Lesson 3: Arctic Food Webs

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| Hook | Watch a clip from BBC’s Planet Earth as an introduction to Arctic animals [http://www.youtube.com/watch?v=OwZH_aT0FGI](http://www.youtube.com/watch?v=OwZH_aT0FGI). What characteristics of Polar bears allow them to survive in the Arctic? *If you have more time, you could play a version of Predator-Prey (see adaptations and enrichments)
### Activity

On the Expedition Arctic website, students will go through the “Team” link and select David Gray in order to learn about Arctic Food Webs. While exploring the page by following along with David, have students write down observations and reflections. Have students think about the following:

**Specific questions:**
- What are some of the animals which call the Arctic home?
- What roles do animals play in Arctic Ecosystems?
- What kinds of adaptations have animals had to make to be able to survive in the Arctic?
- What threats exist to Arctic animals?
- How do animals interact with one another?
- How do Arctic animals interact with other organisms in their environment?
- What can cause a species to be classified as “at risk”?
- How could changes in climate affect Arctic animal life?

**General questions:**
- What interested you the most?
- What surprised you to learn?
- What is one thing that you would like to know more about?

### Formative assessment/debrief

Think-Pair-Share (Students are given time to think about their response to a specific question or topic, pair up with a partner and discuss, and then share their collective thoughts with the class or another pair).
- Based on reflection questions
- Based on guiding question

Have a class discussion based around reflection questions.

Split into small groups and create a poster answer to guiding question using flipchart paper.

Have students create Arctic food webs which include the highlighted species from the lesson.

### NEXT STEPS
### Adaptations and Enrichments

- Use a SMART Board to explore the site as a class, in part or in whole.
- Have students work in pairs.
- Explore more specimens through the “Collection” link on the Expedition Arctic webpage.
- Look at pictures and videos of Arctic landscapes using the “Expedition” link.
- Play a game of Predator-Prey using Arctic organisms. (There are many versions of Predator-Prey out there. One example can be found at [http://www.bradwoods.org/pdf/ee_curriculum_2012/Predator_Prey_11.pdf](http://www.bradwoods.org/pdf/ee_curriculum_2012/Predator_Prey_11.pdf))

### Extensions

- Expand the activity by using Lesson 2: Explorations in Science to guide learning about scientist’s careers to fulfill career expectations of science curriculum.
- Explore Arctic marine organisms using Lesson 4: Arctic Aquatic Life.
- Learn about adaptations of organisms to extreme environments through Lesson 5: Life at the Top of the World.
- Link this lesson to the geology of the Arctic over time using Lesson 6: The Age of Ice.
- Learn about fossil records and what Arctic fossils can teach us with Lesson 7: Ancient Arctic.
- Explore how changes in the global climate are affecting the Arctic, and how these changes affect the rest of the world in Lesson 8: Changing Climate.