

Lesson Plan: Harp Seal

Summary

In this lesson, students learn about harp seals, their history, predators, survival strategies, and conservation status. The transcript described how harp seals were once heavily hunted for their fur, oil, and meat, and how they remain vulnerable on land but are powerful predators in the water. It also discussed their distinctive markings, camouflage, and current challenges with climate change.

<https://www.youtube.com/live/IVfA42V37z0?si=CjTszSFw3FSuKce>

Objective

Students will understand the biology, adaptations, and conservation issues surrounding harp seals by examining their traits, predators, and human impacts.

Standards

- 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.
- CCSS.ELA-LITERACY.RI.4.3: Explain events, procedures, ideas, or concepts in a historical, scientific, or technical text.
- C3 D2.Geo.5.3-5: Describe how human activities and the environment influence each other.

Materials

- Vetted 9 Fun Facts about Harp Seals
- Worksheet
- Optional: whiteboard, projector, paper, pencils, images of harp seals

Activity

Students will read through the 9 Fun Facts about harp seals. In small groups, they will discuss how harp seals' adaptations help them survive in harsh Arctic conditions. Then students will complete the worksheet with questions drawn directly from the 9 Fun Facts.

Introduction

Introduce harp seals as an Arctic species with distinctive life stages and survival adaptations. Discuss how they are clumsy on land but powerful in the water, and how human hunting once endangered them.

Assessment

Students will be assessed on their ability to recall key facts about harp seals, explain predator-prey relationships, and identify how humans have influenced harp seal populations.

Rubric

Criteria	Excellent (4)	Good (3)	Fair (2)	Poor (1)
Content Understanding	Demonstrates full understanding of all 9 Fun Facts	Understands most Fun Facts	Understands some Fun Facts	Limited understanding shown
Discussion Participation	Actively participates in group discussion	Participates with some prompting	Limited participation	No participation
Worksheet Completion	All answers correct and thorough	Most answers correct	Some answers correct	Few or no answers correct
Technology Connections	Provides thoughtful explanations and connections	Provides some explanations	Provides basic responses	Provides minimal responses

9 Fun Facts

1. From pinnipeds to harp seals Harp seals belong to the pinniped group, which includes seals, sea lions, and walruses. Unlike sea lions, they are “true seals” in the family Phocidae, which means they lack external ear flaps and rely on flippers for movement on ice. Their genus *Pagophilus* is monotypic, containing only this species.
<https://www.pinnipeds.org/seal-information/species-information-pages/the-phocid-seals/harp-seal>

2. What makes them harp seals The adult harp seal is recognized by a black harp-shaped marking across its back, while pups are famous for their snow-white fur. These “whitecoats” molt after about two weeks, revealing a spotted coat, and eventually develop the distinct adult harp pattern.
<https://nammco.no/harp-seal/#1475762140566-81d47f7a-a145>

3. Where and how they live Harp seals inhabit the North Atlantic and Arctic, relying on seasonal pack ice for breeding, nursing, and molting. They gather in massive colonies during February and March to give birth. Mothers nurse pups for about 12 days, after which the pups are left to survive on their own. Adults dive for fish like capelin, cod, and herring, sometimes reaching depths of 500 meters for up to 20 minutes.
<https://nammco.no/topics/harp-seal>

4. Their natural predator Harp seal pups are vulnerable to polar bears, Arctic foxes, and wolves when on the ice. In the water, adults face predation from orcas and large sharks like the Greenland shark. Humans have also been major predators for centuries through hunting.
<https://oceana.org/marine-life/harp-seal>

5. Methods of defense On the ice, white-coated pups use camouflage as their primary defense. In the water, harp seals rely on agility and diving skills to outmaneuver predators. If caught, they can bite, thrash, and strike with their flippers in self-defense.
<https://www.quarkexpeditions.com/blog/wildlife-guide-harp-seal-facts>

6. Their relationship with humans Harp seals have been hunted for fur, oil, and meat, especially in Canada, Greenland, Russia, and Norway. The practice has been controversial, sparking global protests and stricter regulations. At the same time, humans rescue and rehabilitate stranded harp seals, sometimes returning them successfully to the wild.

<https://www.aza.org/connect-stories/stories/national-aquarium-returns-juvenile-harp-seal-to-ocean>

7. Conservation status The IUCN Red List currently classifies harp seals as Least Concern, with an estimated global population of about 4.5 million. However, climate change threatens their reliance on stable sea ice for breeding and nursing, raising concerns about future declines.

<https://oceanconservancy.org/wildlife-factsheet/harp-seal>

8. Harp seals in captivity Unlike sea lions or harbor seals, harp seals are rarely kept in zoos or aquariums because their needs—cold water, large swimming spaces, and sea ice—are difficult to replicate. Most captive encounters occur in rehabilitation centers that care for injured or orphaned seals before releasing them back to the ocean.

<https://www.aza.org/connect-stories/stories/national-aquarium-returns-juvenile-harp-seal-to-ocean>

9. Conservation efforts and successes Commercial hunting of newborn “whitecoats” has been banned, and regulations now manage overall harvest levels. Conservation groups are active in monitoring populations and raising awareness about the impacts of climate change on ice-dependent species. Public campaigns have helped reduce demand for seal products, and harp seal numbers have stabilized compared to past declines.

<https://www.4ocean.com/blogs/notebook/dive-into-the-world-of-the-harp-seal-a-graceful-arctic-swimmer?srsId=AfmBOooyPf1Adoz586NZHozbGFBNZPHgQc3Wm6xN9SuFHnYik8xVrebd>

Worksheet

Name: _____ **Date:** _____

Review

1. What family of animals do harp seals belong to?
2. Why are harp seals called harp seals?
3. Where do harp seals give birth and nurse their pups?

Discussion

4. Why were harp seals nearly driven to extinction in the 1800s and 1900s?
5. What makes harp seals vulnerable on land but strong in water?

Data Analysis

6. According to estimates, how many harp seals exist today?
7. How does climate change pose a threat to harp seals' habitat?

Reflection

8. How does the rebound of harp seal populations show resilience in nature?
9. What lessons can humans learn from harp seals about survival and adaptation?