

Ice Cold!



Pre Lesson Plan 1

Age: K - 2

Setting: Classroom

Standards: Environment and Ecology: 4.2.4A(3), 4.2.4B(2), 4.3.4C(1,2), 4.6.4A(2-5, 9,10), 4.6.4C, 4.7.4A(1,4)
Reading, Writing, Speaking, Listening: 1.6.3A(1-2), C(1-3), D(2-4), E

Objectives: Students will be able to:

- Identify the geography and climate conditions of the Arctic
- Describe how animals and plants adapt to the cold, harsh living conditions of the Arctic

Overview: As an introduction to a unit study on the Arctic, students will explore an “Arctic Ice Box” to discover the Arctic region. Each item of the “Ice Box” will be further explored and significance will be explained. Students will complete an “Ice Quiz” to show what they learned about the Arctic region.

Materials:

- Adventure Box/Ice Chest: globe, map, stuffed animals, books, ice cubes, Eskimo pictures, snow (can use white fluff), plants (pictures if necessary), ice pick
- Informational sheets on the Arctic (pages 9-10)
- Resource materials on the Arctic region (books, magazines, etc.)
- Season chart created with oak tag and various weather cutouts (see example in plan)
- Ice Quiz (page 11, answer sheet, page 12)
- Other supplies that are pertinent to the Arctic region

Vocabulary: tundra blizzard Eskimo permafrost

(continued on page 8)

(continued from page 7)

Procedure:

1. Bring students to reading area on the floor.
2. Introduce to them the Adventure Box. Explain that you will begin by having volunteers put their hands in and take one thing out at a time. When the student removes the item, a classmate can guess where their adventure is going to take them. List the guessed places on the board. Continue until all items are removed.
3. As a class, look through the list. Has the class come to an accurate conclusion? Determine why you would need each item listed.
4. Complete a web of the Arctic on chart paper. Students should tell you what they know at the present time. Understand that some information may be inaccurate. The purpose is to compare what they know now to what they will learn during the unit. Keep the chart paper until the conclusion of the unit.
5. Go through each item placed in the box and explain it’s significance.
 - Globe/Map showing the north pole – the Arctic region
 - Explain that the Arctic is up top because it doesn’t have any weight. Weight always sinks! (land)
 - Ice cubes/snow: -cold frozen desert called tundra
 - made of solid ice (no land), floating and moving all the time, islands and the northern parts of Canada, U.S., Greenland, Russia, Iceland, Finland, and Norway.
 - permafrost (permanently frozen ground)
 - does not snow much – desert

Chart depicting the seasons (see below). Compare the seasons in your area.

											
Winter 9 months 4 hours of light						Spring 1 month	Summer 1 month 24 hours of light	Fall 1 month	Winter 9 months 4 hours of light		

"The Land of the Midnight Sun"

- Stuffed animals/pictures of animals – to depict the animals that live in the Arctic region (polar bear, arctic fox, walrus, snowy owl, arctic hare, lemming, reindeer, seals, puffin) NO PENGUINS
- Plants – few trees grow in the Arctic. Plants grow low on the ground and only during the summer months. They are brightly colored and have leaves that won’t freeze. They have “hair” that acts like a coat to protect them from the cold.
- Eskimo pictures. People do live in the Arctic.
- Ice cubes – to make an igloo for the Eskimos to live
- Fishing pole/ice pick (ice fishing)

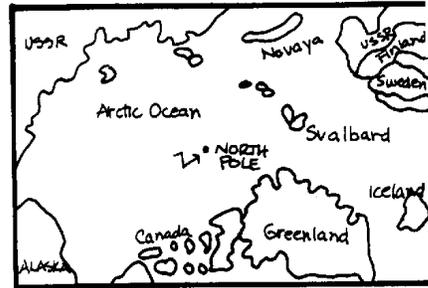
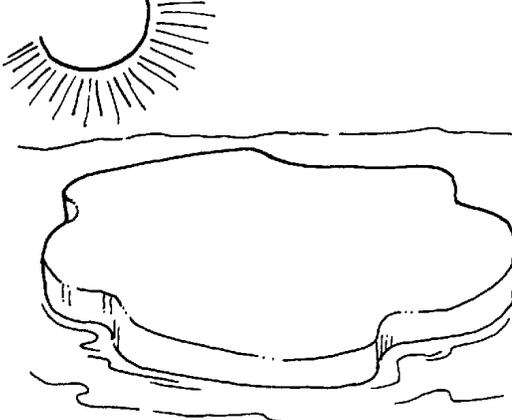
Assessment: Students will be able to answer a variety of questions to express their knowledge of the Arctic region. See attached “Ice Quiz.”

THE ARCTIC

HISTORICAL AID

The Arctic is the land and sea at the top of the world. It covers a huge area that includes the northernmost parts of Canada, the United States, Greenland, Iceland, Russia, Finland and Norway.

An open, grassy plain called the *tundra* covers much of the Arctic's land area. Creeping shrubs, grasses, mosses and herbs thrive in the harsh climate. Because of these hardy grasses, the tundra is sometimes called the "arctic prairie". Most of this frigid land is north of the timber line where trees cannot grow.

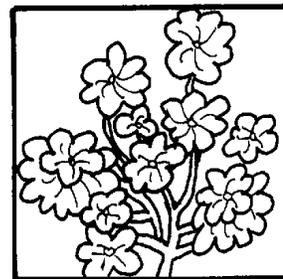


The Arctic is one of the coldest places on the earth. Winter is long and cold and summer is short and cool! Much of the Arctic Ocean's surface

consists of permanently frozen ground or *permafrost*. Winter temperatures in the Arctic can reach -80°F (-65°C). During winter, which lasts nearly eight months, the temperature remains below zero for months.

Surprisingly, it does not snow much in the Arctic. Precipitation is so low that the region can be considered a desert!

During the short spring and summer, parts of the Arctic change from sea ice to open ocean. As temperatures reach 70°F (21°C) the snow disappears from large areas of the tundra. Mosses and lichen begin to grow, flowers bloom, insects and birds fill the sky and herds of caribou move northward. The Arctic is often called the Land of the Midnight Sun because during the Arctic summer, the sun never sets.



THE ARCTIC

HISTORICAL AID

The Arctic Ocean is the home of a variety of animal life including fish, seals, walrus, and whales. Coastal waters are rich in such fish as cod, flatfish, halibut, salmon and trout.

Land animals include lemmings, rabbits, squirrels, musk oxen, caribou, weasels, wolves, foxes and polar bears.



Almost one hundred varieties of birds nest on the tundra each summer. The guillemot and little auk nest by the thousands along cliffs. Ravens, snow buntings and gulls have been spotted in very remote regions. Gulls, loons, puffins and ptarmigan range far to the north. Perhaps the most well known of the Arctic birds is the Snowy Owl, a beautiful bird that was considered sacred by the early inhabitants of the Arctic.

Bees, wasps, flies, butterflies and grasshoppers can be found wherever there is vegetation growing.

People have lived in the Arctic for thousands of years. Long before Europeans reached the Arctic, much of the region had a scattered population. These people were of many ethnic groups, and spoke a variety of languages, but all had originated in Asia. Three main ethnic groups inhabited the Arctic areas of North America. The Aleut mostly occupied the region of the Bering Sea. Tribes of Native Americans inhabited the grasslands. The Inuit mostly lived in northern Alaska, Canada and coastal Greenland.



The name *Eskimo* comes from the word *Eskimantsic* which means "Eaters of Raw Meat". Inhabitants of the grasslands gave this name to the early inhabitants of the Arctic regions. The name these people gave themselves, however was *Inuit*, which simply means "People". These hardy nomads lived in a land covered with snow for most of the year. They hunted along the frozen shores and across the plains, depended on the caribou for survival and learned to adapt to the cold, harsh environment.

Inuit life changed dramatically after the 1920's. Today's Inuit families respect and admire their strong and brave ancestors, but live a modern lifestyle.

Ice Quiz

1. What pole is the Arctic located at? _____
How do you know? _____
2. Who owns that Pole? _____
3. What is the habitat in the Arctic?
(describe the scenery and list animals you might find there)

4. Wouldn't it be great to see a penguin in the Arctic?

5. Does anyone live in the Arctic? _____
Who? _____
6. Would you like to live in the Arctic region? _____
Why?

7. How do the people that live in the Arctic survive?
What do they eat? _____
How do they get around? _____
What do they wear? _____
8. What are the seasons like in the Arctic?

Ice Quiz - Answer Key

1. What pole is the Arctic located at? *North Pole*
How do you know?
It is made of ice – no land. The ice makes it lighter so it will “float” to the top.
2. Who owns that Pole? *No one – it is made of ice, no land*
3. What is the habitat in the Arctic?
(describe the scenery and list animals you might find there)
Students should mention:
Tundra – cold, frozen desert
Animals – polar bears, lemmings, seals, walrus’, hares, puffins.
Seasons – long winters without much sun
Plants – few trees, plants grow low to the ground and are very colorful
4. Wouldn’t it be great to see a penguin in the Arctic?
There are NO penguins at the North Pole, only the South Pole.
5. Does anyone live in the Arctic? *Yes*
Who? *The Eskimo people (Samis, Inuits)*
6. Would you like to live in the Arctic region? *Student’s own opinion*
Why? *Student’s own reasons*
7. How do the people that live in the Arctic survive?
What do they eat? *fish from the icy water, hunt seals, walrus’, reindeer, some plants*
How do they get around? *reindeer pull sleighs, umiaks (boats)*
What do they wear? *warm clothing made of fur, boots, large coats, gloves/mittens*
8. What are the seasons like in the Arctic?
Winter is 9 months. Spring, summer and fall are 1 month each.
In Winter, only 4 hours of sunlight a day. In summer, 24 hours of sunlight.