

Procedure for requesting activities and presentations

Contact the office by phone or email to schedule a presentation.

The following scale indicates suggested age levels; however, activities can be adjusted to fit other age groups.

- * pre-K and lower elementary
- ** upper elementary and middle school
- *** middle school and high school

Length of presentations can vary. Some activities may require 2 or 3 class periods.

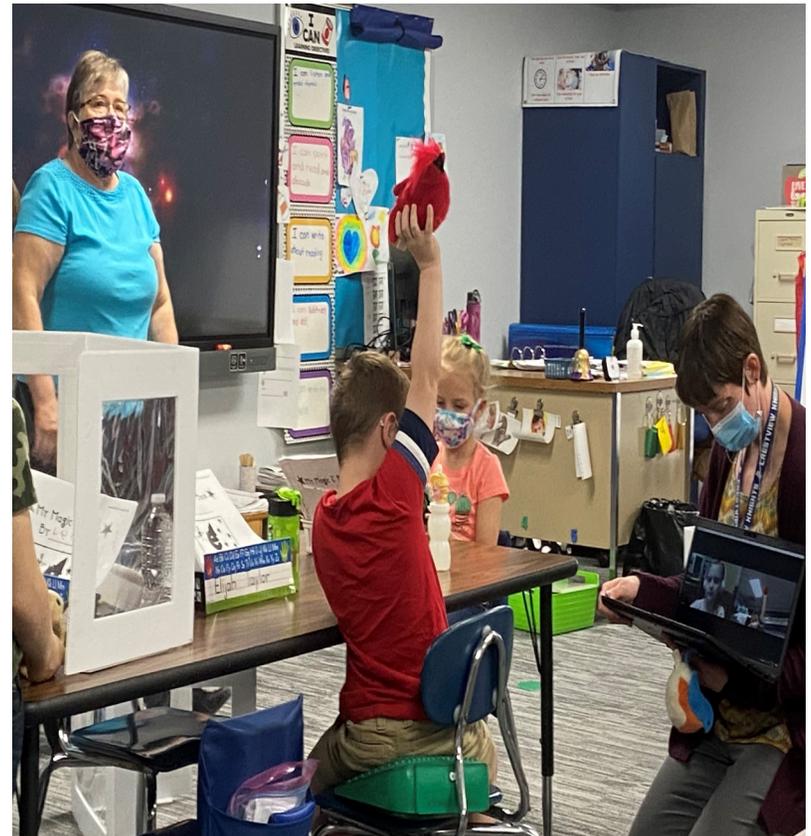
This catalog may also be found online. Our website is:

www.vanwertswcd.org



Van Wert Soil & Water Conservation District
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Guide to Van Wert SWCD Classroom



2021-2022



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School Year 2021-2022

Dear Educator,

The **Van Wert Soil and Water Conservation District** has a variety of educational kits and activities available to be presented free of charge or borrowed. These are generally science related; however, they may be directed toward math, social studies and language arts as well.

To schedule the use of these kits and activities please contact us by phone, email or stop by the Van Wert SWCD at the above address.

A list of activities and presentations with brief descriptions can be found on the following pages.

If you have a topic need and do not see a presentation, please ask and we will see if it is possible.

The SWCD appreciates your efforts to present and reinforce the conservation message. Thank you for allowing us to help you educate the next generation.

Tammy Campbell, Education Coordinator
 Van Wert SWCD

The mission of the Van Wert SWCD is to protect and to conserve the natural resources for all residents by providing technical, educational and financial assistance.

Tammy's Favorite Science-based Websites

- www.AudubonAdventures.org
- <https://websoilsurvey.nrcs.usda.gov/app/>
- www.nacdnet.net
- <http://www.exploratorium.edu/frogs/index.html> frogs
- <http://www.learner.org/jnorth> migration
- <http://www.kidsgardening.org> kids gardening
- <http://water.epa.gov/learn/kids/waterkids.ctm> water kids
- https://www3.epa.gov/safewater/kids/flash/flash_qagame.html water
- <http://water.usgs.gov/outreach/outreach.html> water ed posters
- <http://eo.ucar.edu/webweather> web weather for kids
- <http://education.usgs.gov/common/primary.htm> USGS K-6
- <http://www.fws.gov/offices/statelinks.html> US Fish & Wildlife

<http://www.myamericanfarm.org/classroom/games>

(farm safety)

<https://batweek.org/> Bat information

<https://www.pinterest.com/YourWildOhio/field-guides-of-ohio-wildlife-printable/> ODNR

<https://www.generationgenius.com/videolessons/fossils-and-extinction-video-for-kids/> Fossils

<http://kansashistory.us/dustbowl.html>
 Dust bowl

www.arborday.org

<https://www.weather.gov/owlie/> weather

<https://smokeybear.com/en/for-educators/elementary-resources>

<https://www.nacdnet.org/store/>

Recommended Reading

The Worm by Elise Grave

Earthworms by Elaine Pascoe

How Groundhog's Garden Grew by Lynne Cherry

Where Do the Birds Go? by Rebeca Olien

Germs Make Me Sick! by Melvin Berger

Germs Are Not For Sharing by Elizabeth Verdick

A Germ's Journey by Thom Rooke, MD

Germs ! Germs! Germs! by Bobbi Katz

The Water Cycle by Rebecca Olien

Sinkholes by Megan Kopp

How Does a Cloud Become a Thunderstorm by Mike Graf

How the Weather Works by Michael Allaby

Flush Treating Wastewater by Karen Mueller Coombs

You Wouldn't Want to Live Without Clean Water by Roger Canava

Meeting Trees by Scott Russell Sanders

Growing Vegetable Soup by Lois Ehlert

Eating the Alphabet by Lois Ehlert

Are you a Butterfly? By Judy Allen and Tudor Humphries

Water

The Water Cycle

Precipitation, surface water, evaporation and condensation make up the water cycle; each is easily visualized with this **Water Cycle Model**. This model can be added to the following **Groundwater Model** for a complete presentation of how we get our water. (*, **, ***)



The Incredible Journey

In this activity students create a bracelet of beads collected as the "roll of the dice" directs them to the next step in the journey of water. This is a fun way for students to discover the path of water in our environment. Writing would be a good follow-up to this activity. (*, **, ***)

The Enviroscope -

Nonpoint source pollution in our environment is easily visualized with this model. After identifying various ways we use the land, "materials" having the potential of polluting waterways are added to the model. "Precipitation" makes everyone a believer in *nonpoint source pollution*. This presentation can be used by itself or with other activities. (*, **, ***)



Crawdad Creek

A dry stream will be the focus of this activity. Students will listen to the book *Crawdad Creek* by Scott Russell Sanders and add their props as they hear it read in the book. A good listening activity about our stream habitat. (*, **)

A Grave Mistake

In this classroom scenario students arrive at a sinister conclusion to a groundwater pollution problem. They also discover that "jumping to conclusions" can lead to an incorrect solution to a serious problem. The **Groundwater Model** fits well with this presentation. (**, ***)

Don't Pass the Germs

Student will learn the value of clean water in a healthy lifestyle. We will pass a ball and use a black light to show "germs". Will discuss the benefits of hand washing. (*)

Pollution Dilution

In this activity students will discover how a pollutant in water can be diluted but never completely eliminated. Fractions and percentages are needed to complete the data sheet; these make this activity an *appropriate presentation for math classes*. (**, ***)



NPS: Solution or Problem? - The EPA has determined most water pollution comes from *nonpoint sources*. This *Power Point* presentation covers the major sources of these and creates a case for taking care of our watersheds. Appropriate activities to follow this presentation could be **Enviroscape**, **Streams: Sick or Healthy**, **Creek Critters**, or **Pollution Dilution** (**, ***)



(*)

Francis the Fish

Travel with Francis, our friendly little fish, as she swims in a stream through rural and urban areas. Students add litter, soil, paint, etc. to the water as they observe the effects of *nonpoint source pollution*. Poor Francis!

Poison Pump

Students solve a mystery through a set of clues. They discover water can have a negative effect on people. These effects and solutions will be discussed. The father of epidemiology will be talked about. This could be used with American History classes (cholera) (**, ***)

Going Underground

Student will learn what happens underground with our water supply. A lab will help explain how our water is affected by pollution. We will talk about water table, saturation zone, groundwater, and surface water in their models. (**, ***)

Erosion Drop By Drop or Soil Erosion Demonstration

Water is dropped on soil in this activity as data is recorded and graphs are used to reach a conclusion. Water collected after running across soil that is bare, and covered is observed. The amount of sediment in the run-off is astonishing! This presentation has *math applications*. (*, **, ***)



Drinking Water/Wastewater Treatment Model

With this model students experience the processes involved in treating surface water for human use. They also experience the treatment of wastewater before it is returned to the waterways. A comparison between urban and rural water use. The use of bio-solids can also be demonstrated with this model. (**, ***) Special arrangements needed ONLY if a field trip to the water treatment plant is requested.

Streams: Sick or Healthy?

A local stream is used as we determine the water quality based on data collected. Populations of "macro-invertebrates" (i.e. insect larvae, mollusks, etc.) and the chemistry of the water are analyzed along with physical factors. This is known as **Stream Monitoring**. This activity is not available late-fall, winter, or early-spring. (**, ***)



Water for Urban Areas

How does the *City of Van Wert, Ohio*, get water to supply the needs of its residents, businesses and industries? A *Power Point* presentation shows what takes place as water enters and leaves the city. Guided tours of the city water treatment and wastewater treatment plant with stops along Town Creek complete this activity.

The **DWWT Model** (pg. 3) fits in well with this presentation. (**, ***)

Ohio Forest Fire Box

This is a look at the causes of forest fires and the possible prevention techniques. (**, ***)

Special Arrangements Needed

Gardening



Gardening programs are tailored and set up depending on age and classroom need (*, **, ***)

Garden Monsters

This program fits well with any of the gardening programs. I fit the talk into the plant study the students are doing. The students make a Monster Buddy to take home and watch grow

Where does your water come from?

This recently updated model of the **Groundwater Model** shows how water tables, aquifers, and wells function. It also shows how they may become polluted. The **Water Cycle Model** can be connected to this model. (**, ***) This needs set up in one location and students rotate to the model



What's It Like Down There?

A 10' by 10' tent painted to give a "worms eye view" of the Earth's crust is available for either self-guided tours, "scavenger hunts", or soil judging activities. Due to the amount of time and effort for set-up this adapts well to fairs and similar "long term" events. (*, **, ***)



The Water Cycle and Weather

A Power Point presentation will explain the water cycle and why we have clouds. Different types of clouds will be discussed and two simple experiments will follow. The first shows students how clouds form and rain is produced. The second shows how a cold and warm front meet. (*)



Water Wonders

Four short labs that involve water properties. 1 Water as liquid; a solid; and gas. 2 Does an Object Float or Sink? 3 Dissolve. 4 Where does water go—The Water Cycle. (*)

Creek Critters



Critters collected from a make believe stream help students learn how organisms can indicate water quality. Recording and analyzing data are important parts of this activity. This activity is an excellent introduction to "Stream Monitoring." (**, ***)

Water Quality ! Ask The Bugs?

Similar to Creek Critters but "pretend" bugs are caught to check the creeks water quality. (**)

Croak, Croak, Don't Croak

Frogs and toads are talked about in a Power Point presentation. The requirements for life are discussed and why water is important to frogs. Each student is given a party favor to catch the requirements of life for a frog. If not enough is caught the poor frog "croaks". (*, **)



Locked Room Abiotic/Biotic Presentation

This presentation uses locked boxes (like the locked room activities) to teach many concepts such as biotic/abiotic, food webs, ecology, wetlands, and group interaction. This presentation is usually done in groups of four or five students. (**)

Wetlands

This presentation is about the wetland and how it works. This is a short presentation with a small group activity in which the students build their own wetland. They pick the shape, depth, and animals to go into the wetland. We then add the water and see what happens. This would go well with the Enviroscope. (**,***). A short watershed activity may go with this.



What Happens When You Flush?

This power point presentation goes well with Drinking Water/Wastewater Treatment Model. Students learn the importance of clean water for our use and what happens before and after you use water. I find most students do not realize that we must have two sets of pipes in our homes for water coming in and water going out. This power point shows what happens in our homes. (**,***)

Plastic and OUR Water

This Power Point shows how important clean water is and how plastics are getting into our water. This program was necessary because of questions students were asking. This can tie in with the Erosion presentation. This presentation has a short lab to go with it on how hard it is to clean plastic from our beaches. After the lab we will have a short discussion on plastic in our water and how do the students think they could remove the plastic from water. (**,***)

Wild Ohio

A *Power Point* presentation and classroom discussion helps students differentiate between domestic and wild animals. All animals need food, water, shelter and protection; the importance of habitat for wild animals is emphasized.

Pelts and skulls of Ohio's wildlife are used to help Identify the characteristics and habitat. (*,**)



Pollinator Pizza

Students will "make their own pretend pizzas". Pollination will then be discussed and the students will only keep toppings that don't require pollinators. (*, **, ***)

Wonderful World of Birds

What does it mean to be a bird? Feathers, eggs, nests and flight are emphasized along with other characteristics. A set of colorful plush songbirds will "sing" on command. In lower elementary two books will be read. Mallard Ducks by Shannon Zemlicka and Geese by Megan Borgert-Spaniol.

This is a favorite presentation for all ages. (*, **, ***)



Tremendous Trees

Trees are all around us yet many give them little thought. Students will discover they have much in common with the trees. "Tree Cookies" are examined. An interactive game demonstrates the difficulty a young tree experiences. (*, **)

Pollinator Tissue Paper Flowers

Power Point presentation that will discuss the importance of pollination in our world. Students will create their own tissue paper flower and learn how pollination occurs. This could be used in art classes as well as regular classroom. (*, **)

Worms

A tub of Red wiggler worms will be brought to the classroom. Depending upon age, topics to be discussed are: habitat, anatomy, reproduction, the four essentials for life (food, water, shelter, space). Students will experience handling the worms and observing the characteristics and habits. (*, **)

Soil and Geology



Miscellaneous Activities

Food Web

A game will be played to show how a food web works. Every student will be given a part to play in the Food Web. (*, **)

Fox and Rabbit

Fox and Rabbit is a game played in a large area such as a gym. It shows the relationship between predator and prey. This game goes very well with the presentation What's Wild in Ohio and the Food Web presentation. (*, **)

Beaver Adaptations

We will talk about beavers and what adaptations they have to help them survive. Students will watch as we re-view the adaptations while a fellow student wears a costume to represent the beavers adaptations. (*)



Wildlife CSI

Students will use animal clues to figure out which animal "Murdered" the eastern cottontail rabbit and who ate rabbit. The students will visit the "crime scene" and ask questions of the other "Animals" to figure out who committed the crime. This teaches individual thinking and group interaction. (*, **)

Soil is more than Dirt

Power Point presentation on different types of soils and students will make a "soil profile" on an index card. (*, **, ***)

Stream Table

With this "sand box" model students can see the effects of water on the landscape. Students place trees, buildings, bridges, etc. on the landscape. As water moves through the stream students discover their choices for land use were not always wise. (**, ***)

All About Soil

How does soil form? How is soil classified? What is a soil profile? These questions and more are answered in this soils presentation. Students will learn about the particles (sand, silt, humus, gravel, and clay) that make up soil as well as a hands on time where students will be given an opportunity to classify soils. (**)

What the Glaciers Did to Us

A *Power Point* presentation gives an overview of moving continents, glaciers, lakes and swamps that have played a part forming the soil we have today. A model glacier in a min **Stream Table** helps students visualize how the glaciers shaped our land. (**, ***)



Sinkholes

A Power Point presentation will be used and students will learn how and why sinkholes form. Students will make their own sinkhole in a cup. (**)





Ohio Rocks

The Ohio Geologic Survey provides a collection of rocks and minerals found in our state. These are placed on a map of the State of Ohio as we look at and discuss each specimen. This activity relates well to classes studying *Ohio's geography*. We will learn how to use an ID key for three unknown rocks. (**, ***)

***)

Mineral I.D.

Color, luster, streak plates, and a hardness scale are presented as properties used to identify minerals. Using these properties students, in small groups, identify several unknown minerals. (**, ***)



NPK Bracelet

Students learn the importance of plants in our environment and what it takes to grow plants. (**)



Farm Charm

Students will make a bracelet that talks about the importance of all farms. (*, **)

Erosion

This presentation shows a hands on demonstration of how erosion occurs and what we are able to do to slow or stop erosion. This presentation goes well with the Enviroscape presentation. (**, ***)



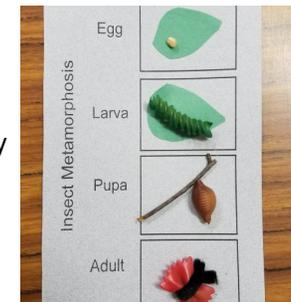
Monarchs

This presentation talks about the monarch. We talk about the monarch's requirements, life cycle, migration, habits, and play a game to see if the "Monarch (STUDENT)" lives through its migration to Mexico in the fall. (*, **)



Insect Metamorphosis

Students will listen to one or two books. The Very Hungry Caterpillar by Eric Carle, From Caterpillar to Butterfly by Debra Heiligman or Waiting for Wings by Lois Ehlert. A craft project that shows the four stages of a butterfly's life will be made with older students, and a coffee filter adult butterfly with younger students. (*)



Bats

A short Power Point presentation on the life requirements and benefits to humans. Bats are beneficial not scary like pop culture portrays. (*, **)