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Headwaters Soil & Water Conservation District

2018 Science SOL-Based Environmental Education Programs for Fourth Grade

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Or use Google Form to request a lesson: <https://forms.gle/4bA3NF4jeXpM6aCd8>

- **Beware of the Butterfluff (4.2, 4.3)** Students participate in an interactive demonstration in order to understand the interaction and competition between native, non-native, and invasive species. After the activity, students will be able to provide examples of native, non-native, and invasive species found in Virginia.
- **Conservation Poster Contest (K-12 4.8)** Poster contest held every spring and following the rotating natural resources theme set by the National Association of Conservation Districts (NACD). Open to all K-12 students. An introductory presentation and lesson on the theme is available if requested. Contact the SWCD office for more information and entry forms.
- **Dirt By Steve Tomecek Guided Storytime (4.3, 4.8)** A read-aloud story time where students get down in the dirt with a friendly star-nosed mole as he shows off the different parts of his garden and some amazing creatures who live in the dirt. During this exciting tour, children discover what soil is, how it is formed, and why this substance is vital to plants, animals, and humans. As resources allow, we provide a copy of the book for the classroom library.
- **Enviroscape Watershed Model (4.8)** The Enviroscape Watershed is an interactive table-top model used to demonstrate watersheds and the human impact on water quality. Students participate in contaminating the watershed through non-toxic 'pollutants' and create a rainstorm to illustrate the movement of water and pollutants through the watershed. Students will also learn their watershed address.
- **Macroinvertebrate Mayhem (4.3, 4.8)** Students play a game of tag to simulate the effects of environmental stressors on macroinvertebrate populations. Students will be able to explain how population diversity provides insight into the health of an ecosystem.
- **Sinkhole in a Cup (4.8)** Students will investigate and understand the karst topography in the Shenandoah Valley of Virginia. In this lesson, students will demonstrate how sinkholes and caves form. Students will create a model sinkhole to mimic the effect of groundwater on limestone.
- **Sum of the Parts (4.8)** A interactive demonstration to help students learn that 'We all live downstream'. By creating their own river-front property, students demonstrate how everyone contributes to the pollution of a river as it flows through a watershed and recognize that through individual and group action, the amount of pollution can be reduced.

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- **Underground Classroom Visit (4.2, 4.3, 4.8)** a on-site field trip experience where students can experience and visually learn about the world beneath their feet. We dive into the underground ecosystem and discover the variety of living and non-living things we find underground. Students discover some of the vegetable crops that grow underground, learn why soil is an important natural resource, and the benefits of soil to plants and animals. The tour can be combined with additional lessons for a longer hands-on field trip experience. *A list of additional lessons specifically related to soils and the Underground Classroom content is available.*
- **Virginia Geologic Provinces and their Agricultural Products (4.8, VS.2 VS.10)** This activity supports a student's knowledge of the Regions of Virginia and the Agricultural Products produced by region by using a large durable floor map of Virginia delineated by the geographic regions and 20 +/- items to represent agricultural products produced in Virginia. Students will work in teams to determine what agricultural products in Virginia are found in each region. Students will be able to understand that the climate and types of soil found in each region determines what products are found there.
- **We All Need Trees (4.8)** Students are often surprised to learn how many different products we get from trees. Students identify and categorize products we depend on that come from trees. Students will also discover the ways trees are used to make products and the way these products can be conserved.

On-Site Field Trip Locations (SOL's that can be covered: 4.3, 4.8) Topics: Watersheds, Wetlands, Water Quality, Pollution, Conservation Practices, VA Natural Resources.

Below are a list of nearby locations best suited for field trips on environmental education. Headwaters SWCD staff are willing to provide on-site support, presentations, and activities at the following locations. These sites are also excellent field trip destinations for MWEE (Meaningful Watershed Educational Experience) outdoor field experiences. Staff are also willing to assist in coordinating with other natural resource agencies (Dept. of Forestry, USDA, Dept. of Environmental Quality etc.) to provide additional field trip presentations at these locations.

- **Marl Creek Trail at Cyrus McCormick Farm** Address: 128 Cyrus McCormick Cir, Raphine, VA 24472
- **Augusta Springs Wetlands Park** Address: 2735 Little Calf Pasture Hwy, Augusta Springs, VA 24411
- **Natural Chimneys Park** Address: 94 Natural Chimneys Ln, Mt Solon, VA 22843
- **Constitution Park and South River Greenway** Address: 101 Short St, Waynesboro, VA 22980
- **Grand Caverns Park** 5 Grand Caverns Dr. Grottoes, VA 24441