



PROJECT TREE

**Teaching Resources for
Environmental Education**



Your Guide to Environmental
Programs for the Classroom

Dear Spokane County Educators,

Thank you for the vital work you do in educating the students in Spokane County. To complement the lessons you provide, environmental agencies offer a range of educational resources. These resources are compiled annually in the Project T.R.E.E. Environmental Program Resource Guide.

Project TREE is a concept borne from years of work between agencies in Spokane County that work in areas of environmental science and natural resources. We have consistently provided education, information and resources for a variety of audiences in and around the county.

This guide lists classroom presentations, field trips, and other programs available at no cost to your school from various area agencies. Many of these offerings enhance your curriculum and support Next Generation Science Standards. They also encourage students to explore issues that directly relate to their everyday lives.

We hope this guide will be a valuable resource.

*Sincerely,
The Project TREE Team*



PROJECT TREE

Environmental Program Directory 2017 School Year Edition

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Air Quality



Agency: Spokane Regional Clean Air
Contact: Stephanie May
Email: smay@spokanecleanair.org
Website: spokanecleanair.org

With every breath we take, our lungs are exposed to the world around us, filtering over 2,100 gallons of air each day. Breathing dirty air hurts our bodies; it can damage lungs, harm the heart and damage the brain. Invite an environmental educator to your school or organization to learn more about the air we all share and things everyone can do to help protect this precious resource.

Interactive Air Quality Presentation Grades: K-12

We are available to engage your students in hands-on learning activities based on your needs. Presentations can range from air quality and weather, air pollution and human health, AP Environmental Science and scouting badge coursework.

No Idle Zone Grades: K-8

Stop unnecessary vehicle idling to improve air quality and respiratory health around your school! Become a No Idle Zone School with this free, turn-key program can help reduce vehicle emissions around your school.

Air Quality Toolbox and Materials Grades: K-12

We have copies of our coloring and activity books available for teachers and scout leaders to distribute to students. We also have an Air Quality Toolbox available for check out. The toolbox is filled with a variety of hands on activities (with lesson plans) including a portable particulate monitor, exposed particle filters and build your own particle catchers, particle jars game, and inversion experiment.

Science Nights Grades: K-12

Invite Spokane Clean Air to exhibit at your school's science night. We provide fun, hands-on activities for students and air quality literature for parents.

Natural Resources



Agency: Spokane Conservation District
Presenter: Stacey Selcho
Email: stacey-selcho@sccd.org
Website: sccd.org

The Spokane Conservation District is your comprehensive go-to place for all of your natural resource issues and concerns. The mission of the SCD is simple: to promote the sustainable use of natural resources within Spokane County. We offer numerous educational programs and events to educate students, adults, landowners, producers, or the general public.

Classroom Presentations Grades: K-12

A variety of natural resource themed lessons can be provided to K-8 students for free. All lessons support the NGSS for your grade level and provide hands-on opportunities. Lessons are also designed to support the current science instruction being provided in the classroom.

Teacher Workshops

Environmental education workshops utilizing Project Learning Tree, Project WET, and Project WILD are offered every summer. We also provide a Vermiculture in the Classroom and School Garden Teacher workshop annually. Keep an eye open for new themes for teacher workshops!

FIELD TRIP

SCD provides field trips in the area around our building and inside the WSU Extension called The Green Zone. Students in The Green Zone will participate in a scavenger hunt, nature journaling, look at the world of bees and worm composting. We also help to organize an annual field trip for 4th and 5th grade students in June to the Dishman Hills Natural Area called *Kids in the Hills* where students participate in four natural resource-based hikes and activities.

Outdoor Presentations Grades: K-12

If you would like a lesson that is better suited to the outdoors, these can be provided. Whether you are on a field trip or in your school yard, we have a couple of lessons that have already been developed, or we can also work to provide whatever instruction is needed.

Waste, Composting & Recycling



Agency: Spokane Solid Waste

Presenter: Kris Major

Email: kmajor@spokanecity.org

Website: spokanecounty.org/utilities/solidwaste

How does garbage impact our planet and how can we make less? The City of Spokane and the Spokane County Regional Solid Waste System make environmental education easy by providing lessons and resources that answer those questions. Invite an educator to your school or organization and learn more about reducing waste through recycling and composting.

Hungry For a Waste-Free Lunch? Grades: K-6

Can using a lunch box save the planet? Students will discuss how the choices they make at lunchtime can save valuable resources and reduce the amount of garbage they generate at meals.

Nature's Recycling Grades: K-12

What does the FBI have to do with improving soil? Fungi, bacteria, and invertebrates are all decomposers that help break down food and yard waste into something beneficial. In this lesson, students will learn composting science and examine the worms that eat our garbage.

FIELD TRIP

Waste to Energy Facility Grades: 3-12

Find out where our garbage goes and how trash becomes electricity on a tour of Washington's only waste to energy facility. Tours last 90 minutes. Group sizes are limited to staff availability and must be arranged two weeks in advance. Lessons can also be brought to the classroom if a field trip is not an option.

Make it Recycled - Paper! Grades: K-6

Do you recycle paper in your classroom? Students will make their own "new" piece of paper from scraps out of your recycle bin. Discussion during this activity will include practicing the three R's and the importance of recycling to save valuable resources - trees!

Water Stewardship



Agency: City of Spokane Water Department

Presenter: Kristen Zimmer

Email: kzimmer@spokanecity.org

Website: waterstewardship.org

Discover where Spokane's water comes from, where storm drains lead to, and how to sustain and conserve our most precious resource by building system models and creating tools to use less water. The City of Spokane Water and Stormwater Department, KSPS, and the Spokane Aquifer Joint Board have joined forces to offer a series of classroom workshops to involve and educate the community in water stewardship. **Workshops are also available individually.*

Aquifer-In-A-Cup Grades: 3-6

Take an inside view of Spokane's water source and Water Works as we follow our water from the ground up to back down the drain. Student's will build an aquifer-in-a-cup and discuss possible pollution sources.

Storm Drain to Stream Grades: 3-6

Rain, rain, goes away, but where to?! Students guide a drop of water through a maze of "drainage pipes" to learn about pollutants and how actions in the home, yard, and street affect water quality.

FIELD TRIP

Upriver Dam and Well Station Grades: 3-12

Where does our water come from? How do you turn water into electricity? Find out by visiting the City of Spokane's historic facility where you can see the aquifer, pump house, and the inner workings of hydroelectricity.

Want to double down? Combine the Upriver Dam tour with the County's Water Education and Reclamation Center and tour Spokane's complete water cycle.

Your Water Footprint Grades: 3-12

By playing a customized game, students become aware of their daily visible and virtual water use. The game is followed by construction of a water meter to measure their personal water use while brainstorming ways to be water wise at home.

Water, Stormwater & Wastewater



Agency: Spokane County Water Resources
Presenters: Reanette Boese & Amanda Hess
To Schedule: tnaylor@spokanecounty.org
Website: spokanecounty.org/water

The Spokane County Water Resource Education Center located at 1004 N. Freya Street is a destination venue where lessons about water revolve around the Spokane Valley-Rathdrum Prairie (SVRP) Aquifer and Spokane River watershed. Activities allow students to visualize concepts that complement teachers' lessons. Classroom and Science Night visits also available.

The Water Cycle & the SVRP Aquifer Grades: K-8

Did you know that the water cycle does not always move in a perfect circular manner? One activity demonstrates this while an aquifer model brings to life the concept of groundwater and how it moves under our feet. The Spokane River and SVRP Aquifer are highlighted in an activity that represents their interchange.

People & Water Grades: K-12

Stormwater: Where does it go? How does it get polluted? How does civil engineering play a role? An Enviroscape model, stormwater maze and site evaluation are all interesting activities.

Wastewater: Where does your wastewater go and how is it cleaned? How do chemistry and biology play a role? What should we flush/not flush?

FIELD TRIP

Education Center & Reclamation Center All grades

Along with water lessons and visual aids at the center, students can learn a lot from the adjacent County Water Reclamation Facility. A virtual wastewater tour created with a GoPro camera, allows a peek inside the processes that turn wastewater into reclaimed water! An actual walking tour of the operating facility is available too (group size and age dependent). Physical, chemical and biological processes play an important role in water treatment and are explained age appropriately.

Investigate Water Grades: 5-12

What are the differences between aquifer, river, storm drain, pond, and reclaimed water? In this activity students will try to identify water samples based on their analyses of the minerals and organisms in the water. As a conclusion, we will identify the sources of the water samples and discuss the reasons for the differences in minerals and organisms.

Weather



Agency: National Weather Service
Presenters: Robin Fox & Laurie Nisbet
Email: robin.fox@noaa.gov
Website: weather.gov/spokane

Weather affects many facets of our lives - from what we wear to how we plan our day. Weather can be exciting - stormy one day to calm the next. The National Weather Service provides the weather/water forecasts and warnings for the people of eastern Washington and north Idaho with the only weather radar in the Inland Northwest. Educational outreach includes office tours, school presentations, and participation in local science events.

Three Little Pigs Grades: K-4

The big bad wolf is trying to blow our houses down, but which houses are the sturdiest from the wind? Learn about the wind and weather safety as students build houses out of different materials and see which will be the last one standing.

Clouds, Clouds, Beautiful Clouds Grades: K-3

Learn about all the different kinds of clouds in the sky, and make your own personal cloud chart to take home.

FIELD TRIP

National Weather Service Office Grades: 3-12

See how meteorologists do their job forecasting the weather. An age appropriate power point is given followed by a tour of the facility. Come see the only weather radar in the Inland Northwest or an afternoon weather balloon launch! Tours can last 45-90 minutes. We can also give classroom talks, including high school. Please email for specifics.

Wild Weather Grades: 4-8

Tornadoes, Thunderstorms, Hail, and Lightning! Learn of the wild weather of the Inland Northwest and ways to stay safe. Through a series of demonstrations, students will understand air flow, instability and how thunderstorms form.

Other



West Valley Outdoor Learning Center
<http://olc.wvwd.org>

The West Valley Outdoor Learning Center gives teachers and students an opportunity to have experiences in an outdoor setting while instilling an appreciation for fish, wildlife, and our natural resources. All activities support Next Generation Science Standards. For more information, contact **Jami Ostby** at Jami.Ostby@wvwd.org.



Project WET Teacher Workshops
www.projectwet.org

Project WET provides teachers and resource professionals with accredited workshops designed to provide non-advocacy, hands-on, interdisciplinary water education materials and instruction. This program trains teachers in use and application of the "Project WET Curriculum and Activity Guide". For more information, contact **Stacey Selcho** at stacey-selcho@sccd.org.



Washington Green Schools
www.wagreenschools.org

Students and communities across Washington State are working to create greener, healthier school environments. Washington Green Schools provides a system of support for school communities to set and achieve sustainability goals through: classroom resources, hands-on support, trainings and workshops, and statewide recognition. Visit wagreenschools.org to learn more.



Eastern Washington Regional Science & Engineering Fair (EWRSEF) is a one-day event at WSU Spokane that provides 6-12th students throughout the region the opportunity to present their STEM projects in a conference setting.

To compete, students submit an abstract about their projects in advance of the event for review from industry experts and acceptance into the conference. Event day entries include three-dimensional posters and project notebook presentations. High school seniors may be eligible to compete for college scholarships

The EWRSEF is designed to:

- Encourage students to do real scientific investigations and explore engineering concepts and inventions.
- Provide students a forum to share their projects with their peers and learn about STEM related issues.
- Send participants to compete at the Washington State Science and Engineering Fair and select winners will be eligible to attend the International Science and Engineering Fair.

To find out more information and view funding resources, visit: www.ewrsef.org.



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Thank you!

For additional copies of this directory,
please call 509-742-8144 or email kzimmer@spokanecity.org
Produced by the City of Spokane Water Department