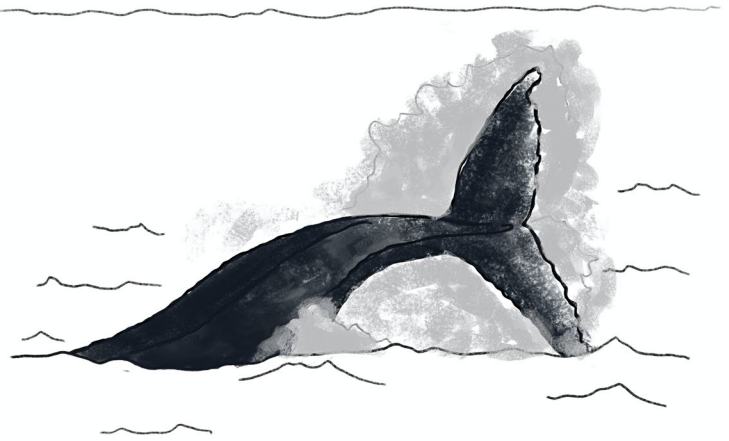


Eat Like a Whale Activity

Introduction:

Like many of the other marine mammals that The Marine Mammal Center works with, whales have an important role to play in our shared ecosystem. Studying whales and the threats they face can provide insights into ocean and human health. Through our scientific studies to monitor whales in San Francisco Bay and the Greater Farallones, the Center can find ways to better protect these precious creatures. Learn more about our whale conservation [here](#).



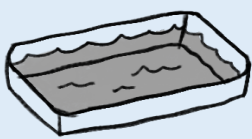
Background Information:

Whales are divided into two groups. The first group of whales is toothed whales or *odontocetes*. Toothed whales, such as the sperm whales, beluga whales, porpoises and dolphins (including Orcas), use their teeth to capture, bite, and swallow prey. The main feeding method used by toothed whales is called biting.

The second group is baleen whales, also known as *mysticetes*. Baleen whales use baleen, a bristle-like structure that hangs down from a whale's top jaw, to filter and strain large quantities of water while capturing smaller prey like schooling fish or krill in their mouth. Like hair and fingernails, baleen is made of keratin protein. The three distinct feeding methods used by baleen whales are called skimming, gulping, and bubbling.

For the purposes of this activity, we will call baleen whales skimmers, gulpers, and bubblers and the toothed whales will be called biters.

Materials Needed:



Dish pan with water

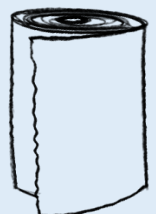


Dried herbs

Plastic comb or kitchen strainer



Paper towels



Tongs



Straws



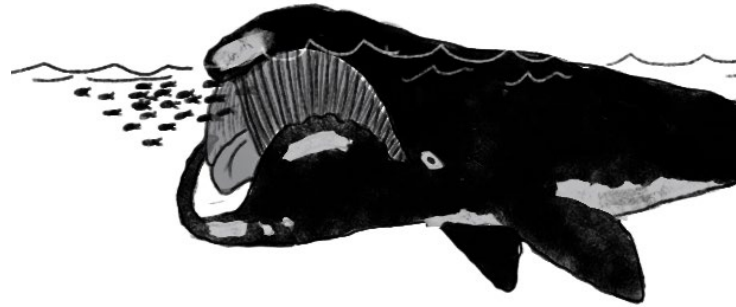
Pieces of Styrofoam



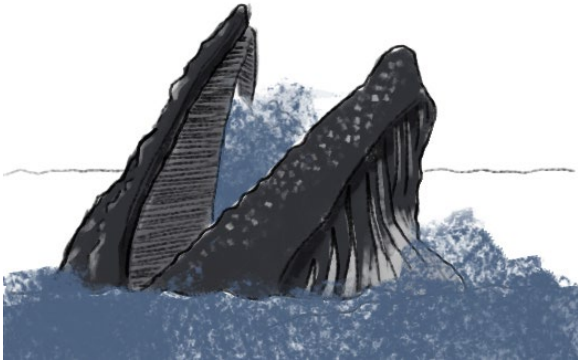
Resealable plastic bag

Hunting and Feeding Habits of Whales

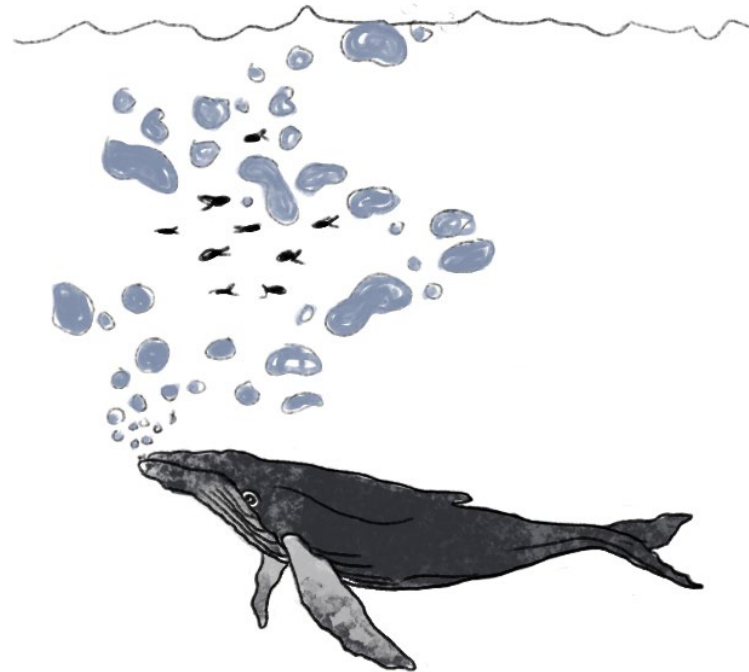
Skimmers: The bowhead and right whales are examples of baleen whales that feed by skimming the surface of the water with their mouths open. These types of whales typically eat floating zooplankton and other very small organisms on and near the surface of the water.



Gulpers: The rorqual whales (blue, humpback, fin, sei, minke, and Bryde's) have pleats in their throats that allow them to expand and take in large amounts of water and prey. When feeding, these whales typically dive down and when they are below a ball of prey, they will swim to the surface with their mouths wide open and scoop the water and prey into their stretched mouths.



Bubblers: Humpback and Bryde's whales are also known for using a technique called bubble feeding. These whales trap food in a certain area by swimming in a circle under the water and releasing a ring of bubbles around their prey. The bubbles scare the prey into a concentrated ball where they can then feed upon them more efficiently.



Biters: Whales like sperm whales and orcas feed by simply chasing and biting individual or small groups of prey. This strategy is often better equipped for smaller, faster moving whales who require less food mass. These whales are often toothed whales rather than baleen whales who use their mouths to filter out prey from the water



Activity Setup and Process

Instructions:

1. Fill one plastic tub full of water. Label four paper towels, one for each whale group (biters, skimmers, gulpers, bubblers). Put about 2 tablespoons of dried herbs in the water, to represent food items (krill, copepods or other zooplankton). The comb (or strainer) represents the baleen.
2. Skimmers: To simulate these whales feeding, take a comb and move the comb through the herbs as if you are a skimmer swimming. Remove the herbs from the baleen by tapping it on the labeled paper towel. Set the labeled results aside.
3. Place more dried herbs in the water. Gulpers: Use a plastic sandwich bag to represent the throat of a gulper. Move the bag through the water, filling it with water and herbs. Place the comb in front of the open end of the sandwich bag. Position it so that it traps the parsley inside the throat. Carefully squeeze the water out of the bag through the comb a little bit at a time. Remove the herbs from the comb by tapping it on the second labeled paper towel. Do this until all the water is drained from the bag, as if the gulper were closing its pleated throat.
4. Place more dried herbs in the water. Bubblers: Using a straw, gently blow bubbles in the water tub and try to push the herbs on top of the water into one corner (this may take a few tries). Then, bring the plastic bag up from the bottom of the tub through the center of the concentrated herbs. Strain the herbs from the water in the bag through a comb as before. Remove the herbs from the comb by tapping it on the third labeled paper towel.
5. Place more dried herbs in the water and add pieces of Styrofoam. Biters: Using the tongs, try to remove all the herbs and Styrofoam and place the “prey” on the fourth labeled paper towel. While the herbs still represent animal plankton and krill, the Styrofoam represents larger fish, squid, or seals.



Eat Like a Whale Activity: Conclusion

Activity Questions:

1. Of the skimmers, gulpers and bubble methods which method worked best?

2. Based on your success at feeding using the different methods of baleen whales, which baleen whale would you want to be? Why?

3. Which prey should you concentrate on as a toothed whale using the biting technique? How much were you able to “bite”?

4. How can you help make sure there is plenty of fish in the sea for baleen and toothed whales?
(Hint, [click here to learn more!](#))

Further Learning:

Gray whales do not feed using the above methods. Gray whales have special feeding methods that include sucking silt and mud from the ocean bottom to feed on amphipods. They are also seen running kelp through their baleen.

Some toothed whales have developed specialized feeding methods, stunning prey with their sonar or by slapping the water with their tails. Others have developed methods of herding prey on to sloping beaches, coming part way out of the water to eat the prey as they struggle. However, in beaked whales and narwals their teeth are actually ornamental and some beaked whales teeth never erupt from the jawbone.