

DOLPHIN RESEARCH CENTER

A Whale of a Meal!

Grade Level: 3rd-5th

Objectives: Students will understand the different feeding techniques of toothed whales and baleen whales. Students will understand that some of the largest creatures on earth feed on some of the smallest animals.

Florida Sunshine State Standards:

Language Arts

L.A.C.1.2.1: The student listens and responds to a variety of oral presentations such as stories, poems, skits, songs, personal accounts, informational speeches.

Science

SC.F.1.2.3: The student knows that living things are different but share similar structures.

SC.G.1.2.2: The student knows that living things compete in a climatic region with other living things and that structural adaptations make them fit for their environment.

SC.G.1.2.5: The student knows that animals eat plants or other animals to acquire the energy they need for survival.

National Standards:

Content Standard C (K-4) - Characteristics of Organisms: Each plant or animal has different structures that serve different functions in growth, survival, and reproduction. For example, humans have distinct body structures for walking, holding, seeing, and talking.

Content Standard C (5-8) - Diversity and Adaptations of Organisms: Biological evolution accounts for the diversity of species developed through gradual processes over many generations. Species acquire many of their unique characteristics through biological adaptation, which involves the selection of naturally occurring variations in populations. Biological adaptations include changes in structures, behaviors, or physiology that enhance survival and reproductive success in a particular environment

Background: This is an easy, hands-on activity that allows students the opportunity to understand and visualize the different feeding methods of baleen whales and toothed whales. There are two types of whales, toothed whales, or Odontoceti, and baleen whales, or Mysticeti. Baleen whales are some of the largest whales but feed on some of the smallest animals. They include the blue whale, right whale, humpback whale, and minke whale. Baleen whales do not have teeth. Instead, they have plates of baleen that hang down from their upper jaws. Baleen whales swallow gallons and gallons of ocean water. They push

Key Terms

Characteristics of baleen

whales: Long plates of baleen hang in a row from the upper jaw. Made of protein similar to human fingernails.

Forms a curtain in the whale's mouth for straining food.

Mysticete: Scientific name for baleen whales.

Odontocete: Scientific name for toothed whales.



Whale of a Meal!

the water out through the baleen plates that act as sieves to trap small ocean animals such as plankton and krill. While the water is pushed out, the tiny organisms are actually too large to be pushed through the baleen plates. The whale will use its tongue to scoop up the tiny organisms. The toothed whales are whales that actually have teeth. This includes the pilot whales, sperm whales, orcas, porpoises, and dolphins. Toothed whales use their teeth to grasp their prey. They do not chew their food, but actually swallow their prey whole. Toothed whales eat a variety of fish, crustaceans, and squid, and in some cases eat other marine mammals.

Materials:

- ***The Whales***, by Cynthia Rylant
- Photos of toothed whales, baleen whales, herring, and krill
- A “9 X 12” baking dish
- Water
- Baby carrots or Swedish fish candies
- Parsley flakes
- Fine comb
- Tongs or tweezers

Teacher Prep Notes: Check out the book, ***The Whales***, by Cynthia Rylant. Gather pictures online and/or use the attached handouts of baleen whales and various toothed whales to show the differences in appearance and bone structure between the two groups. If desired, gather pictures of herring and krill as well. Make copies of the handouts for students. For further information about Odontoceti and Mysticeti, see the ***Physiology*** information file.

Procedures:

1. Introduce this activity by reading, *The Whales* by Cynthia Rylant, to the class. Discuss the types of whales that are illustrated in the book. (The last page of the book reveals all the types of whales written about and illustrated.)
2. Show the students pictures of dolphins and orcas (killer whales) and other toothed whales.
3. Show the students pictures of humpbacks and other baleen whales.
4. Introduce the scientific names of the two types of whales.
5. Compare and contrast the bone structures of Mysticeti & Odontoceti.
6. Which one is which? Go back through the book illustrations and discuss which whales Mysticeti and which are Odontoceti? How can you tell?
7. Do you think they feed on the same things? Why?
Show pictures of krill and herring. Which one eats which? Let's find out!



Whale of a Meal!

Activity:

1. Fill the baking dish with water.
2. Add the carrots and the parsley flakes to the water. Explain to the students what they represent. The carrots represent fish such as herring, capelin, and mackerel, and the parsley flakes represent krill. Have the students make predictions on which feeding tool—the comb or the tongs will be better at catching the carrots and the parsley.
3. Have students test their predictions.

Wrap Up:

1. Which feeding tool represented a toothed whale? A baleen whale?
2. Is baleen more effective at picking up fish or krill? Explain.

Taking it Further: Students can choose a toothed whale or a baleen whale to research and give a written report and oral presentation about what they have learned about that whale. You could also include conservation tidbits in terms of making it a requirement to include in threats to that animal, along with solutions protect them, in their presentations.

