



KIDS ENVIRONMENTAL LESSON PLANS

This lesson plan developed by:



Whale Feeding

Overview:

Demonstrating the basic feeding methods used by baleen whales, including skim feeding, a technique used by right whales.

Ocean Literacy Principles:

5. The ocean supports a great diversity of life and ecosystems
7. The ocean is largely unexplored

Key Concepts:

- Whale species are divided into two main groups: baleen whales and toothed whales.
- Baleen is strips of fingernail like material used to filter small prey from the ocean.
- Baleen whales use different feeding methods depending on the skull shape, jaw size and baleen plates, to capture their prey of interest.

Materials:

- Clear plastic bin about the size of a dish pan
- Water
- Dried rosemary or parsley
- Comb
- Open glass or jar

Duration:

20-30 minutes

Physical Activity:

Moderate

Background:

Baleen whales filter their prey from the water using flexible strips of fingernail like material, called baleen that hang down from the roof of the mouth. The inside edges of baleen are hairy or bristly and trap small marine animals while allowing water to pass through, back into the ocean.

A baleen whale's skull shape, jaw size, and baleen plates determine the type of prey it catches and how it feeds. For instance, right whales have long and fine baleen, which allows them to feed on small zooplankton called copepods. In comparison, gray whales have short coarse baleen, which allows them to feed on small marine animals hidden in the ocean's muddy bottom. Humpback whales, on the other hand, use a gulp feeding method. Their baleen acts like a fishing net catching small fish and krill. The activity below will investigate right whales' feeding behavior, called skim feeding.

**Activity:**

1. Right whales are skim feeders. They move through the water with their mouths open allowing food and water to pass through their baleen as they move.
2. To demonstrate this, fill a plastic container with water (this represents the ocean), drop in rosemary (this represents copepods, right whales' primary food source).
3. Tell students they will need to use their imaginations. The glass will represent a whale's open mouth and the comb represents the baleen. Hold the comb at the top of the opening of the glass so that the teeth of the comb hang down towards the opening of the glass.
4. Move the jar though the water so that the rosemary sticks to the teeth of the comb as

you move it. This represents skim feeding.

Discussion:

1. Discuss with students how feeding like this fills the whale's mouth with food and also water.
2. Where does the water go? How does the whale get rid of the water and not the food?
3. Do any of these feeding methods pose a risk to the whales? Why or why not?
4. The baleen in right whales' mouths acts as a sieve or colander. It allows the water to pass through the baleen while their food, tiny marine plankton (copepods, see below), gets trapped in the fringe of the whale's baleen. This method is so effective right whales can eat over a ton (2,000 lbs) of copepods a day-an amazing fact considering each copepod is no bigger than a grain of rice!



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