

## MI-Access Functional Independence Science Assessment

### Physical Science - Grade 8 Performance Level Descriptors

Grade 8	EMERGING	ATTAINED	SURPASSED
<b>Physical Science</b>	Based on the Essential Elements using the High level of the Michigan Range of Complexity, across all content expectations, students <b>who are emerging toward the performance standard</b> , with or without assistance, are typically able to demonstrate a <b>limited*</b> ability to...	Based on the Essential Elements using the High level of the Michigan Range of Complexity, across all content expectations, students <b>who attained the performance standard</b> are typically able to <b>independently*</b> ...	Based on the Essential Elements using the High level of the Michigan Range of Complexity, across all content expectations, students <b>who surpassed the performance standard</b> are typically able to <b>consistently**</b> and <b>independently*</b> ...
TB: Structure and Properties of Matter	<ul style="list-style-type: none"> <li>• use a model to identify the composition of a substance (solid, liquid, gas) at the particle level, or</li> <li>• use one source of information to identify which natural material(s) is used to make a given synthetic material, or</li> <li>• identify the resulting state of matter after heat is added or removed from a pure substance.</li> </ul>	<ul style="list-style-type: none"> <li>• use a model to identify the composition of a substance (solid, liquid, gas) at the atomic or molecular level, and/or</li> <li>• use one source of information to identify which natural materials are used to make given synthetic materials, or identify the impact to society from the use of synthetic materials, and/or</li> <li>• use a model to predict how adding or removing heat from pure substances impacts particles or the state of matter.</li> </ul>	<ul style="list-style-type: none"> <li>• participate in developing a model to describe the composition of a substance (solid, liquid, gas) at the atomic or molecular level, and</li> <li>• use sources of information to identify which natural materials are used to make given synthetic materials, and identify the impact to society from the use of synthetic materials, and</li> <li>• participate in developing a model to make predictions about how adding or removing heat from pure substances impacts particles and the state of matter.</li> </ul>

Grade 8	EMERGING	ATTAINED	SURPASSED
<b>Physical Science</b>	Based on the Essential Elements using the High level of the Michigan Range of Complexity, across all content expectations, students <b>who are emerging toward the performance standard</b> , with or without assistance, are typically able to demonstrate a <b>limited*</b> ability to...	Based on the Essential Elements using the High level of the Michigan Range of Complexity, across all content expectations, students <b>who attained the performance standard</b> are typically able to <b>independently*</b> ...	Based on the Essential Elements using the High level of the Michigan Range of Complexity, across all content expectations, students <b>who surpassed the performance standard</b> are typically able to <b>consistently**</b> and <b>independently*</b> ...
TB: Chemical Reactions	<ul style="list-style-type: none"> <li>identify one or more properties that can be used to determine if a chemical reaction occurred, or</li> <li>identify a change in temperature during a chemical reaction.</li> </ul>	<ul style="list-style-type: none"> <li>use data about the physical and chemical properties of substances before and after an interaction to determine if a chemical reaction occurred, and/or</li> <li>identify whether or not heat is absorbed or released through a chemical reaction while testing a substance or device.</li> </ul>	<ul style="list-style-type: none"> <li>collect and use data about the physical and chemical properties of substances before and after an interaction to determine if a chemical reaction occurred, and</li> <li>participate in the design of a project to test a substance or device to determine if there is absorption or a release of heat through a chemical reaction.</li> </ul>
TB: Forces & Interactions	<ul style="list-style-type: none"> <li>identify the effect of a collision on the colliding objects, or</li> <li>recognize that a force acting on an object affects a change in the object's motion, or</li> </ul>	<ul style="list-style-type: none"> <li>identify the cause and effect relationship between colliding objects, and/or</li> <li>identify that the forces acting on an object and the mass of the object affect the change in the object's motion, and/or</li> </ul>	<ul style="list-style-type: none"> <li>identify a question to ask to determine cause and effect relationships between colliding objects, and</li> <li>participate in planning and/or conducting an investigation to identify that the forces acting on an object and the mass of the object affect the change in the object's motion, and</li> </ul>

Grade 8	EMERGING	ATTAINED	SURPASSED
<b>Physical Science</b>	Based on the Essential Elements using the High level of the Michigan Range of Complexity, across all content expectations, students <b>who are emerging toward the performance standard</b> , with or without assistance, are typically able to demonstrate a <b>limited*</b> ability to...	Based on the Essential Elements using the High level of the Michigan Range of Complexity, across all content expectations, students <b>who attained the performance standard</b> are typically able to <b>independently*</b> ...	Based on the Essential Elements using the High level of the Michigan Range of Complexity, across all content expectations, students <b>who surpassed the performance standard</b> are typically able to <b>consistently**</b> and <b>independently*</b> ...
TB: Forces & Interactions (continued)	<ul style="list-style-type: none"> <li>identify that the size of magnetic objects or the distance between them can impact the strength of magnetic forces, or</li> <li>identify that all objects are pulled toward each other by the force of gravity.</li> </ul>	<ul style="list-style-type: none"> <li>identify how the size of magnetic objects or the distance between them can impact the strength of magnetic forces, or how the amount of charge on objects can affect the strength of electric forces, and/or</li> <li>identify the correct claim that supports that all objects are attracted (pulled) toward each other by the force of gravity, and/or that the strength of the pull is dependent on their masses.</li> </ul>	<ul style="list-style-type: none"> <li>identify a question to use in an investigation to determine how the size of magnetic objects or the distance between them can impact the strength of magnetic forces, and how the amount of charge on objects can affect the strength of electric forces, and</li> <li>use one or more pieces of evidence to support the claim that all objects are attracted (pulled) toward each other by the force of gravity and that the strength of the pull is dependent on their masses.</li> </ul>
TB: Energy	<ul style="list-style-type: none"> <li>recognize what happens to the kinetic energy of an object as the mass increases or decreases, or</li> <li>recognize what happens to the potential energy of an object as the height of the object increases or decreases, or</li> </ul>	<ul style="list-style-type: none"> <li>identify the relationship between kinetic energy and the mass or speed of an object, and/or</li> <li>identify one piece of evidence to explain how the amount of potential energy in an object is dependent on the position of the object, and/or</li> </ul>	<ul style="list-style-type: none"> <li>use given data in a graphical display to describe the relationship between kinetic energy and the mass or speed of an object, and</li> <li>use one or more pieces of evidence to explain that the amount of potential energy in an object is dependent on the position of the object, and</li> </ul>

Grade 8	EMERGING	ATTAINED	SURPASSED
<b>Physical Science</b>	Based on the Essential Elements using the High level of the Michigan Range of Complexity, across all content expectations, students <b>who are emerging toward the performance standard</b> , with or without assistance, are typically able to demonstrate a <b>limited*</b> ability to...	Based on the Essential Elements using the High level of the Michigan Range of Complexity, across all content expectations, students <b>who attained the performance standard</b> are typically able to <b>independently*</b> ...	Based on the Essential Elements using the High level of the Michigan Range of Complexity, across all content expectations, students <b>who surpassed the performance standard</b> are typically able to <b>consistently**</b> and <b>independently*</b> ...
TB: Energy (continued)	<ul style="list-style-type: none"> <li>identify how the transfer of either thermal or kinetic energy changes the heat or motion of an object.</li> </ul>	<ul style="list-style-type: none"> <li>identify how the transfer of either thermal or kinetic energy changes the heat or motion of an object and/or identify an explanation for how the type or amount of matter affects this relationship.</li> </ul>	<ul style="list-style-type: none"> <li>participate in an investigation to determine how the transfer of either thermal or kinetic energy changes the heat or motion of an object and explain how the type of amount of matter affects this relationship.</li> </ul>
TB: Waves & Electromagnetic Radiation	<ul style="list-style-type: none"> <li>recognize that waves have energy and there are different sizes of waves, or</li> <li>identify sound, light, or water waves as being reflected, absorbed, or transmitted through different media.</li> </ul>	<ul style="list-style-type: none"> <li>identify that the amount of energy in waves is related to their amplitude (size), and/or</li> <li>identify the description that shows how sound, light, or water waves are reflected, absorbed, and/or transmitted through different media.</li> </ul>	<ul style="list-style-type: none"> <li>measure the amplitude (size) of different waves to show that the amount of energy in waves is related to their size, and</li> <li>participate in an investigation to describe how sound, light, and water waves are reflected, absorbed, and transmitted through different media.</li> </ul>
<p><b>*May include students using standard accommodations as determined by their Individualized Education Program</b>  <b>**Consistently refers to students who would be able to demonstrate understanding about 80% of the time or better</b></p>			

## MI-Access Functional Independence Science Assessment

### Life Science - Grade 8 Performance Level Descriptors

Grade 8	EMERGING	ATTAINED	SURPASSED
<b>Life Science</b>	Based on the Essential Elements using the High level of the Michigan Range of Complexity, across all content expectations, students <b>who are emerging toward the performance standard</b> , with or without assistance, are typically able to demonstrate a <b>limited*</b> ability to...	Based on the Essential Elements using the High level of the Michigan Range of Complexity, across all content expectations, students <b>who attained the performance standard</b> are typically able to <b>independently*</b> ...	Based on the Essential Elements using the High level of the Michigan Range of Complexity, across all content expectations, students <b>who surpassed the performance standard</b> are typically able to <b>consistently**</b> and <b>independently*</b> ...
TB: Structure, Function, & Information Processing	<ul style="list-style-type: none"> <li>• recognize that living things are made of cells or that there are many different types of cells, or</li>   <li>• use a given simple model to recognize one similarity (nucleus) or one difference (cell wall) between plant and animal cells, or</li>   <li>• identify that body systems are organized into increasingly larger or more specialized structures that work together to support life, or</li> </ul>	<ul style="list-style-type: none"> <li>• identify one or more pieces of evidence that living things are made of cells and there are many different types of cells, and/or</li>   <li>• use a model to identify a similarity (nucleus or cell membrane) and a difference (cell wall or chloroplast) between a plant and an animal cell, and/or</li>   <li>• use a model to identify that body systems are made up of cells and cells form tissues, tissues form organs, and organs form systems that work together to support life, and/or</li> </ul>	<ul style="list-style-type: none"> <li>• participate in an investigation to provide one or more pieces of evidence that living things are made of one or more cells and there are many different types of cells, and</li>   <li>• participate in developing a model to show the similarities (nucleus and cell membrane) and differences (cell wall and chloroplast) between plant and animal cells, and begin to recognize the way the parts contribute to the cell's function, and</li>   <li>• use models to describe or make a claim that body systems are made up of cells and cells form tissues, tissues form organs, and organs form systems that work together to support life, and</li> </ul>

Grade 8  Life Science	<b>EMERGING</b>  Based on the Essential Elements using the High level of the Michigan Range of Complexity, across all content expectations, students <b>who are emerging toward the performance standard</b> , with or without assistance, are typically able to demonstrate a <b>limited*</b> ability to...	<b>ATTAINED</b>  Based on the Essential Elements using the High level of the Michigan Range of Complexity, across all content expectations, students <b>who attained the performance standard</b> are typically able to <b>independently*</b> ...	<b>SURPASSED</b>  Based on the Essential Elements using the High level of the Michigan Range of Complexity, across all content expectations, students <b>who surpassed the performance standard</b> are typically able to <b>consistently**</b> and <b>independently*</b> ...
TB: Structure, Function, & Information Processing (continued)	<ul style="list-style-type: none"> <li>recognize that the five senses collect and send information to the nervous system (brain) in order to respond to the environment through a physical response and/or the creation of memories.</li> </ul>	<ul style="list-style-type: none"> <li>use a model to identify that the five senses collect and send information to the nervous system (brain), which results in a physical response and/or the creation of memories.</li> </ul>	<ul style="list-style-type: none"> <li>participate in investigations to demonstrate that the five senses collect and send information to the nervous system (brain), which results in a physical response and/or the creation of memories.</li> </ul>
TB: Matter & Energy in Organisms & Ecosystems	<ul style="list-style-type: none"> <li>identify what a plant needs or what plants create through photosynthesis, or</li> <li>use a model to identify that people break down food to get energy and nutrients to live and grow, or</li> <li>identify two or more resources in an ecosystem that impact the survival of living things within that ecosystem, or</li> </ul>	<ul style="list-style-type: none"> <li>identify what a plant needs to live and what it creates through photosynthesis, and/or</li> <li>use a model to identify how animals and people break down food to get energy and nutrients to live and grow, and/or</li> <li>identify evidence that shows how resources in an ecosystem impact the survival and/or population size of living things within that ecosystem, and/or</li> </ul>	<ul style="list-style-type: none"> <li>participate in investigations about photosynthesis to demonstrate what a plant needs to live and what it creates, and</li> <li>use a model to describe how animals and people break down food and it is rearranged into new molecules used to support growth, and</li> <li>use data to provide evidence that resources in an ecosystem impact the survival and population size of living things within that ecosystem, and</li> </ul>

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TB: Matter & Energy in Organisms & Ecosystems (continued)	<ul style="list-style-type: none"> <li>identify that when an organism eats (consumes) another organism, matter and energy are transferred, or</li> <li>identify a physical or biological change to an ecosystem that made an impact on a specific population of organisms.</li> </ul>	<ul style="list-style-type: none"> <li>use a model to identify that energy and matter are transferred between living and non-living parts of an ecosystem, and/or</li> <li>identify one piece of evidence to explain how a physical or a biological change to an ecosystem affects populations of organisms.</li> </ul>	<ul style="list-style-type: none"> <li>use a model to describe how energy and matter are transferred between living and non-living parts of an ecosystem, and begin to recognize how cycling of matter occurs in an ecosystem, and</li> <li>use one or more pieces of evidence from given data to explain or make a claim for how physical and/or biological changes to an ecosystem affect populations of organisms.</li> </ul>
TB: Interdependent Relationships in Ecosystems	<ul style="list-style-type: none"> <li>identify competitive, predatory, and mutually beneficial relationships between organisms in an ecosystem, or</li> </ul>	<ul style="list-style-type: none"> <li>use one piece of evidence to describe a competitive, predatory, and/or mutually beneficial relationship between organisms in an ecosystem, and/or</li> </ul>	<ul style="list-style-type: none"> <li>use one or more pieces of evidence to describe competitive, predatory, and mutually beneficial relationships between organisms in an ecosystem, and/or use evidence to begin to make a prediction for the type of relationship that might occur between two organisms, and</li> </ul>

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TB: Interdependent Relationships in Ecosystems (continued)	<ul style="list-style-type: none"> <li>recognize a solution that helps keep a given environment balanced and healthy.</li> </ul>	<ul style="list-style-type: none"> <li>identify whether a specific solution helps keep a given environment balanced and healthy</li> </ul>	<ul style="list-style-type: none"> <li>evaluate one or more solutions that help keep environments balanced and healthy and begin to recognize that there is more than one solution to an environmental problem.</li> </ul>
TB: Growth, Development, and Reproduction of Organisms	<ul style="list-style-type: none"> <li>differentiate between a negative or positive impact of an animal or plant characteristic on the ability to reproduce or the likelihood for the young to survive, or</li> <li>identify if a given change in the physical trait of an animal or a plant impacts the survival of the organism, or</li> <li>recognize whether an offspring is produced by asexual reproduction or sexual reproduction based on how genetically identical or varied the offspring are, or</li> </ul>	<ul style="list-style-type: none"> <li>use a model to identify how animal and/or plant characteristics or behaviors affect the ability to reproduce and/or the survival of the young, and/or</li> <li>use a model to identify how changes in physical traits of animals and/or plants can affect their survival or have no effect, and/or</li> <li>use information to identify that asexual reproduction results in genetically identical offspring and/or that sexual reproduction results in genetically varied offspring, and/or</li> </ul>	<ul style="list-style-type: none"> <li>use evidence to explain how animal and plant characteristics and/or behaviors affect the ability to reproduce and the survival of the young, and</li> <li>use a model to describe how changes in physical traits of animals and plants (mutations) can affect their survival or have no effect, and</li> <li>use models to describe that asexual reproduction results in genetically identical offspring, and that sexual reproduction results in genetically varied offspring, and</li> </ul>



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TB: Growth, Development, and Reproduction of Organisms (continued)	<ul style="list-style-type: none"> <li>identify one way that humans influence the traits of plants or the traits of animals.</li> </ul>	<ul style="list-style-type: none"> <li>identify two or more ways that humans influence the traits of plants and/or animals.</li> </ul>	<ul style="list-style-type: none"> <li>use or gather information to identify ways that humans influence the traits of plants and animals.</li> </ul>
TB: Natural Selection & Adaptations	<ul style="list-style-type: none"> <li>identify one pattern in the fossil record that demonstrates a similarity or a difference as the life form changed over time, or</li> <li>use pictures to identify one similarity in embryonic development of two animals, or</li> <li>identify whether a specific trait in an animal or a plant is likely or unlikely to affect the survival of the organism or change the trait within the population over time.</li> </ul>	<ul style="list-style-type: none"> <li>identify patterns in the fossil record that demonstrate similarities and/or differences as life forms change over time, and/or</li> <li>use pictures to identify similarities in embryonic development of animals and show relationships between three or more animals, and/or</li> <li>identify that different traits in animals or plants can affect the survival and reproduction of individuals and/or change the trait within the population over time.</li> </ul>	<ul style="list-style-type: none"> <li>use data to identify patterns in the fossil record that demonstrate similarities and differences as life forms change over time, and</li> <li>use pictures of embryos and fully formed animals to identify similarities in development and show relationships between three or more animals, and</li> <li>use given data to identify that different traits in animals or plants can affect the survival and reproduction of individuals and change the trait within the population over time.</li> </ul>
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## MI-Access Functional Independence Science Assessment

### Earth & Space Sciences - Grade 8 Performance Level Descriptors

Grade 8	EMERGING	ATTAINED	SURPASSED
<b>Earth &amp; Space Sciences</b>	Based on the Essential Elements using the High level of the Michigan Range of Complexity, across all content expectations, students <b>who are emerging toward the performance standard</b> , with or without assistance, are typically able to demonstrate a <b>limited*</b> ability to...	Based on the Essential Elements using the High level of the Michigan Range of Complexity, across all content expectations, students <b>who attained the performance standard</b> are typically able to <b>independently*</b> ...	Based on the Essential Elements using the High level of the Michigan Range of Complexity, across all content expectations, students <b>who surpassed the performance standard</b> are typically able to <b>consistently**</b> and <b>independently*</b> ...
TB: Space Systems	<ul style="list-style-type: none"> <li>recognize monthly patterns in the lunar cycle and/or yearly pattern of Earth’s seasons, or</li> <li>recognize the orbits of the objects in the solar system, or</li> <li>use scaled models to recognize differences in size of the objects within the solar system (Sun, Moon, and planets).</li> </ul>	<ul style="list-style-type: none"> <li>use a model of the Earth-sun-moon system to identify the monthly pattern of the lunar cycle and/or the yearly pattern of Earth’s seasons, and/or</li> <li>use a model to identify how objects in the solar system (in which Earth is located) pull on each other through gravity, resulting in observable orbits, and/or</li> <li>use scaled models to identify similarities and differences in size of the objects within the solar system (Sun, Moon, and planets).</li> </ul>	<ul style="list-style-type: none"> <li>use a model of the Earth-sun-moon system to describe the monthly pattern of the lunar cycle and the yearly pattern of Earth’s seasons, and</li> <li>use models to describe how objects in the solar system (in which Earth is located) pull on each other through gravity, resulting in observable orbits, and</li> <li>use scaled models to compare similarities and differences in size of the objects within the solar system (Sun, Moon, and planets) and begin to use data to compare their sizes.</li> </ul>

Grade 8 Earth & Space Sciences	<b>EMERGING</b> Based on the Essential Elements using the High level of the Michigan Range of Complexity, across all content expectations, students <b>who are emerging toward the performance standard</b> , with or without assistance, are typically able to demonstrate a <b>limited*</b> ability to...	<b>ATTAINED</b> Based on the Essential Elements using the High level of the Michigan Range of Complexity, across all content expectations, students <b>who attained the performance standard</b> are typically able to <b>independently*</b> ...	<b>SURPASSED</b> Based on the Essential Elements using the High level of the Michigan Range of Complexity, across all content expectations, students <b>who surpassed the performance standard</b> are typically able to <b>consistently**</b> and <b>independently*</b> ...
TB: History of Earth	<ul style="list-style-type: none"> <li>recognize there are age differences in Earth's rock layers, or</li> <li>recognize that Earth's surface changes over time.</li> </ul>	<ul style="list-style-type: none"> <li>use a model to identify that Earth's rock layers are very old, and their age is relative to their position within Earth's crust, and/or</li> <li>identify evidence of Earth's surface changes over time due to geologic processes.</li> </ul>	<ul style="list-style-type: none"> <li>participate in making models or using models to explain that Earth's rock layers are very old, and their age is relative to their position within Earth's crust, and</li> <li>use models of Earth's geological processes to show that Earth's surface changes over time.</li> </ul>
TB: Earth's Systems	<ul style="list-style-type: none"> <li>recognize there are three types of rock created by the rock cycle on Earth, or</li> <li>recognize that the Sun and gravity move water around Earth or recognize a form of water in the water cycle (evaporation, precipitation), or</li> <li>recognize that natural resources used by humans are limited or are found only in certain locations.</li> </ul>	<ul style="list-style-type: none"> <li>use a model to identify one of the three types of rock created by the rock cycle on Earth, and/or</li> <li>use a model to identify how the Sun and gravity move water around Earth and/or change the form of water in the water cycle (evaporation, condensation, precipitation, and/or runoff), and/or</li> <li>use given data to identify that natural resources used by humans are limited and/or are found only in certain locations.</li> </ul>	<ul style="list-style-type: none"> <li>use models to describe the three types of rock created by the rock cycle on Earth, and begin to recognize the cycling of Earth's materials, and</li> <li>use a model to describe how the Sun and gravity move water around Earth and change the form of water in the water cycle (evaporation, condensation, precipitation, and runoff), and</li> <li>use given data to explain that natural resources used by humans are limited and are found only in certain locations.</li> </ul>

Grade 8 Earth & Space Sciences	EMERGING	ATTAINED	SURPASSED
TB: Weather & Climate	<p>Based on the Essential Elements using the High level of the Michigan Range of Complexity, across all content expectations, students <b>who are emerging toward the performance standard</b>, with or without assistance, are typically able to demonstrate a <b>limited*</b> ability to...</p> <ul style="list-style-type: none"> <li>recognize that weather conditions in Michigan change, or</li> <li>recognize that sunlight hits Earth unevenly making some areas of Earth warmer and some colder.</li> </ul>	<p>Based on the Essential Elements using the High level of the Michigan Range of Complexity, across all content expectations, students <b>who attained the performance standard</b> are typically able to <b>independently*</b>...</p> <ul style="list-style-type: none"> <li>use given information to identify changes in weather conditions in Michigan, and/or</li> <li>use models of Earth and the Sun to identify that sunlight hits Earth unevenly making the climates of some areas warmer and some colder.</li> </ul>	<p>Based on the Essential Elements using the High level of the Michigan Range of Complexity, across all content expectations, students <b>who surpassed the performance standard</b> are typically able to <b>consistently**</b> and <b>independently*</b>...</p> <ul style="list-style-type: none"> <li>participate in collecting and/or using data to describe changes in weather conditions in Michigan, and begin to recognize unique weather in Michigan due to the Great Lakes and regional geography, and</li> <li>use models of Earth and the Sun to explain that sunlight hits Earth unevenly making the climates of some areas warmer and some colder, and begin to recognize that oceanic circulation has a role in regional climates.</li> </ul>
TB: Human Impacts	<ul style="list-style-type: none"> <li>identify a natural hazard or identify a signal (siren) used to warn people of a given natural hazard, or</li> <li>recognize that increasing human populations leads to increasing consumption of Earth's resources.</li> </ul>	<ul style="list-style-type: none"> <li>use data to determine if a given natural hazard can be predicted or not by examining patterns in the data, and/or</li> <li>identify that increasing human populations and consumption can increase the negative effects on Earth.</li> </ul>	<ul style="list-style-type: none"> <li>use data on a given natural hazard to predict future catastrophic events, and begin to recognize how technology can be developed to give people an early warning of a natural hazard, and</li> <li>use data to describe that increasing human populations and consumption can increase the negative effects on Earth.</li> </ul>
<p><b>*May include students using standard accommodations as determined by their Individualized Education Program</b>  <b>**Consistently refers to students who would be able to demonstrate understanding about 80% of the time or better</b></p>			

## MI-Access Functional Independence Science Assessment

### ETS - Grade 8 Performance Level Descriptors

Grade 8 <b>Engineering, Technology, and Applications of Science</b>	<b>EMERGING</b>	<b>ATTAINED</b>	<b>SURPASSED</b>
	Based on the Essential Elements using the High level of the Michigan Range of Complexity, across all content expectations, students <b>who are emerging toward the performance standard</b> , with or without assistance, are typically able to demonstrate a <b>limited*</b> ability to...	Based on the Essential Elements using the High level of the Michigan Range of Complexity, across all content expectations, students <b>who attained the performance standard</b> are typically able to <b>independently*</b> ...	Based on the Essential Elements using the High level of the Michigan Range of Complexity, across all content expectations, students <b>who surpassed the performance standard</b> are typically able to <b>consistently**</b> and <b>independently*</b> ...
TB: Engineering Design	<ul style="list-style-type: none"> <li>• identify if a given solution for a design problem solved the problem, or</li> <li>• compare two solutions to a given problem, or</li> <li>• determine if a specific change to a given design improves the design's ability to meet the desired results, or</li> <li>• compare data of two simple test design models.</li> </ul>	<ul style="list-style-type: none"> <li>• determine a simple solution to a design problem that reflects a need or want, and/or</li> <li>• generate and/or compare two or more possible solutions to a given problem based on how well each solution is likely to meet specified desired results, and/or</li> <li>• identify the change and/or changes needed to a given design to improve the design's ability to meet the desired results, and/or</li> <li>• compare data of two or more test design models to determine which model would best lead to an improved design.</li> </ul>	<ul style="list-style-type: none"> <li>• determine a solution to a design problem that reflects a need or want that includes a constraint on materials, and</li> <li>• generate and compare possible solutions to a problem based on how well each solution is likely to meet specified desired results, and</li> <li>• use the results of fair test(s) to describe the changes needed to a given design to improve the design's ability to meet the desired results, and</li> <li>• compare data of two or more test design models to rank the models for an improved design.</li> </ul>
<p><b>*May include students using standard accommodations as determined by their Individualized Education Program</b>  <b>**Consistently refers to students who would be able to demonstrate understanding about 80% of the time or better</b></p>			