Arctic Animals

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NGSS: 3-LS4-3

Construct an argument with evidence that in a particular habitat some organisms can survive well, some survive less well, and some cannot survive at all.

Clarification Statement:
Examples of evidence could include needs and characteristics of the organisms and habitats involved. The organisms and their habitat make up a system in which the parts depend on each other.

Go here for more information:
http://ngss.nsta.org/DisplayStandard.aspx?view=topic&id=12

Cross Cutting Concepts:

Patterns
Students may notice patterns in animal traits for survival. For example many animals in cold climates have blubber or thick fur coats to keep warm. Many animals that eat meat have sharp teeth.

Structure and Function
Animal's body structure is evolved in such a way to help them maximize survival in their particular habitat.

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The arctic tundra is the northern-most part of the globe

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What Special Challenges Does the Arctic Pose?

(left) By Ansgar Walk - photo taken by Ansgar Walk, CC BY-SA 2.5, https://commons.wikimedia.org/w/index.php?curid=659821(right) By ADialla - Flickr: My Nunavut 7, CC BY 2.0, https://commons.wikimedia.org/w/index.php?curid=16999381

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(Have students give answers/discuss)

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What Special Challenges Does the Arctic Pose?

- Extreme cold temperatures
- Harsh environment means less life and fewer choices for food.

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These animals all live in the arctic. What observations can you make?

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Arctic Animal: Walrus

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- Thick blubber helps it stay warm
- Walruses huddle together to conserve heat
- Can stay underwater for minutes at a time to find food on the ocean floor
- Is thought to be able to stay awake for days at time. Can also sleep for short periods while floating

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Arctic Animal: Polar Bear

By Alan Wilson - www.naturespicsonline.com:[1], CC BY-SA 3.0, https://commons.wikimedia.org/w/index.php?curid=11400244

- Thick fur and blubber helps them stay warm
- A long neck and thick paws makes the polar bear good at swimming
- Their main food is seal - they will sit still for hours at a seal “breathing hole” for them to emerge

Learn more

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Arctic Animal: Snowy Owl

- Unlike most owls is (mostly) diurnal. Will hunt any time of day in the constant daylight of Arctic summers.
- Migrates south in winter but stays in cool, snowy locations where it blends in.
- Like may owls, large talons on feet are used to grab prey
- Parents work together to feed young, male brings food to female & offspring

Learn more

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Arctic Animal: Arctic Fox

- Thick fur, including on their feet, keeps them warm
- They have many predators and live in dens in the side of cliff or under rocks
- Fur changes color from winter to summer

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Arctic Animal: Lemming

- These rodents are a popular meal. They live in underground tunnels to hide from predators and stay warm.
- Good swimmers
- At least some species migrate to warmer regions in winter
- Collard lemmings coat changes color seasonally, white in winter, brown in summer.

Learn more

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Arctic Animal: Wooly Worm and Isabella Tiger Moth

- Over winter the caterpillar's heart nearly stops beating and they basically freeze; it makes "antifreeze" in tissues to allow it to survive.
- Because so much of the wolley worm's time is spent frozen and it eats and grow in small intervals, the animal spends most of its life as a caterpillar and dies soon after turning into a moth.

Learn more

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A Note:

- Arctic tundras span a large area; not all animals shown here live near each other
- Many animals, including some shown here, live in the arctic AND other biomes.

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