



VOLUNTEER ACTIVITY 1

How Do Polar Bears Stay Warm?
Supports Lesson Three: Adaptations

Activity Type: Science Experiment
Grades 2-6

Time: 25 mins

Cost: \$, Low

Materials

- **Zipper/sealable sandwich bags (2 bags per group)**
- **Shortening/vegetable fat - solid**
- **4 bowls (please do not use Styrofoam bowls)**
- **Water (gallon jug)**
- **Ice**
- **Arctic Polar Bears DVD**
- **Polar Card Activity Guide for Educators**
- **Polar Cards (pack for each student)**

Before Your Visit:

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

Collect all the materials, except for the ice.

Take a gallon of water with you in addition to getting the ice just before arriving.

Remember to keep your ice in an insulated bag or cooler.

At least one hour before: Make blubber gloves (2)

To make the blubber glove, use two resealable plastic bags and fill one with shortening (about 1 cup). Use the other bag to place on top of the shortening so the students are not touching the shortening. Attempt to zip together by having the top one inside out.

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. I want to start by asking you a few questions."

Note: Remember to ask the students to raise their hand to answer.

Instructions:

1. Set the scene: "Where is the North Pole/Arctic? What would you find there?" Listen for answers such as - snow, ice, penguins, fish, seals, whales, and polar bears. When they reach polar bears, you can stop asking for answers.
If students say penguins- stop for a moment and explain that they can be found where there is ice and cold but penguins don't actually live in the Arctic; they live in the southern hemisphere, primarily in the Antarctic region.
2. "Think about the animals that live in the Arctic, how do they survive in the cold climate? How do you think the polar bear survives the cold weather and swimming in the icy water?" Ask for answers.
3. Divide the students into at least two groups. (Have a teacher help with the other group if you don't have a volunteer buddy.)
4. Prepare the experiment by placing materials on the tables.
5. Instruct all students to experience the blubber glove.

During experiment:

Place a bowl on the table with cooler of ice and bottle of water

Let students put the ice in the bowl and pour the water over the ice

Ask each student to touch the water and tell you how it feels

Next have them put the glove on and put their hand in the water

Tell them to pretend they are polar bears ready to dive into the cold icy water

Ask them to talk about the difference.

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6. After the completion of the experiment, discuss what each student felt, what blubber is and how it keeps polar bears warm.

Wrap Up:

Discuss why having a layer of blubber is important for polar bears.

“Polar bears have adapted to ice and snow in their environment by eating animals high in fat content (like seals, fish and whales). As the polar ice caps melt, the polar bears find it harder to get to their feeding area. I am leaving your teacher materials and information about polar bears, the Arctic and global warming. You will be learning more about these topics and what you can do to help, plus a pack of polar cards for each of you.

Thank you for letting me come to your class today to teach you about polar bears.”

Clean up materials. Rather than pouring water down the sink, ask if you can water the plants inside or outside if there are any.