

# Hawaiian Islands Humpback Whale National Marine Sanctuary

## “Threats and Adaptations”

**Grade Level:** 4-8

**Timeframe:** 45 Minutes

### Materials

**Feeding activity:** (for each group), bowl of water, 2 tablespoons of dried parsley, chop sticks, comb

**Blubber activity:** (for the class) one pound of lard, 2 large baggies, tape, container of ice water

**Whale size:** 45 foot piece of rope, marked off every foot, plastic rope is good, can use a marking pen to mark off every foot.



### Key Words

**Blubber:** A thick layer of fat, directly under the skin of all marine mammals.

**Bubble Net Feeding:** A process by which humpback whale swim around in a circle, blowing bubbles and trapping small fish and krill in the middle.



### Lesson Summary

The 30 minute video gives teachers ideas and support materials to help to teach a lesson about unique adaptations that humpback whales have that help it survive. Why is blubber important? How are they able to catch a ton of food a day? How do scientists disentangle a humpback whale that entangled in fishing gear?

### Learning Objectives

- Students will be able to describe some unique characteristics of humpback whales and these help their survival.
- Students will problem solve some solutions of how to disentangle a whale.

### Background Information

This lesson is filled with fun trivia facts about the humpback whales. See the attached student reading sheet of these facts or they can be found on the Humpback Whale website,

<https://hawaiihumpbackwhale.noaa.gov/>



## Procedure

1. **Introduction:** Have students brainstorm what living things need to survive, food, water, shelter, way to protect themselves. How do humpback whales catch their food, where do they live and how do they protect themselves?
2. **Feeding lesson:** Give each group a bowl of water, a couple of table spoons of dried parsley, 2 chop sticks and a comb. Review that the humpback whales do not have teeth that they have plates of baleen that trap small fish and krill. Have the students pour some of the parsley into the bowl of water. The parsley represents the krill and small fish. Use the chop sticks to stir around and around the edges of the bowl. Have student describe what is happening. The parsley (which represents the krill) will start to clump together in the middle. Have the students pretend that they are a dolphin with teeth. How much of the parsley can they catch with the tips of the chopsticks? Then swirl around the parsley again. This time run the comb through the water and see how much parsley they can catch. The comb is like the plates of the baleen. Could the whale catch a ton of krill a day if it was feeding with teeth?

3. **The Blubber Glove:** The blubber glove is a fun demonstration of how blubber works. Fill a gallon size baggie with Crisco or lard. Insert another gallon size bag in on top of the lard and tape the tops of the two bags together. If you have done this correctly, you will be able to put your hand into the second bag and mold the lard/Crisco in the underneath bag around your hand. Then place both the hand in the baggies and your free hand in a bowl or bucket of ice water. The blubber hand does not feel the cold.
4. **Entanglement Challenge:** If you were a researcher, how would you cut free an entangled whale? Have students work in groups to come up with a method to disentangle the whale. They can be in a boat but cannot get into the water. Have the groups share their ideas. After a class discussion, show the video used in the program of disentangling a whale.

## For More Information

Check out the Hawaiian Islands Humpback Whale National Marine Sanctuary's web site <http://hawaiianhumpbackwhale@noaa.gov>, for more information about the sanctuary and teacher and student pages for more activities

Check out the National Marine Sanctuary Web site for more educational resources. [Sanctuaries.noaa.gov/education](http://Sanctuaries.noaa.gov/education)