

# 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:**

Katie Chipko  
Executive Director  
Children's Forest of Central Oregon  
katie@childrensforestco.org  
(541) 383-5592

Or visit:

[www.childrensforestco.org](http://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                       | <a href="http://camptamarack.com">camptamarack.com</a><br>Charlie Anderson, Director<br>charlie@camptamarack.com<br>(541) 633-9847   |
| Children's Forest of Central Oregon | <a href="http://childrensforestco.org">childrensforestco.org</a><br>Katie Chipko, Executive Director<br>katie@childrensforestco.org<br>(541) 383-5592                          |
| Discover Your Forest                | <a href="http://discoveryourforest.org">discoveryourforest.org</a><br>Karen Gentry, Education and Volunteer Programs Director<br>karen.gentry@discovernw.org<br>(541) 383-4771 |
| High Desert Museum                  | <a href="http://highdesertmuseum.org">highdesertmuseum.org</a><br>Erica Pelley, Associate Curator of Education<br>epelley@highdesertmuseum.org<br>(541) 382-4754 ext. 320      |
| Middle Deschutes Watershed Council  | <a href="http://middleschuteswatershedcouncil.org">middleschuteswatershedcouncil.org</a><br>Andy Neary, MDWC Coordinator<br>(541) 699-3202                                     |
| The Environmental Center            | <a href="http://envirocenter.org">envirocenter.org</a><br>Becca Gilbert, Sustainability Educator<br>becca@envirocenter.org<br>(541) 385-6908 ext. 16                           |
| Upper Deschutes Watershed Council   | <a href="http://restorethedeschutes.org">restorethedeschutes.org</a><br>Kolleen Miller, Education Director<br>kmiller@restorethedeschutes.org<br>(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<br><a href="http://childrensforestco.org/school-engagement-fund">childrensforestco.org/school-engagement-fund</a>  |
|   | Oregon Forest Resources Institute   | Bus Transportation<br><a href="http://learnforests.org/resource_article/online-reimbursement-form">http://learnforests.org/resource_article/online-reimbursement-form</a><br><br>**Forests/Forestry must be the primary focus of the field trip   |
| Kits and Field Equipment                  | Children's Forest of Central Oregon | Resource Co-op<br><a href="http://childrensforestco.org/resource-coop">childrensforestco.org/resource-coop</a><br><br>Birding, Plants, Wildlife, Soil Studies, Aquatic Investigations, Forest Ecology, Insects, Stream tables<br><i>Free</i>  |
|   | High Desert Museum                  | Travelling Trunks<br><a href="https://www.highdesertmuseum.org/traveling-trunks/">https://www.highdesertmuseum.org/traveling-trunks/</a><br><br>Water Cycle, Skulls and Pelts, Oregon Trail, Biomimicry, Water Quality with Vernier Probes<br><i>\$25 for 2 weeks</i>   |
|   | Sunriver Nature Center              | Travelling Trunks<br><a href="http://www.sunrivernaturecenter.org/index.php/visit-the-nature-center/our-programs/school-programs">http://www.sunrivernaturecenter.org/index.php/visit-the-nature-center/our-programs/school-programs</a><br><br>Birds of Prey, Herpatology, Native Plants, Life in a Pond<br><i>\$100-\$120 (includes 30 minute presentation)</i> |
| Field Trip Locations                      | High Desert ESD                     | Skyliner Lodge<br><a href="http://www.hdesd.org/about/skyliner-lodge/">http://www.hdesd.org/about/skyliner-lodge/</a><br><br><i>Free for educational programs</i>   |
|   | Children's Forest of Central Oregon | Map of sites in Central Oregon<br><a href="http://www.childrensforestco.org/places/">http://www.childrensforestco.org/places/</a>   |
| 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 <a href="mailto:katie@childrensforestco.org">katie@childrensforestco.org</a> .  |
| Curriculum                                | Children's Forest of Central Oregon | <a href="http://childrensforestco.org/curriculum">childrensforestco.org/curriculum</a>  |
|   | Oregon Forest Resources Institute   | Lesson plans, videos, and publications<br><a href="http://learnforests.org/">http://learnforests.org/</a>   |
| Grant/Project Funding                     | Children's Forest of Central Oregon | NatureHoods projects<br><a href="http://www.childrensforestco.org/naturehoods">http://www.childrensforestco.org/naturehoods</a><br><br>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.