

NGSS and Outdoor Education

*6-12th Grade Programs and Resources
for Central Oregon*

CHILDREN'S
FOREST



CENTRAL
OREGON



Background



Central Oregon and its amazing array of beautiful rivers, bountiful snowpack, diverse vegetation, and fascinating geology gives teachers and students unlimited opportunities for using the natural world as an outdoor classroom. Studies have shown that learning in the outdoors can increase enthusiasm for learning, promote teamwork, build social and emotional skills, and even increase standardized test scores.

The new [Next Generation Science Standards](#) (NGSS) advocate for three-dimensional learning, which is good news for outdoor and environmental education. First, all grade levels have an emphasis on understanding the impacts humans have on Earth's systems as well as the connections among living things and the environment. Second, a number of the scientific practices, disciplinary core ideas, and crosscutting concepts in NGSS can be more effectively addressed through exploration and investigation of the natural world than in the classroom. With the implementation of NGSS happening in school districts across Oregon, now is a great time to build outdoor education into your curriculum.

In 2011, CFCO was created to introduce and engage all students in Central Oregon to the wonder, science, and adventure of nature. One of our primary objectives is to provide all youth first-hand connections with nature by providing meaningful, inspirational, and interdisciplinary education programs. Together our network of partners offer over 30 different outdoor education programs that connect students to nature, engage students in science practices, and deliver content knowledge about local natural resources issues.

This document includes a complete listing of the Outdoor Education Programs available to middle and high school students. We strongly encourage teachers to collaborate with other grade levels at your school to provide a sequence of field trips that build upon each other (and don't duplicate each other). In addition to the programs listed, many organizations are able to create customized programs, depending on the goals and curriculum for your classes. Contact information for organizations that offer programs is included on page 5.

For questions about Outdoor Education programs or resources, contact:

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(541) 383-5592

Or visit:

www.childrensforestco.org



Middle and High School - Outdoor Education Programs

PROGRAM	ORGANIZATION	GRADE LEVEL	COST	LOCATION	SCIENCE & ENGINEERING PRACTICE	DISCIPLINARY CORE IDEA	DESCRIPTION
Aquatics	Discover Your Forest	6-12	Free	Deschutes & Ochoco National Forests	Investigation	LS2.C, ESS2.C, ESS3.C	Hands-on studies investigating stream health including water chemistry sampling, collecting macroinvertebrates, measuring streamflow, and identifying riparian plants
Citizen Science Academy	Discover Your Forest	6-8	Free	Multiple	Investigation, Analyzing Data	LS1.A, LS2.A, ESS3.C	Data collection about plants and wildlife using various Citizen Science programs including Project Budburst, Project Pika, and Project Bluebird.
Energy and the Environment	High Desert Museum	6-12	Free, limited availability	High Desert Museum	Models, Designing Solutions	ESS3.A, ESS3.D	Exploration of renewable resources in the context of global climate change. Using hands-on activities, students investigate solar and wind power to develop an understanding of the impacts of these technologies in the Pacific Northwest.
Exploring Community	The Environmental Center	6-7	Free	Sparks Lake, plus others	Models	LS2.A, ESS3.C	Exploration of ecosystem interactions, how humans impact ecosystems, and building positive community within their school.
Lava Lands/ Lava River Cave	Discover Your Forest	6-8	Free	Lava Lands Visitor Center, Lava River Cave	Investigation	ESS2.A, ESS2.B	Hands-on exploration of the unique geological features of Newberry National Volcanic Monument, including Lava River Cave, and the impacts of White-nose Syndrome on bat populations.
Watershed Education Program	Middle Deschutes Watershed Council	6-12	Free	Jefferson County, multiple locations	Investigation, Designing Solutions	LS2.C, ESS2.C, ESS3.C	Hands-on activities including watershed science, water quality monitoring, macroinvertebrate sampling, riparian studies, stewardship projects, and stream habitat studies.
Natural Resource Education Program	Discover Your Forest	6-12	Free	Deschutes and Ochoco National Forests	Investigation	LS2.A, LS2.C, ESS3.C	Field-based science inquiry focused on forest ecosystems, incorporating data collection, observation, and connection with Forest Service specialists.
Natural Resource Career Day	Discover Your Forest, STEM Hub, others	10-12	Free	TBD	<i>Focus is on careers</i>	<i>Focus is on careers</i>	1-day Career Fair, held annually in April, with career exploration opportunities with natural resource specialists.
Our Water System	The Environmental Center	6-12	Free	Bend, Redmond	Models, Designing Solutions	ESS2.C, ESS3.A, ESS3.C	Classroom lessons focused on the water cycle, water use, and wastewater treatment and optional field trips to wastewater treatment facilities.

Middle and High School - Outdoor Education Programs (continued)

PROGRAM	ORGANIZATION	GRADE LEVEL	COST	LOCATION	SCIENCE & ENGINEERING PRACTICE	DISCIPLINARY CORE IDEA	DESCRIPTION
Outdoor School High School Student Leader Program	Camp Tamarack	9-12	Free	Camp Tamarack	<i>Focus is on leadership</i>	<i>Focus is on leadership</i>	Week-long volunteer experience supporting 5th and 6th graders during Outdoor School. Students must apply to participate.
Pollinator Habitat Restoration	Discover Your Forest	6-12	Free	Deschutes NF Headquarters or other site	Investigation, Evaluating Information	LS2.A, LS2.C, LS4.D, ESS3.C	Students will conduct plant and bumble bee surveys in meadow habitat, use citizen science apps such as Bumble Bee Watch, create designs for habitat improvement, and assisting with restoration efforts.
Sharing Water Curriculum and Video	The Environmental Center, Children's Forest of Central Oregon	6-8	Free	Classroom	Questions, Designing Solutions	ESS2.C, ESS3.A	Two lessons, supporting resources, and video focused on the Deschutes watershed, water users, conservation strategies, and interconnections.
Snow Science	Discover Your Forest	6-12	Free	Deschutes and Ochoco National Forests	Models, Investigation	LS1.A, LS4.C, ESS2.C	Students will understand how the snowpack affects the local watershed by learning about and collecting data on snow water equivalency, snowpack depth, snow crystal morphology, and investigating conditions that lead to avalanches. Students will be on snowshoes during this field study.
Upstream Project/Stream Stewardship Project	Upper Deschutes Watershed Council	6-12	Free	Multiple	Investigation, Designing Solutions	LS2.C, LS4.D, ESS2.C, ESS3.C	Hands-on activities focused on human impacts to streams and stewardship. Activities include macroinvertebrate sampling, riparian transect studies, water quality testing, groundwater study, analysis of healthy stream features, restoration activities, art, and writing.
Winter Wellness	Camp Tamarack	6-8	Varies	Camp Tamarack	<i>Focus is on wellness</i>	<i>Focus is on wellness</i>	Three days of self exploration experiences designed to introduce students to leadership skills, community wellness, positive self identity and self-esteem.

Outdoor Education Programs - Contact Information

Organization	Contact Information
Camp Tamarack	camptamarack.com Charlie Anderson, Director charlie@camptamarack.com (541) 633-9847
Children's Forest of Central Oregon	childrensforestco.org Katie Chipko, Executive Director katie@childrensforestco.org (541) 383-5592
Discover Your Forest	discoveryourforest.org Karen Gentry, Education and Volunteer Programs Director karen.gentry@discovernw.org (541) 383-4771
High Desert Museum	highdesertmuseum.org Erica Pelley, Associate Curator of Education epelley@highdesertmuseum.org (541) 382-4754 ext. 320
Middle Deschutes Watershed Council	middleschuteswatershedcouncil.org Andy Neary, MDWC Coordinator (541) 699-3202
The Environmental Center	envirocenter.org Becca Gilbert, Sustainability Educator becca@envirocenter.org (541) 385-6908 ext. 16
Upper Deschutes Watershed Council	restorethedeschutes.org Kolleen Miller, Education Director kmiller@restorethedeschutes.org (541) 382-6103 ext. 33

Resources for Field Trips and Outdoor Learning

Resource	Organization	Details
Funding for Transportation or Substitutes	Children's Forest of Central Oregon	School Engagement Fund childrensforestco.org/school-engagement-fund
	Oregon Forest Resources Institute	Bus Transportation http://learnforests.org/resource_article/online-reimbursement-form **Forests/Forestry must be the primary focus of the field trip
Kits and Field Equipment	Children's Forest of Central Oregon	Resource Co-op childrensforestco.org/resource-coop Birding, Plants, Wildlife, Soil Studies, Aquatic Investigations, Forest Ecology, Insects, Stream tables <i>Free</i>
	High Desert Museum	Travelling Trunks https://www.highdesertmuseum.org/traveling-trunks/ Water Cycle, Skulls and Pelts, Oregon Trail, Biomimicry, Water Quality with Vernier Probes <i>\$25 for 2 weeks</i>
	Sunriver Nature Center	Travelling Trunks http://www.sunrivernaturecenter.org/index.php/visit-the-nature-center/our-programs/school-programs Birds of Prey, Herpatology, Native Plants, Life in a Pond <i>\$100-\$120 (includes 30 minute presentation)</i>
Field Trip Locations	High Desert ESD	Skyliner Lodge http://www.hdesd.org/about/skyliner-lodge/ <i>Free for educational programs</i>
	Children's Forest of Central Oregon	Map of sites in Central Oregon http://www.childrensforestco.org/places/
Inclusion Assistance	Bend Park and Recreation District	BPRD can provide Therapeutic Recreation staff to assist with students with special needs. Please provide at least 1 month notice. Email katie@childrensforestco.org .
Curriculum	Children's Forest of Central Oregon	childrensforestco.org/curriculum
	Oregon Forest Resources Institute	Lesson plans, videos, and publications http://learnforests.org/
Grant/Project Funding	Children's Forest of Central Oregon	NatureHoods projects http://www.childrensforestco.org/naturehoods Up to \$1,000 grants for schools and community groups for habitat improvements, outdoor classroom spaces, or accessibility improvements for schoolyards and parks

Field Trip Planning Timeline and Tips

4-6 months in advance

- Contact program provider (organization offering the field trip) to schedule dates for your field trips. Some providers may be able to accommodate your trip with less notice, but popular trips often fill-up well in advance
- Contact your transportation department to reserve a bus for your field trip dates and get a cost estimate

2-4 months in advance

- Apply to the [School Engagement Fund](#) if you need funding for transportation or substitutes
- Reserve kits from the [Resource Co-op](#) if you need field equipment

1 month in advance

- Send permission slips home
- Recruit parent chaperone volunteers
- If you are teaching on the field trip, review curriculum with grade level team and determine responsibilities
- Connect with program provider to discuss program adaptations and accommodations for students with special needs

2 weeks in advance

- Confirm reservation with transportation department
- Meet with school nurse to compile a list of medical issues, allergies, and necessary medications for all students attending. If students have severe allergies and epi-pens, find out if the student can self-administer or if you need to do it.
- Make list of student groups (if you are splitting the group) and divide emergency contact/medical information into groups

1 week in advance

- Discuss field trip behavior rules with your students
- Give students a list of required items of the field trip
- Confirm itinerary with parent chaperones
- Make nametags for students

Day before

- Review field trip behavior rules with your students
- Pack items on the teacher packing list (below)

Tips:

- Work collaboratively with other grade levels at your school to provide a sequence of field trips that build upon each other (and don't duplicate each other)
- Communicate with the program provider in advance with any information about goals for the field trip, background knowledge the students have, and information about students with special needs.
- Choose parent chaperones wisely. Field trips require extra eyes and ears. Depending on the site, recruit one chaperone for every 5-10 students. The ideal chaperone is one who is engaged, responsible, and caring. Be sure that chaperones understand that they are there to manage their entire group, not just to spend time with their son or daughter.