

DRAFT SCIENCE ALTERNATE EXPECTATIONS: GRADE 2

Topic Bundle: Structure and Properties of Matter

Target Alternate Expectation	Michigan Range of Complexity		
	High Range	Medium Range	Low Range
Michigan K-12 Science Content Standard: 2-PS1-1 . Plan and conduct an investigation to describe and classify different kinds of materials by their observable properties.			
EE.2-PS1-1: Given steps and vastly different materials, plan and conduct an investigation to describe and classify different kinds of materials by their observable properties.	EE.2-PS1-H.1: Given steps and vastly different materials, plan and conduct an investigation to describe and classify different kinds of materials by their observable properties.	EE.2-PS1-M.1: Given steps and vastly different materials, conduct an investigation to describe and classify different kinds of materials by their observable properties.	EE.2-PS1-L.1: Sort items by observable properties (the way they look and/or feel).

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Target Alternate Expectation	Michigan Range of Complexity		
	High Range	Medium Range	Low Range
<p>Michigan K-12 Science Content Standard: 2-PS1-2. Analyze data obtained from testing different materials to determine which materials have the properties that are best suited for an intended purpose.*</p>			
<p>EE.2-PS1-2: Use data obtained from testing different materials to determine which materials have the properties that are best suited for an intended purpose.</p>	<p>EE.2-PS1-H.2: Use data obtained from testing different materials to determine which materials have the properties that are best suited for an intended purpose.</p>	<p>EE.2-PS1-M.2: Use data obtained from testing different materials to identify materials that have the properties that are best suited for a familiar intended purpose.</p>	<p>EE.2-PS1-L.2: Given a familiar intended purpose and vastly different materials, select the material most appropriate for the purpose.</p>

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Target Alternate Expectation	Michigan Range of Complexity		
	High Range	Medium Range	Low Range
<p>Michigan K-12 Science Content Standard: 2-PS1-3. Make observations to construct an evidence-based account of how an object made of a small set of pieces can be disassembled and made into a new object.</p>			
<p>EE.2-PS1-3: Use observations to determine that an object can be disassembled and reassembled into a new object.</p>	<p>EE.2-PS1-H.3: Use observations to determine that an object can be disassembled and reassembled into a new object.</p>	<p>EE.2-PS1-M.3: Given options, identify whether an object can be disassembled and reassembled into a new object.</p>	<p>EE.2-PS1-L.3: Given a familiar object comprised of a small set of pieces, recognize that it can be disassembled and reassembled.</p>

Topic Bundle: Structure and Properties of Matter

Target Alternate Expectation	Michigan Range of Complexity		
	High Range	Medium Range	Low Range
<p>Michigan K-12 Science Content Standard: 2-PS1-4. Construct an argument with evidence that some changes caused by heating or cooling can be reversed and some cannot.</p>			
<p>EE.2-PS1-4: Use observations of familiar substances to describe that, with heat or cold, matter can change state.</p>	<p>EE.2-PS1-H.4: Use observations of familiar substances to describe that, with heat or cold, matter can change state.</p>	<p>EE.2-PS1-M.4: Use observations of familiar substances to determine that, with heat or cold, matter can change state.</p>	<p>EE.2-PS1-L.4: Given familiar substances, identify that substances change when exposed to heat and/or cold.</p>

Topic Bundle: Interdependent Relationships in Ecosystems

Target Alternate Expectation	Michigan Range of Complexity		
	High Range	Medium Range	Low Range
Michigan K-12 Science Content Standard: 2-LS2-1. Plan and conduct an investigation to determine if plants need sunlight and water to grow.			
EE.2-LS2-1: Given choices of materials and steps, plan and conduct an investigation to determine if plants need sunlight and water to grow.	EE.2-LS2-H.1: Given choices of materials and steps, plan and conduct an investigation to determine if plants need sunlight and water to grow.	EE.2-LS2-M.1: Given the steps and a choice of materials, conduct an investigation to determine if plants need sunlight and/or water to grow.	EE.2-LS2-L.1: After participating in an investigation, recognize that plants need sunlight and/or water to grow.

Topic Bundle: Interdependent Relationships in Ecosystems

Target Alternate Expectation	Michigan Range of Complexity		
	High Range	Medium Range	Low Range
<p>Michigan K-12 Science Content Standard: 2-LS2-2. Develop a simple model that mimics the function of an animal in dispersing seeds or pollinating plants.</p>			
<p>EE.2-LS2-2: Develop a simple model that mimics the function of an animal in dispersing seeds or pollinating plants.</p>	<p>EE.2-LS2-H.2: Develop a simple model that mimics the function of an animal in dispersing seeds or pollinating plants.</p>	<p>EE.2-LS2-M.2: Given clearly different models, identify a model that mimics the function of an animal in dispersing seeds or pollinating plants.</p>	<p>EE.2-LS2-L.2: Recognize that animals (including humans) disperse seeds.</p>

Topic Bundle: Interdependent Relationships in Ecosystems

Target Alternate Expectation	Michigan Range of Complexity		
	High Range	Medium Range	Low Range
Michigan K-12 Science Content Standard: 2-LS4-1. Make observations of plants and animals to compare the diversity in different habitats.			
EE.2-LS4-1: Make observations of plants and animals to compare the diversity in different habitats.	EE.2-LS4-H.1: Make observations of plants and animals to compare the diversity in different habitats.	EE.2-LS4-M.1: Make observations of animals to identify different types of animals and their habitats.	EE.2-LS4-L.1: Given a familiar animal and options of habitats, match the animal to its habitat.

Topic Bundle: Earth’s Systems: Processes that Shape the Earth

Target Alternate Expectation	Michigan Range of Complexity		
	High Range	Medium Range	Low Range
<p>Michigan K-12 Science Content Standard: 2-ESS1-1: Use information from several sources to provide evidence that Earth events can occur quickly or slowly.</p>			
<p>EE.2-ESS1-1: Use information from familiar sources to identify Earth events that occur slowly and Earth events that occur quickly.</p>	<p>EE.2-ESS1-H.1: Use information from familiar sources to identify Earth events that occur slowly and Earth events that occur quickly.</p>	<p>EE.2-ESS1-M.1: Use information from a familiar source to identify Earth events that occur slowly and Earth events that occur quickly.</p>	<p>EE.2-ESS1-L.1: Given a demonstration or real experience of Earth events, identify whether the event occurred quickly or slowly.</p>

Topic Bundle: Earth's Systems: Processes that Shape the Earth

Target Alternate Expectation	Michigan Range of Complexity		
	High Range	Medium Range	Low Range
Michigan K-12 Science Content Standard: 2-ESS2-1: Compare multiple solutions designed to slow or prevent wind or water from changing the shape of the land.			
EE.2-ESS2-1: Given solutions, identify which solution is designed to better slow or prevent wind and/or water from changing the shape of the land.	EE.2-ESS2-H.1: Given solutions, identify which solution is designed to better slow or prevent wind and/or water from changing the shape of the land.	EE.2-ESS2-M.1: Given options, identify which is a solution designed to slow or prevent wind or water from changing the shape of the land.	EE.2-ESS2-L.1: Given a problem of running water where it should not go, demonstrate understanding that water can be stopped or diverted.

Topic Bundle: Earth's Systems: Processes that Shape the Earth

Target Alternate Expectation	Michigan Range of Complexity		
	High Range	Medium Range	Low Range
<p>Michigan K-12 Science Content Standard: 2-ESS2-2: Develop a model to represent the state of Michigan and the Great Lakes, or a more local land area and water body.</p>			
<p>EE.2-ESS2-2: Identify parts of a model that represent the state of Michigan and the Great Lakes, or a more local land area and water body.</p>	<p>EE.2-ESS2-H.2: MI specific: Identify parts of a model that represent the state of Michigan and the Great Lakes, or a more local land area and water body.</p>	<p>EE.2-ESS2-M.2: Given a model of the local/familiar environment, identify parts that represent landforms and/or bodies of water.</p>	<p>EE.2-ESS2-L.2: Given a model of a local environment, identify at least one part that represents landforms or bodies of water.</p>

Topic Bundle: Earth’s Systems: Processes that Shape the Earth

Target Alternate Expectation	Michigan Range of Complexity		
	High Range	Medium Range	Low Range
Michigan K-12 Science Content Standard: 2-ESS2-3: Obtain information to identify where water is found on Earth, including the Great Lakes and Great Lakes Basin.			
EE.2-ESS2-3: Given familiar information, identify where water is found on Earth (including the Great Lakes), and that it can be solid or liquid.	EE.2-ESS2-H.3: Given familiar information, identify where water is found on Earth (including the Great Lakes), and that it can be solid or liquid.	EE.2-ESS2-M.3: Given familiar information, identify where water is found on Earth (including the Great Lakes) or in a local area, and identify the observed state as either solid or liquid.	EE.2-ESS2-L.3: Given familiar information, identify where groundwater is found in the local environment.

Topic Bundle: Engineering Design

Target Alternate Expectation	Michigan Range of Complexity		
	High Range	Medium Range	Low Range
Michigan K-12 Science Content Standard: K-2-ETS1-1 . Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.			
EE.K-2-ETS1-1a: Demonstrate and use emerging awareness about a situation people want to change or a problem that needs to be solved.	EE.K-2-ETS1-H.1a: Demonstrate and use emerging awareness about a situation people want to change or a problem that needs to be solved.	EE.K-2-ETS1-M.1a: Demonstrate and use emerging awareness about a situation people want to change or a problem that needs to be solved.	EE.K-2-ETS1-L.1a: Demonstrate and use emerging awareness about a situation people want to change or a problem that needs to be solved.
EE.K-2-ETS1-1b: Given a menu of options, select appropriate questions about a situation people want to change or a problem that needs to be solved.	EE.K-2-ETS1-H.1b: Given a menu of options, select appropriate questions about a situation people want to change or a problem that needs to be solved.	EE.K-2-ETS1-M.1b: With guidance and support, ask an appropriate question about a situation people want to change or a problem that needs to be solved.	EE.K-2-ETS1-L.1b: Given an observation of a problem solved by an adult, identify the solution selected when presented with a choice of two possible solutions.
EE.K-2-ETS1-1c: Given clearly different options, choose a tool or object that can be used to solve a problem.	EE.K-2-ETS1-H.1c: Given clearly different options, choose a tool or object that can be used to solve a problem.	EE.K-2-ETS1-M.1c: Given clearly different options, choose a tool or object that can be used to solve a problem.	EE.K-2-ETS1-L.1c: Given two vastly different options, identify a tool or object that can be used to solve a problem.

Topic Bundle: Engineering Design

Target Alternate Expectation	Michigan Range of Complexity		
	High Range	Medium Range	Low Range
<p>Michigan K-12 Science Content Standard: K-2-ETS1-2. Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem.</p>			
<p>K-2-ETS1-2.a: When presented with a problem and a collection of tools, materials, or objects that are significantly different shapes, choose the tool, material, or object that will help solve the problem.</p>	<p>K-2-ETS1-H.2.a: When presented with a problem and a collection of tools, materials, or objects that are significantly different shapes, choose the tool, material, or object that will help solve the problem.</p>	<p>K-2-ETS1-M.2.a: When presented with a problem and a collection of tools, materials, or objects that are significantly different shapes, choose the tool, material, or object that will help solve the problem.</p>	<p>K-2-ETS1-L.2: When presented with a problem and tools, choose the tool that will help solve the problem.</p>
<p>K-2-ETS1-2.b: Demonstrate how the shape of a tool, material, or object helps solve the problem.</p>	<p>K-2-ETS1-H.2.b: Demonstrate how the shape of a tool, material, or object helps solve the problem.</p>	<p>K-2-ETS1-M.2.b: Identify that the shape of a tool, material, or object helps solve the problem.</p>	

Topic Bundle: Engineering Design

Target Alternate Expectation	Michigan Range of Complexity		
	High Range	Medium Range	Low Range
<p>Michigan K-12 Science Content Standard: K-2-ETS1-3. Analyze data from tests of two objects designed to solve the same problem to compare the strengths and weaknesses of how each performs.</p>			
<p>EE.K-2-ETS1-3: Use observational data from tests of two objects designed to solve the same problem to compare how two tools, materials, or objects do or do not solve the same problem.</p>	<p>EE.K-2-ETS1-H.3: Use observational data from tests of two objects designed to solve the same problem to compare how two tools, materials, or objects do or do not solve the same problem.</p>	<p>EE.K-2-ETS1-M.3: Use observational data from tests of two vastly different objects designed to solve the same problem to compare how two tools, materials, or objects do or do not solve the same problem.</p>	<p>EE.K-2-ETS1-L.3: Given a familiar problem and two vastly different objects, identify which one solves the problem.</p>