



Bears in Glacier

6-8th Grade

Preparing for your Distance Learning Program





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Welcome and Need to Know Information

Dear Teacher,

This packet contains all the information you will need to prepare your students for a “Bears in Glacier” Distance Learning program with Glacier National Park.

The lesson plans and resources on pages 5-7 should answer most questions about program logistics, objectives, and schedules.

The rest of the lessons are meant to prepare students for the concepts and vocabulary highlighted during the program. Each activity can serve as a pre-visit introduction or a post-visit assessment/extension.

Be sure to confirm the date(s) and times for your Distance Learning program (received via email) are correct. There is no cost for this program.

The education ranger assigned to your group will email you before the program to arrange for a test call and answer any questions. You can also reach them at 406-888-7899.

Finally, this project and many other critical projects would not be possible without your donations to the Glacier Conservancy.

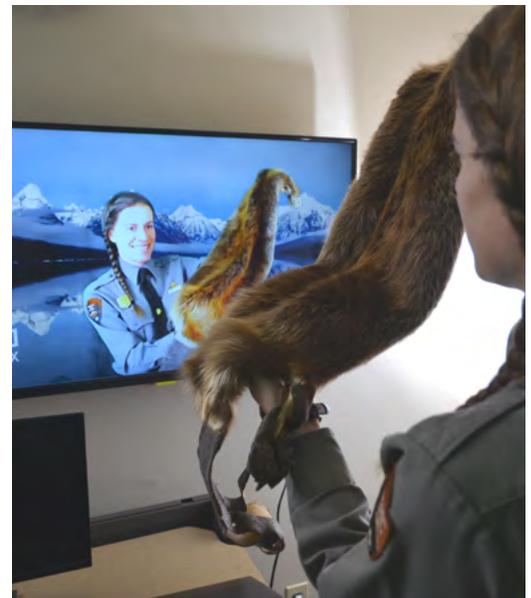
Glacier National Park
Education Staff



What is Distance Learning?

Glacier National Park protects some of our nation’s greatest treasures, and hosts nearly 3 million visitors a year. While its pristine location in the mountains of Northwest Montana provides spectacular scenery, it also proves tricky to visit; often requiring a long drive or flight.

Glacier’s Distance Learning Program strives to bring the experience and learning opportunities of this special place to classrooms around the country, providing interactive, curriculum based education programs to students of any age!





Background on Glacier National Park

Established in 1910, Glacier National Park is located in northwest Montana and is often referred to as the jewel of the Crown of the Continent ecosystem. Known to Native Americans as the “Shining Mountains” and the “Backbone of the World”, Glacier National Park preserves more than a million acres of forests, alpine meadows, lakes, rugged peaks, and glacial-carved valleys in the Northern Rocky Mountains. These diverse habitats are home to over 1200 species of vascular plants, nearly 70 mammal species, 270 bird species, 6 amphibian species and 3 types of reptiles. Visitors to the park, whether by vehicle or on a trail system stretching some 740 miles, can expect to encounter an incredible variety of plants and animals, including both black and grizzly bears.

The smallest and most common bear in North America, the American black bear (*Ursus americanus*) lives primarily in the forests within the Crown of the Continent. As omnivores, their diet consists of vegetation in the form of roots, young shoots from trees, shrubs, berries, fruits, grasses, nuts and buds, along with insects and even the occasional carcass. They also raid the nut caches of squirrels, steal eggs from bird nests, and dig honeycombs out from trees. Black bears remain dormant in dens for the winter months, reducing their metabolism and going without eating, drinking, urinating or defecating until spring.

Once abundant throughout the American West, grizzly bears (*Ursus arctos*) today live in only five distinct recovery areas in the lower 48 states and in sparsely inhabited areas of Canada. As omnivores, more than 90 percent of their diet consists of grass, roots, berries, pine nuts, acorns, mushrooms, insects, and larva. While they occasionally prey on larger animals, carrion and small animals such as squirrels are more likely food sources. During the winter months, when food is nearly nonexistent, bears will hibernate, living off fat reserves.

Listed as threatened in the contiguous United States and endangered in part of Canada, grizzly bears will normally avoid humans when possible. Human development of land in the region has resulted in habitat fragmentation for the species, while declining crops of whitebark pine nuts, a significant food source, may affect their food availability. As grizzly bears have a very low reproductive rate, these pressures are seen as increasingly detrimental to maintaining healthy populations in the Crown of the Continent ecosystem. Grizzly bear research is currently aimed at obtaining accurate population numbers via DNA samples from hair gathered at bear rub sites.





Program Information

Lesson Overview

The diverse ecosystems of Glacier National Park allow for a large diversity of living things, such as grizzly bears and black bears to survive. Glacier is one of the few places in the lower 48 United States where grizzly bears and black bears coexist. Through activities and group discussions, students will learn about both grizzly bears and black bears and discover why Glacier National Park has become a refuge for these species.

The distance learning program walks students through the physical differences between grizzly and black bears, adaptations bears have to survive in a place like Glacier, and bear behavior. The program concludes by discussing ongoing bear research and bear management practices. Students will have a chance to share what they learned about bear research in their pre-visit activity.

The last five to ten minutes of the program will be set aside to answer any questions students may have about bears or Glacier National Park.

Essential Questions

How has science contributed to our understanding of wild animals?
How should our country manage wild animals like bears?

Vocabulary

Adaptation, Conditioned, DNA, Habitat, Hazing, Hibernating, Hyperphagia, Omnivore.

Next Generation Science Standards

MS-LS2-1 Ecosystems: Interactions, Energy, and Dynamics: Analyze and interpret data to provide evidence for the effects of resource availability on organisms and populations of organisms.

MS-LS4-2 Biological Evolution: Unity and Diversity: Apply scientific ideas to construct an explanation for the anatomical similarities and differences among modern organisms and between modern and fossil organisms to infer evolutionary relationships.

Lesson Objectives

At the end of this program, students will be able to:

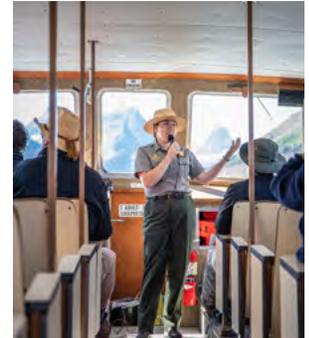
- Explain what national parks are and what they protect.
- Describe adaptations that bears have to survive.
- Summarize how NPS wildlife biologists study and learn about bears.
- Analyze different methods that Glacier National Park uses to manage bear behavior.





Suggested Lesson Sequence

- Pre-Program Lesson** Visit the provided link to watch a video about bear research in Glacier National Park. In groups, prepare a short presentation about what you learned.
- During the Program** Students will participate in group discussions and present information on bear research to the ranger.
- Post-Program Lesson** Create a timeline of the different eras of bear management in Glacier National Park.



Pre-Program Lesson

Bear Research in Glacier

Time 60 minutes

Materials [Visit the Park Website to learn more about Bear Research.](#)

Procedure Watch the video from the link above about bear research being conducted in Glacier National Park. In groups, prepare a short presentation for your ranger about what you learned. Students are free to choose the format for their presentation; i.e. a skit, poster, just share, etc... During the distance learning program, we will spend about 5-10 minutes discussing what you learned.

During the Distance Learning Program

Bears in Glacier

Time 45-60 minutes

Getting Ready Student Volunteers: Students will interact with the ranger during the program, but the ranger will rely on you to call on students directly.

Establish video conference connection: Prior to the program, you and the ranger will decide who is hosting the program. If you are the host, please email the connection link at least 15 minutes ahead of time. If the ranger is hosting, we will email a connection link at least 15 minutes prior to the program. Make sure your connection is up and running before beginning the session with the education ranger.



During the Distance Learning Program (continued)

Procedure

Orient your students:

Before connecting, show students the set-up and go over any standards of behavior that students should follow during the session. Remind them that the ranger may not be able to see everyone in the classroom, so they should look to you as an intermediary when they want to make a comment or ask a question.

Connect with Glacier:

At the designated time, use video conferencing software to connect with the education staff. The program is designed for 60 minutes, but can go a little longer if students have questions and you have time.

Let the communication begin!

Please be available to the education staff during the entire length of the program. At the end of the program be ready to help facilitate questions.

After the program:

Take some time after the program for students to discuss and provide feedback about their experience. Let them know that if they have further questions for the education staff, they can contact us at:
glac_education@nps.gov



Post-Program Lesson

People and Bears Through Time

Time

60 minutes

Materials

[Follow this link to “Protecting the Crown”, a paper about bear management .](#)

Procedure

Read pg 123 - 136 (Bear Management and Toward Ecosystem Management) of the Protecting the Crown document.

How has our relationship with wildlife and bears changed over the years? Have students create a timeline of the different era's of bear management in Glacier National Park.