

Title: The Antarctic Food Chain
Grade Level: Kindergarten-Second Grade
Subject: Science

Rationale: This lesson introduces students to the animals of Antarctica and to the Antarctic food chain. Students will end up with a food web that illustrates the importance of krill to the Antarctic ecosystem.

Objectives:

1. The students will learn about animals that live in Antarctica.
2. The students will learn about the Antarctic food chain.
3. The students will learn about the importance of krill to the Antarctic ecosystem.

Pennsylvania Academic Standards:

Academic Standards for Science:

- 3.1.D Explore patterns that regularly occur in nature.
- 3.2.A Build an introductory vocabulary of scientific terms.
- 3.3.D Demonstrate a basic understanding of similarities and differences that relate to environmental habitat.

Academic Standards for Reading, Writing, Speaking and Listening:

- 1.6.3.D Listen to a selection of literature (fiction and/or nonfiction)
- 1.6.3.E Participate in small and large group discussions and presentations.

Academic Standards for Social Studies:

- 7.1.A Identify the following geographic tools: maps, globe, map elements, diagrams, and photographs, map key

Materials:

If You Were a Penguin by Wendell and Florence Minor

50 Pieces of string about 3ft. long

Large open space (outside on the yard or move desks/tables in the classroom)

“Animal Nametags”

“Food Chain Facts”

Access to internet (access Power Library using your library card – using SIRS Discover and Searchasaurus databases find pictures for the animal nametags)

Scissors

Glue

Globe/ world map

Chart paper/chalkboard

Brown paper bag

Vocabulary: Antarctica, krill, food chain

Teaching and Learning Activity:

Before Lesson: Discuss the vocabulary words, Antarctica, krill, and food chain. Using the globe, ask the children to point to Antarctica. Ask them, “What do you know about Antarctica?” Explain where Antarctica is located, that it is a continent, and it is very cold there. Ask them, “Can you name some animals that live in Antarctica?” Write down their responses on the chart paper/chalkboard.

Then ask them, “Do you know what krill is?” Show them the picture of krill. Finally ask them, “Do you know what a food chain is?” “A food chain describes the feeding relationships between animals in a particular area. Today we are going to learn about the Antarctica food chain.

During Lesson: Read the story, *If You Were a Penguin* by Wendell and Florence Minor. Review the different types of penguins. Ask the students, “What types of food did the penguins eat?”

Move to the large space outside or inside. Have the students sit/stand in a circle. Pass an animal nametag to the students. Put the food chain facts into the brown paper bag and mix it up. After drawing a fact from the bag, the teacher reads it and the “animals” are connected with the string. For example, “Gentoo penguins eat krill and fish”. The student representing Gentoo penguin will have one string connecting him to krill and another string connecting him to fish. Continue this until all the statements have been read. Soon the class will create a food web.

Closure: Ask students to look at the food web and discuss what these animals mostly eat, (krill). How important is krill in Antarctica? What do you think might happen if krill populations declined?

Evaluation: Listen to their responses and how well they interact while creating the food web.

Extension Activities:

To help with the discussion about how important krill is to the Antarctica ecosystem, have the person representing krill leave the circle and discuss the effects. This can be done by eliminating another animal.

Discuss other types of food chains – food chains in the North American forests, deserts, rain forest.

What are some reasons populations are decreasing? How can you help the Earth? As a class, start a “Save the Earth” campaign – recycling, cleaning the local area, decreasing use of water and energy.

Related books/audiovisual:

[Life in the Antarctic](#) by Lynn M. Stone

[All About Food Chains](#) Schlessinger Science Library - DVD

Related Websites:

<http://kids.nationalgeographic.com/Animals/CreatureFeature/Emperor-penguin>

http://www.coolantarctica.com/Antarctica%20fact%20file/antarctica_animal.htm

Food Chain Facts (cut the sentences into strips)

Krill eat phytoplankton.

Gentoo penguins eat krill and fish.

Adélie penguins eat krill.

Macaroni penguins eat krill and squid.

Chinstrap penguins eat krill and fish.

King penguins eat fish and squid.

Emperor penguins eat krill, fish , and squid.

Crabeater seals eat krill.

Fur seals eat krill, fish , and squid.

Leopard seals eat krill, fish , penguins, and other seals.

Weddell seals eat krill, fish , and squid.

Humpback whales eat krill.

Squid eat krill and fish.

Fish eat krill and other fish.

Skuas eat krill, fish , and penguin eggs and chicks.

Petrels eat fish, squid , krill, and dead seals, penguins, and whales.

Albatross eat fish and squid.

Killer whales eat fish , squid, Adélie penguins, emperor penguins, Weddell seals, crabeater seals, and leopard seals.

Animal Nametags

(cut the nametags and glue the pictures to the nametags)

Insert picture of king penguin

King penguin

Insert picture of krill

Krill

Insert picture of phytoplankton.

Phytoplankton

Insert picture of gentoo penguin.

Gentoo penguin

Insert picture of fish

Fish

Insert picture of adélie penguin

Adélie penguin

Insert picture of macaroni penguin

Macaroni
penguin

Insert picture of squid

Squid

Insert picture of killer whale

Killer whale

Insert picture of albatross

Albatross

Insert picture of a dead
seal/penguin/whale

Dead animals

Insert picture of petrel

Petrel

Insert picture of skua

Skua

Insert picture of humpback whale

**Humpback
whale**

Insert picture of weddell seal

Weddell seal

Insert picture of leopard seal

Leopard seal

Insert picture of fur seal

Fur seal

Insert picture of crabeater seal

Crabeater seal

Insert picture of emperor penguin

**Emperor
penguin**

Insert picture of chinstrap penguin

**Chinstrap
penguin**