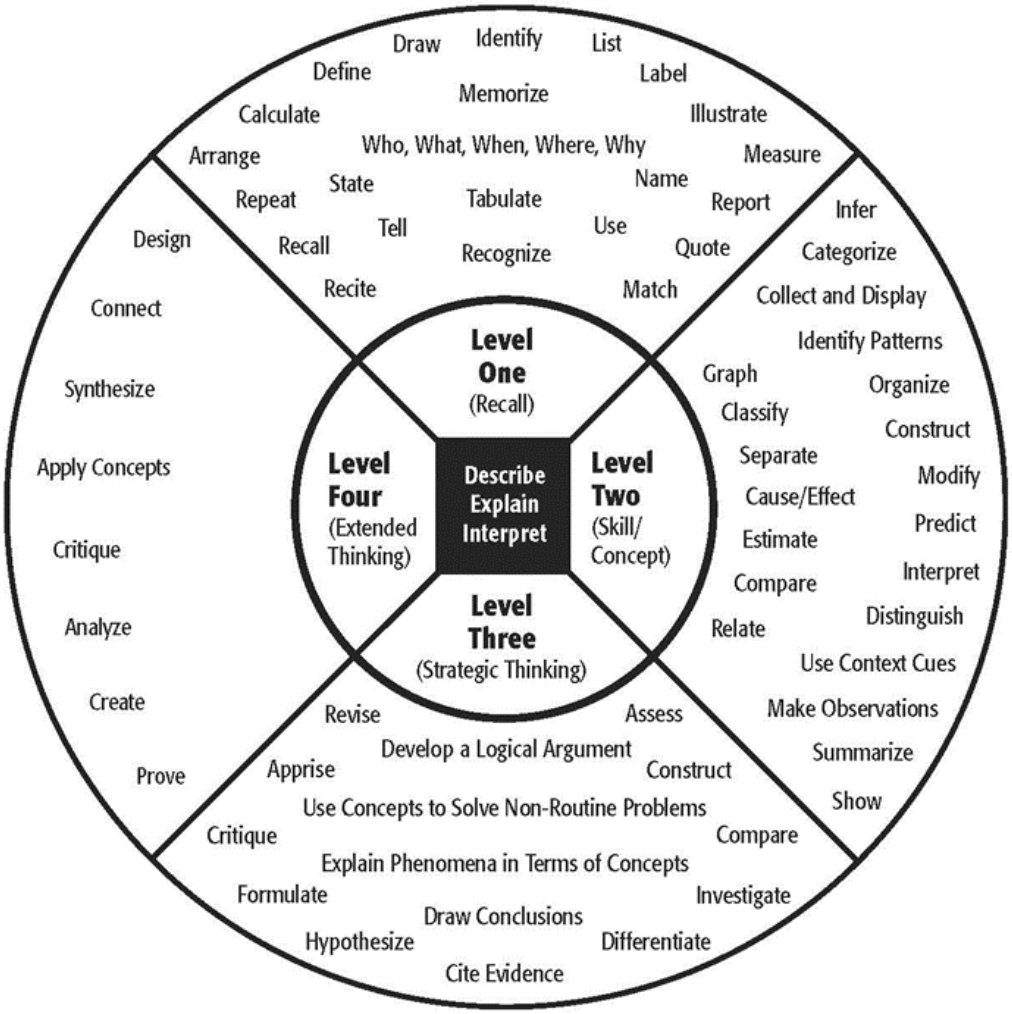
Proficiency scales become the centerpiece of communication and understanding in the classroom, as well as the common language for discussing learning between teacher and student.

The proficiency scales are organized according to the domains and strands in the NAD standards.

The cognitive rigor or complexity of the 3.0 learning targets has also been included, for it impacts the selection of instructional activities as well as assessment tasks. The Depth of Knowledge (DOK) model is generally used for this purpose, which is a taxonomy of four levels of cognitive demand. The levels are:

- **Level 1**—Recall
- **Level 2**—Skill/Concept
- **Level 3**—Strategic Thinking
- **Level 4**—Extended Thinking

Depth of Knowledge (DOK) Levels



Level One Activities	Level Two Activities	Level Three Activities	Level Four Activities
Recall elements and details of story structure, such as sequence of events, character, plot and setting.	Identify and summarize the major events in a narrative.	Support ideas with details and examples.	Conduct a project that requires specifying a problem, designing and conducting an experiment, analyzing its data, and reporting results/ solutions.
Conduct basic mathematical calculations.	Use context cues to identify the meaning of unfamiliar words.	Use voice appropriate to the purpose and audience.	Apply mathematical model to illuminate a problem or situation.
Label locations on a map.	Solve routine multiple-step problems.	Identify research questions and design investigations for a scientific problem.	Analyze and synthesize information from multiple sources.
Represent in words or diagrams a scientific concept or relationship.	Describe the cause/effect of a particular event.	Develop a scientific model for a complex situation.	Describe and illustrate how common themes are found across texts from different cultures.
Perform routine procedures like measuring length or using punctuation marks correctly.	Identify patterns in events or behavior.	Determine the author's purpose and describe how it affects the interpretation of a reading selection.	Design a mathematical model to inform and solve a practical or abstract situation.
Describe the features of a place or people.	Formulate a routine problem given data and conditions.	Apply a concept in other contexts.	
	Organize, represent and interpret data.		

Webb, Norman L. and others. "Web Alignment Tool" 24 July 2005. Wisconsin Center of Educational Research. University of Wisconsin-Madison. 2 Feb. 2006. <http://www.wcer.wisc.edu/WAT/index.aspx>.

DISCIPLINARY TRANSFER GOALS

There are a small number of overarching, long-term transfer goals in each subject area. They are meant to be integrated within and across grade-level instruction. Below are the transfer goals for science

1. Asking questions (for science) and defining problems (for engineering)
2. Developing and using models
3. Planning and carrying out investigations
4. Analyzing and interpreting data
5. Using mathematics and computational thinking
6. Constructing explanations (for science) and designing solutions (for engineering)
7. Engaging in argument from evidence
8. Obtaining, evaluating, and communicating information

ESSENTIAL QUESTIONS AND BIG IDEAS for SCIENCE DOMAINS

K-8

Life Sciences

Essential Question: How do living organisms give evidence of God as the Designer, Creator, and Sustainer of life?

Big Idea: The complexity, order, and design of living organisms provide strong evidence of God as the Designer, Creator and Sustainer of life.

Physical Sciences

Essential Question: How does the order and consistency of natural laws provide evidence of God as the Designer, Creator, and Sustainer of the physical world?

Big Idea: Matter and energy are organized and behave according to natural laws that cannot be explained by chance, but are consistent and give evidence of God as the Designer, Creator, and Sustainer.

Health Sciences

Essential Question: Why does God want human beings to choose to have a healthy mind and body?

Big Idea: God designed a plan for healthful living that leads to optimum spiritual, physical, mental, and emotional health.

Earth and Space Sciences

Essential Question: How do the structure and physical phenomena of Earth and space provide evidence of God as Designer, Creator, and Sustainer of the universe?

Big Idea: The structure and processes of Earth and space are organized and governed by natural laws that give evidence of God as Designer, Creator, and Sustainer.

Engineering, Technology, and Applications of Science

Essential Question: How has God equipped humans to apply knowledge of science to solve problems for the benefit of His Creation?

Big Idea: God designed humans to wonder, question, and develop an attitude of inquiry as scientific principles are applied to the materials and forces of nature for the benefit of His Creation.

Subject: **Science**	Domain: **Physical Sciences** Strand: **Motion and Stability**	Grade: **6**

Standards: S.6-8.PS.9 Ask questions about data (e.g., effect of number of turns of wire on the strength of an electromagnet, effect of increasing the number or strength of magnets on speed of an electric motor) to determine the factors that affect the strength of electric and magnetic forces (e.g., electromagnets, electric motors, generators) (MS-PS2-3)

S.6-8.PS.11 Conduct an investigation and evaluate the experimental design to provide evidence that fields exist between objects exerting forces on each other even though the objects are not in contact (e.g., interactions of magnets, electrically-charged strips of tape, electrically-charged pith balls) (MS-PS2-5)

Score 4.0	In addition to score 3.0 performance, the student demonstrates in-depth inferences and applications that go beyond what was taught	
	Score 3.5	In addition to score 3.0 performance, partial success at score 4.0 content
Score 3.0	• Ask questions about data to determine the factors that affect the strength of electric and magnetic forces *(e.g., investigate data—such as the effect of the number of turns of wire on the strength of an electromagnet or the effect of multiple magnets or magnets of varying strengths on the speed of an electric motor—and ask questions about them to figure out which factors affect the strength of electric and magnetic forces in devices like electromagnets, electric motors, or generators)* **DOK 3** **I can ask questions about data to determine the factors that affect the strength of electric and magnetic forces.** • Conduct an investigation and evaluate the experimental design to provide evidence that fields exist between objects exerting forces on each other even though the objects are not in contact *(e.g., investigate firsthand experiences or simulations about objects that exert forces on each other, even when they are not in physical contact—such as the interaction of magnets, electrically charged strips of tape, or electrically charged pith balls—and use the results to give qualitative evidence for the existence of electric and magnetic fields)* **DOK 3** **I can conduct an investigation and evaluate the experimental design to provide evidence that fields exist between objects exerting forces on each other even though the objects are not in contact.**	
	Score 2.5	No major errors or omissions regarding score 2.0 content and partial success at score 3.0 content
Score 2.0	The student will recognize or recall vocabulary such as: • *Effect, electric force, electric motor, electromagnet, factor, generator, magnetic force, speed, strength* • *Contact, electric field, electrically charged, exert, field, force, interaction, magnet, magnetic field*	

	The student will perform basic processes, such as: • Describe the effects of electric and magnetic forces • Describe how certain devices use electric and magnetic forces • Describe the effects of electric and magnetic fields on the forces of objects	
	Score 1.5	Partial success at score 2.0 content and major errors or omissions regarding score 3.0 content
Score 1.0	With help, partial success at score 2.0 content and score 3.0 content	
	Score 0.5	With help, partial success at score 2.0 content but not at score 3.0 content
Score 0.0	Even with help, no success	

Subject: **Science**	Domain: **Physical Sciences** Strand: **Matter and Its Interactions**	Grade: **6**

Standard: S.6-8.PS.1 Develop models (e.g., drawings, 3D ball and stick structures, computer representations) to describe the atomic composition of simple molecules (e.g., ammonia, methanol) and extended structures (e.g., sodium chloride, diamonds) (MS-PS1-1)

Score 4.0	In addition to score 3.0 performance, the student demonstrates in-depth inferences and applications that go beyond what was taught	
	Score 3.5	In addition to score 3.0 performance, partial success at score 4.0 content
Score 3.0	The student will: • Develop models to describe the atomic composition of simple molecules and extended structures *(e.g., create molecular-level drawings, three-dimensional ball-and-stick structures, or computer representations to describe the atomic composition of simple molecules [such as ammonia and methanol] and extended structures [such as sodium chloride or diamonds])* **DOK 3** **I can develop models to describe the atomic composition of simple molecules and extended structures.**	
	Score 2.5	No major errors or omissions regarding score 2.0 content and partial success at score 3.0 content
Score 2.0	The student will recognize or recall vocabulary such as: • *Actual mass, atom, atomic composition, atomic weight, extended structure, molecular arrangement, molecular level, molecule, simple molecule, three-dimensional* The student will perform basic processes, such as: • Describe the individual components of the atomic composition of molecules	
	Score 1.5	Partial success at score 2.0 content and major errors or omissions regarding score 3.0 content
Score 1.0	With help, partial success at score 2.0 content and score 3.0 content	
	Score 0.5	With help, partial success at score 2.0 content but not at score 3.0 content
Score 0.0	Even with help, no success	

Subject: **Science**	Domain: **Physical Sciences** Strand: **Matter and Its Interactions**	Grade: **6**

Standards: S.6-8.PS.2 Analyze and interpret data on the properties of substances before and after the substances interact to determine if a chemical reaction (e.g., burning sugar or steel wool, fat reacting with sodium hydroxide, mixing zinc with hydrogen chloride) has occurred (MS-PS1-2)
S.6-8.PS.3 Gather and make sense of information to describe that synthetic materials come from natural resources and impact society (e.g., new medicines, foods, alternative fuels) (MS-PS1-3)

Score 4.0	In addition to score 3.0 performance, the student demonstrates in-depth inferences and applications that go beyond what was taught	
	Score 3.5	In addition to score 3.0 performance, partial success at score 4.0 content
Score 3.0	The student will: • Analyze and interpret data on the properties of substances before and after the substances interact to determine if a chemical reaction has occurred *(e.g., observe the density, melting point, boiling point, solubility, flammability, or odor of substances before and after they interact, and compare these observations)* **DOK 3** **I can analyze and interpret data on the properties of substances before and after they interact to determine if a chemical reaction has occurred.** • Gather and make sense of information to describe that synthetic materials come from natural resources and impact society *(e.g., collect and evaluate qualitative information about natural resources that undergo a chemical process to form new medicines, foods, or alternative fuels)* **DOK 3** **I can gather and use information to describe that synthetic materials come from natural resources and impact society.**	
	Score 2.5	No major errors or omissions regarding score 2.0 content and partial success at score 3.0 content
Score 2.0	The student will recognize or recall vocabulary such as: • *Boiling point, chemical compound, chemical element, chemical energy, chemical reaction, concentration of reactants, density, flammability, food oxidation, interact, melting point, metal reactivity, nonmetal reactivity, nonreactive gas, observation, odor, oxidation, property, reaction rate, rusting, solubility, substance, surface area of reactants* • *Alternative fuel, chemical compound, chemical element, chemical process, impact, natural resource, society, synthetic material* The student will perform basic processes, such as: • Describe signs or signals that indicate a chemical reaction • Describe how a substance changes before and after a chemical reaction	

	• Describe the chemical processes that convert natural resources to new materials • Describe the impacts of synthetic materials on society	
	Score 1.5	Partial success at score 2.0 content and major errors or omissions regarding score 3.0 content
Score 1.0	With help, partial success at score 2.0 content and score 3.0 content	
	Score 0.5	With help, partial success at score 2.0 content but not at score 3.0 content
Score 0.0	Even with help, no success	

Subject: **Science**	Domain: **Life Sciences** Strand: **Molecules to Organisms**	Grade: **6**

Standards: S.6-8.LS.6 Construct a scientific explanation based on evidence for the role of photosynthesis in the cycling of matter and flow of energy into and out of organisms (MS-LS1-6)
S.6-8.LS.7 Develop a model to describe how food is rearranged through chemical reactions forming new molecules that support growth and/or release energy as this matter moves through an organism (MS-LS1-7)

Score 4.0	In addition to score 3.0 performance, the student demonstrates in-depth inferences and applications that go beyond what was taught	
	Score 3.5	In addition to score 3.0 performance, partial success at score 4.0 content
Score 3.0	The student will: • Construct a scientific explanation based on evidence for the role of photosynthesis in the cycling of matter and flow of energy into and out of organisms *(e.g., use evidence to explain the role of photosynthesis in cycles of matter and energy by tracing the movement of matter and the flow of energy within a photosynthetic system)* **DOK 3** **I can develop a scientific explanation based on evidence for the role of photosynthesis in the cycling of matter and flow of energy into and out of organisms.** • Develop a model to describe how food is rearranged through chemical reactions forming new molecules that support growth and/or release energy as this matter moves through an organism *(e.g., create a model and use it to explain that molecules are broken apart and put back together and that energy is released when organisms ingest food)* **DOK 3** **I can develop a model to describe how food is rearranged through chemical reactions forming new molecules that support growth and/or release energy as the matter moves through an organism.**	
	Score 2.5	No major errors or omissions regarding score 2.0 content and partial success at score 3.0 content
Score 2.0	The student will recognize or recall vocabulary such as: • *Cycle, energy, flow, matter, organism, photosynthesis, photosynthetic system, role* • *Body, chemical reaction, energy, food, growth, ingest, Louis Pasteur, matter, molecule, organism, release support* The student will perform basic processes, such as: • Describe the relationship between the process of photosynthesis and the cycling of matter and the flow of energy in organisms • Describe how the body uses food	

	Score 1.5	Partial success at score 2.0 content and major errors or omissions regarding score 3.0 content
Score 1.0	With help, partial success at score 2.0 content and score 3.0 content	
	Score 0.5	With help, partial success at score 2.0 content but not at score 3.0 content
Score 0.0	Even with help, no success	

Subject: **Science**	Domain: **Life Sciences** Strand: **Ecosystems**	Grade: **6**

Standard: S.6-8.LS.11 Develop a model to describe the cycling of matter and flow of energy among living and nonliving parts of an ecosystem (MS-LS2-3)

Score 4.0	In addition to score 3.0 performance, the student demonstrates in-depth inferences and applications that go beyond what was taught	
	Score 3.5	In addition to score 3.0 performance, partial success at score 4.0 content
Score 3.0	The student will: • Develop a model to describe the cycling of matter and flow of energy among living and nonliving parts of an ecosystem *(e.g., create a model and use it to describe the conservation of matter and the flow of energy in and out of various ecosystems as well as to define the boundaries of the system)* **DOK 3** **I can develop a model to describe the cycling of matter and flow of energy among living and nonliving parts of an ecosystem.**	
	Score 2.5	No major errors or omissions regarding score 2.0 content and partial success at score 3.0 content
Score 2.0	The student will recognize or recall vocabulary such as: • *Boundary, conservation of matter, cycle, ecosystem, energy, flow, living, matter, nonliving, organism, system* The student will perform basic processes, such as: • State accurate information about the cycling of matter and flow of energy in organisms and ecosystems	
	Score 1.5	Partial success at score 2.0 content and major errors or omissions regarding score 3.0 content
Score 1.0	With help, partial success at score 2.0 content and score 3.0 content	
	Score 0.5	With help, partial success at score 2.0 content but not at score 3.0 content
Score 0.0	Even with help, no success	

Subject: **Science**	Domain: **Life Sciences** Strand: **Molecules to Organisms**	Grade: **6**

Standard: S.6-8.LS.3 Use argument supported by evidence for how the body is a system of interacting subsystems composed of groups of cells (MS-LS1-3)

Score 4.0	In addition to score 3.0 performance, the student demonstrates in-depth inferences and applications that go beyond what was taught	
	Score 3.5	In addition to score 3.0 performance, partial success at score 4.0 content
Score 3.0	The student will: • Use argument supported by evidence for how the body is a system of interacting subsystems composed of groups of cells *(e.g., make and defend the claim that the body is a system of interacting subsystems composed of groups of cells—such as the circulatory, excretory, digestive, respiratory, muscular, and nervous systems—using information about the interaction of subsystems within a system and the normal function of those systems)* **DOK 3** **I can use evidence to support how the body is a system of interacting subsystems composed of groups of cells.**	
	Score 2.5	No major errors or omissions regarding score 2.0 content and partial success at score 3.0 content
Score 2.0	The student will recognize or recall vocabulary such as: • *Body cell, circulatory system, digestive system, excretory system, function, group, interact, interaction, internal structure, life-sustaining function, muscular system, nervous system, organ system, reproductive system, respiratory system, specialized organ, specialized tissue, subsystem, system, system failure* The student will perform basic processes, such as: • Summarize the function of various subsystems in the body system (such as the circulatory, excretory, digestive, respiratory, muscular, and nervous system) • Describe the relationship between different subsystems of the body system	
	Score 1.5	Partial success at score 2.0 content and major errors or omissions regarding score 3.0 content
Score 1.0	With help, partial success at score 2.0 content and score 3.0 content	
	Score 0.5	With help, partial success at score 2.0 content but not at score 3.0 content
Score 0.0	Even with help, no success	

Subject: **Science**	Domain: **Life Science** Strand: **Molecules to Organisms**	Grade: **6**

Standard: S.6-8.LS.8 Gather and synthesize information that sensory receptors respond to stimuli by sending messages to the brain for immediate behavior or storage as memories (MS-LS1-8)

Score 4.0	In addition to score 3.0 performance, the student demonstrates in-depth inferences and applications that go beyond what was taught	
	Score 3.5	In addition to score 3.0 performance, partial success at score 4.0 content
Score 3.0	The student will: • Gather and synthesize information that sensory receptors respond to stimuli by sending messages to the brain for immediate behavior or storage as memories *(e.g., research and summarize the basic process of sensory receptors responding to stimuli by sending messages to the brain for immediate behavior or storage as memories)* **DOK 3** **I can gather and integrate information that sensory receptors respond to stimuli by sending messages to the brain for immediate behavior or storage as memories.**	
	Score 2.5	No major errors or omissions regarding score 2.0 content and partial success at score 3.0 content
Score 2.0	The student will recognize or recall vocabulary such as: • *Behavior, behavioral response to stimuli, brain, immediate, memory, receptor, respond, sensory receptor, stimulus, storage* The student will perform basic processes, such as: • Identify various sensory receptors in the body • Describe various ways the body can use information from sensory receptors	
	Score 1.5	Partial success at score 2.0 content and major errors or omissions regarding score 3.0 content
Score 1.0	With help, partial success at score 2.0 content and score 3.0 content	
	Score 0.5	With help, partial success at score 2.0 content but not at score 3.0 content
Score 0.0	Even with help, no success	

Subject: **Science**	Domain: **Life Sciences** Strand: **Molecules to Organisms**	Grade: **6**

Standards: S.6-8.LS.1 Conduct an investigation to provide evidence that living things are made of cells, either one cell or many different numbers and types of cells (MS-LS1-1)
S.6-8.LS.2 Develop and use a model to describe the function of a cell as a whole and ways parts of cells contribute to the function (MS-LS1-2)

Score 4.0	In addition to score 3.0 performance, the student demonstrates in-depth inferences and applications that go beyond what was taught	
	Score 3.5	In addition to score 3.0 performance, partial success at score 4.0 content
Score 3.0	The student will: • Conduct an investigation to provide evidence that living things are made of cells; either one cell or many different numbers and types of cells *(e.g., collect evidence that shows that living things differ from nonliving things because they are made of one or many varied cells)* **DOK 3** **I can conduct an investigation to provide evidence that living things are made of cells.** • Develop and use a model to describe the function of a cell as a whole and ways parts of cells contribute to the function *(e.g., create a model of a cell, and use it to explain how it functions as a whole system)* **DOK 3** **I can develop a model to describe the function of a cell as a whole and ways parts of cells contribute to the function.**	
	Score 2.5	No major errors or omissions regarding score 2.0 content and partial success at score 3.0 content
Score 2.0	The student will recognize or recall vocabulary such as: • *Cell, fundamental unit of life, living, living thing, multicellular organism, nonliving, organism, unicellular organism, varied* • *Cell, cell function, cell growth, cell membrane, cell nucleus, cell organelle, cell wall, cellular energy conversion, cellular regulation, cellular response, cellular waste disposal, chloroplast, cytoplasm, egg cell, function, fundamental unit of life, Golgi apparatus, mitochondria, nucleated cell, nucleus, specialized cell, system, transport of cell material, vacuole* The student will perform basic processes, such as: • Describe things that are made up of cells (living things) and things that are not made up of cells (nonliving things) • Describe the primary role of parts of the cell *(e.g., the nucleus, chloroplast, mitochondria, cell membrane, and cell wall)*	
	Score 1.5	Partial success at score 2.0 content and major errors or omissions regarding score 3.0 content

Score 1.0	With help, partial success at score 2.0 content and score 3.0 content	
	Score 0.5	With help, partial success at score 2.0 content but not at score 3.0 content
Score 0.0	Even with help, no success	

Subject: **Science**	Domain: **Life Sciences** Strand: **Life: Origins, Unity, and Diversity**	**Grade: 6**

Standards: S.6-8.LS.16 Analyze and interpret data for patterns in the fossil record that document the existence, diversity, extinction, and change of life forms throughout the history of life on Earth, comparing and contrasting creationist and naturalist perspectives (MS-LS4-1)
S.6-8.LS.21 Apply scientific principles to construct and share a personal model that explains origins of life on earth and acknowledges God as the Creator

Score 4.0	In addition to score 3.0 performance, the student demonstrates in-depth inferences and applications that go beyond what was taught	
	Score 3.5	In addition to score 3.0 performance, partial success at score 4.0 content
Score 3.0	The student will: • Analyze and interpret data for patterns in the fossil record that document the existence, diversity, extinction, and change of life forms throughout the history of life on Earth under the assumption that natural laws operate today as in the past *(e.g., analyze and interpret data to identify patterns of changes in the level of complexity of anatomical structures in organisms and the chronological order of fossil appearance in rock layers)* **DOK 3** **I can interpret data for patterns in the fossil record that document the existence, diversity, extinction, and change of life forms throughout the history of life on Earth.**	
	Score 2.5	No major errors or omissions regarding score 2.0 content and partial success at score 3.0 content
Score 2.0	The student will recognize or recall vocabulary such as: • *Anatomical structure, assumption, chronological order, diversity, existence, extinction, fossil, fossil appearance, fossil record, history of life, level of complexity, life form, natural law, organism, pattern, rock layer, rock sequence* The student will perform basic processes, such as: • Describe changes in the level of complexity of anatomical structures in organisms • Describe the chronological order of fossils • Apply scientific principles to construct and share a personal model that explains origins of life on earth and acknowledges God as the Creator	
	Score 1.5	Partial success at score 2.0 content and major errors or omissions regarding score 3.0 content
Score 1.0	With help, partial success at score 2.0 content and score 3.0 content	
	Score	With help, partial success at score 2.0 content but not at score 3.0 content

	0.5	
Score 0.0	Even with help, no success	

Subject: **Science**	Domain: **Life Sciences** Strand: **Life: Origins, Unity, and Diversity**	**Grade: 6**

Standard: S.6-8.LS.17 Apply scientific principles to construct an explanation for the anatomical similarities and differences among modern organisms and between modern and fossil organisms, comparing and contrasting creationist and naturalist perspectives (MS-LS4-2)

Score 4.0	In addition to score 3.0 performance, the student demonstrates in-depth inferences and applications that go beyond what was taught	
	Score 3.5	In addition to score 3.0 performance, partial success at score 4.0 content
Score 3.0	The student will: • Apply scientific ideas to construct an explanation for the anatomical similarities and differences among modern organisms and between modern and fossil organisms, comparing and contrasting creationist and naturalist perspectives *(e.g., use scientific ideas to explain the relationships among organisms in terms of similarities or differences of gross appearance of anatomical structures, comparing and contrasting creationist and naturalist perspectives)* **DOK 3** **I can apply scientific ideas to construct an explanation for the anatomical similarities and differences among modern and fossil organisms, comparing and contrasting creationist and naturalist perspectives.**	
	Score 2.5	No major errors or omissions regarding score 2.0 content and partial success at score 3.0 content
Score 2.0	The student will recognize or recall vocabulary such as: • *Anatomical, appearance, creationist, difference, evolutionary, fossil, fossil evidence, modern, naturalist, organism, relationship, similarity, unity of life* The student will perform basic processes, such as: • Describe anatomical similarities and differences between modern and fossil organisms	
	Score 1.5	Partial success at score 2.0 content and major errors or omissions regarding score 3.0 content
Score 1.0	With help, partial success at score 2.0 content and score 3.0 content	
	Score 0.5	With help, partial success at score 2.0 content but not at score 3.0 content
Score 0.0	Even with help, no success	

Subject: **Science**	Domain: **Earth and Space Sciences** Strand: **Earth and Human Activity**	**Grade: 6**

Standard: S.6-8.ES.8 Analyze and interpret data (e.g., locations, magnitudes, frequencies) on natural hazards to forecast future catastrophic events and inform the development of technologies to mitigate their effects (MS-ESS3-2)

Score 4.0	In addition to score 3.0 performance, the student demonstrates in-depth inferences and applications that go beyond what was taught	
	Score 3.5	In addition to score 3.0 performance, partial success at score 4.0 content
Score 3.0	The student will: • Analyze and interpret data on natural hazards to forecast future catastrophic events and inform the development of technologies to mitigate their effects *(e.g., distinguish natural hazards that can be reliably predicted [such as volcanic eruptions and severe weather] from natural hazards that occur suddenly and with no notice [such as earthquakes] and use their location and frequency to predict future events and design mitigating technologies, such as satellite systems, basements, or reservoirs)* **DOK 3** **I can interpret data on natural hazards to forecast future catastrophic events and inform the development of technologies to lessen their effects.**	
	Score 2.5	No major errors or omissions regarding score 2.0 content and partial success at score 3.0 content
Score 2.0	The student will recognize or recall vocabulary such as: • *Catastrophic, drought, earthquake, flood, forecast, frequency, hurricane, location, mitigate, natural hazard, predict, reservoir, satellite, severe weather, technology, tornado, tsunami, volcanic eruption* The student will perform basic processes, such as: • Describe natural hazards • Describe indicators that a natural hazard may occur • Describe technologies that can mitigate the effects of natural hazards	
	Score 1.5	Partial success at score 2.0 content and major errors or omissions regarding score 3.0 content
Score 1.0	With help, partial success at score 2.0 content and score 3.0 content	
	Score 0.5	With help, partial success at score 2.0 content but not at score 3.0 content
Score 0.0	Even with help, no success	

Subject: **Science**	Domain: **Earth and Space Sciences** Strand: **Earth's Systems**	**Grade: 6**

Standards: S.6-8.ES.1 Develop a model to describe the cycling of Earth's materials and the flow of energy that drives this process (MS-ESS2-1)
S.6-8.ES.3 Analyze and interpret data on the distribution of fossils and rocks, continental shapes, and seafloor structures to provide evidence of the past plate motions (MS-ESS2-3)

Score 4.0	In addition to score 3.0 performance, the student demonstrates in-depth inferences and applications that go beyond what was taught	
	Score 3.5	In addition to score 3.0 performance, partial success at score 4.0 content
Score 3.0	The student will: • Develop a model to describe the cycling of Earth's materials and the flow of energy that drives this process *(e.g., create and use a model to explain the processes of melting, crystallization, weathering, deformation, and sedimentation, which act together to form minerals and rocks through the cycling of Earth's materials)* **DOK 3** **I can develop a model to describe the cycling of Earth's materials and the flow of energy that drives this process.** • Analyze and interpret data on the distribution of fossils and rocks, continental shapes, and seafloor structures to provide evidence of the past plate motions *(e.g., analyze and interpret the similarities of rock and fossil types on different continents; the shapes of the continents, including continental shelves; and the locations of seafloor structures, such as ridges, fracture zones, and trenches to give evidence of past plate motions)* **DOK 3** **I can interpret data on the distribution of fossils and rocks, continental shapes, and seafloor structures to provide evidence of the past plate motions.**	
	Score 2.5	No major errors or omissions regarding score 2.0 content and partial success at score 3.0 content
Score 2.0	The student will recognize or recall vocabulary such as: • *Crystal, crystalline solid, crystallization, cycle, deformation, Earth material, energy, flow, formation, melt, mineral, recrystallization, sedimentation, weathering* • *Continent, continental shape, continental shelf, distribution, Earth's crust, fossil, fracture zone, geologic force, geologic shift, lithosphere, motion, plate, ridge, rock layer movement, seafloor structure, trench* The student will perform basic processes, such as: • Describe the role of melting, crystallization, weathering, deformation, and	

	sedimentation in the formation of rocks and minerals • Describe ways in which the Earth's surface has changed over time • Describe how distribution of fossils, rocks, continental shapes, and seafloor structures give evidence of past plate motions	
	Score 1.5	Partial success at score 2.0 content and major errors or omissions regarding score 3.0 content
Score 1.0	With help, partial success at score 2.0 content and score 3.0 content	
	Score 0.5	With help, partial success at score 2.0 content but not at score 3.0 content
Score 0.0	Even with help, no success	

Subject: **Science**	Domain: **Earth and Space Sciences** Strand: **Earth's Systems**	**Grade: 6**

Standard: S.6-8.ES.2 Construct an explanation based on evidence for how geoscience processes (e.g., surface weathering and deposition by movements of water, ice, and wind) have changed Earth's surface at varying time and spatial scales (e.g., slow plate motions, uplift of large mountain ranges, rapid landslides, microscopic geochemical reactions) (MS-ESS2-2)

Score 4.0	In addition to score 3.0 performance, the student demonstrates in-depth inferences and applications that go beyond what was taught	
	Score 3.5	In addition to score 3.0 performance, partial success at score 4.0 content
Score 3.0	The student will: • Construct an explanation based on evidence for how geoscience processes have changed Earth's surface at varying time and spatial scales *(e.g., use evidence to explain how geoscience processes such as surface weathering and deposition by the movement of water, ice, and wind—especially geoscience processes that shape local geographic features—change Earth's surface at time and spatial scales that can be large, such as slow plate motions or the uplift of large mountain ranges, or small, such as rapid landslides or microscopic geochemical reactions, and how many geoscience processes usually behave gradually but are punctuated by catastrophic events, such as earthquakes, volcanoes, and meteor impacts)* **DOK 3** **I can use evidence to explain how geoscience processes have changed Earth's surface at varying time and spatial scales.**	
	Score 2.5	No major errors or omissions regarding score 2.0 content and partial success at score 3.0 content
Score 2.0	The student will recognize or recall vocabulary such as: • *Catastrophic, deposition, Earth's layers, Earth's surface, earthquake, geochemical reaction, geographic feature, geoscience, igneous rock, landslide, metamorphic rock, meteor impact, microscopic, mountain range, plate motion, sediment deposition, sedimentary rock, sedimentation, spatial scale, surface, surface runoff, time scale, uplift, volcano, water cycle, weathering* The student will perform basic processes, such as: • Describe how long it takes for various geoscience processes to change the Earth's surface *(e.g., weathering, deposition, plate motion, uplift, landslides, earthquakes, volcanoes, and meteors)*	
	Score 1.5	Partial success at score 2.0 content and major errors or omissions regarding score 3.0 content
Score 1.0	With help, partial success at score 2.0 content and score 3.0 content	

	Score 0.5	With help, partial success at score 2.0 content but not at score 3.0 content
Score 0.0	Even with help, no success	

Subject: **Science**	Domain: **Earth and Space Sciences** Strand: **Earth and Human Activity**	**Grade: 6**

Standard: S.6-8.ES.7 Construct a scientific explanation based on evidence for how the uneven distributions of Earth's mineral, energy, and groundwater resources are the results of past and current geoscience processes (e.g., plate tectonics, the Flood) (MS-ESS3-1)

Score 4.0	In addition to score 3.0 performance, the student demonstrates in-depth inferences and applications that go beyond what was taught	
	Score 3.5	In addition to score 3.0 performance, partial success at score 4.0 content
Score 3.0	The student will: • Construct a scientific explanation based on evidence for how the uneven distributions of Earth's mineral, energy, and groundwater resources are the result of past and current geoscience processes *(e.g., make and defend the claim that mineral and groundwater resources are limited, typically nonrenewable and unevenly distributed as a result of removal by humans; for instance, uneven distributions of resources as a result of past processes include but are not limited to petroleum, which involves burial locations of organic marine sediments and subsequent geologic traps; metal ones, which involve locations of past volcanic and hydrothermal activity associated with subduction zones; and soil, which involves locations of active weathering or deposition of rock)* **DOK 3** **I can use evidence to explain how the uneven distributions of Earth's mineral, energy, and groundwater resources are the result of past and current geoscience processes.**	
	Score 2.5	No major errors or omissions regarding score 2.0 content and partial success at score 3.0 content
Score 2.0	The student will recognize or recall vocabulary such as: • *Deposition, distribution, energy source, geologic trap, geoscience, groundwater, hydrothermal, marine sediment, metal ore, mineral, nonrenewable, organic, petroleum, renewable, resource, subduction zone, volcanic, weathering* The student will perform basic processes, such as: • Describe the relationship between mineral resources and geoscience processes • Describe how the distribution of various resources occurs	
	Score 1.5	Partial success at score 2.0 content and major errors or omissions regarding score 3.0 content
Score 1.0	With help, partial success at score 2.0 content and score 3.0 content	

	Score 0.5	With help, partial success at score 2.0 content but not at score 3.0 content
Score 0.0	Even with help, no success	

Subject: **Science**	Domain: **Engineering** Strand: **Engineering Design**	**Grade: 6**

Standard: S.6-8.ET.1 Define the criteria and constraints of a design problem with sufficient precision to ensure a successful solution, taking into account relevant scientific principles and potential impacts on people and the natural environment that may limit possible solutions (MS-ETS1-1)

Score 4.0	In addition to score 3.0 performance, the student demonstrates in-depth inferences and applications that go beyond what was taught	
	Score 3.5	In addition to score 3.0 performance, partial success at score 4.0 content
Score 3.0	The student will: • Define the criteria and constraints of a design problem with sufficient precision to ensure a successful solution, taking into account relevant scientific principles and potential impacts on people and the natural environment that may limit possible solutions *(e.g., precisely define a design task's criteria and constraints, including consideration of scientific principles and other relevant knowledge that limit possible solutions)* **DOK 3** **I can define the criteria and constraints of a design problem to ensure a successful solution.**	
	Score 2.5	No major errors or omissions regarding score 2.0 content and partial success at score 3.0 content
Score 2.0	The student will recognize or recall vocabulary such as: • *Consideration, constraint, criteria, design problem, design task, environment, impact, limitation, possible, potential, precise, precision, principle, relevant, solution, sufficient* The student will perform basic processes, such as: • Describe the problem to be solved • Describe scientific principles that are relevant to the problem • Describe potential impacts on people and the natural environment	
	Score 1.5	Partial success at score 2.0 content and major errors or omissions regarding score 3.0 content
Score 1.0	With help, partial success at score 2.0 content and score 3.0 content	
	Score 0.5	With help, partial success at score 2.0 content but not at score 3.0 content
Score 0.0	Even with help, no success	

Subject: **Science**	Domain: **Health Sciences** Strand: **Health Promotion and Disease Prevention**	**Grade: 6**

Standards: S.6-8.HS.2 Construct a model that demonstrates the link between appropriate health care and personal health
S.6-8.HS.6 Choose a health-enhancing practice and develop a presentation designed to persuade others to adopt a similar practice

Score 4.0	In addition to score 3.0 performance, the student demonstrates in-depth inferences and applications that go beyond what was taught	
	Score 3.5	In addition to score 3.0 performance, partial success at score 4.0 content
Score 3.0	The student will: • Construct a model that demonstrates the link between appropriate health care and personal health *(e.g., create a graphic organizer that shows the link between appropriate health care and personal health)* **DOK 3** **I can create a model that shows the link between appropriate health care and personal health.** • Choose a health-enhancing practice and develop a presentation designed to persuade others to adopt a similar practice *(e.g., develop a PowerPoint presentation on the importance of exercise to persuade others to adopt a similar practice)* **DOK 3** **I can develop a presentation on a healthy practice to persuade others to adopt a similar practice.**	
	Score 2.5	No major errors or omissions regarding score 2.0 content and partial success at score 3.0 content
Score 2.0	The student will recognize or recall vocabulary such as: • *Health, model, personal, persuade, practice, presentation* The student will perform basic processes, such as: • Identify appropriate health care practices • Identify health-enhancing practices	
	Score 1.5	Partial success at score 2.0 content and major errors or omissions regarding score 3.0 content
Score 1.0	With help, partial success at score 2.0 content and score 3.0 content	
	Score 0.5	With help, partial success at score 2.0 content but not at score 3.0 content
Score 0.0	Even with help, no success	

Subject: **Science**	Domain: **Health Sciences** Strand: **Healthy Lifestyle Choices**	**Grade: 6**

Standard: S.6-8.HS.8 Construct an argument that supports the claim that modifying unhealthy behaviors can enhance personal health

Score 4.0	In addition to score 3.0 performance, the student demonstrates in-depth inferences and applications that go beyond what was taught	
	Score 3.5	In addition to score 3.0 performance, partial success at score 4.0 content
Score 3.0	The student will: • Construct an argument that supports the claim that modifying unhealthy behaviors can enhance personal health *(e.g., develop an argument to support the idea that modifying unhealthy behaviors can enhance personal health)* **DOK 3** **I can develop an argument to support the idea that modifying unhealthy behaviors can enhance personal health.**	
	Score 2.5	No major errors or omissions regarding score 2.0 content and partial success at score 3.0 content
Score 2.0	The student will recognize or recall vocabulary such as: • *Behavior, enhance, health, modify, unhealthy* The student will perform basic processes, such as: • Identify unhealthy behaviors	
	Score 1.5	Partial success at score 2.0 content and major errors or omissions regarding score 3.0 content
Score 1.0	With help, partial success at score 2.0 content and score 3.0 content	
	Score 0.5	With help, partial success at score 2.0 content but not at score 3.0 content
Score 0.0	Even with help, no success	