



# HIGH DESERT MUSEUM

## FIELD EXPERIENCES & LEARNING OPPORTUNITIES



SCHOOL PROGRAMS  
**2018–2019**



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# HIGH DESERT MUSEUM

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BEND, OREGON

## HANDS-ON LEARNING COMES TO LIFE.

At the High Desert Museum, history, art, science and cultural studies spring to life for students from kindergarten through high school.

Our 135-acre facility offers teaching opportunities you won't find anywhere else. With 15 different **Discovery Classes**, it's easy to find subjects that enrich the classwork you're already doing.

The learning opportunities are always evolving and changing along with our exhibits. Our field trips, school programs and educational events meet the Next Generation Science Standards, the Common Core Standards for Literacy and Math and the Oregon Social Sciences Standards.

Our education staff is happy to customize any program to fit the needs of your class or school. Integrate a 60-minute **Adventure Tour** into your trip or we can bring a Museum program to your school.

Come explore the Museum's exhibitions and grounds and give your students a learning experience they'll never forget!





## LIFE SCIENCE

*These classes meet Next Generation Life Science Standards.*

**REPTILES & AMPHIBIANS**

What sense do snakes use to find food? Why are frogs slimy? Explore the life history of scaled and slimy desert dwellers including lizards, snakes, frogs and salamanders. Students use observation and inquiry to examine the characteristics of these animals and the unique adaptations that allow them to survive in the High Desert. ***This class is geared toward K–3rd grade.***

**H<sub>2</sub>O! AQUATIC INSECTS**

What lives in our stream? Enter the amazing world of macroinvertebrates! Students will use the scientific method to classify arthropods, learn about metamorphosis and participate in a stream survey. They will observe, collect and identify organisms from the stream. ***This class is geared toward K–3rd grade.***

**BATTY ABOUT BATS**

Bats occupy almost every habitat in the world. Learn about bats native to the High Desert and how to identify them. Discover how they use echolocation to navigate and investigate adaptations that increase their chances of survival. Through hands-on exploration, students will gain an understanding of how bats function, the food they eat and the types of bats that live in the region. ***This class is geared toward K–3rd grade.***



## LIFE SCIENCE

*These classes meet Next Generation Life Science Standards.*



### **BIOMIMICRY:** **NEW!** **LEARNING FROM NATURE**

Nature inspires engineers and scientists to develop solutions to everyday problems. Through hands-on activities, investigate how to use animal and plant structures to help prevent concussions and injuries. Students will use engineering design to solve a real-world problem. ***This class is geared toward 1st grade. It can be modified for higher grade levels.***



### **BIRDS OF PREY**

The Museum is the perfect place to meet raptors and get a close-up look at their behavior. Compare and contrast the beaks, wings and talons of different raptors of our desert sky. Learn what makes these predators such great hunters. Join us for this engaging, hands-on class and dissect owl pellets to learn about nocturnal hunters and their role in the food web. ***This class is geared toward K–12th grade. \*There is an additional \$15 materials fee.***



### **DESERT DWELLERS**

The High Desert includes four distinct and diverse microhabitats: shrub-steppe, riparian, forest and rimrock. Students learn about form and function and what allows species to survive in each of these environments. Discover ecosystem dynamics in a hands-on way! ***This class is geared toward K–12th grade.***

## EARTH SCIENCE

*These classes meet Next Generation Earth Science Standards.*



### WILD WEATHER

Have you ever seen a tornado, hurricane or blizzard? How do thunderstorms form? Through hands-on experiments, learn about the ingredients needed to create large storms. Make a cloud and learn how lightning is formed. Use ping pong balls and wind bags to explore high and low pressure systems. ***This class is geared toward K–3rd grade.***



### EROSION

How are streams formed? How long do weathering processes take? Students will develop a model of a stream and explore how landforms change over time. ***This class is geared toward 2nd grade.***



### ROCKIN' GEOLOGY

Discover the science behind the powerful forces that shape our landscape. What causes the ground to shift and shake? Why do volcanoes erupt? Study clues to the history of our landscape as we explore how the Earth changes above and below ground through time. Using the Cascade Mountains as a guide, students will experience a variety of different geologic processes through dramatic experiments and eye-popping demonstrations. ***This class is geared toward K–12th grade.***



# SCIENCE

## PHYSICAL SCIENCE

*This class meets Next Generation Physical Science Standards.*



### WHAT'S THE MATTER?

With some messy experimentation and exciting trial and error, we'll investigate different types of matter and how one transforms into another. Solid into liquid. Liquid into gas. And best of all, cream into ice cream! Working with household ingredients, students will learn about catalysts and reactions and make a tasty treat in the process. ***This class is geared toward K–12th grade. \*There is an additional \$15 materials fee.***



### SQUIRRELS: AN INTRODUCTION TO FIELD INVESTIGATIONS

Students become scientists as they explore the habitat of the golden-mantled ground squirrel. Using field-based inquiry, students will build on their observation skills and learn how to identify animals and animal signs. Students will have fun searching for evidence, collecting and analyzing data and learning about natural history. ***This class is geared toward 2nd grade and is recommended to pair with the STEM Connect Biodiversity Kit.***

## TEACHER'S CHOICE

*These classes meet Next Generation Science Standards for K–6th grade.*

Teachers choose the topic and we design the class. Possible topics include:

### SCIENCE INQUIRY

From asking questions to designing experiments and collecting data, students learn how to conduct a science experiment.

### STEM

Students will experience an interdisciplinary lesson and apply the engineering design process to plan, design and create solutions to real world problems.



***Please allow at least three weeks advance notice to develop the class.***

# SOCIAL SCIENCE

*These classes meet Oregon Social Science Standards for 3rd–6th grade.*



## TRAVELING THE OREGON TRAIL

Immerse students in life on the rugged Oregon Trail where they'll learn geography, critical decision-making skills and the importance of teamwork. Students race against the clock in small wagon teams with hopes of arriving in Oregon City on time. This interactive game experience will give your students a memorable journey on the Oregon Trail.



## NATIVE AMERICANS OF THE HIGH DESERT

Discover how different plants and animals shaped the lifeways of American Indian tribes of the High Desert. Students will explore the seasonal foods and activities of the Wasco, Warm Springs, Northern Paiute and Umatilla tribes as they discover unique characteristics of each culture. Museum artifacts and reproductions are on hand for students to gain appreciation for the complexities of these enduring communities.



# FESTIVALS



## OREGON ENCOUNTERS: EXPERIENCE THE 1800S

The rich, multicultural history of Oregon in the 1800s comes alive in this program. Learn about the Native Americans who have lived in the landscape for thousands of years and the newcomers who traveled the Oregon Trail in search of new beginnings. Investigate how they helped shape Oregon into what it is today. Stations around the Museum will highlight diverse perspectives through storytelling, hands-on learning and STEM activities.

**Each class will attend one day of the festival.**

April 15–19, 2019 | 4th grade

10:00 am to 2:00 pm

\$6.50 per student, includes Museum admission



# FREE FIELD TRIPS



## FIRED UP!

Build a model forest and watch it burn. This class challenges students to question how a ponderosa pine forest thrives in fire-prone ecosystems. Students will uncover the important role fire plays in keeping the forest ecosystem healthy during this all-day program. Free to the first 40 registered classes. **Priority will be given to 5th grade classes.**



## DESERT WATERS

In this hands-on class, students explore what a watershed is and learn about ways to protect the one they live in. Through scientific inquiry, students discover where their water comes from and how humans and natural disasters affect their watershed. **Free to the first 20 registered classes. Priority will be given to 4th grade classes.**



## ENERGY AND THE ENVIRONMENT

This on-site program engages students in an 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 these technologies have in the Pacific Northwest. Free to the first 10 registered classes. **Priority will be given to middle and high school classes.**

***If space remains in these classes, we will open them to 4th-12th grades.***

***Thanks to our donors, the Museum provides transportation, admission, classroom work and field experience at no cost. A limited number of grant-funded fall dates are available—call early to register.***



# TOURS

## ADVENTURE TOURS

Let an educational interpreter guide your group through the Museum to connect objects and ideas with a common theme. These 60-minute “private field trips” will better engage your students with topics of the High Desert by adding an expert to guide your journey. Adventure Tours can be integrated into any field trip or Discovery Class. Cost: \$7 per student, 20-student maximum per tour. Concurrent tours are available. Price includes Museum admission.



### ***Technology from the 17th–20th Century***

The extraction, distribution and use of natural resources have influenced survival in the High Desert. Using our exhibits, this tour examines the tools, designs and advances made in science and technology and their influence on history within the region. Discuss how the geographical characteristics of the area have provided a unique set of challenges and opportunities for technological innovations.



### ***High Desert Wildlife Biology***

Investigate the life history of our animals, including the otters, porcupines and birds of prey, and learn how different species adapt to various High Desert environments.



### ***Wildlife Care***

Have you ever wanted to work with wildlife or explore a career in wildlife biology? This special behind-the-scenes tour provides an inside look at how we care for our animals and why they are here.

## SELF-GUIDED TOURS

Self-guided visits are perfect for educators who want to lead their own tours of the Museum. The admission fee includes access to the exhibits, animal encounters and the *Spirit of the West* guided tour. Use our learning materials found at [www.highdesertmuseum.org/learning-materials](http://www.highdesertmuseum.org/learning-materials) to help facilitate your group visit. The learning materials are available at no charge and include pre-visit activities that are built upon during your time here and completed through post-visit activities in the classroom or at home. The content is linked to the Next Generation Science Standards and Oregon Social Science Standards.

Don't miss this opportunity to borrow STEM kits developed in collaboration with teachers at Buckingham Elementary School in Bend. Each kit is aligned with Next Generation Science Standards (NGSS) and contains the curriculum and materials needed to teach the unit.



### **Eco-engineers**

How do animals and plants change the environment to meet their needs? Students will explore plants and animals through hands-on lessons, engineering practices and field investigations. ***This kit meets kindergarten NGSS.***



### **Biomimicry**

How do plants and animals protect themselves? Through engineering design, hands-on activities and observations, students will study the structures of different plants and animals and use the information to solve a real-world problem. ***This kit meets 1st grade NGSS.***



### **Biodiversity**

How can biologists collect and analyze information about plants and animals in various habitats? Students will become biologists and explore local biodiversity, set up trail cameras and more! ***Best paired with the Squirrels: An Introduction to Field Investigations Discovery Class. This kit meets 2nd grade NGSS. Educators must participate in a 20-minute training with Museum staff before borrowing this kit.***



### **Exploring Sound and Light Along the Oregon Trail**

Could pioneers use their understanding of light and sound to survive in an unfamiliar environment? What technology did they use? Students will explore how people in the 1800s communicated with each other about dangers and emergencies on undeveloped land. Shadow boxes, star gazers and lasers are just some of the tools students will use. ***This kit meets 4th grade NGSS. Educators must participate in a 20-minute training with Museum staff before borrowing this kit.***



# TRAVELING TRUNKS

Traveling Trunks are a great way to extend the learning experience of the High Desert Museum and bring it back to the classroom. Trunks are all designed to enliven classroom learning. Each trunk contains hands-on materials with background information. The following trunks are available:

## ***Journey through the Water Cycle***



Using games and hands-on activities, this kit guides the students through the water cycle, watersheds, erosion and deposition.

## ***Skulls and Pelts of High Desert Mammals***



Use skulls and pelts to explore the adaptations of animals in the region.

## ***Traveling the Trail***



Through materials and artifacts, students explore the Oregon Trail.

## ***Biomimicry: Nature Inspires Design***



From helmets to safety barriers, animals inspire engineers to design safer equipment and materials. Using this kit, students investigate animal adaptations and create their own safety devices. The kit includes five skulls and consumable materials.

## ***Squishy Circuits***



With special dough, kids use their hands to create their very own simple circuits, or even light-up sculptures that move and make sounds! Explore current, resistance and voltage through real-world observations. The kit includes a class set of battery packs, LED lights, hobby motors and buzzers to explore electricity in a fun, hands-on way. The recipe for the dough will be provided.

## **2 weeks for \$25**

Visit [www.highdesertmuseum.org/traveling-trunks](http://www.highdesertmuseum.org/traveling-trunks) for information about opportunities to help you integrate the traveling trunks into your curriculum.

# REGISTRATION

## SELF-GUIDED TOURS

**\$4.50 per student, advance registration requested**

## ADVENTURE TOURS

**\$7.00 per student, advance registration requested**

## ON-SITE CLASSES: AT THE HIGH DESERT MUSEUM

**\$165 for a 60-minute program\***

**\$190 for a 90-minute program\***

\*Additional \$15 materials fee for Bird of Prey and What's the Matter classes

## CHAPERONE REQUIREMENTS FOR TOURS AND ON-SITE CLASSES:

All teachers and one chaperone for every three students are admitted free. A minimum of one chaperone for every five students and a maximum of one chaperone for every three students are required. If you exceed the number of chaperones per student an admission fee of \$8.50 will be added.

## OFF-SITE CLASSES: WE BRING THE MUSEUM TO YOU

**One class: \$200 for one 90-minute program\***

**Two or more classes: \$165 per class for a 60-minute program\***

\*Additional \$15 materials fee for Bird of Prey and What's the Matter classes  
Maximum of 30 students per program.

Mileage fees may apply for facilities outside of Bend.

*For questions and registration, please visit:*  
**[www.highdesertmuseum.org/schoolprograms](http://www.highdesertmuseum.org/schoolprograms)**  
*or call 541-382-4754 ext. 320*



# 2018-2019 EXHIBITIONS

Bring your students to any of this year's exhibits to connect Museum and classroom learning.

## *High Desert Dreams:*

*The Lost Homesteads of the Fort Rock Basin*  
May 12, 2018 — October 14, 2018

*Animal Journeys: Navigating in Nature*  
September 8, 2018 — July 14, 2019

## *By Her Hand:*

*Native American Women, Their Art, and The Photographs of Edward Curtis*  
September 22, 2018 — January 20, 2019

## *Desert Mystic:*

*The Paintings of John Simpkins*  
October 27, 2018 — February 17, 2019

## *Rick Bartow:*

*Things You Know But Cannot Explain*  
January 26, 2019 — April 14, 2019

## *The Beauty of Wild Things:*

*Charcoal Drawings by April Coppini*  
March 2, 2019 — June 23, 2019

## *Kids Curate*

May 2019

## *Water in the West*

May 2019 — September 2019

*School programs made possible by:*

BNSF RAILWAY FOUNDATION  
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# HIGH DESERT MUSEUM

59800 S. HWY 97 | BEND, OREGON 97702 | 541-382-4754 | HIGHDESERTMUSEUM.ORG

