







Class Programs Offered by the Delaware Soil and Water Conservation District

Delaware Soil and Water Conservation District provides presentations to school classes, home school, and after school, scout and 4-H groups. All of the presentations have been correlated with the State Science Content Standard Grade Level Indicators for Earth and Space Sciences and for Life Sciences. The topics included are ecosystems, biodiversity and adaptations, natural resources, conservation, and human impact on the environment. The specific grade level indicators for each presentation are listed below. All programs are free of charge. Contact Dona Rhea at 740-368-1921 ext. 4 or dona-rhea@delawareswcd.org to schedule a program in your classroom.

First Grade

<u>Program</u>	<u>Presentation Description</u>	<u>Grade Level Indicators</u>
Tree Cookies  	Students look at tree's growth through its annual rings. Numerous tree stumps are brought into the classroom for students to observe patterns of change in the tree's life as well as changes in the area where it grows. Students will learn what trees need to live. Students are read "The Giving Tree," and get to make a tree cookie necklace to take home.	Life Sci 1.1 Earth Sci. 1.1, 1.3
My Cookie Came from Dirt 	Students use a specimen (chocolate chip cookie) and dissect it to determine where all the ingredients came from to make this cookie. All the cookie ingredients are traced back to the soil. This has to be completed in classrooms where ALL students are not allergic to peanuts or chocolate.	Life Sci 1.2, 1.4
Dirt Made My Lunch 	What is your favorite food that soil help to grow? Students discover that soil grows a lot of food for us. Red, black, brown, and gray soil paints are brought into the classroom for students to paint their favorite food that soil helped to grow. Students use chain links to assemble food chains.	Life Sci 1.2, Earth Sci 1.3, 1.4
Leaf Collages 	Boxes of dried leaves are brought into the classroom and students discover leaf shapes, sizes, and colors vary depending on the time of year, kind of tree, and its environment. Each student makes a leaf collage	Life Sci 1.1. 1.5 Earth Sci 1.1


Second Grade

Stream Studies 	Lets go to the stream. We will visit a nearby stream to find what lives in that ecosystem and what these organisms need to survive. Highbanks Metro Park in Lewis Center offers a great place to study land and water animals and plants.	Life Sci 2.1, 2.2, 2.3, 2.6, 2.7
Butterfly Activity	The complete metamorphosis can be easily study through some stream insects (macroinvertebrates) or through butterflies. EGG --> LARVA --> PUPA --> ADULT. Lots of children's books have been published based on this life cycle. Students will each make a complete metamorphosis book mark from noodles, pipe cleaners, and beans.	Life Sci 2.8




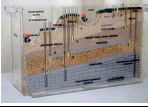
Third Grade

Soil Formation	Each student gets to use a 10-piece Rock and Mineral Set to discover the most common rocks and minerals in Ohio. Sedimentary, Metamorphic, Igneous rocks are taught, with an emphasis on sedimentary rocks. All students will be given sandstone rock and limestone rock to rub together to illustrate rocks weathering into minerals for soil formation.	Earth Sci 3.1, 3.2, 3.3, 3.4
Soil Profiles	Actual soil monoliths illustrating the soil layers are brought to the classroom to show organic matter, topsoil, subsoil, and parent material. By using cardstock, carpet tape, organic matter, top soil and subsoil students will make their own soil profiles.	Earth Sci 3.6


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Soil Play-Doh	Students are given representatives of sand, silt, and clay that lead to discovery of soil texture, particle size and capacity to retain water. After investigations students dump each material into a Ziploc bag to discover soil layers (often called horizons). Later, by adding organic matter, water and air, students make their own play-doh. Flour, corn starch, salt, and vegetable oil are the food products used in this experiment.	Earth Sci 3.5
The Sliding Soil	The concept of erosion is demonstrated with the soil erosion simulator. Students predict and compare the effects of rain falling on bare soil, mulched soil and grass. Soil formation, erosion, and conservation as well as water quality and landscape alterations are discussed.	Earth Sci 3.4, 3.5, 4.8, 4.10
Stream Studies 	Lets go to the stream. We will visit a nearby stream to find what lives in that ecosystem and what these organisms need to survive. Highbanks Metro Park in Lewis Center offers a great place to study land and water animals and plants.	3.1
Butterfly Activity	The complete metamorphosis can be easily study through some stream insects (macroinvertebrates) or through butterflies. EGG --> LARVA --> PUPA --> ADULT . Lots of children's books have been published based on this life cycle. Students will each make a complete metamorphosis book mark from noodles, pipe cleaners, and beans.	Life Sci 3.1, 3.2

Fourth Grade

The Sliding Soil	The concept of erosion is demonstrated with the soil erosion simulator. Students predict and compare the effects of rain falling on bare soil, mulched soil and grass. Soil erosion, quality and landscape alterations are discussed.	Earth Sci 4.10
Stream Studies 	Lets go to the stream. We will visit a nearby stream to find what lives in that ecosystem and what these organisms need to survive. Highbanks Metro Park in Lewis Center offers a great place to study plants as well.	Life Sci 4.2, 4.3
Enviroscape 	Concepts of water pollution, watershed, and human impact on the environment are visually demonstrated through the Envirscape model. Students will witness water quality changes when rain and land pollutants mix. Local, state, and national watersheds are mapped and students have to trace their school's watershed all the way to the Atlantic Ocean. They will learn how organisms interact with one another and depend upon one another with our precious water resource.	Life Sci 4.5
Streamulator 	This model stream demonstrates stream dynamics and erosion potential as the students experiment with stream bank stabilization, the forces of water, and stream velocities.	Earth Sci 4.10
Incredible Journey	With the roll of the die, students simulate the movement of water within the water cycle. All students become water molecules and move to stations where water is used or held like soil, plants, rivers, clouds, oceans, lakes, animals, ground water, and glaciers. As they move they identify the states of water throughout the water cycle. At the conclusion of the game students have to write a story describing their movement (freezing, thawing, evaporating, and transpiring) as a water molecule.	Earth Sci 4.2, 4.3
Groundwater Model 	The dynamics of water flowing far beneath our feet is shown as well as how contaminated wells can affect the quality of water in other wells miles away.	Earth Sci 4.2, 4.3

Fifth Grade

Stream Studies 	Lets go to the stream. We will visit a nearby stream to find what lives in that ecosystem and what these organisms need to survive. Highbanks Metro Park in Lewis Center offers a great place to study animals and plants.	Life Sci 5.4, 5.5, 5.6
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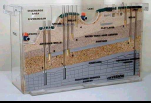

<p>Water Treatment Enviroscope</p> 	<p>This model allows students to pump surface water from a river, treat it, and go through an entire urban and rural community's various needs for water. Students then engage in wastewater treatment and release. Great discussions on maintain and using the earth's renewable resource, fresh water.</p>	<p>Earth Sci 5.5, 5.6</p>
<p>Streamulator</p> 	<p>This model stream demonstrates stream dynamics and erosion potential as the students experiment with stream bank stabilization, the forces of water, and stream velocities.</p>	<p>Earth Sci 5.5, 5.6</p>
<p>Groundwater Model</p> 	<p>The dynamics of water flowing far beneath our feet is shown as well as how contaminated wells can affect the quality of water in other wells miles away.</p>	<p>Earth Sci 5.5, 5.6</p>
<p>Enviroscope</p> 	<p>Concepts of water pollution, watershed, and human impact on the environment are visually demonstrated through the Enviroscope model. Students will witness water quality changes when rain and land pollutants mix. Local, state, and national watersheds are mapped and students have to trace their school's watershed all the way to the Atlantic Ocean. They will learn how organisms interact with one another and depend upon one another with our precious water resource.</p>	<p>Earth Sci 5.5, 5.6</p>

There are many more programs available for these age groups as well as kindergarteners and grades 6 – 12. Please call the office or e-mail Dona Rhea to request programs for middle school and high school students. See the next few pages for a list of models and activity curriculums.

For more information contact Dona Rhea at 740-368-1921 or dona-rhea@delawareswcd.org

Models

Delaware Soil and Water Conservation District has subject models for loan to schools, home schools, scouts and 4-H groups. All of the loan models have been correlated with current State Science Content Standard Grade Level Indicators for Earth and Space Sciences and for Life Sciences. The topics included are ecosystems, biodiversity, adaptations, natural resources, conservation, and human impact on the environment. Training sessions with “how to use” strategies for the loan models are available upon request. Dona Rhea from the Delaware SWCD can come to the school to conduct the program using any of these models, or schools can use them on their own.

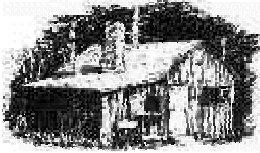
Model	Description	Grade
Water Treatment Enviroscape 	This model allows students to pump surface water from a river, treat it, and go through an entire urban and rural community’s various needs for water. Students then engage in wastewater treatment and release. Great discussions on maintain and using the earth’s renewable resource, fresh water.	5 – 12
Streamulator 	This model stream demonstrates stream dynamics and erosion potential as the students experiment with stream bank stabilization, the forces of water, and stream velocities.	4 – 12
Groundwater Model 	The dynamics of water flowing far beneath our feet is shown as well as how contaminated wells can affect the quality of water in other wells miles away.	9 – 12
Enviroscape 	Concepts of water pollution, watershed, and human impact on the environment are visually demonstrated through the Enviroscape model. Students will witness water quality changes when rain and land pollutants mix. Local, state, and national watersheds are mapped and students have to trace their school’s watershed all the way to the Atlantic Ocean. They will learn how organisms interact with one another and depend upon one another with our precious water resource.	K – 12
Soil Erosion Simulator Model	Demonstrated in this model is how the forces of rain affect different landscapes in the environment. Students can hypothesize, run the experiment, then compare the runoff from bare soil, mulch soil, and grass.	3 – 8

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Conservation and Environmental Education Activities

Each curriculum has numerous activities, objectives, and topics that can be covered, spanning over many grade levels.

Leopold Education Project



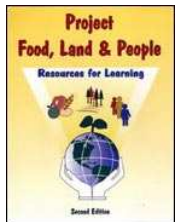
LEP is a literature-based curriculum for grades 6-12. Aldo Leopold's A Sand County Almanac and supporting activities and materials are used to heighten awareness of the natural world in order to instill an environmental ethic among tomorrow's earth stewards. The objective is to teach students to see the land, to understand what they see, and to enjoy and care for what they understand.

www.lep.org

Project Food, Land and People



FLP materials deal with the complexity and interdependence of agricultural, environmental, economic, and cultural issues and help students in grades K-12 understand how food and fiber production relates to the environment and people. The lessons help educators foster in students the development of a knowledge base, critical thinking, problem solving skills and a stewardship ethic toward our land and agricultural resources. www.foodlandpeople.org



Project Learning Tree

PLT uses trees and forests to help students gain an awareness and knowledge of the natural resources in the world around them as well as their place in it. The curriculum stresses the development of critical thinking skills and encourages students in grades pre K-8 to make wise decisions and take responsible action in complex environmental issues. www.plt.org

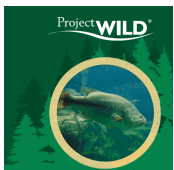


Project WET (Water Education For Teachers)



WET promotes awareness, appreciation, knowledge and stewardship for our water resources in K-12 students. All aspects of water are introduced including the water cycle, characteristics of water, surface and ground water, use in various cultures throughout history, and water-related problems and issues. www.projectwet.org

Project WILD/Aquatic WILD



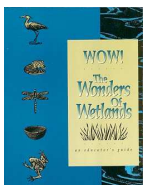
These WILD materials investigate the worlds of wildlife and their habitats on land and in the water to help prepare youth in grades K-1 2 make decisions which affect people, wildlife and our other natural resources. www.projectwild.org



Wonders Of Wetlands



WOW uses innovative ways to teach students in grades K-12 the characteristics, functions and the values of wetlands to the environment. Both the living and non-living factors of wetlands and their interrelationships are examined to enable students to better understand these rapidly disappearing ecosystems. <https://sslsrver.com/wetland.org/shop/mainpub.shtml?id=pub1>



Getting the Dirt on Soil

Discover the zoo that lives beneath your feet as you explore the little known hidden world of soil. See how living and non-living processes shape soil and influence its productivity of food, fiber, and other resources. Learn ways to evaluate the physical, chemical, and biological nature of soil, and how to conserve this valuable resource. Appropriate for Grades K-12, adult. <http://school.discoveryeducation.com/schooladventures/soil>

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