



VOLUNTEER ACTIVITY 6

Where Do Polar Bears Live?

Supports Lesson Two: Reading about Polar Bears

Activity Type: Game

Grades 1-6

Time: 20 - 30 mins

Cost: \$

Materials

- Poster board
- Marker
- Polar Bear on Tundra image
- Tape
- Polar Cards
- Arctic Polar Bears DVD
- Polar Card Activity Guide for Educators

Before Your Visit:

Review Volunteer Presenter Checklist, "Talking To Students About Global Warming" Online Presentation, and the set of Polar Cards.

Print out the Polar Bear on Tundra Image on a color printer. (This will be sixteen 8"X10" sheets).

Trim the sixteen squares.

Draw grid on poster board to match the 16 image pieces. Number the squares on the board to match the numbers in the corners the images.

In the Classroom:

Have the DVD playing as you are getting ready. (Remember to stop the DVD before you talk since it is on a loop.)

Introduce yourself and the Global Warming Crusade:

"Good Morning Students, I am very excited to be here today. My name is Mr./Ms. _____ and today you are going to learn something fun about polar bears.

Activity Talking Points:

All animals have specific habitats in which they need to live. Ask if the students know what a habitat is.

"A habitat is where things live. Animals need four key things for a successful habitat. They need food to eat, water to drink and bathe in, shelter to sleep and live in and a place to raise their young. Today we are going to play a game to learn about polar bears and their habitat. I am going to ask you questions and as you get the answer right, you will begin to fill in the picture to find out more about polar bear habitat."

Instructions:

Ask students, as a group, each of the questions (see sheet).

Students should raise their hand to answer, call on a different individual if you can.

If the student gets the answer correct, have them select a puzzle piece and place it in the corresponding space on the grid.

Continue until students guess what the image is. (Ice, tundra, frozen ground, Arctic are all acceptable.) With younger students, give them helpful hints and even fill in a few of the pictures on the grid to help them.

Once the image is guessed, talk briefly with students about where polar bears live. Discuss the different kinds of ice found in the Arctic: icebergs, glaciers, sea ice and the frozen tundra. Keep it simple depending on the level of the classroom.

Glaciers are made up of fallen snow that, over many years, compresses into large, thickened ice masses. Glaciers form when snow remains in one location long enough to transform into ice. Glaciers are actually moving like very slow rivers.



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(continued from Page 1)

An iceberg is what forms when ice falls or breaks off from a glacier that has reached the ocean. This is called 'calving'. Because icebergs come from glaciers, they are fresh water, not sea water.

Sea ice is ice formed by the freezing of seawater, not ice that is formed on land. Because oceans consist of salt water, this occurs at about 28.8 degrees F (-1.8 degrees C). Sea ice is constantly shifting and changing with the ocean and air temperatures. It reduces in size in the summer and gets larger and covers more of the polar seas in the winter. The presence of sea ice is very important to the polar bear since this is his hunting ground for seals.

The word "tundra" is commonly used to describe an area where tree growth is hindered by low temperatures and short growing seasons, and it is typically a vast, windy area of stark landscape. In the Arctic, tundra usually refers to the areas where the subsoil is "permafrost", or permanently frozen soil. During the summer, the permafrost thaws just enough to let plants like moss, heath, and lichen (a favorite food of reindeers) grow and reproduce, but because the ground below this is frozen, the water cannot sink any lower, so the water forms lakes and marshes that are found only during the summer months. So the tundra is essentially a big frozen marsh or bog - that is why many mosquitos can be found here in the summer. Animals that live here include caribou or reindeer, arctic foxes, snowy owls, and polar bears.

Refer to the picture and note that the polar bear is walking across the tundra. Ask the students if they can look at the polar bear and see traits that he has that may help him survive in this cold, icy place.

"Polar bears live where it is cold and icy because they have adapted or changed a trait that makes an animal suited to its environment. Polar bears have adapted to:

- 1) blend into color around them to help with hunting
- 2) use hair and fur to keep them warm and for swimming
- 3) have a layer of fat (blubber) to keep them warm."

They also have to have the right habitat with food, water, shelter and places to raise young in order to live."

"Polar bears inhabit arctic sea ice, water, islands, and continental coastlines.

Can you think of an animal in your backyard or park that lives here? What does that animal need to live?"

Talk about how polar bears have adapted to live in the Arctic environment. Cite examples of other animals that need certain environments to survive i.e. a squirrel needs to live where there are trees with nuts.

"Just like humans - animals need food, water, shelter and place to raise young."

Wrap Up:

Clean up materials and straighten room.



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QUESTION AND ANSWER SHEET

Directions: Ask one of the bold questions at a time to the students, have them decide if the fact is true or false. If they answer correctly, then provide them a puzzle piece to place on the blackboard until they guess the picture.

Female polar bears reach maturity in 5 to 6 years - TRUE.

Males—10 to 11 years; females—5 to 6 years.

Polar bears hibernate like other bears - FALSE.

Polar bears do not hibernate like other bears, but their body functions do slow down when the temperature drops. Many scientists call this “walking hibernation.”

Polar bears’ favorite food is seal - TRUE.

Polar bears are mainly meat eaters, and their favorite food is seal (which is good for them because seals have a lot of blubber). They will also eat walrus, caribou, beached whales, grass, and seaweed - just about anything they can find when seals are not available.

Polar bears have black skin - TRUE.

Polar bear blubber does not help them float - FALSE.

Polar bear blubber does help them float. Blubber helps insulate polar bears from the freezing air and cold water, and acts as a nutritional reserve when food can't be found. This blubber also helps the bears float in the water. It is 2 to 4 inches (5 to 10 centimeters) thick.

Polar bears are only found in Alaska - FALSE.

Polar bears range includes along the northern coasts and inland streams and lakes of Alaska and Canada in North America, Greenland, Denmark, Norway and Russia.

Polar bear mothers have the richest milk of any bear species - TRUE.

Milk from polar bear mothers is 35 percent fat, the richest milk of any bear species. This helps the cubs grow quickly, and by April they weigh more than 20 pounds (9 kilograms) and start exploring with their mother outside the den.

When a polar bear cub is born it is about the size of a rat - TRUE.

A cub is about the size of a rat when it is born. Usually two cubs are born to each mother between December and January. They are hairless and blind at birth, and depend on their mother to keep them warm and fed.

Polar bears are shorter than brown bears - FALSE.

Polar bears are the tallest bears, standing up to 10 feet high when on their hind legs.

Polar bear adult males weigh between 600 - 1800 lbs. - TRUE.

Males—660 to 1,760 pounds (300 to 800 kilograms); females—330 to 660 pounds (150 to 300 kilograms).

Polar bears only live for about 15 years in the wild - FALSE.

25 to 30 years in the wild, up to 45 years in zoos. However, global warming is effecting the life span of bears in the wild.

Polar bears can see up to 15 feet away in water - TRUE.

Polar bears can see well underwater, spotting potential meals 15 feet (4.6 meters) away. (Note: Ask students how far they can see under water without goggles.)

Polar bears’ paws act like “snowshoes” to help them walk on the ice and snow - TRUE.

Polar bear paws are about 12 inches or more across and 18” long. (Note: Pull out a ruler to show how big this is - or as an example, the average child hand size is about 5”.)



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(Continued from page 1)

Polar bears can only smell about 2 feet in front of them - FALSE.

A polar bear's nose is so powerful it can smell a seal on the ice 20 miles (32 kilometers) away, sniff out a seal's den that has been covered with snow, and even find a seal's air hole in the ice up to one mile (1.6 kilometers) away. No wonder many people call them "noses with legs!"

Humans are the greatest threat to polar bears - TRUE.

People killed them just for trophies, and they were losing some of their wild places to live as people started moving into their territory. Global warming has affected polar bears as well, as ice sheets are melting, preventing the bears from traveling in search of food.

Polar bear fur is white - FALSE.

A dense, thick undercoat of fur is protected by an outer coat of long guard hairs that forming a waterproof barrier to keep them dry. Even though polar bears look white, their hair is really made of clear, hollow "tubes" filled with air. These clear hairs reflect light and appear white. As bears get older, the hairs fill with dirt and blubber, which is why some older bears appear more yellow than cubs.

Polar bears "chuff" - TRUE.

1. Adult polar bears vocalize most when they're agitated or threatened. Sounds include hissing, growling, champing of teeth, and a soft chuffing.
2. Cubs vocalize more often and for diverse reasons. Sounds include hissing, squalling, whimpering, lip smacking, and throaty rumblings.
3. Mothers warn cubs with a chuffing or braying sound.

Polar bears are the largest land carnivore - TRUE.

Polar bears are the largest land carnivore and are at the top of the Arctic food chain.

Polar bears do not shed their fur - FALSE.

Polar bears completely molt (shed and replace their fur) annually, in May or June. The molt can last several weeks.

Polar bears swim or float only on top of the water - FALSE.

Polar bears usually swim under water at depths of only about 3 to 4.5 m (9.8-14.8 ft.). They can remain submerged for as long as two minutes.

Polar Bear on Tundra Picture Puzzle

16 picture squares of this picture:



To download puzzle pieces for printing, visit
www.oakwoodconnection.com