

Zoo Edition

Newsletter for Educators



Making the most of your zoo visit

A field trip to the zoo is a terrific way to expand classroom learning, but it is a big undertaking, involving a commitment of time and energy. To maximize the return on your investment of time and energy, it is a great idea to tie your zoo visit to your classroom focus as much as possible.

You might choose to have your students participate in a guided program, spending some of your zoo time with knowledgeable volunteers or staff members focusing on a specific topic. Some examples of topics covered in programs are:

- Interconnections: discover how plants and animals depend on each other
- Ecosystems: explore the parts of ecosystems on a large scale
- Adaptations: discover how animals adapt to living in different habitats
- Ecological processes: discuss processes like the water cycle and explore how they impact animals, plants and habitats

See page 7 for more information on these programs.

You can also plan your own self-guided visit and link it to your classroom work. For example, a unit on biomes comes alive here at the zoo where you can see animals living in a variety of habitats. A unit on weather is illustrated in a new way by looking at the adaptations of our animals and plants that enable them to survive weather conditions from Alaska to Australia.

To help you plan your trip and connect it to the classroom, the zoo has created resources from pre-visit sheets to downloadable teacher packets with activities you can use in your classroom. All of these resources are available online.

- Teacher packets: Each packet contains background information, fact sheets, activity ideas and resource information. All teacher packets are available to download online. For more information see page 6.
- Pre-visit sheets, scavenger hunts and inquiry activities: These information packets can be valuable aids for connecting your zoo field trip with your classroom curriculum. Resources are provided for focusing your field trip on a specific animal group, on a biome represented at Woodland Park Zoo, or for engaging your students in inquiry-based activities during their zoo visit.
- Presentations for your classroom: These downloadable PowerPoint presentations can be used as introductions or supplements to your classroom lessons or your zoo visit. These presentations can be modified to better adapt the content for your students.

You can find these resources along with other information on the zoo's website: <http://www.zoo.org>

The key with all of these programs and resources is to tie it all together, and to let our resources expand and complement your classroom lessons. Have a fun and educational visit to the zoo this year!



WOODLAND PARK ZOO

WOODLAND PARK ZOO
SAVES ANIMALS AND THEIR HABITATS
THROUGH CONSERVATION LEADERSHIP
AND ENGAGING EXPERIENCES, INSPIRING
PEOPLE TO LEARN, CARE AND ACT.

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Woodland Park Zoo serves as a vital resource for teachers and students across the state. Check the zoo's website for updates on happenings at the zoo, information on education programs, animal and plant fact sheets, and other resources for teachers and their students.

www.zoo.org

Programs at a Glance

Call 206.548.2424 for program information.

Outreach

Woodland Park Zoo Up CLOSE (Includes SOAR)

King County; Pre K-12th grades

Fees vary

Our expanded live animal outreach program provides exciting and educational encounters with a wider variety of species right in your classroom! Choose from our longstanding bird of prey programs, or from our new reptile or arthropod programs. All programs are geared toward the specific age groups to which they are offered, and designed to support the new state science standards for those grades. See page 10 for more information.

Wild Wise

King County; 4th-7th grades

Fees vary

The Wild Wise program includes a high-impact, multimedia indoor presentation and a hands-on, inquiry-based outdoor exploration. 4th through 7th grade students learn to hone their observation and investigation skills as they study and spend time in Washington habitats, including their own! See page 9 for more details.

At the zoo

ZEST (Zoo Experiences for Students and Teachers)

FREE; K-12th grades

A variety of K-12 programs are available from October through April. Explore the African Savanna, Northern Trail, Tropical Asia, Endangered Species, or Tropical Rain Forest with your students and trained docent guides. See page 7 for details.

School-to-Zoo Programs

FREE; K-5th grades in King County

School-to-Zoo programs are aligned with the NSRC/STC science kits adopted by Seattle Schools. These tour-based programs are available Tuesday through Friday, late September through April. They are designed to complement your science lessons. For schools with 30% or more free and reduced-rate lunch program, students zoo admission is free and transportation is subsidized. See page 5 for more details.

Zoo Overnight and Evening Adventures

Fees vary

Looking for a new way to explore the zoo with your students? Spend an evening or night at the zoo to visit areas that day visitors never see, experience two up-close animal encounters, use field research techniques such as camera trapping and radio telemetry, and more. Dinner and breakfast are included. Open to groups of 22-75 including adults and children. Minimum age: 7 years. See page 14 for details.

School-to-Zoo programs and bus funding available to King County schools

Schools throughout King County with 30% or more of their total student body receiving free or reduced-rate lunches (or a comparable level of scholarship) will receive free admission and subsidized transportation expenses. Admission will be free for all students, and for one adult (including teachers) for every six students (kindergarten classes can have up to one adult for every four students free).

Seattle schools will have their bus costs reimbursed up to \$110 per bus, and schools outside of Seattle but within King County will be reimbursed up to \$200 per bus. Funding is available September through April, so get your registration forms in early! You can attend a School-to-Zoo program, a ZEST program, or plan your own self-guided zoo visit — whatever works best for you and your students. These opportunities are provided with support from the King County Pro Parks Levy passed in 2007.

King County schools with fewer than 30% of their students participating in the free and reduced-rate lunch program are also welcome to attend a School-to-Zoo program; however they are responsible for their own admission and transportation expenses. Schools outside of King County are welcome to participate in ZEST programs and self-guided visits. For more information, call 206-548-2424.

Zoomazium guidelines for your zoo visit

Zoomazium is a terrific place for parents and their young children to explore nature indoors. Because children require close supervision to play safely in Zoomazium, this building can be challenging for school groups. School groups, especially 2nd grade and under, are welcome to enjoy Zoomazium during their school visit. Please have no more than three children per chaperone when you visit Zoomazium, and supervise children closely to ensure their safety. School groups will be admitted to Zoomazium on a first-come, first-served basis according to building capacity.

School Rates 2010/2011

Rates for schools visiting the zoo are as follows:

September 1, 2010 – February 28, 2011\$6.00

March 1, 2011 – April 30, 2011\$7.25

May 1, 2011 – August 31, 2011\$8.50

All rates are per person, and require advance written reservations and a minimum of one chaperone for every six students. Chaperones must stay with students of all ages throughout their zoo visit.

Zoo Hours

May 1 – September 30 9:30 a.m. – 6:00 p.m.

October 1 – April 30 9:30 a.m. – 4:00 p.m.

The workshop application is on the next page.

For more information, call 206.548.2424 or visit the zoo's website at www.zoo.org

Workshops are open to educators of all grades, including pre-service teachers. However, priority will be given to teachers within the targeted grade range of each workshop. The workshops are held at Woodland Park Zoo (unless otherwise noted) and include presentations by guest speakers, tours of zoo grounds, group discussions and hands-on activities.

CLIMATE CHANGE IMPACTS ON WILDLIFE OF LAND AND SEA

Saturday, October 16, 2010 (8:30 a.m. – 3:30 p.m.) at Seattle Aquarium and Saturday, October 23, 2010 (8:30 a.m. – 3:30 p.m.) at Woodland Park Zoo

Most appropriate for teachers of grades 3-12

Cost: \$120 materials fee (\$60 per session, participants may enroll for one or both sessions). Fees cover zoo/aquarium admission, materials, snacks and clock hours.

Clock hours (6 per day; 12 total) **or credit** (one quarter credit; must attend both days) will be available.

Application due date: Monday, September 20, 2010

Are you interested in actively engaging your students in one of the most timely topics of the century? If so, Woodland Park Zoo, Seattle Aquarium and the Cool School Challenge invite you to a workshop series focusing on the connection between climate change and wildlife.

The workshop will follow the LEARN, TEACH, ACT sequence: We will investigate climate change science and the impacts of climate change on aquatic and terrestrial habitats and animals. We will explore curriculum resources from Facing the Future to help your students understand the forces behind climate change and its connection to numerous social, economic, and environmental factors. The Cool School Challenge engages students, teachers and school districts in a school-wide initiative to reduce the school's carbon dioxide (CO₂) emissions by 2,000 pounds or more per classroom, per school year. Implement the Challenge and empower your students to become leaders, take action, and make a difference!

At the Seattle Aquarium we will investigate the impacts of climate change, "ocean change" on aquatic wildlife in Puget Sound and around the world. Workshop presenters will include Seattle Aquarium education, interpretation and conservation staff as well as biologists who focus on climate change impacts on aquatic wildlife.

At Woodland Park Zoo we will explore the impacts of climate change on terrestrial wildlife in the Pacific Northwest and around the globe. Workshop presenters will include Woodland Park Zoo education and conservation staff as well as wildlife scientists focused on climate change and wildlife.

BEARS OF THE WORLD

Saturday, December 4, 2010 (8:30 a.m. – 4:30 p.m. at Woodland Park Zoo)

Most appropriate for grades K-12

Cost: \$70 materials fee

Clock hours (7) available.

Application due date: Monday, November 8, 2010

Spend a day at Woodland Park Zoo learning more about bear species found around the world and in our own backyard. We will explore the physical and behavioral characteristics of bears through presentations, tours of the zoo and age-appropriate activities. We will also focus on threats to bears in the Pacific Northwest and around the world, as well as actions you and your students can take to support global bear conservation and to help your community be Bear Smart.



Adria Saracino

Advance registration by fax or mail is required for these workshops.

In order to be accepted into one of these teacher workshops, you must complete and submit the application on the reverse side. On the application due date of each workshop, up to 50 participants will be chosen randomly from the applications received. The remaining applicants will be placed on a waiting list. If a workshop is not filled on the application due date, additional participants will be accepted on a first-come, first-served basis from applications received after the application due date. Although registration for workshops is primarily random, we may take past attendance into account, allowing educators who have not yet attended teacher professional development programs through Woodland Park Zoo the opportunity to do so.

You will be notified by mail and/or email about your acceptance (or placement on a waiting list) at which time you will be asked to submit a materials fee by check or credit card to reserve your space in the workshop. Please do not submit your materials fee with your workshop application. If you are accepted into a workshop, your confirmation letter will list the location of the workshop on zoo grounds. If you are unable to attend the workshop, the materials fee will be refunded to you only if you cancel at least two weeks in advance.

WOODLAND PARK ZOO

Fall 2010 Teacher Workshops Application Form

Registration Procedures

1. Fill out the application form.
Registration is done by mail or fax only.
Telephone registrations are not accepted.
2. Submit your application by the application due date listed for the workshop(s) of your choice.
3. Please do not send your materials fee with this form.

Please put a check by any workshop(s) you are interested in attending:

CLIMATE CHANGE IMPACTS ON WILDLIFE OF LAND AND SEA

- ☐ **BOTH:** Saturday, October 16, 2010 (8:30 a.m. – 3:30 p.m.) at Seattle Aquarium
and Saturday, October 23, 2010 (8:30 a.m. – 3:30 p.m.) at Woodland Park Zoo
- ☐ **Seattle Aquarium only:** Saturday, October 16, 2010 (8:30 a.m. – 3:30 p.m.)
- ☐ **Woodland Park Zoo only:** Saturday, October 23, 2010 (8:30 a.m. – 3:30 p.m.)

Application due date: Monday, September 20, 2010 (for all options)

BEARS OF THE WORLD

- ☐ Saturday, December 4, 2010 (8:30 a.m. - 4:30 p.m.) at Woodland Park Zoo

Application due date: Monday, November 8, 2010

| | | | |
|-------------------------------------|----------------------------------|-------------------------------------|--------------------------------------|
| Name | | <input type="checkbox"/> M | <input type="checkbox"/> F |
| School Name | | | |
| <input type="checkbox"/> Public | <input type="checkbox"/> Private | <input type="checkbox"/> Homeschool | <input type="checkbox"/> Pre-Service |
| <input type="checkbox"/> Substitute | | | |
| District | | County | |
| School Address | | | |
| City | | State | Zip |
| School Telephone | | School Fax | |
| School Email | | | |
| Grade Level(s) I teach: | | Subjects I teach: | |
| Home Address | | District | |
| City | | State | Zip |
| Home Telephone | | Cell Phone | |
| Home Email | | | |

| | | |
|----------------------|---------------------------------|-------------------------------|
| Mail information to: | <input type="checkbox"/> School | <input type="checkbox"/> Home |
| Call at: | <input type="checkbox"/> School | <input type="checkbox"/> Home |
| Email me at: | <input type="checkbox"/> School | <input type="checkbox"/> Home |

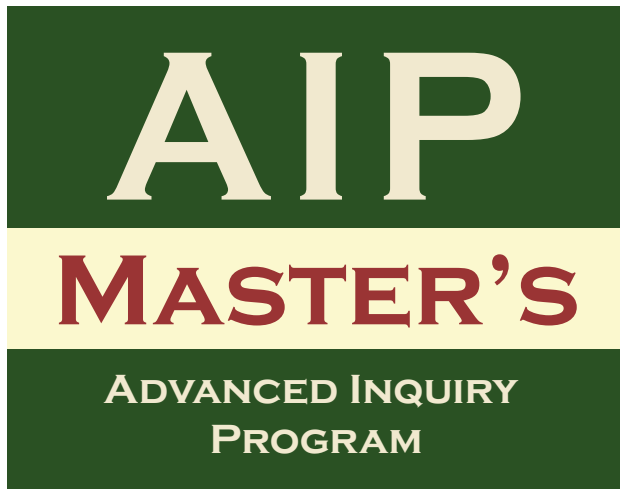


Print this form and mail to:

Woodland Park Zoo
601 North 59th Street
Seattle, WA 98103-5858
Attn: Individual Registrar
or fax 206.547.3553

Telephone registrations are not accepted.

New Master's Degree offered from Woodland Park Zoo!



Woodland Park Zoo and Project *Dragonfly* at Miami University of Ohio are thrilled to introduce the Advanced Inquiry Program (AIP), an exciting new Master's program for educators beginning in summer 2011. Co-delivered by Woodland Park Zoo professional education staff and faculty at Miami University, the AIP combines graduate courses at the zoo with web-based learning communities that connect you to a broad network of educators and community leaders.

Project *Dragonfly* reaches millions of people each year through inquiry-driven learning media, public exhibits, graduate programs, and conservation partnerships worldwide. AIP Master's students join a growing alliance of education, environmental, and community leaders. The AIP is a first-of-its-kind graduate degree co-delivered by major community institutions committed to local, national, and global change.

Woodland Park Zoo is excited to offer local Washington teachers the chance to take part in this new program through teacher professional development courses offered on zoo grounds and around the Pacific Northwest. These courses will be based in our strong foundation of teacher professional development experiences. Students take courses, build local connections, receive individualized mentoring, and share their work at the zoo and in their community. Students also join fellow students, AIP faculty, and leaders across the U.S. in web-based learning communities for collaborative research and national inquiry projects.

Program benefits:

- The zoo and the world as your classroom: 21 credit hours are completed at Woodland Park Zoo or field sites around Washington state and 14 credit hours taken with AIP Master's students nationwide via web-based learning communities. Up to 7 credit hours from an Earth Expeditions global field course (www.earthexpeditions.org) may count toward the degree.
- Convenient: can be completed in 2 ½ years part-time while working!
- Affordable: approximately \$2,400 per year for basic tuition and fees!

Applications are accepted until February 28, 2011 for summer enrollment. For more information, see the Advanced Inquiry Program page on the zoo's website: www.zoo.org

Want to know more about Woodland Park Zoo's new Master's program for educators?

Attend our informational forum about the Advanced Inquiry Program! Join other classroom and informal educators from around Puget Sound to learn more about this new Master's degree opportunity.

Tuesday, November 9, 2010
6:00 to 7:30 p.m. at
Woodland Park Zoo's Education Center

This informational forum includes snacks and a live animal presentation!

For more information or to RSVP, please email AIP@zoo.org or call 206.548.2581

Woodland Park Zoo teacher packets contain background information, fact sheets, activity ideas and resource information. Activities included in teacher packets help you meet Washington's Essential Academic Learning Requirements and Washington's Environmental and Sustainability Education Standards. Most activities are designed for use with students in grades K-12 and all are easily adapted to suit your needs. The packets can be used to help you design a curriculum for use at the zoo or in your classroom.

ALL Teacher packets are available for free download at www.zoo.org
Hardcopy teacher packets are \$10.00 each plus tax (includes a one-day admission pass)
Teacher packets are available at the ZooStore or by calling 206.548.2500 x1561
Price does not include postage.

African Savanna: The central theme of this packet is the balance of nature. You and your students will examine the relationships between plants, animals and people of the east African savanna. This packet includes information about ecotourism and how people can minimize their impact on this fragile and fascinating part of the world.

Amazing Arthropods: The group of animals classified as arthropods is the largest, most diverse group of animals in the world. It includes insects, spiders and lobsters. This packet helps you and your students explore these fascinating and vitally important animals.

Apes: This packet, designed for grades 6-9, focuses on apes and helps students to make connections between the physical, behavioral and environmental characteristics of apes. The packet also explores the urgent issue of ape conservation. Using an interdisciplinary approach, activities are woven throughout the packet, providing students with opportunities to build an understanding of apes' adaptations and strategies for survival.

Endangered Species: This packet is designed for grades 5-12, but includes background information and a few activities useful for grades K-4. You will find current information regarding endangered species in our state, country and throughout the world.

Forest Explorers: This packet was designed to supplement Woodland Park Zoo's early elementary forest ecology program, but is adaptable for most elementary grades. With sections on forests, habitats, niches and interdependence, and conservation, Forest Explorers compares Washington state's temperate forests with tropical rain forests of Central and South America.

Northern Trail: Life in the far north is hard. The ground is permanently frozen, the sun never shines during part of the winter, and never sets during part of the summer. How do animals and plants adapt to this environment? This packet helps you share the mysteries of Alaska with your students.

Raptors: Birds of prey are magnificent animals that can be readily seen in both urban and rural areas. Since they are top predators, raptors provide an excellent avenue for studying a wide variety of biological concepts, such as predator-prey relationships, adaptations and the effects of human influence.

Reptiles & Amphibians: Cold-blooded animals have developed unique physical characteristics and life cycles for survival in a variety of habitats. This packet explores the human-posed threats faced by reptile and amphibian populations throughout the world. Specific examples are provided about species in Washington state that are threatened or endangered.

Tropical Asia: Plants, animals and people of tropical Asian forests are inextricably linked. This packet looks at interconnections that make life in the tropical rain forests of Asia possible and helps students to learn about biodiversity and interdependence. *Revised packet coming soon!*

Tropical Rain Forest: This packet presents information on forests of the world, with an emphasis on tropical rain forests. Activities and information focus on the different layers of the forest, and the species of plants and animals that are uniquely adapted to each layer. Also provided are ideas on how you and your students can help conserve forests.

Washington Wildlife: Washington state contains some of the most diverse ecosystems in the nation. This packet takes a detailed look, through background information, activities and resources, at five different habitat regions: the steppe, montane, temperate forest, wetland and urban areas.

Zoo/Wildlife Careers: Did you know that the zoo employs more than 250 people in careers from accounting to zookeeping? This packet helps teachers of all grades guide their students in explorations of zoo and other wildlife careers.

Videos, slides and other materials are available for loan. See Teacher Resources at www.zoo.org for loan materials and fees.

School Programs at the Zoo

See page 8 for a School Visit Registration Form

Education programs and materials provided by Woodland Park Zoo are designed to help students meet Washington's Essential Academic Learning Requirements for students in science and other subjects, as well as Washington's Environmental and Sustainability Education Standards.

ZEST

Zoo Experiences for Students and Teachers

(open to all schools)

Available Tuesdays through Thursdays

October 5, 2010 – November 30, 2010

and February 1, 2011 - April 28, 2011

Length: 1 hour

For more information please call 206.548.2424

The following interactive experiences are available free of charge (with zoo admission) to all schools. Facilitated by zoo docents, these programs involve students in exploration of different areas of the zoo and conservation issues through on-grounds zoo experiences and in some cases, a classroom component. Programs are limited in size. Corresponding teacher packets that provide additional information, activities and classroom curriculum material are available (see page 6).

Survival in the North

Grades 1–12

What are the secrets of animal survival in the extreme seasons of the Arctic? Join us for this interactive program that explores the physical and behavioral adaptations of Alaskan animals in the zoo's Northern Trail.

Interconnections: People, Plants and Animals

Grades 1–12

How are the people, plants and animals of the tropical forests of Asia connected? This on-grounds program explores the myriad ways that people, plants and animals are interdependent. Join us for this interactive program in the Tropical Asia exhibit.

Soaked or Parched? Water in the African Savanna

Grades 1–12

How do the cycles of wet and dry seasons influence the lives of people, plants and animals on the African savanna? This on-grounds program explores the role of water as a vital resource for people, plants and animals in this dynamic ecosystem and in our own neighborhoods.

Tropical Rain Forest

Grades K–12

Tropical rain forests are ecosystems of amazing biological diversity. An interactive classroom presentation engages students in becoming different layers of the forest, followed by a tropical rain forest trek to discover wildlife from tropical forests.

Endangered Species

Grades 5–12

Using inquiry-based learning, students will examine how wildlife is impacted by changes in their environment and interaction with humans. Following the classroom program, students will tour the zoo to learn in-depth about some of the zoo's endangered animals and how they can make a difference.

School-to-Zoo Programs

(open to King County schools)

Available Tuesdays through Fridays

September 21, 2010 – April 29, 2011

Length: 1 hour (1 1/2 hours for Forest Explorers)

For more information please call 206.548.2424

School-to-Zoo programs directly complement the NSRC/STC science kits taught in grade K-5 classrooms. These programs give a “real world” setting for classroom studies, expanding on concepts begun in school. Because these programs are so closely aligned to the science kits, they are recommended for King County schools that are teaching the appropriate science kits or related units. They are designed to complement your science lessons as you begin the curriculum, or provide a new way to conclude your lesson. These programs are free to King County schools. Free zoo admission and subsidized transportation is available to qualifying schools.

Farm and Fabric/Family Farm (K-1st)

Students will use observation skills of the Animals 2 by 2 curriculum as they explore the differences and similarities in cows, chickens and goats. Students also have the opportunity to touch a farm animal and make their own fabric from sheep fleece.

Weather and Organisms/Northern Trail (K-2nd)

Focusing on the influences of weather on a variety of organisms, this program explores the Northern Trail, during which students learn about plant and animal adaptations to cold.

Forest Explorers/Temperate & Tropical Rain Forest (1st-3rd)

Forest Explorers introduces students to the important components of Costa Rica's tropical rain forests and Washington state's temperate forests. Students also discover the importance of soil in forest ecosystems. The program consists of an interactive auditorium program and a tour of the zoo's Temperate and Tropical Rain Forests.

Plant Growth and Development/Tropical Asia (2nd-4th)

Exploring the Trail of Vines, which features ecosystems of tropical Asia, students will discover how plants rely on animals, and how animals rely on seeds, seedlings, mature plants and even dead plants.

Ecosystems/African Savanna (3rd-5th)

The essential elements of an ecosystem — animals, plants, soil and water — gain new meaning for students as they investigate the zoo's African Savanna.

Homeschool Days 2010

Washington Wildlife

September 29, October 8 and October 18

Homeschool students and parents are invited to Woodland Park Zoo for a day of hands-on workshops and activities focused on Washington wildlife. This flexibly scheduled, open-ended discovery opportunity is designed to help homeschool groups explore our local wildlife and their habitats. There will be self-directed hands-on discovery stations set up in the classroom and other more structured learning opportunities for various ages. For more details see the zoo website <http://www.zoo.org>

2010/2011 School Visit Registration Form

Registration Procedures

1. Fill out the registration form.
Registration is done by mail or fax only.
Telephone registrations are not accepted.
Question? 206.548.2424
2. Get your application in early! Three weeks advance notice is required for booking your zoo visit.

| 1st choice | 2nd choice | 3rd choice |
|------------------------|------------------------|------------------------|
| Day of week M T W TH F | Day of week M T W TH F | Day of week M T W TH F |
| Date / / | Date / / | Date / / |

School program you wish to attend:

☐ **School-to-Zoo** (September 21, 2010 - April 29, 2011) King County schools only

- | | | | |
|---|--------------------------------|--------------------------------|----------------|
| <input type="checkbox"/> Farm and Fabric (K-1st) | <input type="checkbox"/> 10:30 | <input type="checkbox"/> 11:45 | Tuesday-Friday |
| <input type="checkbox"/> Weather and Organisms (K-2nd) | <input type="checkbox"/> 10:30 | <input type="checkbox"/> 11:45 | Tuesday-Friday |
| <input type="checkbox"/> Soil/Forest Explorers (1st - 3rd) | <input type="checkbox"/> 10:30 | — | Tuesday-Friday |
| <input type="checkbox"/> Plant Growth and Development (2nd - 4th) | <input type="checkbox"/> 10:30 | <input type="checkbox"/> 11:45 | Tuesday-Friday |
| <input type="checkbox"/> Ecosystems (3rd - 5th) | <input type="checkbox"/> 10:30 | <input type="checkbox"/> 11:45 | Tuesday-Friday |

☐ **ZEST Docent-guided** (October 5, 2010 - November 30, 2010 and February 1, 2011 - April 28, 2011)

- | | | | |
|---|--------------------------------|--------------------------------|------------------|
| <input type="checkbox"/> Endangered Species (5th - 12th) | <input type="checkbox"/> 10:30 | <input type="checkbox"/> 11:45 | Tuesday-Thursday |
| <input type="checkbox"/> Interconnections (1st - 12th) | <input type="checkbox"/> 10:30 | <input type="checkbox"/> 11:45 | Tuesday-Thursday |
| <input type="checkbox"/> Soaked or Parched? (1st - 12th) | <input type="checkbox"/> 10:30 | <input type="checkbox"/> 11:45 | Tuesday-Thursday |
| <input type="checkbox"/> Survival in the North (1st - 12th) | <input type="checkbox"/> 10:30 | <input type="checkbox"/> 11:45 | Tuesday-Thursday |
| <input type="checkbox"/> Tropical Rain Forest (K-12th) | <input type="checkbox"/> 10:30 | <input type="checkbox"/> 11:45 | Tuesday-Thursday |

☐ **Self-guided Experience** (All grade levels) The focus of our visit is _____

Number of Students Number of Adult Chaperones Number of Classes Grade Level

One chaperone, over 21 years of age, is required per six students, regardless of their age. ☐ My group has special needs.

| | | |
|--|----------------------------------|-------------------------------------|
| School Name | | Phone office () |
| <input type="checkbox"/> Public | <input type="checkbox"/> Private | <input type="checkbox"/> Homeschool |
| District | | County |
| School Address | | |
| City | State | Zip |
| Contact Teacher | | Phone direct () |
| Email | | Best times to reach me are |
| I would like to receive confirmation forms and correspondence via: <input type="checkbox"/> US post <input type="checkbox"/> email | | |

Please read and sign this form. Applications cannot be accepted without both signatures.
By signing below I agree to hold our school to Woodland Park Zoo's rules of conduct.

| |
|------------------------------|
| Signature of Contact Teacher |
| Date |
| Name of School |
| Name of Principal |
| Date |
| Signature of Principal |



Print this form and mail to:

Woodland Park Zoo
601 North 59th Street
Seattle, WA 98103-5858
Attn: Group Registrar

or fax 206.547.3553

Telephone registrations are not accepted.



Please contact the Group Registrar at 206.548.2424 or group.registration@zoo.org for more information, or visit www.zoo.org

Wild Wise provides a chance for your students to experience the habitats and wildlife of Washington in their own classroom and schoolyard. Led by Woodland Park Zoo naturalists, Wild Wise offers both an interactive multi-media presentation and outdoor field exploration. With a focus on hands-on science and observational skills, Wild Wise is designed to support Washington State Science Standards for 4th to 7th grades.

Available in King County – Monday through Friday – September through May

Fees: \$150 for the first presentation; \$100 for each additional presentation (can be either indoor or outdoor)

Maximum of 4 presentations per day.

FREE for low income schools (if 30% or more of your students are on free or reduced-rate lunch, you qualify)

Indoor Presentation

The Wild Wise indoor presentation is meant to showcase the amazing habitats of Washington and the animals which call them home. The program also focuses on skills used by professional biologists and naturalists. Students will receive a waterproof field journal and embark on a virtual field trip across Washington, learning how to identify and recognize native flora and fauna. In addition they'll see what people are doing to protect our environment right here in Washington, and what they can do to help.

Outdoor Exploration

Outdoor Explorations are intended to follow the indoor program and serve as an extension of the topics covered inside. Many of our Outdoor Explorations have been designed to give your students hands on experience with the topics and skills in the new Washington State Science Standards.



Woodland Park Zoo

Outdoor Exploration Options

Inspire and Explore

This Outdoor Exploration is designed to inspire wonder for Washington's flora and fauna in students with all levels of experience in the natural world.

- Nature Explorations

Inquisitive Focus

During these explorations, students will have an opportunity to use scientific equipment, practice inquiry skills and gain real-world skills.

- Research Based Field Exploration
- Wetland Exploration
- Compass and GPS Use

Sensory Awareness and Reflection

These Outdoor Explorations engage the students in imaginative activities such as journaling/sketching, storytelling, and sensory exploration.

- Nature Journaling
- Native Legends and Ethnobotany
- Animal Senses



Woodland Park Zoo

Woodland Park Zoo Up CLOSE:

Live animal encounters in your classroom!

(Includes the former SOAR raptor programs)

Please contact the Group Registrar at 206.548.2424 or group.registration@zoo.org for more information, or visit www.zoo.org

Bring the new Washington State Science Standards to life with engaging classroom encounters with live zoo animals! Up CLOSE programs harness your students' natural fascination with birds of prey, reptiles, or arthropods to teach about animal classification, life cycles, behavior, ecological systems and more.

Available in King County – Tuesday through Friday – September through May

Fees: \$150 for the first presentation; \$100 for a second presentation of the same program, starting no more than 90 minutes after the first program's start time.

Maximum of 2 presentations per day.

Participating teachers can choose to receive a free copy of the appropriate teacher packet

FREE for low income schools (if 30% or more of your students are on free or reduced-rate lunch, you qualify)

Raptor programs: (Formerly called SOAR programs.)

Maximum 80 students per program (but we strongly recommend no more than 60 for preschool and Kindergarten groups)

Owls: Who Are They? Pre K-5th Grade, and mixed-age groups

Silent hunters of the night, owls loom large in the human imagination. But the reality of owls and their adaptations for nocturnal life are even more amazing! This program is unforgettable for its intended age group, but also easily adapted for mixed ages and general audiences. Supports new science standards K-1 SYSA, LS1B and LS1D; 2-3 SYSC and SYSE; 4-5 LS1B, and LS1C.

Raptor Ecology 4th -12th Grades

Focuses on food webs, ecology, and the varied and important roles raptors play in ecological systems. Also discussed are threats to raptors, and how raptors are often key indicators of environmental health. Supports new science standards 4-5 LS2C through F; 6-8 LS2B, LS2D and LS2E.

Owl and Raptor Discovery Kits

Along with your classroom program, you may choose to rent either an Owl or Raptor Discovery Kit. Each kit contains natural items such as feathers, wings, skulls, or feet, as well as comparative displays, books, multimedia items, and more. The rental period is two weeks, and begins or ends on your program date. Your program presenter will drop off or pick up the kit, and you will be responsible for picking up the kit from, or returning it to the Zoo's Education Center. Kits are very limited in number, so if you are interested in renting one, please make your program reservation as far in advance as possible. Rental fee: \$25.

Arthropod programs: Maximum 60 students per program

What Makes a "Bug?" Pre K-1st Grade

Every young child knows the word "bug," but what sorts of animals might we include in that category? This program explores the world of arthropods – insects, spiders, millipedes, and more – examining the characteristics that all species in the phylum share. Supports new science standards K-1 SYSA, LS1B, LS1D, and LS3C.

This Is Their Life: Arthropods 2nd - 3rd Grades

Arthropods lead very different lives than our own, and in many cases, very different lives from one another. This program compares and contrasts the fascinating life cycles of different arthropod species. Supports new science standards 2-3 SYSE, and LS1B.

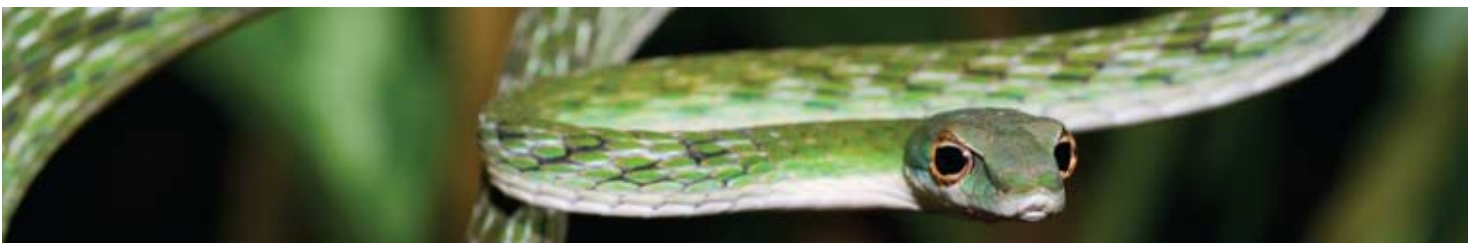
Reptile programs: Maximum 60 students per program

What Makes a Reptile? Pre K-1st Grade

Reptiles hold great fascination for people of all ages. This program uses that fascination to explore what all reptiles have in common, and what characteristics are used to divide them into their separate orders. Supports new science standards K-1 SYSA, LS1B, LS1D, and LS3C.

This Is Their Life: Reptiles 2nd - 3rd Grades

Eating plants or eating animals, laying eggs or not laying eggs, growing up fast or growing up slowly, reptiles run the gamut of different ways of life. Engage your students' interest in life cycles by introducing them to the astounding world of reptiles! Supports new science standards 2-3 SYSE, and LS1B.



Ryan Hawk

Bears of Washington State

(adapted from “Living with Bears” by the Grizzly Bear Outreach Project)

In Washington state you can find both black bears and brown bears but you are much more likely to encounter a black bear.

American black bears (*Ursus americanus*) are the most common and widely distributed bear in North America. They inhabit 32 of the 50 states and 11 of the 12 Canadian provinces. Just in Washington state there are an estimated 25,000 black bears. If you spend a good amount of time in the forests around Washington you are likely to see either signs that a bear has been there or a bear itself. Incredibly less common is the brown bear (*Ursus arctos*). Biologists estimate that fewer than 50 brown bears live in Washington. Grizzly bears are a subspecies of brown bear inhabiting interior portions of the North American continent.

Besides the fact that you are much more likely to see a black bear than a brown bear, how can you tell them apart? The first clue is the hump on the back of the brown bear. This hump is made of the shoulder muscles and very pronounced on the brown bear. From the side you can also see that a grizzly bear has a dished face between the forehead and the nose while the black bear has a straighter profile. The ears also give it away; black bears have triangular pointy ears that stick up while the grizzly bear's ears are short and round.

Bears have an unbelievable good sense of smell, and this means you are unlikely to actually see one as they would



Anan Interpretive Staff

smell you from miles away. But, you can still look for signs that bears have been there. Scat, or droppings, is one of the best things to look for. Usually it looks like a really large dog dropping. Tracks are another thing to keep your eyes out for. You can also often see claw scratches or clumps of hair on trees and shrubs.



Ryan Hawk

Be Bear Smart!

In their natural habitat, bears are shy creatures, preferring to avoid humans whenever possible. Occasionally, a black bear will make an appearance in a neighborhood, often just wandering through, but sometimes getting into garbage cans or bird feeders. There are definitely ways to reduce bear-human conflicts and Grizzly Bear Outreach Program (GBOP) is trying to help people understand ways to co-exist peacefully with bears.

Here are a few tips:

- Put garbage cans out the morning of pick-up instead of the night before.
- Feed pets indoors and keep them inside at night. Store pet food indoors
- Wash your barbecue thoroughly immediately after use or burn off all food particles.

For more tips on how to be Bear Smart or more information on either the black bear or brown bear visit the GBOP website at <http://www.bearinfo.org>

CAREER CORNER

Excerpts from an interview with Amy Brandt (AB), WPZ Zookeeper

WPZ: What is your job title?

AB: Zookeeper

WPZ: What other animals do you work with besides the grizzly bears?

AB: Lots! Goral, eagles, mountain goat, arctic foxes, otters, lorises, snowy owl, magpie, porcupine, barred owl, snow leopards, wolves, elk.

WPZ: What do the bears eat?

AB: Everything: fruits, veggies, grass, chow, meat, fish, rabbits, cereal, marshmallows, raisins, dog food, lettuce, celery, kale, and the list goes on.

WPZ: What is a typical day like?

AB:

- 7:00 check all the animals and feed the trout in the bear pool
- 7:30 feed breakfast to the bears and clean their exhibit
- 8:30 feed breakfast to the otters and clean their exhibit and holding area
- 8:45 feed breakfast to mountain goat and foxes; clean their exhibit and holding area
- 10:00 feed the eagles and clean their exhibit
(are you seeing a pattern here!!!)

10:30 clean bear holding area

11:00 feed the bears and otters lunch

11:30 prepare food for the afternoon and the next day

12:00 feed the keeper (lunch time)

1:00 feed the goral and clean their exhibit

2:00 projects, daily report, e-mail, meetings

2:30 feed afternoon meal to foxes and mountain goat

3:00 feed the bears, otters, and trout

3:20 check all the animals, pull uneaten food from eagles
(so raccoons don't eat it all)

3:30 give bears access to holding
GO HOME!!

WPZ: Do you pet the bears

AB: No. Sometimes we do touch them through the bars for husbandry purposes like teeth brushing, or drawing blood. But they are not pets, nor are they "tame."

WPZ: Do the bears have personalities? And if so, what are they like?

AB: Most definitely. Keema is the smaller of the two bears, but is definitely the dominant animal. He is more anxious when locked in or separated; however, he is also the easiest to do training with. Denali is more easy going and more adaptable to changes in the routine and changes in his brother. In close-up interactions, they are very dog like.

Activity: Fattening up the Grizzly Bear

Over a period of weeks before denning up for the winter, grizzly bears must eat up to 20,000 calories per day in order to build up enough fat to survive through the winter.

Materials: pictures of bear food: fruit (blackberries), root (yellow glacier lilies), meat (pocket gopher) and human food: fruit (apples), root (potatoes), meat (cheeseburger)

- Using the amounts and calorie counts below, have the class calculate how much of the suggested three types of foods a grizzly must eat each day in order to build up enough fat before denning (20,000 calories per day). As a comparison, have the students calculate how much of each type of human food a person would have to eat to match the bear's daily intake of 20,000 calories.

| Grizzly Bear | Human |
|--|---|
| Blackberries: 3/4 cup (4.9 ounces [140g]) = 90 calories | Apple: One medium (5.5 ounces [154g]) = 80 calories |
| Root (compare four yellow glacier lily bulbs to one medium sweet potato): (4.6 ounces [130 g]) = 130 calories | Potato: One medium (5.3 ounces [130 g]) = 130 calories |
| Pocket gopher (compare one pocket gopher to ground beef): (3 ounces [84g]) = 188 calories | Cheeseburger: One = 320 calories |

Backyard Habitat Classes—Fall Series

At this series of five classes, you'll learn from experts from Seattle Audubon, Washington Department of Fish and Wildlife, Washington Native Plant Society, and Woodland Park Zoo about how to attract birds and other wildlife to your backyard, select and care for native plants, recognize and remove invasive plants species, coexist peacefully with the wildlife you attract, conserve water, manage your backyard without the use of chemical herbicides and pesticides, place feeders and bird houses, and get your yard certified as a backyard habitat.



Lori Veres

Classes are designed to build on each other as a series, but may also be taken separately. These classes are open to the general public, but teachers are encouraged to attend for their own personal interest or if interested in starting a schoolyard habitat.

Cost: \$25 per person / \$100 for the five-part series if you register before 6:00 pm on Tuesday, September 21. Ten Washington state-approved clock hours will be available for the five-part series, free of charge, through Woodland Park Zoo.

Registration closes one week before each class. If there is still space available after registration closes, drop-in registrations will be accepted until the class begins. The late registration fee is \$30. To see if space is still available in the class and to find out the class location, contact the Individual Registration Specialist at 206.548.2424 or send an email to individual.registration@zoo.org.

Fall 2010 Backyard Habitat Classes

Introduction to Backyard Habitat: Site Analysis and Design

Date: Tuesday, September 28 from 7:00 to 9:00 pm

Natural Yard Care in the Fall

Date: Saturday, October 9 from 10:00 am to 12:00 pm

Fall Plants and Planting

Date: Saturday, October 9 from 1:00 to 3:00 pm

Attracting Birds to Your Yard

Date: Wednesday, October 27 from 7:00 to 9:00 pm

“Problem” Plants and Animals

Date: Tuesday, November 16 from 7:00 to 9:00 pm

For more information or to register for classes, please see the Education section of the zoo's website: www.zoo.org

Classes and Camps

School's Out - Days of Fun!

Do you think your students' parents might be looking to plan ahead for those days when their children will be out of school, but they will be at work? Clue them in! Woodland Park Zoo now offers one-day programs for children on teacher in-service days.

Fee: \$70

Ages: Children ages 5 to 9

Nature Experiments

In this one-day workshop, you'll run a variety of experiments and visit zoo grounds to discover and explore the many wonders of nature.

1310: October 8, 9 a.m. to 4 p.m.

Animal Enrichment

Celebrate a day off from school by coming to the zoo for this exciting opportunity. You'll learn about the variety of animal enrichment used at the zoo and even get the chance to make some animal enrichment yourself and then see it being enjoyed.

1111: January 28, 9 a.m. to 4 p.m.

Plants and Animals

We all know that there are animals that eat plants. But did you know that there are plants that eat animals? There are amazing things to discover when you explore the world of how plants and animals need each other. We'll spend the week learning about our favorite animals and how plants affect their lives.

1211: March 18, 9 a.m. to 4 p.m.

PRESCHOOL AND KINDERGARTEN PROGRAMS FOR SCHOOL GROUPS

Bring your preschool or kindergarten group to the zoo for a fun-filled class! Programs are 45 minutes to one hour long and available to kindergartens, preschools, daycare centers, and other groups of 10-18 children and one adult for every three children. Program availability is limited. Call 206.548.2591 to obtain an application.

Offered Sept.-April each year.

Fee: \$7.75 per person, includes admission

Who am I?

In the classroom you and your students will get up-close and personal with a variety of animal pelts, try and figure out which animals the skins belong to and learn some fun animal facts along the way. Then we'll take you for a short safari to the African Savanna.

Overnight and Evening Adventures

Zoo Adventures Overnight Program: "Stealthy Science, Research After Dark"

Join our naturalist guides for a night of fun and field research at the zoo! The Zoo Adventures evening and overnight program invites your class, group, troop, or team to become field researchers in training. Our new theme, "Stealthy Science: Research After Dark," was designed with schools in mind. The program gives students and chaperones the opportunity to use real field research equipment such as camera traps and radio telemetry, learn tracking skills, go behind the scenes at Northern Trail (animals may or may not be present), encounter two of the zoo's smaller animal residents in a personal setting, and explore the zoo from a nocturnal perspective. Zoo Adventures are on Friday and Saturday nights from March-November, with weekdays available for schools.

For more information and to register, visit <http://www.zoo.org/education/classes>



Ryan Hawk

October 16-17: Zoo Adventure Overnight Program for Homeschools!

This special Zoo Adventures overnight program invites your homeschool family or group to experience an educational event to remember. The 2010 Homeschool Overnight will take place from Saturday, October 16 into Sunday, October 17.

For more information and to register, visit <http://www.zoo.org/education/classes>