

Today you will research life in the Arctic. You will read *Lie in a Deep Freeze* and a passage from “Inuit.” As you review these sources, you will gather information and write an essay.

Read the article “Life in a Deep Freeze.”

Life in a Deep Freeze
by Sandra Markle

How do animals survive the Arctic’s c-c-cold winters?

- 1 It’s noon and dark and very cold—minus 30°F. Snow and ice blanket the region. Strong winds blow across ice-covered ocean waters. It’s winter in the Arctic, one of the harshest environments on Earth. But, for many animals, this place is home.
- 2 So just where is the Arctic? It’s about as far north as you can go. It’s the North Polar region—the Arctic Ocean plus the lands bordering it. The landscape varies from high, icy mountains to tundra. That’s a treeless plain where a layer of soil remains frozen all year. Arctic animals have adapted well to their surroundings with some rather clever survival tactics.

ESCAPE ARTISTS

- 3 Some Arctic animals have found clever ways to wait out the long, harsh winters.
- 4 **Grizzly Bear:** This bear spends all spring, summer, and fall eating and storing up fat. Then the bear goes into a special

type of sleep. During its winter sleep, the grizzly lives off its stored fat. To conserve energy, the bear's internal temperature drops a few degrees. Its heart rate slows down too.

- 5 **Collared Lemming:** This furry relative of mice and rats changes its coat from grayish brown to white in winter. It also grows longer front claws. With their claws, lemmings dig tunnels under the wind-packed snow. There they live, protected from the cold and their predators.

THE LAYERED LOOK

- 6 For some animals, being fat means staying alive. That's especially true for animals that hunt and live in the icy waters of the Arctic Ocean.
- 7 **Walrus:** This animal keeps warm even while digging for clams along the bottom of cold ocean waters. Under its inch-thick hide, the walrus has a nearly six-inch layer of blubber, or fat, to block out the cold. During deep-sea dives, warm blood shifts away from the skin surface to inside the body. This helps the walrus keep its body heat stable at about 99°F. When the walrus moves ashore, blood flows back to the skin.
- 8 **Harp Seal:** Protected by a thick layer of blubber, the harp seal spends most of its time in icy waters. The seal is a fast swimmer and can stay underwater for 30 minutes at a time. Its speed in the water allows it to escape its predator, the polar bear. In late winter, females climb onto a chunk of ice to give birth. A seal pup is born with a white, fluffy coat, but no blubber. The pup keeps the coat until it develops a layer of blubber. And

that happens fast. On a diet of fat-rich mother's milk, a pup can gain over 80 pounds in just three weeks.

DRESSED FOR WINTER

- 9 Like you, many Arctic animals change their coats with the seasons. In winter these animals replace their summer coats with thicker ones to keep them warm when temperatures plunge. They'll wear their winter coats for a long time. Arctic winters can last for eight months.
- 10 **Arctic Hare:** The arctic hare living in the northernmost part of the Arctic stays white all year. But its fur coat grows thicker and longer in winter. The hare has small ears, which protect it too. Can you figure out how? Less skin is exposed to the cold, and small ears lose less body heat than larger ears.
- 11 **Musk Ox:** This animal has lots of hair to keep it warm. In fact the native Inuit people call it umingmak, meaning "the animal with skin like a beard." The musk ox's shaggy outer coat covers everything but its feet. Underneath this outer layer of long, coarse hair is even more hair—a soft, woolly coat. The musk ox sheds this undercoat when the weather gets warmer. Musk oxen also have curved hooves with sharp rims. That gives them solid footing on icy slopes.
- 12 **Snowy Owl:** Feathers keep this bird warm. The snowy owl's entire body—even its legs and toes—is covered with soft, fluffy feathers. On top of this coat is still another coat of overlapping feathers. When temperatures drop, the owl crouches on the

ground behind an object that can block the wind. The owl stays still. Flying would use up precious heat energy.

- 13 **Arctic Fox:** As winter approaches, the fox replaces its brown summer fur for a longer, heavier snow-white coat. The new coat keeps the fox warm as well as hidden from predators, like the wolf. A special blood flow system helps the fox hang onto its normal body temperature. Warm blood flowing toward the fox's legs heats up the cool blood returning from its feet. That means that the arctic fox has a warm body and cold feet. Having cold feet helps too. Ice doesn't stick to cold toes.

"Life in a Deep Freeze" by Sandra Markle, copyright © 2002 by Sandra Markle. Used by permission of National Geographic Stock. All rights reserved.

Read the passage from the article “Inuit.”

from “Inuit”
by Carol White

- 1 In one of the most remote places in the world, the Canadian Arctic, a people have survived over a thousand years. They are the Inuit. For the Inuit, the Arctic is a place teeming with life. Depending on how far north they live, the Inuit find everything from caribou herds and polar bears to beluga whales. The Inuit have adapted themselves to the various regions they inhabit. At one time they were considered to be among the healthiest people in the world. This is no longer the case; the Inuit lifestyle has changed dramatically over the past decades. The arrival of southerners and modern technology resulted in big changes to the Inuit diet and way of life.
- 2 Today, the Inuit are rediscovering their rich heritage and they are learning to govern themselves in a modern world.

Way of Life

- 3 When you live in an environment that has few plants, there is a very good chance you will become a hunter. The Inuit pride themselves on being great hunters. The Inuit had lots of sea and land animals to hunt. The most important of these were the caribou and the seal. These two animals provided the Inuit with food. Their skin was used for clothing, blankets, tents and

boats and their oil was used for cooking and lamps. Bones, ivory and wood were used to make tools. Other animals the Inuit hunted were the walrus, whale, polar bear, musk ox, fox and wolf.

Food

- 4 Because edible plants are scarce in the Arctic, the Inuit ate mostly meat they got from hunting. They ate animals such as caribou, seals, walruses, polar bears, arctic hares, musk oxen, birds such as ptarmigan, and fish such as arctic char, salmon and whitefish. In the summer they also gathered berries and other edible plants.

Clothing

- 5 Seal or walrus intestine is waterproof, and the Inuit scraped, cleaned, soaked and dried the intestines to make waterproof clothing. This kept the people dry, which was important since water freezes quickly in the North. People can get into a lot of trouble if they get wet in the Arctic and then freeze. Besides waterproof clothing, the Inuit also made parkas of caribou fur to wear in the cold winter.
- 6 At one point, scientists in Canada did a study to find out what the warmest winter clothes were. This included clothes that were sewn out of cloth, wool and other fabrics. The caribou jacket was the warmest by far. Even in winter, Inuit could not sleep with their jackets on because they got so hot that they would sweat. Sweat is dangerous in a cold climate because, like water, it freezes.

Shelter

- 7 At one time the Inuit had a summer home and a winter home. In the summer, the Inuit often lived in tents that they made from caribou hides with wooden frames. In the winter many Inuit lived in sod homes. They would dig a hole in the ground and pile rocks and sod all around the outside to make walls. Pieces of wood or whalebone were used as a frame for the roof, which the Inuit then covered with sod. In both the tents and the sod houses the Inuit built raised platforms at the back for sleeping.
- 8 The Inuit are famous for their igloos. An igloo is built of blocks of snow shaped into a dome. They were mostly used as temporary shelter during winter hunting trips. The igloo is one of the Inuit's best inventions. It is warm and easy to construct. Most Inuit today have settled in villages and live in houses.

Selected text only from Inuit community article from The Kids' Site of Canadian Settlement, by Carol White. Copyright © Government of Canada. Reproduced with the permission

Your friend thinks it is impossible for people and animals to live in the Arctic.

Write a letter to your friend explaining it is possible to live in the Arctic. Include information about how people and animals are able to survive in the cold. Use ideas and facts from both articles in your letter.

Peer Review Comments (Optional):

Teacher Comments:

Self-Reflection

Based on the feedback from your teacher and/or peer/s, what is your goal to grow as a writer?