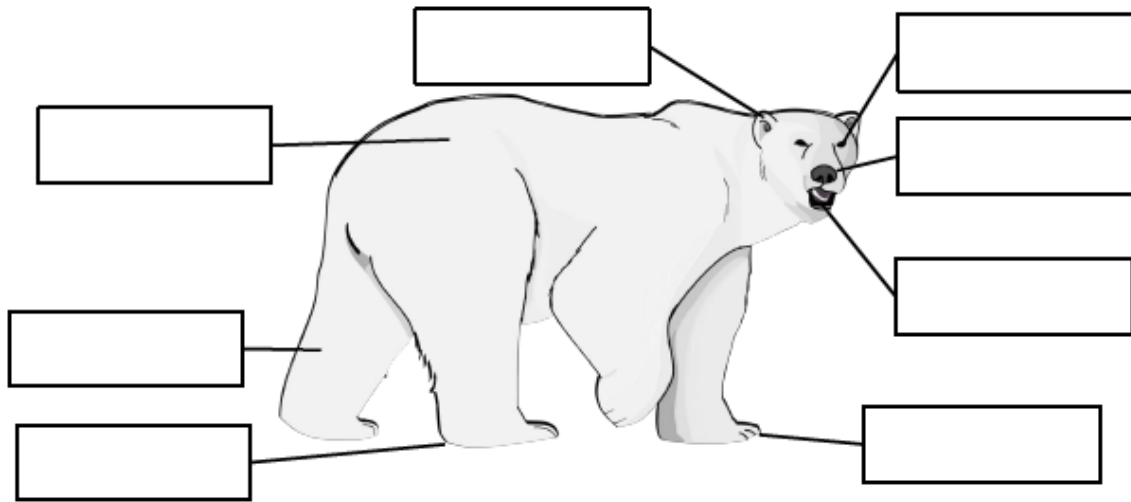




Polar Bear Activity Sheet

Grades K-2:

In the Buffalo Zoo's video about our polar bears, we learned that they are pretty cool animals! Label the polar bear's body.



Cut. Paste. Color.

four legs

white fur

black nose

small ears

front paws

mouth

eyes

back paws

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There are scientists who study polar bears in the Arctic and know a lot about them. Check out their website to find out more: [About Polar Bears](#)

Use what you learned about polar bears to make a chart like the one below. See if you can write at least three things for each section.

Polar bears...

Can	Have	Are

Like all other baby polar bears, our Luna only weighed **1 pound** when she was born! That is the same size as a package of butter sticks! Have a parent help you find other household items that are the size of a baby polar bear. Learn more about moms and baby polar bears here: [Mom and Cubs Mini Poster](#)

Grades 3-5:

The Arctic food web is very unique because it starts with small aquatic plants called ALGAE. Even though polar bears don't eat the algae, they need it because it feeds other animals in the food chain! Label the food chain below with the terms: producer, primary consumer, secondary consumer, tertiary consumer, predator, prey, herbivore, carnivore, and omnivore. Some words may be used more than once.



Sea ice is essential for the algae to grow and support the Arctic food chain. You can make sea ice at home to see how algae can grow! Get a parent to help you with this simple experiment. You will need:

Water salt two empty containers (yogurt cup size) food coloring

Step 1: Label your empty containers. One will be for fresh water, the other will be for sea water. Fill your container labeled “Fresh water” with regular tap water. Leave a little bit of space at the top of the container.

Step 2: Make “sea water” using salt and water. In a bowl, mix 1 cup water with 1 ½ teaspoons of salt. Stir until salt has fully dissolved. Pour your sea water into the container labeled “Sea water,” leaving a little bit of space at the top.

Step 3: Place both containers in the freezer until frozen. *How long does it take for each type of water to freeze all the way? Which froze quicker?*

Step 4: Once both containers have frozen, slide your ice out on to two separate plates. Make sure you know which ice cube is sea water and which one is fresh water! Take your

food coloring and dribble a few drops on top of each block. *Where does the food coloring go? Which ice block has pockets for the food coloring to get inside? Why? What does this have to do with ALGAE in the Arctic (parents, see below)? What would happen if the Arctic sea ice disappeared?*

Explain what you learned to a sibling or family member. Include drawings of your experiment and how it relates to the Arctic food chain!

Everything about a polar bear's body and behavior is perfectly suited for life on the sea ice and tundra. Make a list of their **adaptations** then explain how each one helps polar bears survive in this harsh biome.

Grades 6-8:

Climate change is happening faster in the Arctic than in other parts of the world. Polar bears are in trouble if the rate of warming doesn't slow down or reverse. Think of how many ways polar bears are impacted by warming in the Arctic and make a list. Then, check out [About Climate Change](#) to learn more. What did you find out that you didn't know before? What are some actions you can take to help right now?

Many of the lessons and activities on this worksheet were inspired by the scientists at Polar Bears International. Follow this link, [PBI Research](#), to learn about the projects that they have completed and that are still ongoing. Choose one of the projects and think about the following questions:

1. Why is this research study important? What do they hope to learn?
2. What methods do they use for gathering data?
3. Explain the challenges the scientists face as they are conducting their research.
4. How will they use the information that they gather?
5. Would you want to study animals and ecosystems in the wild like these scientists?

PARENTS and TEACHERS:

The food coloring was able to penetrate the sea ice because the salt crystals form pockets and channels so the water molecules can't freeze together. Algae, like the food coloring, is able to get into these small gaps and grow!

The Buffalo Zoo is an Arctic Ambassador Center for Polar Bears International, a partnership that we're very proud of! Our Arctic Edge Interpretive Center at the Zoo is full of information provided by the wonderful scientists and educators at PBI. If you are looking for more resources and content for your stuck-at-home students, check out their [Education Center](#).