

RESOURCE LIBRARY
ACTIVITY : 50 MINS

Arctic Adaptations

Students learn about behavioral and biological animal adaptations, watch a video about the Arctic, and research how specific animals have adapted to this harsh environment.

GRADES

6 - 8

SUBJECTS

Biology, Geography, Physical Geography

CONTENTS

1 Video, 1 PDF, 1 Link

OVERVIEW

Students learn about behavioral and biological animal adaptations, watch a video about the Arctic, and research how specific animals have adapted to this harsh environment.

For the complete activity with media resources, visit:

<http://www.nationalgeographic.org/activity/arctic-adaptations/>

DIRECTIONS

1. Introduce the concepts of behavioral and biological adaptation.

Ask: *What is an animal adaptation?* Elicit from students that it is a trait that helps an animal fit in and survive in its environment. Explain to students that there are behavioral and biological adaptations. An example of a biological adaptation is a polar bear's thick fur, which protects it from freezing temperatures. A thick-billed Murre that dives deep into the Arctic waters in search of fish and squid to eat is displaying a behavioral adaptation. Ask students for other examples of each type of adaptation.

2. Have students watch the video “Arctic Ocean.”

Show students the National Geographic video “Arctic Ocean” and ask them to pay particular attention to what the video segment says about animal life in this region. Tell them to look for examples of behavioral and biological adaptation as they watch. After the video, check students’ comprehension. Ask:

- *What makes the environment so harsh and seemingly inhospitable?* (thick ice; freezing temperatures; dark waters)
- *What animals live in this environment?* (polar bears, ringed seals, beluga whales, narwhals, bowhead whales, Arctic birds, walruses)
- *What threatens Arctic animal life? How?* (global warming; by melting the ice and snow animals and people depend on)

3. Have students research Arctic animals and complete the worksheet.

Divide students into small groups or pairs. Distribute the worksheet Arctic Animal Adaptations. Have students use the National Geographic Animals website and library resources. Ask them to research a specific Arctic animal, native to the Beaufort Sea and surrounding arctic regions, and the ways in which the animal has adapted to such a harsh environment. Assign small groups or pairs one of the following animals to research and have them complete the worksheet.

- albatross
- Arctic fox
- Arctic hare
- beluga whales
- elephant seal
- fur seal
- narwhals
- polar bears
- ringed seals
- thick-billed murre
- walruses

4. Have a whole-class discussion about Arctic animal adaptations.

Have small groups or pairs present the information they found during their research. Ask them to identify at least one way their animal has adapted to the harsh environment. List these adaptations on the board, and discuss any common adaptation strategies across species.

OBJECTIVES

Subjects & Disciplines

Biology

Geography

- Physical Geography

Learning Objectives

Students will:

- give examples of behavioral and biological adaptations
- describe the Arctic environment and the animals that live there
- explain the adaptations of a specific Arctic animal

Teaching Approach

- Learning-for-use

Teaching Methods

- Discussions
- Research
- Visual instruction

Skills Summary

This activity targets the following skills:

- Critical Thinking Skills
 - Analyzing
 - Understanding
- Geographic Skills
 - Analyzing Geographic Information
 - Organizing Geographic Information

National Standards, Principles, and Practices

NATIONAL GEOGRAPHY STANDARDS

- Standard 8:

The characteristics and spatial distribution of ecosystems and biomes on Earth's surface;

NATIONAL SCIENCE EDUCATION STANDARDS

- (5-8) Standard C-5:

Diversity and adaptations of organisms

Preparation

What You'll Need

MATERIALS YOU PROVIDE

- Pencils
- Pens

REQUIRED TECHNOLOGY

- Internet Access: Required
- Tech Setup: 1 computer per small group, Projector, Speakers
- Plug-Ins: Flash

PHYSICAL SPACE

- Classroom

GROUPING

- Large-group instruction
- Small-group instruction

BACKGROUND & VOCABULARY

Background Information

The Arctic is home to life that exists nowhere else on Earth. Polar bears, narwhals, bowhead whales, and other creatures are able to live and thrive in the harsh climate of the Arctic because of their biological or behavioral adaptations.

Prior Knowledge

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Recommended Prior Activities

- [The Arctic Region](#)

Vocabulary

Term	Part of Speech	Definition
adaptation	<i>noun</i>	a modification of an organism or its parts that makes it more fit for existence. An adaptation is passed from generation to generation.
Arctic	<i>noun</i>	region at Earth's extreme north, encompassed by the Arctic Circle.
behavioral adaptation	<i>noun</i>	way an organism acts in order to survive or thrive in its environment.
biological adaptation	<i>noun</i>	physical change in an organism that results over time in reaction to its environment.

For Further Exploration

Websites

- [Marine Conservation Biology Institute: From Sea to Shining Sea](#)
- [NOAA: Arctic Theme Page](#)

PARTNER



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