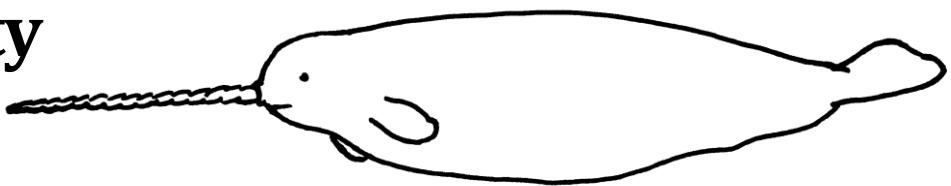


Arctic Biodiversity

A Post Program Resource



Overview

The Arctic is a unique ecosystem that hosts a surprising amount of biodiversity. At first glance, the Arctic might seem empty, but it's actually full of life. Communities of plants and animals all make their homes throughout this harsher of the world's environments.

This program will help students to understand how such an unexpected variety of life is able to persist in the harsh Arctic habitat by highlighting important adaptations and connections which enable organisms to survive there. Your class will also investigate key issues that affect Arctic biodiversity with special emphasis on climate as a critical feature of the Arctic environment, for both the animals and the people who live there.

Key Themes

- Humans and the environment are intricately connected and all of our influences have impacts on each other and other humans and environments around the world
- Arctic animals have unique adaptations that have enabled them to thrive in such an extreme environment
- The survival of many Arctic animals is currently threatened because of changing conditions that these animals are not able to adapt quickly enough to
- Canada's Arctic climate and the global climate are changing at an unprecedented rate and this change is threatening the survival of many lifeforms around the world
- Our current level of knowledge and understanding of Arctic ecosystems would not be possible without First Peoples perspectives and knowledge of life in the Arctic

Key Vocabulary

* Arctic
* Adaptations
* Biodiversity

*Connections
*Climate Change
*Ecosystem

*Indigenous Peoples
*Global Communities
*Environmental Impacts

Extension Questions

- What do animals living in the ocean need to survive? Are these needs the same or different than animals living on land?
- Do animals and people living in Canada's Arctic (land and ocean) have the same adaptations as those living in British Columbia? What are some of the similarities? What are some of the differences? Can you think of any reasons why they might be the same/different between these two places?
- What are some ways that the world's climate has changed/is changing from when you were born?
- If an Arctic animal's and people's (substitute: BC animal's and people's) climate changes faster than they can adapt to it, what are some of the ways that these animals and people may be impacted by this change in a harmful way?
- What are some ways that humans can impact changing environments in a helpful way:
on our own/in our (your students') daily lives?
in a group/together as a community (e.g. school, city)?

Resources

Find Out More About...

Ocean Wise Arctic Research:

<https://research.ocean.org/research/arctic>

Arctic Expedition Opportunities for Teachers

www.nationalgeographic.org/education/programs/grosvenor-teacher-fellowship/

Take the Plastic Pledge!

<http://ocean.org/plastic-wise/>

Arctic Biodiversity Assessment:

<https://www.arcticbiodiversity.is/>

Activities

Show-and-Tell: Ask your students to present on an Arctic animal (of their choosing or assigned): how they get the things they to survive based on the way that they look and behave. Extension: list one way that humans can harm these animals and/or their environment and one way that we can help to lessen this impact.

Think Tank: Assign your class (whole or in groups) a current harmful environmental impact by humans on our ocean ecosystems (as a whole) or a specific global ecosystem (i.e. "case study" such as the Arctic ecosystem introduced today) to research and have them brainstorm and present a way that we can help to lessen any harmful effects that it may cause.

Game: Divide your class into smaller teams of Arctic residents (e.g. groups of 6). Each team is presented with 3 types of resources that every Arctic resident needs to survive: "nutrition", "protection", and "community" (e.g. represented by something tangible like bean bags) with every member receiving a resource to uphold for their team (e.g. each team of 6 receives 2 of each resource type). Each team must get all of its resources to safety in order to be successful. Challenge: each team member must make a leap to survive with their individually assigned resource in hand across a symbolic patch of sea ice whose gap (e.g. as indicated as simply as two tape markings or mats on the floor) keeps getting larger and larger with each member's jump toward safety (representative of a fast paced "ice melt"). Can your class of Arctic residents all

Videos

What's life like in an Arctic Research Camp?

<https://www.youtube.com/watch?v=3Helxz0nGiY>

How is Climate Change Affecting Arctic Communities?

https://www.youtube.com/results?search_query=ocean+wise+arctic

Why does sea ice matter?

<https://www.youtube.com/watch?v=MIMuPW4Lebg>

How does your Plastic end up in the Arctic?

<https://www.youtube.com/watch?v=PzURXrrjTKY>