MI-Access Participation Science Assessment

Physical Science - Grade 8 Performance Level Descriptors

Grade 8 **Physical Science**	**EMERGING** Based on the Essential Elements using the Low level of the Michigan Range of Complexity, across all content expectations, students **who are emerging toward the performance standard,** with or without assistance, are typically able to demonstrate a **limited*** ability to…	**ATTAINED** Based on the Essential Elements using the Low level of the Michigan Range of Complexity, across all content expectations, students **who attained the performance standard** are typically able to **independently***…	**SURPASSED** Based on the Essential Elements using the Low level of the Michigan Range of Complexity, across all content expectations, students **who surpassed the performance standard** are typically able to **consistently**** and **independently***…
TB: Structure and Properties of Matter	• recognize the difference between a solid or a liquid, or • recognize an object that is found in nature (not human-made), or • recognize that cooling an object can change the state of the object (liquid to solid).	• identify a given object from the student's environment as a solid or a liquid, and/or • identify which given concrete objects are made by humans or which are made in nature, and/or • recognize that heating or cooling an object can result in a change in state (solid, liquid, gas/steam).	• identify one or more objects as solids or liquids, and • identify objects made either by humans or made in nature, and • participate in heating and cooling substances to identify the change in state (solid, liquid, gas/steam).
TB: Chemical Reactions	• identify one or more properties of a given substance, or • recognize if a given substance is hot or cold by touch.	• identify whether a substance/object is the same or different after a chemical reaction, and/or • identify if a given substance or container for the substance is hot or cold by touch after a chemical reaction.	• participate in an investigation to identify whether a substance/object is the same or different after a chemical reaction, and • recognize how the temperature of a substance changes after a chemical reaction.

Grade 8 Physical Science	EMERGING	ATTAINED	SURPASSED
	Based on the Essential Elements using the Low level of the Michigan Range of Complexity, across all content expectations, students **who are emerging toward the performance standard,** with or without assistance, are typically able to demonstrate a **limited*** ability to…	Based on the Essential Elements using the Low level of the Michigan Range of Complexity, across all content expectations, students **who attained the performance standard** are typically able to **independently***…	Based on the Essential Elements using the Low level of the Michigan Range of Complexity, across all content expectations, students **who surpassed the performance standard** are typically able to **consistently**** and **independently***…
TB: Forces & Interactions	• recognize that the motion of a given moving object changes when it collides with a given stationary object (e.g., a wall), or • recognize that an object can move at different speeds or in different directions, or • identify a magnet, or • recognize that an object that is dropped will fall downward.	• identify that the motion of one object changes when it collides with another object, and/or • identify that the speed or direction of an object changes when a force is applied, and/or • identify that a magnet or electric force can move a given object without touching it, and/or • identify the effect of gravity on objects.	• use a model of a collision between two objects to recognize how the motion of both objects changed, and • participate in an investigation to show that the speed or direction of a given object changes when a force is applied, and • participate in an investigation to identify that magnetic forces or electric forces can move one or more given objects without touching them, and • participate in an investigation to recognize that objects are affected by gravity.
TB: Energy	• recognize that an object can change speed, or	• identify which of two objects in motion moves faster or slower, and/or	• compare two objects in motion to identify which moves fastest and/or slowest, and

Grade 8 **Physical Science**	**EMERGING**	**ATTAINED**	**SURPASSED**
	Based on the Essential Elements using the Low level of the Michigan Range of Complexity, across all content expectations, students **who are emerging toward the performance standard,** with or without assistance, are typically able to demonstrate a **limited*** ability to…	Based on the Essential Elements using the Low level of the Michigan Range of Complexity, across all content expectations, students **who attained the performance standard** are typically able to **independently***…	Based on the Essential Elements using the Low level of the Michigan Range of Complexity, across all content expectations, students **who surpassed the performance standard** are typically able to **consistently**** and **independently***…
TB: Energy (continued)	• recognize that the height of an object affects the object's potential energy, or • recognize that energy is transferred in familiar objects in the form of heat.	• identify at which of two heights an object has the greatest or least potential energy, and/or • identify that energy is transferred in everyday objects in the form of heat or motion.	• use different positions of an object to identify at which height the object has the greatest and/or least potential energy, and • observe and identify whether the energy transferred in everyday objects is in the form of heat (thermal) or motion (kinetic).
TB: Waves & Electromagnetic Radiation	• recognize there are different sizes of waves, or • recognize sound and/or light sources.	• identify which of two waves, with extreme differences in height, has more energy, and/or • identify if sound or light is absorbed or reflected by given media.	• use two or more waves, with vastly different sizes in height, to recognize which wave has the most energy, and • determine if sound or light is absorbed or reflected by different media.
***May include students using standard accommodations as determined by their Individualized Education Program** ****Consistently refers to students who would be able to demonstrate understanding about 80% of the time or better**			

MI-Access Participation Science Assessment

Life Science - Grade 8 Performance Level Descriptors

Grade 8 **Life Science**	**EMERGING** Based on the Essential Elements using the Low level of the Michigan Range of Complexity, across all content expectations, students **who are emerging toward the performance standard,** with or without assistance, are typically able to demonstrate a **limited*** ability to…	**ATTAINED** Based on the Essential Elements using the Low level of the Michigan Range of Complexity, across all content expectations, students **who attained the performance standard** are typically able to **independently***…	**SURPASSED** Based on the Essential Elements using the Low level of the Michigan Range of Complexity, across all content expectations, students **who surpassed the performance standard** are typically able to **consistently**** and **independently***…
TB: Structure, Function, & Information Processing	• recognize something that is living or something that is non-living, or • recognize a plant and/or an animal, or • recognize one major organ of the body, or • recognize one of the five senses.	• identify things that are living or non-living, and/or • identify a given organism as a plant or an animal, and/or • identify one major organ of the body that can be observed through hearing, feeling, touching, or seeing, and/or • identify which of the five senses was used to collect information in a given situation, given two choices.	• identify things that are living and non-living, and begin to recognize a difference between them, and • identify one difference between a plant and an animal, and • identify two major organs of the body that can be observed through hearing, feeling, touching, or seeing, and • participate in investigations to identify that the five senses are used to collect information.
TB: Matter & Energy in Organisms & Ecosystems	• recognize that plants need sunlight, water, and air to grow, or • recognize which of two given foods is healthy for the human body, or	• identify that plants need sunlight, water, and air to live, and/or • identify one healthy food that helps the human body to live and grow, and/or	• recognize that plants need sunlight, water, and air to make their own food, and • identify that animals and people need energy from food to live and grow, and

Grade 8 Life Science	EMERGING	ATTAINED	SURPASSED
	Based on the Essential Elements using the Low level of the Michigan Range of Complexity, across all content expectations, students **who are emerging toward the performance standard,** with or without assistance, are typically able to demonstrate a **limited*** ability to…	Based on the Essential Elements using the Low level of the Michigan Range of Complexity, across all content expectations, students **who attained the performance standard** are typically able to **independently***…	Based on the Essential Elements using the Low level of the Michigan Range of Complexity, across all content expectations, students **who surpassed the performance standard** are typically able to **consistently**** and **independently***…
TB: Matter & Energy in Organisms & Ecosystems (continued)	• recognize a source of food or water, or type of shelter for humans, or • recognize which of two choices a given organism eats, or • recognize common features of a given ecosystem.	• identify that organisms need space, food, water, and/or shelter to live, and/or • identify a source of energy (what an organism eats) in a given food chain for an organism, and/or • given before and after pictures of an ecosystem, identify which ecosystem experienced a major physical change.	• identify that the availability of a given resource (e.g., space, food, water, shelter) affects organisms, and • use a simple food chain to identify a source of energy for two organisms, and • use pictures of an ecosystem before and after a physical change to identify which ecosystem experienced a major physical change, and begin to recognize that the change can affect a population of a given organism.
TB: Interdependent Relationships in Ecosystems	• recognize which organism is the predator or which organism is the prey in a given predator/prey relationship, or	• identify which organism is the predator and which organism is the prey in a given predator/prey relationship, and/or	• identify a predator and prey when given a picture of a predator/prey relationship and begin to recognize other types of relationships between two given organisms (e.g., competitive, mutually beneficial), and

Grade 8 Life Science	EMERGING	ATTAINED	SURPASSED
	Based on the Essential Elements using the Low level of the Michigan Range of Complexity, across all content expectations, students **who are emerging toward the performance standard,** with or without assistance, are typically able to demonstrate a **limited*** ability to…	Based on the Essential Elements using the Low level of the Michigan Range of Complexity, across all content expectations, students **who attained the performance standard** are typically able to **independently***…	Based on the Essential Elements using the Low level of the Michigan Range of Complexity, across all content expectations, students **who surpassed the performance standard** are typically able to **consistently**** and **independently***…
TB: Interdependent Relationships in Ecosystems (continued)	• recognize an unhealthy environment (with a problem).	• identify a healthy environment and an environment with a problem.	• identify a healthy and/or unhealthy environment and begin to recognize a solution to a problem in a given environment.
TB: Growth, Development & Reproduction of Organisms	• recognize the adult organism when given two choices, or • recognize one or more physical characteristics of a given organism, or • recognize if two given organisms are the same or if two given organisms are different, or • recognize which trait is present in a given organism when given two choices.	• identify a parent organism that matches with given offspring, and/or • match one organism that belongs in a given environment based on physical characteristics, and/or • recognize one or more differences in a given species, and/or • identify an organism that has or exhibits a given characteristic.	• recognize that a given parent organism and offspring share at least one physical trait, and • identify one physical characteristic that helps a given organism to survive in its environment, and • identify one or more differences within a species, and • match specific characteristics with the organism that has or exhibits those characteristics.
TB: Natural Selection & Adaptations	• recognize a fossil, or	• match a fossil to a given organism that is related, and/or	• identify similarities between a fossil and the organism it is related to, and begin to understand some differences between the fossil and the organism it is related to, and

Grade 8 Life Science	EMERGING	ATTAINED	SURPASSED
	Based on the Essential Elements using the Low level of the Michigan Range of Complexity, across all content expectations, students **who are emerging toward the performance standard,** with or without assistance, are typically able to demonstrate a **limited*** ability to…	Based on the Essential Elements using the Low level of the Michigan Range of Complexity, across all content expectations, students **who attained the performance standard** are typically able to **independently***…	Based on the Essential Elements using the Low level of the Michigan Range of Complexity, across all content expectations, students **who surpassed the performance standard** are typically able to **consistently**** and **independently***…
TB: Natural Selection & Adaptations (continued)	• recognize that a given fully formed embryo will become a given organism, or • recognize one physical trait that is different in two individuals of a given species.	• match a picture of a fully formed embryo to a picture of the organism it will become, given another picture of something that is not an animal, and/or • identify which of two individuals of a species has the advantage, based on physical traits.	• identify a similarity between a picture of a fully formed embryo and a picture of the organism it will become, and • identify a physical trait that gives an individual an advantage over another individual of the same species without that trait.
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MI-Access Participation Science Assessment

Earth & Space Sciences - Grade 8 Performance Level Descriptors

Grade 8 Earth & Space Sciences	EMERGING	ATTAINED	SURPASSED
	Based on the Essential Elements using the Low level of the Michigan Range of Complexity, across all content expectations, students **who are emerging toward the performance standard,** with or without assistance, are typically able to demonstrate a **limited*** ability to…	Based on the Essential Elements using the Low level of the Michigan Range of Complexity, across all content expectations, students **who attained the performance standard** are typically able to **independently***…	Based on the Essential Elements using the Low level of the Michigan Range of Complexity, across all content expectations, students **who surpassed the performance standard** are typically able to **consistently**** and **independently***…
TB: Space Systems	• recognize daytime or nighttime on Earth, or • recognize Earth and/or the Sun in a simple model of the solar system, or • recognize that the Sun and Earth are different sizes.	• identify one difference in daytime and nighttime sky on Earth for the Sun, moon, and stars, and/or • identify that Earth orbits (goes around) the Sun in a simple model of the solar system, and/or • identify that the Sun is much larger than Earth.	• use a model to identify major differences between daytime and nighttime sky for the Sun, moon, and stars, and • use a model to recognize the solar system and that the Sun is in the center of the solar system with Earth orbiting around the Sun, and • use scaled models of the solar system to recognize that the objects in it (Earth, the Sun, and other planets) are different sizes.
TB: History of Earth	• recognize that rocks form into layers, or • recognize a change to Earth's surface.	• recognize that the bottom layer of rock was made first in a simple model of rock layers, and/or • use a before and after picture to identify a change to Earth's surface as a result of a natural process.	• use a simple model to identify that older rock layers are found under younger rock layers, and • use before and after pictures to identify changes to Earth's surface as a result of natural processes.

Grade 8 **Earth & Space Sciences**	**EMERGING** Based on the Essential Elements using the Low level of the Michigan Range of Complexity, across all content expectations, students **who are emerging toward the performance standard,** with or without assistance, are typically able to demonstrate a **limited*** ability to…	**ATTAINED** Based on the Essential Elements using the Low level of the Michigan Range of Complexity, across all content expectations, students **who attained the performance standard** are typically able to **independently***…	**SURPASSED** Based on the Essential Elements using the Low level of the Michigan Range of Complexity, across all content expectations, students **who surpassed the performance standard** are typically able to **consistently**** and **independently***…
TB: Earth's Systems	• recognize a rock, or • recognize a familiar form of water (such as, rain, snow, or ice), or • recognize one of Earth's natural resources used by humans (such as solar, wind, water, metals, soil, and fuel).	• identify a rock that has the same characteristic as another given rock, and/or • use a picture to identify a form of water (such as, rain, snow, ice, cloud, fog, or steam), and/or • identify one or more of Earth's natural resources used by humans (such as solar, wind, water, metals, soil, and fuel).	• sort rocks that have a given characteristic, and • use a model to identify forms of water (such as, rain, snow, ice, cloud, fog, and steam), and • recognize that some of Earth's natural resources used by humans are renewable (such as solar, wind, water) and some are not (such as metals, soil, fuel).
TB: Weather & Climate	• recognize different types of weather (sunny, snowing, raining, or windy), or • identify at least one characteristic of the local climate in the winter in Michigan.	• identify the local weather condition(s) (such as sunny, snowing, raining, windy, foggy or thunderstorms) and/or • compare the local climate and a different climate to identify at least one difference.	• use given data to compare local weather conditions over a short time period (e.g., day to day or over one week's time), and • compare the local climate and two different climates to identify differences.

Grade 8 Earth & Space Sciences	EMERGING	ATTAINED	SURPASSED
	Based on the Essential Elements using the Low level of the Michigan Range of Complexity, across all content expectations, students **who are emerging toward the performance standard,** with or without assistance, are typically able to demonstrate a **limited*** ability to…	Based on the Essential Elements using the Low level of the Michigan Range of Complexity, across all content expectations, students **who attained the performance standard** are typically able to **independently***…	Based on the Essential Elements using the Low level of the Michigan Range of Complexity, across all content expectations, students **who surpassed the performance standard** are typically able to **consistently**** and **independently***…
TB: Human Impacts	• recognize one natural hazard that may occur in the student's area, or • recognize one resource that humans use every day (water, electricity, paper, etc.).	• identify the safest action to take during a given natural hazard (such as tornado, flood, severe thunderstorm) that may occur in the student's area, and/or • identify a way to reduce a negative effect of human use of a given resource in the student's daily life (e.g., turn off water when brushing teeth, turn off electrical appliances when not in use, recycle).	• identify safe actions to take during natural hazards that may occur in the student's area, and • identify ways to reduce a negative effect of human use of resources (e.g., turn off water when brushing teeth, turn off electrical appliances when not in use, recycle).
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MI-Access Participation Science Assessment

ETS - Grade 8 Performance Level Descriptors

Grade 8 **Engineering, Technology, and Applications of Science**	**EMERGING** Based on the Essential Elements using the Low level of the Michigan Range of Complexity, across all content expectations, students **who are emerging toward the performance standard,** with or without assistance, are typically able to demonstrate a **limited*** ability to…	**ATTAINED** Based on the Essential Elements using the Low level of the Michigan Range of Complexity, across all content expectations, students **who attained the performance standard** are typically able to **independently***…	**SURPASSED** Based on the Essential Elements using the Low level of the Michigan Range of Complexity, across all content expectations, students **who surpassed the performance standard** are typically able to **consistently**** and **independently***…
TB: Engineering Design	• recognize one material that will help solve a simple design problem, or • recognize a problem that needs a solution, or • recognize a specific product that is working, or • recognize a given tool or object.	• recognize one action or material that will help solve a given simple design problem, and/or • compare a given solution and a given non-solution to recognize which will produce the desired result, and/or • identify whether a specific product is working or not (broken), and/or • identify the function of a given tool or object.	• participate in activities to find a solution to a simple design problem in order to identify one action/material, and • identify which of two solutions to a problem will produce the desired result, and • identify one reason why a specific product is working or not (broken), and • identify a specific tool needed for a given activity.
***May include students using standard accommodations as determined by their Individualized Education Program** ****Consistently refers to students who would be able to demonstrate understanding about 80% of the time or better**			