

2nd Grade Content Statement

Ohio Science Standards & Model Curriculum

	Earth and Space Science (ESS)			Life Science (LS)	
	The Atmosphere: The atmosphere is made up of air.	The Atmosphere: Water is present in air.	The Atmosphere: Long and short-term weather changes occur due to changes in energy.	Interactions within Habitats: Living things cause changes on Earth	Interactions within Habitats: Some kinds of individuals that once lived on Earth have completely disappeared, although they were something like others that are alive today
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Landscape Model				X	
Water Cycle	X	X	X		
Worms - Composting				X	

Landscape Model -Using a 3-dimensional watershed model, students can easily see the relationships between humans, animals, and the environment. They will learn about the ways living things impact the environment, and how this impacts living things.

Water Cycle - Through this adapted Project WET game, students will become a molecule of water and travel through their own water cycle. Along the way, they will understand the concepts of evaporation, condensation, precipitation and transpiration.

Worms, Composting - A worm bin will be brought into the classroom so participants can have a hands-on experience with the worms and investigate why the underground world is so important to us.

3rd Grade Content Statement

Ohio Science Standards & Model Curriculum

	Earth and Space Science (ESS)			Physical Science (PS)		Life Science (LS)		
	Earth's Resources: Earth's non-living resources have specific properties.	Earth's Resources: Earth's resources can be used for energy.	Earth's Resources: Some of Earth's resources are limited.	Matter and Forms of Energy: Matter exists in different states, each of which has different properties.	Matter and Forms of Energy: All objects and substances in the natural world are composed of matter.	Behavior, Growth and Changes: Offspring resembles their parents and each other.	Behavior, Growth and Changes: Individuals of the same kind differ in their traits & sometimes the differences give individuals an advantage in surviving & reproducing.	Behavior, Growth and Changes: Plants and animals have life cycles that are part of their adaptations for survival in their natural environment
Soils	X		X					
Soils trailer	X	X	X					
Soil Formation	X		X		X			
Worms						X	X	X
Bird Beak Buffet						X	X	
Adaptations						X		X

Soils - After discussing the importance of soil, students will then participate in activities and experiments looking at soil properties

Soils trailer - This award winning trailer designed to look like you are underground can be brought to your school for students to explore. Typically works best with half a class at once, so while some students are exploring the other students can be conducting experiments outside.

Soil Formation Stations - In this activity five hands-on science stations will explore weathering, erosion and deposition!

Worms - A worm bin will be brought into the classroom so participants can have a hands-on experience with the worms and investigate why the underground world is so important to us.

Bird Beak Buffet - Not all beaks are the same, which means not every bird has the same diet! In this adaptation activity children will use different "beaks" to try and pick up a variety of food to see what sticks. Participants will learn what an adaptation is and how important and unique they are to

Adaptations - In this lesson students will be introduced to beavers; learn about their life cycle, and find out how they are adapted to their environment.

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4th Grade Content Statement

Ohio Science Standards & Model Curriculum

	Earth and Space Science (ESS)			Physical Science (PS)		Life Science (LS)	
	Earth's Surface: Earth's surface has specific characteristics and landforms that can be identified.	Earth's Surface: The surface of Earth changes due to weathering.	Earth's Surface: The surface of Earth changes due to erosion and deposition.	Electricity, Heat and Matter : The total amount of matter is conserved when it undergoes a change.	Electricity, Heat and Matter: Energy can be transformed from one form to another or can be transferred from one location to another	Earth's Living History: Changes in an organism's environment are sometimes beneficial to its survival and sometimes harmful.	Earth's Living History: Fossils can be compared to one another and to present day organisms according to their similarities and differences.
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Streams Table	X	X	X	X	X		
Ohio Fossils						X	X
Topographic Maps	X		X				
Augmented Reality Sandtable	x		x				

Streams Table - Using this hands-on model, students will explore erosion, deposition, landforms and more. Table uses sand and water and so can be messy. Cannot be moved once set up.

Ohio Fossils - We'll talk about fossils and what makes our area so unique, including the geology and the types of fossils found here. We will discuss extinction and ancient organism's connections to things living today! After the discussion, students will be given time to

Topographic Maps- Students will learn how a 2D map can show landforms in a 3D world. Students will work in small teams to make their own top map from a model landform.

Augmented Reality Sandtable - Through this interactive model, students will learn ways in which water shapes the land, and will gain an understanding of topographic maps. This program also includes a discussion on careers.

5th Grade Content Statement

Ohio Science Standards & Model Curriculum

Life Science (LS)

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Interactions within Ecosystems: Organisms perform a variety of roles in an ecosystem.

Interactions within Ecosystems: All of the processes that take place within organisms require energy

Black Bears	X	
Creek Critters	X	X
Beavers	X	
Food Webs	X	X
Invasive Species	X	

Black Bears - After learning about Ohio's Black Bears, students will become bears in an activity that involves math.

Creek Critters - Two fake streams will be set up in the classroom for students to compare. Then students will identify a variety of stream organisms while exploring their roles in the stream ecosystem.

Beavers - Students will learn about these amazing aquatic mammals and the important role they play changing their ecosystem.

Food Webs - What is the difference between a food chain and a food web? Who are the producers and consumers in Ohio? This lesson includes an activity called Energy Pipeline from Project WILD that looks at energy moving through the food chain.

Invasive Species - Students will learn about invasive species in Ohio, characteristics that make species good invaders, factors that can influence plant community assembly, and the role that people play in causing and proliferating invasions.

6th Grade Content Statement

Ohio Science Standards & Model Curriculum

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	Rocks, Minerals and Soil: Minerals have specific, quantifiable properties.	Rocks, Minerals and Soil: Igneous, metamorphic and sedimentary rocks have unique characteristics that can be used for identification and/or classification.	Rocks, Minerals and Soil: Igneous, metamorphic and sedimentary rocks form in different ways.	Rocks, Minerals and Soil: Soil is unconsolidated material that contains nutrient matter and weathered rock.	Rocks, Minerals and Soil: Rocks, minerals and soils have common and practical uses	Matter and Motion: All matter is made up of small particles called atoms.	Cellular to Multicellular: Living systems at all levels of organization demonstrate the complementary nature of structure and function.
	Rock Cycle	X	X	X		X	
	Mineral Mayhem	X				X	
	Soils			X	X		

Rock Cycle - After discussing rocks and minerals, students will participate in an activity where they are a rock travelling through a rock cycle.

Mineral Mayhem - after learning about the differences between rocks and minerals, students will test mineral properties and ID the minerals by using a dichotomous key.

Soils - Students will learn all about soils, including its importance, properties and more. This discussion will end with a few demonstrations looking at texture, color, composition and more.

7th Grade Content Statement

Ohio Science Standards & Model Curriculum

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	Earth and Space Science (ESS)	Physical Science (PS)	Life Science (LS)	
	Cycles and Patterns of Earth and the Moon: The hydrologic cycle illustrates the changing states of water as it moves through the lithosphere, biosphere, hydrosphere and atmosphere.	Conservation of Mass and Energy: Energy can be transformed or transferred but is never lost	Cycles of Matter and Flow of Energy : Matter is transferred continuously between one organism to another and between organisms and their physical environments.	Cycles of Matter and Flow of Energy : In any particular biome, the number, growth and survival of organisms and populations depend on biotic and abiotic factors
Where does water Run?	X		x	x
There is No Point to this Pollution	X			x
Topographic Maps	X			
Groundwater	X			
Water Cycle	X	X	X	
Energy Pipeline		X	X	X
Sustainable Water	X	X	X	X

Where does water run? - This math lesson looks at the amount of water that falls in a given area and the problems that this stormwater can cause.

There is no point to this pollution - This activity from Healthy Water, Healthy People has students attempt to solve a fictitious water quality problem within their watershed using maps and analyzing data.

Topographic Maps - Students will learn how a 2D map can show landforms in a 3D world. Students will work in small teams to make their own top map from a model landform.

Groundwater - through the use of a model, students will learn about the connection between surface and groundwater and the way that contamination can move through the system.

Water Cycle- Through this activity, students will learn about the flow of water through the spheres while being introduced to the flow of contamination

Energy Pipeline - This interactive game from Project Wild illustrates how energy moves through a food chain.

Sustainable Water - In this lesson students will be learn about direct and indirect water use and determine food choices that lower their water footprint.

8th Grade Content Statement

Ohio Science Standards & Model Curriculum

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	Physical Earth: The composition and properties of Earth's interior are identified by the behavior of seismic waves.	Physical Earth: Earth's crust consists of major and minor tectonic plates that move relative to each other.	Physical Earth: A combination of constructive and destructive geologic processes formed Earth's surface.	Physical Earth: Evidence of the dynamic changes of Earth's surface through time is found in the geologic record	Species and Reproduction: Diversity of species occurs through gradual processes over many generations. Fossil records provide evidence that changes have occurred in number and types of species.	Species and Reproduction: Reproduction is necessary for the continuation of every species.	Species and Reproduction: The characteristics of an organism are a result of inherited traits received from parent(s).
	Earthquakes	X	X	X			
	Bottleneck Genes						X
	Fossils & Geo Time					X	
Augmented Reality Sandtable			X				

Earthquakes - Students plot recent earthquakes on maps and examine how various process change the earth's surface.

Bottleneck Genes - through a lesson on Black Footed Ferrets, students will examine how traits can influence the survival of creatures.

Fossils & Geologic Time - we will discuss geologic time and the various methods used for dating. Students will participate in two relative dating activities. The program ends with students examining fossils while comparing them to present day relatives.

Augmented Reality Sandtable - Through this interactive model, students will learn ways in which water shapes the land, and will gain an understanding of topographic maps. This program also includes a discussion on careers.