



The Mahoning Soil and Water Conservation District Education Team provides interactive presentations to students in both formal and informal settings. All of the programs listed have been correlated with Ohio's New Learning Standards for Earth and Space, Physical, and Life Sciences. To utilize the guide, locate your specific grade level, the curriculum content statement and the aligned programs will be listed.

Grade Level	Topic	Program	Program Description
Pre K-3	Environmental Awareness Human Impact	Francis the Fish	Students portray characters in a local community and observe how everyday actions may impact water quality in our local streams. The program concludes with a brainstorming of positive environmental habits.
Pre K-3	Life Sciences Animals	Wildlife is Everywhere!	Children make observations and understand that wildlife is all around us.
Pre K-3	Environmental Awareness Water	Aqua Charades	Children explore the importance of water for people, animals, and plants.
K-4	Life Sciences Aquatic Animals	Are You Me?	Students will recognize various young stages of aquatic animals and match them with corresponding adult stages.
K-4	Natural Resources Agriculture	Soil to Spoon	Students will learn the essential role of soil in food production. It highlights conservation efforts by farmers, emphasizes the collaborative nature of food production, and promotes sustainable behaviors for soil conservation.
2-8	Natural Resources Plants	The Power of Native Plants	Students learn the importance of native plants and pollinators. Students explore plant parts and their uses. The role of plants in the Stabilization of soil and filtering of stormwater runoff may be addressed.

4-8	Environmental Awareness Water Quality/Human Impact	What's in Our Water?	Using the <i>EnviroScape watershed model</i> , students observe changes in water quality when rain and land pollutants mix. Runoff, erosion, point and non-point source pollution concepts are addressed.
4-8	Natural Resources Soil	Soil Sleuths	Students will conduct an experiment to show how physical properties of soil, like grain size and how those grains cluster together, can influence how much water passes into and through it.
4-12	Life Sciences Aquatic Animals	Macroinvertebrate Mayhem	Students explore their influence on water quality through the identification of insects in a stream, recognizing aquatic insects as valuable indicators of water quality.
5-8	Natural Resources Soil	ECO-Enrichers	Students will evaluate the contributions of plant and animal matter to soil, and recognize that wildlife in many forms contribute to the diversity and balance of ecological systems
6-12	Environmental Awareness Ground Water/Water Quality	Ground Water Model	Students can observe the dynamics of water flowing underground and discover how a contaminated well can affect the quality of water miles away through this model.
9-12	Environmental Awareness Water Quality	Water Quality Monitoring	Students will acquire skills in field testing, observation, hypothesis creation, data collection, analysis, and graphical communication. Hands-on testing of parameters will provide practical insights for environmental stewardship and water conservation.

**Ohio Science Standards and Model Curriculum Content
Statement
Kindergarten Programs**

Kindergarten	Earth and Space Science (ESS)	Physical Science (PS)	Life Science (LS)
Program	<ul style="list-style-type: none"> • Weather Changes are long-term and short term. • The moon, sun, and stars are visible at different times of the day. 	<ul style="list-style-type: none"> • Objects and materials can be sorted and described by their properties. • Some objects and materials can be made to vibrate to produce sound. 	<ul style="list-style-type: none"> • Living things are different from nonliving things. • Living things have physical traits and behaviors, which influence their survival.
Francis the Fish			X
Wildlife is Everywhere!			X
Are You Me?			X
Aqua Charades			X
Soil to Spoon			X

Ohio Science Standards and Model Curriculum Content Statement

1st Grade Programs

1 st Grade	Earth and Space Science (ESS)	Physical Science (PS)	Life Science (LS)
Program	<ul style="list-style-type: none"> The sun is the principal source of energy. The physical properties of water change. 	<ul style="list-style-type: none"> Properties of objects and materials can change. Objects can be moved in a variety of ways, such as straight, zigzag, circular and back and forth. 	<ul style="list-style-type: none"> Living things have basic needs, which are met by obtaining materials from the physical environment. Living things survive only in environments that meet their needs.
Francis the Fish			X
Wildlife is Everywhere!			X
Are You Me?			X
Aqua Charades	X		X
Soil to Spoon			X

**Ohio Science Standards and Model Curriculum Content
Statement
2nd Grade Programs**

2nd Grade	Earth and Space Science (ESS)	Physical Science (PS)	Life Science (LS)
Program	<ul style="list-style-type: none"> • The atmosphere is made up of air. • Water is present in the air. • Long and short-term weather changes occur due to changes in energy. 	<ul style="list-style-type: none"> • Forces change the motion of an object. 	<ul style="list-style-type: none"> • Living things cause changes on Earth. • Some kinds of individuals that once lived on Earth have completely disappeared, although they were something like others that are alive today.
Francis the Fish			X
Wildlife is Everywhere!			X
Are You Me?			X
Aqua Charades			X
Soil to Spoon			X
The Power of Native Plants			X

Ohio Science Standards and Model Curriculum Content Statement 3rd Grade Programs

3 rd Grade	Earth and Space Science (ESS)	Physical Science (PS)	Life Science (LS)
Program	<ul style="list-style-type: none"> • Earth's nonliving resources have specific properties. • Earth's resources can be used for energy. • Some of Earth's resources are limited. 	<ul style="list-style-type: none"> • All objects and substances in the natural world are composed of matter. • Matter exists in different states, each of which has different properties. 	<ul style="list-style-type: none"> • Offspring resemble their parents. • Individuals of the same kind differ in their traits and sometimes the differences give individuals an advantage in surviving and reproducing. • Plants and animals have life cycles that are part of their adaptations for survival in nature.
Francis the Fish			X
Wildlife is Everywhere!			X
Are You Me?			X
Aqua Charades			X
Soil to Spoon	X	X	X
The Power of Native Plants		X	X

Ohio Science Standards and Model Curriculum Content Statement

4th Grade Programs

4 th Grade	Earth and Space Science (ESS)	Physical Science (PS)	Life Science (LS)
Program	<ul style="list-style-type: none"> Earth's surface has specific characteristics and landforms that can be identified. The surface of Earth changes due to weathering. The surface of Earth changes due to erosion and deposition. 	<ul style="list-style-type: none"> The total amount of matter is conserved when it undergoes a change. Energy can be transformed from one form to another or can be transferred from one location to another. 	<ul style="list-style-type: none"> Changes in an organism's environment are sometimes beneficial to its survival and sometimes harmful. Fossils can be compared to one another and to present day organisms according to their similarities and differences.
Are You Me?			X
Soil to Spoon		X	
The Power of Native Plants			X
What's in Our Water?	X		X
Soil Sleuths	X		X
Macroinvertebrate Mayhem			X

Ohio Science Standards and Model Curriculum Content Statement

5th Grade Programs

5th Grade	Earth and Space Science (ESS)	Physical Science (PS)	Life Science (LS)
Program	<ul style="list-style-type: none"> The solar system includes the sun and all celestial bodies that orbit the sun. Each planet in the solar system has unique characteristics. The sun is one of many stars that exist in the universe. 	<ul style="list-style-type: none"> The amount of change in movement of an object is based on the mass of the object and the amount of force exerted. Light and sound are forms of energy that behave in predictable ways. 	<ul style="list-style-type: none"> Organisms perform a variety of roles in an ecosystem. All of the processes that take place within organisms require energy.
The Power of Native Plants			X
What's in Our Water?			X
Soil Sleuths			X
Macroinvertebrate Mayhem			X
ECO- Enrichers			X

Ohio Science Standards and Model Curriculum Content Statement
6th Grade Programs

6th Grade	Earth and Space Science (ESS)	Physical Science (PS)	Life Science (LS)
Program	<ul style="list-style-type: none"> Minerals have specific, quantifiable properties. Igneous, metamorphic, and sedimentary rocks have unique characteristics that can be used for identification/classification. Soil is unconsolidated material that contains nutrient matter and weathered rock. Rocks, minerals, and soils have common and practical uses. 	<ul style="list-style-type: none"> All matter is made up of small particles called atoms. Changes of state are explained by a model of matter composed of atoms and/or molecules that are in motion. There are two categories of energy; kinetic and potential. An object's motion can be described by speed and direction. 	<ul style="list-style-type: none"> Cells are the fundamental unit of life. All cells come from pre-existing cells. Cells carry on specific functions that sustain life. Living systems at all levels of organization demonstrate the complementary nature of structure and function.
The Power of Native Plants			X
What's in Our Water?			X
Soil Sleuths	X		X
Macroinvertebrate Mayhem			X
ECO- Enrichers	X		X
Groundwater Model			X

Ohio Science Standards and Model Curriculum Content Statement

7th Grade Programs

7 th Grade	Earth and Space Science (ESS)	Physical Science (PS)	Life Science (LS)
Program	<ul style="list-style-type: none"> The hydrologic cycle illustrates the changing states of water as it moves through the lithosphere, biosphere, hydrosphere, and atmosphere. Thermal-energy transfers in the ocean and the atmosphere contribute to the formation of currents, which influence global climate patterns. The atmosphere has different properties at different elevations and contains a mixture of gases that cycle through the lithosphere, biosphere, hydrosphere, and atmosphere. 	<ul style="list-style-type: none"> The properties of matter are determined by the arrangement of atoms. Energy can be transformed or transferred but is never lost. Energy can be transferred through a variety of ways. 	<ul style="list-style-type: none"> Matter is transferred continuously between one organism to another and between organisms and their physical environments. In any particular biome, the number, growth, and survival of organisms and populations depend on biotic and abiotic factors.
The Power of Native Plants			X
What's in Our Water?	X		X
Soil Sleuths			X
Macroinvertebrate Mayhem			X
ECO- Enrichers			X
Groundwater Model	X		X

Ohio Science Standards and Model Curriculum Content Statement

8th Grade Programs

8 th Grade	Earth and Space Science (ESS)	Physical Science (PS)	Life Science (LS)
Program	<ul style="list-style-type: none"> The composition and properties of Earth's interior are identified by behavior of seismic waves. Earth's crust consists of major and minor tectonic plates that move relative to each other. A combination of constructive and destructive geological processes formed the Earth's surface. Evidence of the dynamic changes of Earth's surface through time is found in the geological record. 	<ul style="list-style-type: none"> Forces between objects act when the objects are in direct contact or when they are not touching. Forces have magnitude and direction. There are different types of potential energy. 	<ul style="list-style-type: none"> Diversity of species occurs through gradual processes over many generations. Fossil records provide evidence that changes have occurred in number and types of species. Reproduction is necessary for the continuation of every species. The characteristics of an organism are a result of inherited traits received from the parent(s).
The Power of Native Plants			X
What's in Our Water?			X
Soil Sleuths	X		X
Macroinvertebrate Mayhem			X
ECO- Enrichers	X		X
Groundwater Model			X

Ohio Science Standards and Model Curriculum Content Statement High School Programs

High School	Environmental Science	Physical Geology	Biology
Program	<ul style="list-style-type: none"> • Earth Systems: Interconnected spheres of Earth. • Earth's Resources. • Global environmental problems and issues. 	<ul style="list-style-type: none"> • Minerals. • Igneous, metamorphic, and sedimentary rocks. • Earth's history. • Glacial geology. 	<ul style="list-style-type: none"> • Heredity. • Evolution. • Diversity and interdependence on life. • Cells.
Groundwater Model	X	X	
Water Quality Monitoring	X	X	

For inquiries regarding Mahoning Soil and Water's offerings for your classroom or to arrange a program, please get in touch with Zack Felger at (330) 740-7995 or via email at zachary.felger@mahoningcountyoh.gov.



Professional Development

Workshops

Experience the wonders of environmental education through hands-on, inquiry-based learning! Our workshops empower educators with the tools to enrich outdoor understanding, fostering scientific literacy, team-building skills, and critical thinking among students.

Mahoning County SWCD provides tailored teacher workshops for all grade levels, featuring flexible content to meet specific class needs. With a minimum of eight participants, these workshops cover diverse topics and may offer credits.

Program costs vary based on content and required materials.

Our workshops include Project WILD, Project WET, Project Learning Tree, Growing Up WILD, and Aquatic WILD.

For inquiries or to schedule a workshop, please contact Zack Felger at (330) 740-7995 or zachary.felger@mahoningcountyoh.gov.

