Outreach Education Programs

2019-20

FREE Field Trips
FREE Classroom Presentations
Standards of Learning-Correlated Programs

Following the most commonly used tiered implementation for our service area, grades K-3rd and 6th grade programs are based on the updated 2018 SOLs.

**Discovering Water**  Kindergarten
SOLs: Science K.1, K.3, K.4, K.5, K.10
- Properties and phases of water
- Water’s many uses
- Gravity’s effect on water

**Water Matters**  Second Grade
SOLs: Science 2.1, 2.3
- Water and temperature
- Intro to the water cycle
- Water as a solid, liquid and gas

**Stirring Science**  Third Grade
SOLs: Science 3.1, 3.3, 3.8
- Temperature and dissolving
- Mixtures, solutions and chemical reactions with common household materials and water

**Incredible Journey**  Third Grade
SOLs: Science 3.1, 3.7, 3.8
- In-depth water cycle game
- Evaporation, condensation and precipitation
- Water conservation

*While we offer two third grade programs, teachers may request only one program per school year.*

**Meaningful Watershed Educational Experience (MWEE) at Carvins Cove or a Location Near You**
- Measure, record & analyze water quality via chemical testing
- Biological monitoring, benthic macroinvertebrates
- Investigation of a watershed’s effect on water quality

**Earth Science & Ecology**
Effects on Freshwater Resources SOLs: ES.6, ES.8
Investigate the effects that human and geologic processes have on our freshwater resources. Watershed and karst topography models demonstrate these concepts including permeability, impermeability, the water table, zone of saturation and zone of aeration.

**Introduction to GIS**
Students learn to use technology to identify water and sewer infrastructure, measure distances and use topographic maps with our Geographic Information System (GIS). Students can use their own laptops.

**GIS Investigation**
This class begins with an introduction to the Water Authority’s GIS—identifying infrastructure and learning how to use its various tools. Then this program takes students further as they apply their new knowledge to investigate real-world scenarios. Allow 60 minutes minimum for this lesson. Students can use their own laptops.

**Careers**
A water utility requires engineers, biologists, chemists, customer service and human resource professionals, accountants, and field operations personnel to provide safe, clean water. Invite a representative to your classroom to share the professional opportunities available at the Water Authority.
Field Trips

Spring Hollow Water Treatment Facility
The Spring Hollow Water Treatment Facility is located in western Roanoke County, just past Dixie Caverns. Students must be in third grade or above to visit the facility. Students will tour the treatment plant as well as see our lab to learn about the chemical and bacteriological tests that we conduct on the drinking water in our distribution system. This facility can accommodate up to 60 students at a time. Please allow 45 minutes for the tour. Allow more time if additional programming is requested.

Crystal Spring Filtration Facility & Historic Pump Station
Located next to Carilion Roanoke Memorial Hospital, Crystal Spring offers a look at Roanoke’s oldest drinking water source. All grade levels can tour Crystal Spring. Visitors to Crystal Spring can see the 1905 steam pump in action, view the water in the spring box, learn about the ultrafiltration process and see how Crystal Spring played a role in Roanoke’s early development. This field trip can accommodate up to 40 students at a time.

Carvins Cove Reservoir & Natural Reserve
Visit Roanoke’s largest drinking water source and treat your students to SOL-based, experiential lessons in the outdoors. Picnic facilities are available. K-5 field trips can accommodate up to 80 students at a time. Middle and high school, please contact us for details. All K-5 programs include two educational activities listed in the blue box below.

Tours of Carvins Cove Water Treatment Facility are unavailable during Fall 2019 due to construction; however, the facility will be open for tours again in the spring of 2020.

Fall 2019 Options:
K-2nd grade programs run 10:00 am – 12:30 pm
3rd-5th grade programs run 9:30 am – 12:30 pm

Spring 2020 Options:
K-2nd grade programs run 10:00 am – 12:30 pm
3rd-5th grade programs run 9:30 am – 1:00 pm. This field trip begins with a tour of the Carvins Cove Water Treatment Facility on Plantation Road. Then, students take a short bus ride to Carvins Cove Reservoir where students can rotate through two of the educational activities listed in the blue box below.

Educational Activity Options
On Carvins Cove Field Trips students are divided into two groups. Students rotate between a nature hike and an activity you select from among the following:

- **Bubbles**
  - K-2nd

- **Life Box & Nature Scavenger Hunt**
  - 1st-3rd

- **We All Live Downstream**
  - 4th & up

- **Extended Hike**
  - All Grades
Outreach Education
We offer both in-class and field trip opportunities that incorporate the Virginia Standards of Learning and are designed to build upon your school’s science curriculum.

To Make a Reservation
Advance reservations are required for all in-class and field trip programs. We offer tours for groups of 10 or more participants. Please see individual field trip descriptions for maximum group size allowed.

Visit our website at www.westernvawater.org/teacher to reserve your date or email us at education@westernvawater.org.

Service Area
The City of Roanoke and the Counties of Roanoke, Franklin and Botetourt

Cost
All in-class presentations and field trips are FREE of charge.

Length of In-Class Presentations
In-class K-5 presentations are 45 minutes in length. Middle and high school in-class presentations may require more time and can accommodate block scheduling.

Instructors
Our outreach educators, Tara Poelzing and Robin Bailey, bring more than 50 years combined experience in both formal and nonformal education settings. They hold Virginia Master Naturalist certifications and are members of BREE, Blue Ridge Environmental Educators.

To schedule an in-class presentation or field trip, visit:
www.westernvawater.org/teacher