

What Bear Goes Where?



Could this bear live over there?

Objectives

Students will (1) identify three species of bears and their habitats; (2) give examples of why some habitats are suitable for some animals and not for others; and (3) generalize that animals have adapted in order to live where they do.

Background

All life forms exhibit adaptations to the environments in which they live. For example, the polar bear's white coloring helps it blend in with the icy and snowy landscape where it spends much of its time, making its appearance less conspicuous while hunting. In a dense forest, however, the white polar bear would stand out.

Polar Bears

Due to their color, polar bears (*Ursus maritimus*) are one of the most instantly recognizable bear species. Polar bears have long necks and slender heads and are white in appearance. Similar in size, polar bears and Kodiak bears (a large subspecies of the brown bear) are considered the largest terrestrial carnivores alive today. Adult males (boars) can reach nearly 10 feet in length, and typically weigh between 600-1,200 pounds. Females (sows) weigh between 400-700 pounds. At shoulder height, polar bears stand between 3½-5 feet.

Polar bears are found only far north in the Arctic. They live along the Arctic coasts, mostly on polar ice. Their range encompasses parts of the United States, Canada, Greenland, Norway, and Russia. Polar bears are superbly adapted to the harsh Arctic climates where they live. They have thick layers of blubber and fur to insulate their bodies, and they have been known to overheat at temperatures above 50 degrees Fahrenheit. Their immense feet can be up to 12 inches in width; polar bears use them like paddles while swimming. Unlike other bears, polar bears have fur on the soles of their feet. Their thick fur keeps them warm, and the webbing between their toes makes them good swimmers. Polar bears have been known to swim for miles in the open ocean, and for days at a time.

Grade Level:

Lower Elementary,
Upper Elementary

Content Areas:

Science, Environmental
Education, Expressive Arts

Method:

Students construct posters of
three different bear habitats.

Materials:

Pictures of an American black
bear, grizzly bear, and polar bear;
three large sheets of paper with
the outline of one bear species on
each; construction paper, pencils,
scissors, and glue

Activity Time:

one 30-minute session

People Power: three groups
of three to six students
each; increase groups as
necessary for class size

Setting:

indoors

Conceptual Framework

Topic Reference:

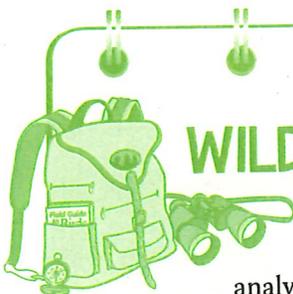
CAIIA, CAIIA1a, HNIBI,
CAIIA1, CAIIB, BDIB1

Terms to Know: alike, different,
adapt, survival, habitat

Appendices:

Early Childhood





WILD Work

Bear Biologists collect and analyze data about bear populations and ecosystem interactions. Visit www.projectwild.org for links to videos of Bear Biologists at work in the field.

The polar bear's white coloring helps it blend in with the icy and snowy landscape where it spends much of its time, making its appearance less conspicuous while hunting.

Polar bears are almost entirely carnivorous, thus making them the apex predator across their range. They consume primarily seals, but are known to eat fish, crabs, and birds and their eggs; they will also scavenge carrion (rotten meat) from whales, muskox, or reindeer or scavenge from garbage dumps. They have an exceptional sense of smell and can pick up the scent of seals from miles away, even when a seal is hidden in snow. Polar bears tend to be found most frequently at the edge of the Arctic ice pack, partly because seals are found in highest density there. In the summer months when a portion of the ice melts, polar bears migrate further inland as they follow their food.

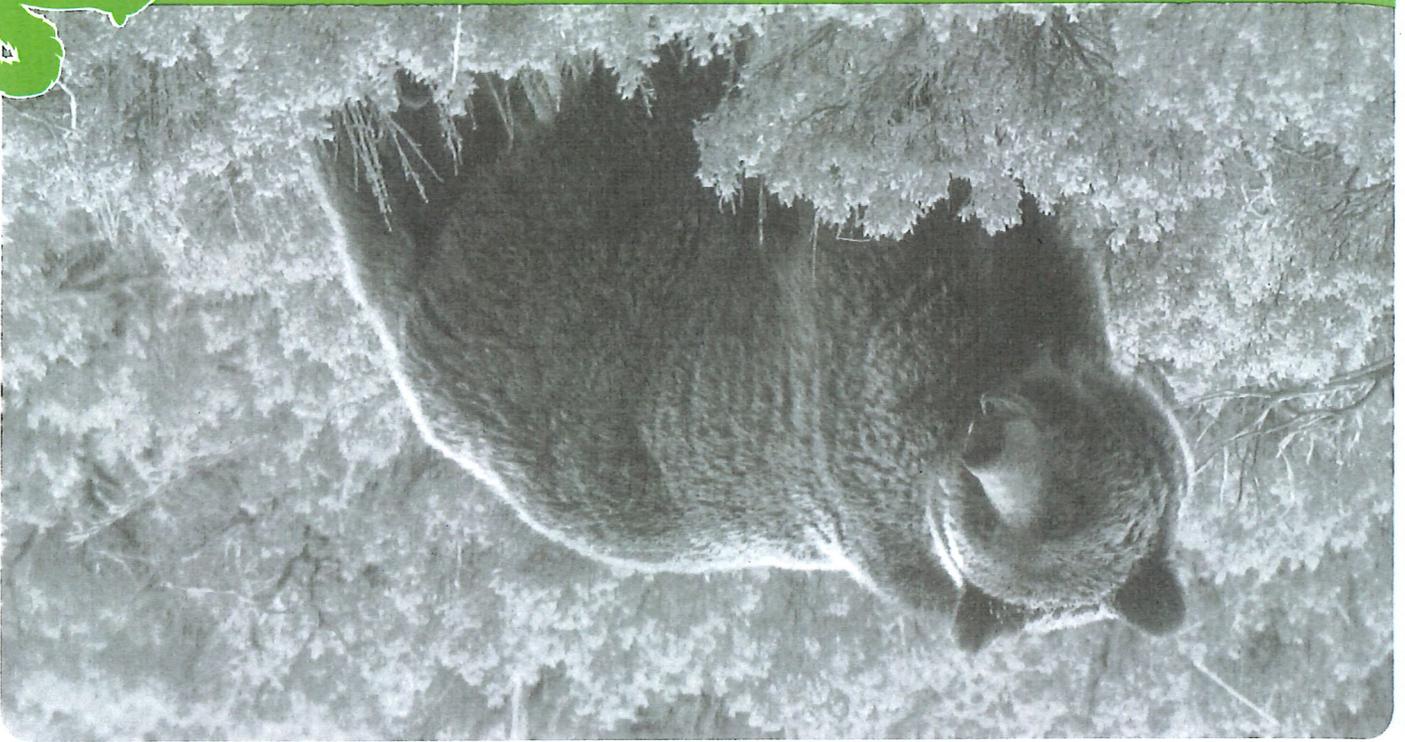
In the peak of the winter, cubs are born to a sow while she is hidden away in a maternity den, a chamber underneath snowdrifts and ice. Once the cubs have grown, the family will tunnel its way out and emerge in the early spring. In general, polar bears are not territorial and can often be seen in large aggregations.

Grizzly Bears

Grizzly bears (*Ursus arctos horribilis*) are a subspecies of the brown bear (*Ursus arctos*) found only in North America. Their range extends from Alaska to western Canada and in the northwestern United States as far south as Yellowstone and Grand Teton national parks.

A large bear, the grizzly bear averages 700 pounds—males can weigh up to 1,700 pounds, and females can weigh up to 800 pounds. Grizzly bears are approximately 3-3½ feet when standing on all fours. Two of the grizzly bear's distinguishing characteristics compared with other bear species are its high





The black bear may be black, Auburn, or cinnamon in color, and its narrow muzzle is often light brown. They usually give birth to an average of two cubs every other year. Black bears are smaller than grizzlies and polar bears, with adults generally weighing between 100-450 pounds and standing 2-3 feet tall at the shoulder. Their curved claws, which are shorter than polar bears' and grizzlies' claws, are useful for climbing trees.

Black bears (*Ursus americanus*) are the most abundant bear in North America. Black bears are quiet, shy animals that live in a variety of habitats from forests to brush or chaparral. They are omnivorous and also opportunistic feeders, eating mostly nuts, berries, and fruit. They also eat rodents and insects, and occasionally kill larger animals for food.

Black Bears

Grizzlies tend to live in the edges of forests but feed mostly in mountain meadows. They are best known for gathering in large groups to eat migrating salmon as they travel upstream to breed. Grizzly bears are classified as carnivores, even though they are mainly omnivores. Grizzlies are able to take down large prey such as bighorn sheep, bison, mule, and white-tailed deer. Grizzly bears can dig up most of their food and catch fish with their long claws. They eat roots, tubers, gophers, marmots, and smaller rodents, as well as carrion.

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shoulder hump—which is a giant muscle used to power its limbs for digging—and its concave facial profile.

concave facial profile.

for digging—and its

used to power its limbs

which is a giant muscle

high shoulder hump—

bear species are its

compared with other

characteristics

bear's distinguishing

Two of the grizzly



In Step with STEM

■ Polar bears have a 4-inch layer of fat beneath their skin that insulates them as they swim in icy waters. Using plastic bags, rubber bands, ice water, shortening, and a bowl, have students test out how insulation works. Try out different materials and see how long you can comfortably leave your hand in the ice water! Visit www.projectwild.org for details to get started.

■ Enhance student presentations by using digital software or an online tool to create a poster or presentation.

The major purpose of this activity is for students to recognize that animal species can adapt to living in different environments, as shown in the example of three different kinds of bears.

Procedure

1. Show students pictures of three different species of bears found in North America. Name the three bears. Ask students to discuss similarities and differences among bear species.

2. Ask students to imagine the place where each bear lives. Talk about the similarities and differences of these regions. Ask the students to think about how each bear looks and whether its features help it to live where it lives. Talk about the different adaptations of each of the bear species.

3. Distribute three large sheets of paper. Draw an outline of one of the bear species in the center of each sheet, and label it accordingly as to the type of bear. (A photo of each bear will serve just as well.)

NOTE: The outline of each bear can be projected onto a whiteboard or a large piece of paper taped to a wall. Adjust the projected image until the bear's shoulder height is life-size. The bear's outline then can be drawn by tracing the projected image.

4. Divide the students into three groups. Give each group one of the sheets of paper with the outline of a bear species and a supply of construction paper, pencils, and scissors.





5. Have students in each group draw and cut out elements of the habitat of their bear (trees, grassy meadows, and rocks for the grizzly; blocks of ice, snow, seals, and fish for the polar bear; forest trees, bushes, nuts, fruits, and berries for the black bear). Then ask students to glue these elements around the picture of their bear. (Make sure that examples of all major or habitat needs are included: food, water, shelter, and space in which to live.)

6. Display the finished posters, and ask the students what they have learned about bears and where bears live. Discuss how each environment has characteristic life forms that have adapted to the environment's climate, available food, and other factors. Emphasize that all animals are adapted to survive in their environment.

Extensions

1. There are eight species of bears that occupy different parts of the world and fill different niches within their environment. Have student groups investigate one of the eight species of bears and stress the importance of their food sources and how they acquire them. Are the bears generalists or specialists in their diet? How does that affect their population?

2. Take a field trip to a zoo or sanctuary to observe bears and other wildlife species. If unable to plan a field trip, the class may watch a live bear cam to observe the behavior and daily activity of bears in real time. For links to resources, visit www.projectwild.org.

Aquatic Extensions

1. Look at pictures of three different species of fish and discuss their similarities and differences. Ask students to imagine the place where each fish lives. Tell them to draw a picture of each fish in a place where they think it could live.

2. Find out more about the adaptations of different kinds of fish that make it possible for them to live in certain environments. See the Aquatic WILD activity "Fashion a Fish." For information on acquiring Aquatic WILD materials and professional development training, visit www.projectwild.org/aquatic.

3. Make a bulletin board with the title "What Fish Goes Where?" and show fish that live in ponds, fish that live in lakes, fish that live in streams, fish that live in rivers, and fish that live in oceans. Include a picture of the appropriate habitat along with a picture of the fish. See the Aquatic WILD activity "Fishy Who's Who."

Assessment

1. Describe three North American bear species, what they eat, where they live, and what each species looks like.

2. If someone took polar bears to Yellowstone National Park in Wyoming and took grizzly bears to the Arctic coast, do you think the bears would be able to live in their new homes? Why or why not?