



# McCall Outdoor Science School

An experience for all learners...



## Outreach Program Catalog

### Catalog Features:

- New Residential Programs in McCall
- Classroom and School-Based Outreach Programs
- Professional Development and In-Service Opportunities for Teachers

*"MOSS standards align perfectly with the Boise School District and State standards."*

~Brandon Hampton, 6<sup>th</sup> grade teacher from Boise~

*"MOSS gave my students a hands on, full sense exploration into a realm that we only discuss or read about in the classroom!"*

~7<sup>th</sup> grade teacher from Elk City~

*"Science inquiry is an integral part of any good science curriculum...MOSS reinforces what I do in the classroom everyday"*

~5<sup>th</sup> grade teacher from Moscow~



Palouse-Clearwater  
Environmental Institute



University of Idaho

# Outreach Program Catalog

## Program Overview:

The McCall Outdoor Science School (MOSS) is proud to offer science-based outdoor and experiential education programming to students from throughout the state of Idaho. Beginning in January 2007, MOSS will be offering year-round residential programming, spring outreach programs at your school and local natural areas, as well as professional development opportunities for teachers and other professionals. The primary goal of the program is to provide high quality, inquiry-based experiential education programs throughout the State that focus on achievement standards, community building, hands-on learning and science.

## Logistics Snapshot:

- Residential programs take place at the University of Idaho Field Campus in McCall.
- Outreach programs take place at your school and local natural or cultural areas.
- Residential Programming is offered in three to five day "blocks."
- Outreach Programming is offered in two to four day "blocks" though arrangements can be made for shorter programs upon request.

## Cost:

Fees for residential programs are based on student participation in the Federal Free and Reduced Lunch Program and represent underwriting by private and public donors.

- **5-Day Residential Programs**  
Standard Price: \$120/student  
Reduced Lunch Price: \$105/student  
Free Lunch Price: \$95/student
- **3-Day Residential Programs:**  
Standard Price: \$100/student  
Reduced Lunch Price: \$85/student  
Free Lunch Price: \$75/student
- **MOSS Outreach Programs:** \$200/day, which includes 4-6 instructors divided into one or many classrooms or working groups for the day, all program materials, and curriculum support.

## To Request a Program:

Email Eric Carpenter, Director of K-12 Education, at [eric@pcei.org](mailto:eric@pcei.org) or copy the forms in the back of this catalog, fill them out, and mail to:

**MOSS Program Request**  
**Palouse-Clearwater Environmental Institute**  
**P.O. Box 8596,**  
**Moscow, ID 83843.**

We will make every effort to provide you with the program dates and times you request, but final scheduling and logistics will be based on the order in which requests are received.

## For all other questions and comments:

Please contact Greg Fizzell, Director of the McCall Outdoor Science School Program, at 208.882.1444 or email him at [fizzell@pcei.org](mailto:fizzell@pcei.org). There is also a considerable amount of information available at our website: <http://www.pcei.org/moss/>

## OUTREACH PROGRAM OPTIONS

### **Option 1: MOSS Winter Residential Programs**

The MOSS Residential program, now in its 6<sup>th</sup> year, is known around the state for providing standards-based outdoor education experiences in a residential setting. Beginning in 2007 we will be adding 3-5 day winter programming to our existing fall and spring field seasons at the McCall Campus. Imagine your students spending their days on snowshoes, tracking wildlife, exploring the outdoors, and conducting place-based inquiries that connect science content to everyday experiences. Due to the winter weather in McCall we are limiting enrollment to 40 students/week during the winter and soliciting cold weather equipment from major manufacturers to supplement your learner's winter gear. For more information on this exciting opportunity please email Eric Carpenter at [eric@pcei.org](mailto:eric@pcei.org) or call 208.596.2642.

### **Option 2: MOSS Outreach Programs (see page 4)**

These modules are designed to bring K-8 experiential learning and MOSS program staff to your school and local natural areas. Curriculum content is derived directly from state standards and programs can be customized to fit your school's curriculum, classroom goals and students' needs. For each module or major theme, choose up to four of the 2-3 hour sessions (2 sessions/day) that follow the general format outlined below. The sessions are designed to build on each other so it is recommended that you follow the progression, though the introductory sessions (1 and 2) can stand-alone.

- Session 1:** Introduction and Basic Concepts
- Session 2:** Elaboration and Extension
- Session 3:** Inquiry and Place-Based Investigations
- Session 4:** Problem-Solving in Your Community

### **Option 3: Outdoor Science School at Your School (see page 9)**

For years students from across Idaho have come to the University of Idaho Field Campus in McCall for an exciting week of standards-based field science, exploration, and teambuilding. We are now able to bring all the fun and learning of a McCall field week to your school and local natural areas. During a typical week, a team of four to six MOSS instructors will travel to your area on Monday to prepare the study site and the team leader will meet with you and your administration to make final arrangements for your experience. Then, depending on the number of days you select from the list below, your students will spend up to four days with our instructors learning science concepts, developing their inquiry and science process skills, having fun and building a stronger classroom community.

- Day 1:** Inquiry and Earth Systems Science
- Day 2:** Hydrology Investigations in your Place
- Day 3:** Terrestrial Ecology and Explorations
- Day 4:** Research and Problem Solving

### **Option 4: Professional Development and In-Service Opportunities**

Staff from the University of Idaho and other institutions have joined with the McCall Outdoor Science School to bring you teambuilding & group development, experiential & outdoor education, as well as ecology, inquiry and science processes skills based in-service, for credit, trainings. For more information, please contact Eric Carpenter at [eric@pcei.org](mailto:eric@pcei.org) or call 208.596.2642.

## OPTION 2: MOSS Outreach Programs

When selecting from our list of program modules, begin with the introductory session and then you have the option to include additional topics and more advanced opportunities for your students as outlined below. Each session is approximately 2-3 hours long, with some room for flexibility, and two sessions are equivalent to an entire program day. It is possible to split the team of instructors between multiple classrooms at the same time, though this will be done at the expense of the student/instructor ratio.

**Session 1 – Introduction and Basic Concepts:** Students will develop a basic understanding of critical concepts, as well as lay the foundation for group work, inquiry and problem-solving activities that are the core of the following sessions.

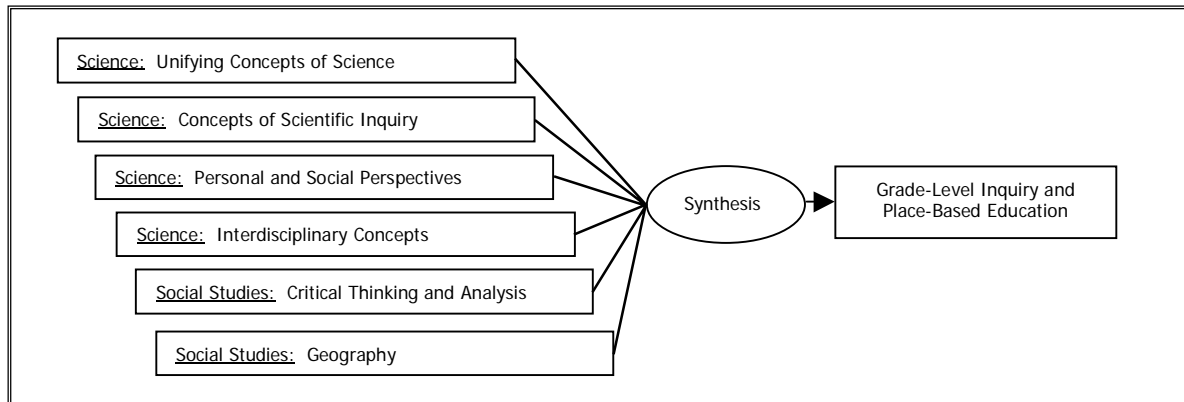
**Session 2 - Elaboration and Extension:** The program will elaborate on basic conceptual knowledge developed in Session 1 through more advanced activities and more exploration, helping your students extend their knowledge beyond the introductory level.

**Session 3 - Inquiry and Place Based Investigation:** Students will use newly formed knowledge to pose questions and conduct inquiry-based projects relevant to the central theme.

**Session 4 - Problem-Solving in Your Community:** Students will identify local issues and apply content knowledge and skills to the process of exploring viable solutions for their community.

### Idaho Education Standards and Grade-Level Correlations

MOSS Outreach Programs use the principles of inquiry and placed-based education, through a synthesis of six strands of Idaho's Education Standards as outlined below, to guide content selection and best practices.



Inside this framework each MOSS module has a standards-based theme as outlined in the sample matrix below. Alignment for each grade-level indicates that the standards marked in the matrix contain knowledge, skills or sample applications that will be addressed during instruction.

Subject	Theme-Descriptor	K	1	2	3	4	5	6	7/8
Social Studies	Evolution for Democracy					X	X	X	
	Citizen Responsibility and Rights					X	X	X	
Science	Concepts of Physical Science					X	X	X	X
Health	Communication Skills for a Healthy Lifestyle					X	X	X	X

## OPTION 2: MOSS Outreach Programs (cont.)

### 1 Teambuilding\* (Classroom and Outdoor/Large Space)

Using games, group challenges, and low-ropes course elements your students will have the opportunity to develop teamwork and group process skills in a fun and engaging environment. The McCall Outdoor Science School's 5-C Model, which focuses student attention on five critical character skills: caring, cooperation, communication, collaboration and building connections, forms the core of this module and acts as the base for inquiry and problem solving activities in sessions three and four. As is the case with all MOSS modules, sessions one or a combination of sessions one and two can "stand alone" as a whole-day program.

Session 1: Team 101: Initiative games and teambuilding basics

Session 2: Team 201: Low elements and higher order thinking

Session 3: Teamwork Inquiry: Exploring approaches to success

Session 4: Problem-Solving Day: Developing a strategy for success

#### Idaho Education Standards and Grade-Level Correlations

Subject	Theme-Descriptor	K	1	2	3	4	5	6	7/8
Social Studies	Evolution of Democracy					X	X	X	
	Citizen Responsibility and Rights					X	X	X	
Science	Interdisciplinary Skills					X	X	X	X
Health	Communication Skills for a Healthy Lifestyle					X	X	X	X



### 2 Exploring the Outdoors (Indoor and Outdoor)

These programs are ideal for young learners just beginning their relationship with science. Using explorations, plot studies, stories, and games students will learn to observe the natural world, take measurements and make predictions, as well as explore the connections that link the components of the Earth System in an exciting and interactive way. Program lengths are flexible and split schedules are possible to help accommodate the needs of younger learners.

Session 1: Nature Walking: Getting down and dirty with nature

Session 2: Fun with Science: Games, stories and activities to reinforce your science content

Session 3: Being a scientist: Asking questions and basic research

Session 4: Schoolyard Science: Applying basic research to your place

#### Idaho Education Standards and Grade-Level Correlations

Subject	Theme-Descriptor	K	1	2	3	4	5	6	7/8
Science	Concepts of Physical Science	X	X	X	X	X			
	Interdependence of Organisms and Biological Change	X	X	X	X	X			
	Matter, Energy, and Organization in Living Systems	X	X	X	X	X			

## OPTION 2: MOSS Outreach Programs (cont.)

### 3 Watersheds (Classroom and/or Outdoor)

This module uses your local topography to teach students about watersheds, the flow of water, and the interactions between the Earth System and water resources. Using the Geographic Information System (GIS), maps, models and other tools, your students will explore watershed concepts, the structure and function of surface and groundwater resources, as well as explore local water-related issues.

Session 1: Developing a Sense of Place: Exploring your local watershed

Session 2: Water, Water Everywhere: Exploring surface and groundwater resources

Session 3: Your Water: Tracking your water from source to sink and beyond

Session 4: Wise Water Ways: Application and problem solving

#### Idaho Education Standards and Grade-Level Correlations

Subject	Theme-Descriptor	K	1	2	3	4	5	6	7/8
Science	Concepts of Physical Science					X	X		
	Matter, Energy, and Organization in Living Systems								X
	Earth and Space Systems					X	X	X	X
Social Studies	History of Human Civilization					X	X	X	X



### 4 River Walking: exploring your local rivers (Classroom and Outdoor)

Using your local water resources, this module explores the physics of flow, life in riparian areas, and our connections to rivers and streams. Through hands-on exploration, measurement, and collection activities, students will explore the living and non-living components of our aquatic communities and their function in larger ecosystems they meander through. There are many potential program options, available as part of the River Walking module. Please add details to your program request form or contact program development staff if you have questions or specific content you want included in your MOSS experience.

Session 1: Life Aquatic: Exploring life in the river and riparian zone

Session 2: River Structures: Communities and the physics of flow

Session 3: River Inquiry: Biotic and abiotic connections in the riparian zone

Session 4: Our River Our Water: Application and problem solving

#### Idaho Education Standards and Grade-Level Correlations

Subject	Theme-Descriptor	K	1	2	3	4	5	6	7/8
Science	Interdependence of Organisms and Biological Change			X	X	X			X
	Matter, Energy, and Organization in Living Systems			X	X	X	X	X	X
	Earth and Space Systems			X			X	X	X

## OPTION 2: MOSS Outreach Programs (cont.)

### 5 Mapping/GIS (Classroom and/or Outdoor)

This is a nuts and bolts outdoor skills program that goes one or two steps beyond the basics by including the Geographic Information System (GIS) and the use of Global Positioning System (GPS) technology. The introductory sessions, which can be adapted for K-8, focus on map reading, compass use, and using various techniques to make maps. The final sessions incorporate the use of GPS units and GIS technology in exploration and inquiry activities that focus on your the local area. At the end of the programming GIS software and relevant data can be permanently downloaded onto your school's computer network or individual machines.

Session 1: Latitude and Attitude: Introduction to map, compass, and outdoor skills

Session 2: Mapping your Place: Flat-board mapping your schoolyard or natural area

Session 3: The Global Perspective: Using the GPS and GIS systems to explore place

Session 4: GIS in the Classroom: Application and problem solving

#### Idaho Education Standards and Grade-Level Correlations

Subject	Theme-Descriptor	K	1	2	3	4	5	6	7/8
Science	Earth and Space Systems						X	X	X
	Technology					X	X	X	X
Social Studies	Special Focus on a Geography Content and Sense of Place (K-8)	X	X	X	X	X	X	X	X



### 6 Invasive Species (Classroom and Outdoor)

With your community as a base for study, this module introduces students to noxious weeds and other alien plants and animals that are invading the state of Idaho. Students will learn about the abiotic and biotic habitat conditions that impact the establishment and survival of invasive species, as well as learn to identify, understand, and discuss the role of invasive species in their community. In the final sessions students will map invasive species, investigate and apply control methods, and develop understandings of the ecological and socio-economic impacts of invasive species in their area.

Session 1: Ecosystems Big and Small: Invasive species and habitats

Session 2: Putting the Pieces Together: Classification and identification

Session 3: Alien Invasion: Invasive ecology, impacts and controls

Session 4: Awareness, Controls and Inquiry: Application and problem solving

#### Idaho Education Standards and Grade-Level Correlations

Subject	Theme-Descriptor	K	1	2	3	4	5	6	7/8
Science	Interdependence of Organisms and Biological Change				X	X			X
	Matter, Energy, and Organization in Living Systems				X	X	X	X	X

## OPTION 2: MOSS Outreach Programs (cont.)

### 7 Fire Ecology (Classroom and/or Outdoor)

The fire ecology module focuses on the physical and chemical characteristics of fire, the fire triangle, and the conditions under which forest and range fires thrive. Through hands-on experiments students will develop understandings of the factors that control fire type and the spread of wildfires, while the final sessions focus on fire as a management tool and how to create a fire-safe community.

Session 1: The Fire Triangle: Experimenting with the basics of fire behavior

Session 2: The Forest on Fire: Fire and forest ecology in the intermountain west

Session 3: A Tool Not a Toy: Fire as a management tool

Session 4: A Fire-Safe Community: Application and problem-solving

#### Idaho Education Standards and Grade-Level Correlations

Subject	Theme-Descriptor	K	1	2	3	4	5	6	7/8
Science	Concepts of Physical Science							X	X
	Matter, Energy, and Organization in Living Systems					X	X	X	X
	Earth and Space Systems					X	X	X	X



### 8 Landforms: Reading the landscape (Classroom and/or Outdoor)

The landforms module is a blend of geology, earth science, and science inquiry that focuses students' attention on the processes that shaped the land in your area. By focusing on local landforms and hands-on experiments your students will gain direct experiences with the processes of erosion, deposition, mountain building, and volcanism that shaped the area in which you live. There is potential for some great field trips and investigations in this module. Please be sure to add details to your program request or contact program development staff.

Session 1: Reading the landscape: Observing landforms and functions

Session 2: Plate Tectonics: The forces that formed the State of Idaho

Session 3: Experimenting: Mountain building, erosion and deposition

Session 4: Shaping the future: Application and problem solving

#### Idaho Education Standards and Grade-Level Correlations

Subject	Theme-Descriptor	K	1	2	3	4	5	6	7/8
Social Studies	Exploration and Expansion				X	X	X		
	History of Human Civilization							X	X
Science	Concepts of Physical Science						X	X	
	Interdependence of Organisms and Biological Change				X	X			X
	Matter, Energy, and Organization in Living Systems				X	X			X
	Earth and Space Systems						X	X	X

## OPTION 3: OUTDOOR SCIENCE SCHOOL AT YOUR SCHOOL

**The 4-day Outdoor Science School at Your School** experience begins with a day of big group games, teambuilding activities, an introduction to scientific inquiry and the Earth Systems Science modeling process. The field-based investigations are daylong explorations of your local resources with a focus on science content, interdisciplinary learning, and inquiries. All of this is wrapped up with a day of student-directed research projects, field inquiries, and team-based presentations to the class or school. The entire experience integrates Idaho achievement standards, direct experiences with science content, explorations of your cultural and natural resources and most importantly, fun and engaging learning

**Day 1: Introduction and Teambuilding:** At the core of our MOSS philosophy is an emphasis on team dynamics, group work and the connections between components of the Earth System. In the first day of Outdoor Science School, your students will develop their teamwork skills through community-building games and activities, develop or refresh their understanding of the Earth Systems Science modeling techniques, and begin the process of field-based science inquiry.

**Day 2: Hydrology Investigations:** During their hydrology investigations, students will develop understandings of water's role on the planet, how watersheds and surface water interact in your area, as well as how the availability of water influences the distribution and characteristics of living communities. Students will measure, compare, and contrast the abiotic characteristics of different bodies of water and use this information as a base to help explain differences in the living communities they explore and adaptations of living things they collect and classify during the day.



**Day 3: Terrestrial Investigations:** The day studying terrestrial ecology is based on understanding the factors that control the distribution of living things on the land. During their experiences students will measure slope and temperature, compare soils and forest structures, all while making observations of and identifying the plants and animals they encounter. The focus of the day is on Earth Systems Science and making predictions and inferences about the interrelationships they observe, but with two other critical content areas intertwined: fire ecology and succession.

**Day 4: Research and Problem Solving:**

After exploring their surroundings and asking questions during hydrology and terrestrial investigations, students develop research questions to explore as a group. Using inquiry methods and the scientific circle of logic, students plan and conduct their own inquiries based on concepts that they have developed throughout the week. The culmination of this process is a presentation to the group, with posters, samples or skits that summarizes their results and their reflections on the process of scientific inquiry.

# Outreach Order Form



McCall Outdoor Science School  
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**PROGRAM OPTION 2: MOSS Outreach Programs**

*Please try to fill a minimum of two days of programming (4-sessions) for each school visit. Other arrangements can be made by request.*

**Teambuilding**

- Session 1: Teamwork 101
- Session 2: Teamwork 201
- Session 3: Teamwork Inquiry
- Session 4: Application and problem solving

**Nature Walking**

- Session 1: Nature Walking
- Session 2: Fun with Science
- Session 3: Being a Scientist
- Session 4: Application and problem solving

**Watersheds**

- Session 1: Watersheds 1
- Session 2: Watersheds 2
- Session 3: Watersheds Inquiry
- Session 4: Application and problem solving

**River walking**

- Session 1: Rivers 1
- Session 2: Rivers 2
- Session 3: Rivers Inquiry
- Session 4: Application and problem solving

**Mapping/GIS**

- Session 1: Mapping/GIS 1
- Session 2: Mapping/GIS 2
- Session 3: Mapping/GIS Inquiry
- Session 4: Application and problem solving

**Invasive Species**

- Session 1: Invasive species 1
- Session 2: Invasive species 2
- Session 3: Invasive species Inquiry
- Session 4: Application and problem solving

**Fire Ecology**

- Session 1: Fire ecology 1
- Session 2: Fire ecology 2
- Session 3: Fire ecology Inquiry
- Session 4: Application and problem solving

**Landforms**

- Session 1: Landforms 1
- Session 2: Landforms 2
- Session 3: Landforms Inquiry
- Session 4: Application and problem solving

Program request notes:

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**PROGRAM OPTION 2: OUTDOOR SCIENCE SCHOOL AT YOUR SCHOOL**

For Outdoor Science School programming, please select the days you would like to request, a two-day minimum is required.

- |                                                             |                                                   |
|-------------------------------------------------------------|---------------------------------------------------|
| <input type="checkbox"/> Introduction, Teambuilding and ESS | <input type="checkbox"/> Hydrology Investigation  |
| <input type="checkbox"/> Terrestrial Investigation          | <input type="checkbox"/> Research and Inquiry Day |

In the space below please describe the place, either at your school, a local park or natural area, where you envision this programming taking place. Please provide a street address and relevant contact information to aid our planning process.

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In the space below, please describe some of the outcomes and expectations you have for this outdoor experience.

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Notes:

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OVER

**SCHOOL AND PRIMARY CONTACT INFORMATION**

School Name: \_\_\_\_\_ Address: \_\_\_\_\_  
 Address Continued: \_\_\_\_\_  
 School Email: \_\_\_\_\_ School Phone: \_\_\_\_\_ School Fax: \_\_\_\_\_  
 Primary Contact: \_\_\_\_\_ Secondary Contact: \_\_\_\_\_  
 Contact Email: \_\_\_\_\_ Contact Email: \_\_\_\_\_

**CLASSROOM AND PROGRAM SCHEDULING DETAILS**

Please describe your class and the ideal dates and time of your programming, as well as some characteristics of your group. Development staff will contact you with schedule dates and times within three weeks of the receipt of this form and send you a confirmation letter in the mail.

Teacher Names: \_\_\_\_\_ Grade(s): \_\_\_\_\_  
 Number of Classes: \_\_\_\_\_ Class Size(s): \_\_\_\_\_ Time School Starts: \_\_\_\_\_ Time School Ends: \_\_\_\_\_  
 Lunchtime: \_\_\_\_\_ Specials or other times that are unavailable: \_\_\_\_\_  
 Please explain any special needs in your classes that our teachers should be aware of: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Ideal Weeks/Dates for your program: \_\_\_\_\_  
 Ideal Day or Days of the Week: \_\_\_\_\_  
 Ideal Time of Day: \_\_\_\_\_  
 Other critical scheduling information: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**PROFESSIONAL DEVELOPMENT OPPORTUNITY**

Teachers whose classes participate in the MOSS or MOSS Outreach Programs have the opportunity to receive one credit of professional development in environmental education through the Univ. of Idaho's College of Natural Resources for a cost of \$55/credit. If you are interested in pursuing the credit, check the box below and your instructors will bring the appropriate forms with them.  
 Yes, I am interested in pursuing professional development credit from the University of Idaho.

**THE FINAL STEPS**

Once a copy of this form is filled out completely, please mail it to: **MOSS Program Request, Palouse-Clearwater Environmental Institute, PO Box 8596, Moscow, Idaho 83843.** When the completed forms are received, your request will be processed and fit into our schedule. A member of the Program Development staff will contact you by email to confirm the actual program times and dates after which a confirmation letter will be mailed to your school address. If you have any questions or comments regarding this process or program details, please contact Eric Carpenter at [eric@pcei.org](mailto:eric@pcei.org) or Greg Fizzell at [fizzell@pcei.org](mailto:fizzell@pcei.org) or call the office at 208.882.1444

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