

Bowhead Whales: an introduction to a Whales Unit

Overview

This First Grade unit on the bowhead whale has been created to support the knowledge of children living within a whaling community. The unit focuses on the basic components of understanding the bowhead in a more scientific manner. It was created by a teacher whose students know the bowhead in a uniquely intimate way because of their environmental and subsistence circumstances, with the goal of approaching the acquisition of whale "knowledge" from a scientific learning perspective that will then support the environmental and subsistence knowledge that is vital to her students' way of life.

Grade Level: Grade 1

Objectives

- Students will gain a basic understanding of bowhead whale biology.
- Students will be able to label a picture of a bowhead whale in English and Inupiaq and explain each body part to a partner.
- Students will understand the "family" cycle of the bowhead, and know what and how much a whale eats.
- Students will learn that living things have unique characteristics and will explore how organisms are similar or different.
- Students will be able to show understanding in a variety of ways within classroom (The teacher in Barrow, Alaska, who developed the lesson plan also had an opportunity for her students to share understanding with peers by comparing the bowhead with the right whale via long-distance learning with a partner classroom in a Florida community; this could be adapted for other classroom partnerships.)

Students will consider:

- Appropriate ways of protecting and respecting the land, air, and sea and the living things that inhabit the Arctic
- The skills, understandings, beliefs, and values a person needs in an arctic environment in order to enhance his or her ability to explore, discover and thrive in that environment.

Standards

This lesson plan was developed prior to finalization of the Next Generation Science Standards and alignment of the Alaska Science Standards to them. When those standards are available, these activities will be re-aligned.

National Science Education Standards

K-4 Content Standard C: Life Science:

- a. Characteristics of organisms
- b. Life cycles of organisms
- c. Organisms and environments

Materials

- Paper, chart paper
- Journals
- Crayons
- Scissors
- Printouts of blank bowhead whale and labeled bowhead whale
- Large bowhead whale cutout
- See Resources section for additional materials

Preparation

This lesson will be five days long (one week)

- Monday: Video or field trip of fall whaling, KWL of anatomy, "K", "W" part
- Tuesday: Anatomy of bowhead
- Wednesday: Family "cycle" of the whale, "K", "W" part
- Thursday: What a whale eats/ how it grows, "K", "W" part
- Friday: Guest speakers (Leslie and whaling captain), "L" part of KWL/ Connect with students in Florida to share knowledge

Note KWL is a teaching model acronym for - "what we know", "what we want to know", and "what we learned".

Procedure

Monday – Day 1

1. Introduce the topic of the week—bowhead whales! Read the books *Bowhead Whales* and *Whale Snow* to the students. (see Resources section)
2. The whole class then fills out the "K" and "W" parts of KWL for Bowhead whales as a general topic (teacher dictates onto chart paper)
3. In villages on the North Slope of Alaska, students will either watch video of or take a field trip to fall whaling, taking note of their observations of the bowhead whale's body. The students will come back to the class and share observations as teacher writes them on chart paper.
4. Student reflections in journals.

Tuesday – Day 2

1. The class will review what they saw/discussed out at whaling and/or what they read in the bowhead books,
and what they've filled in on the KWL (see attached)
2. The students will then discuss the KW part of a whale's body: what do we know
3. The students will be given an outline of a bowhead whale (or draw their own) and asked to label the body
parts of the whale (pre-test)
4. The teacher will show diagram to explain the anatomy of the bowhead whale, leading students in a
discussion and answering questions about each part of the wale
5. The class will label a huge whale together!
6. L part of KWL
7. Student reflections in journals.

Wednesday – Day 3

1. The students will share out in a discussion forum their knowledge of bowhead calves (KWL).
2. The class will review the four seasons; how they correspond to our weather and whaling (and other subsistence) seasons.
3. The teacher will show slides of whales and explain when calves are born, and the idea of a pod.
4. Student reflections in journals.

Thursday – Day 4

1. The students will share out in a discussion forum their knowledge of what bowhead whales eat (KWL).
2. Where available, the teacher will bring in baleen and have students help demonstrate the process of a whale using its baleen hairs to catch krill.
3. The teacher will show pictures of a whale's mouth/ stomach.
4. The teacher will use the "Hershey kiss comparison" to help students understand the amount of food a bowhead eats (25 gallons of krill is 4,500 Hershey kisses 4-5 times a day).
5. Student reflections in journals.

Friday – Day 5

1. "L" part of KWL for each three areas
2. Post-test of student labeling whale body.
3. Student reflections in journals.
4. Optional: Share out with partner class

Assessment

Student assessment will occur on a daily and end-of unit-basis using

The KWL chart process

Quick checks for understanding on daily concepts through reviewing journal reflections.

Pre- and post- tests

For bowhead anatomy, the completed diagram of the whale with the labeled parts

Resources

- *Bowhead Whales* by Kristin Petrie (or another non-fiction text on bowheads)
- *Whale Snow* by Debbie Dahl
- Video of fall whaling
- Bowhead Printables file, attached (contains KWL, Observation checklist, bowhead anatomy diagram)
- <http://www.north-slope.org/departments/wildlife/>
- <http://www.enchantedlearning.com/subjects/whales/species/Bowheadwhale.shtml>

Extension

This unit will be taught in the fall in schools in communities on Alaska's North Slope where whaling occurs during that season. It will be followed a unit on sea ice during the winter. The rest of the bowhead unit will be done toward the end of the year during spring whaling with a focus on bowhead

migration patterns, why and how bowhead whales are in the Arctic (using knowledge of sea ice), and spring whaling traditions and techniques.

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Model of what to put on Chart paper

K what do we KNOW about bowhead whales:	W what we WANT to know about bowhead whales:	L what we have LEARNED about bowhead whales:

Model of what to put on Chart paper

K what do we KNOW about:	W what we WANT to know about:	L what we have LEARNED about:
Bowhead Anatomy (body parts)	Bowhead Anatomy (body parts)	Bowhead Anatomy (body parts)
Bowhead calves	Bowhead calves	Bowhead calves
What and how the bowhead eats/ grows	What and how the bowhead eats/ grows	What and how the bowhead eats/ grows

Observation checklist:

Out at Whaling, what did we...

See?

Hear?

Smell?

Taste?

Touch?

BOWHEAD WHALE

