

# Whale Blubber



**Grades:** K-5

**Subject:** Nutrient density

Habitats

Anatomy

Energy systems

Kinetic energy

Heat

**Materials:** Bowl of ice water

Shortening (Crisco)

Paper towels

**NGSS:**

3-LS3-2: Heredity: Inheritance and Variation of Traits

## Background

The blue whale has the longest known migration of any mammal. They spend summers in the waters near Alaska, eating 900–24,000 lbs. of krill each day. When they begin their journey to Mexico in the fall, the mothers weigh 30 tons, are coated in a 5–10 inch layer of blubber, and will not eat. These mothers will swim 24 hours a day, travel 10,000 miles, gestate a 2,000 pound baby, and produce 6 tons of breastmilk—all with NO food! Even if they wanted to eat, there wouldn't be any food available, because the krill they feed on are only found in Alaska.

For 270 days each year they live off of the energy stored in their blubber, or a whale's fat. Fat is a concentrated food source for these whales.



This fat layer not only provides nourishment for the whale, but also helps keep them warm during the long journey. This activity uses solid fat to show the insulation properties of whale blubber.

## Activity

1. Have each student apply a thick coat of Crisco around one pointer finger, leaving the other pointer finger clean.
2. Have students dip both pointer fingers into ice water and keep them there for up to one minute.
3. After removing their fingers from the water, ask the students how their fingers feel and if they feel different from one another. The Crisco finger represents the blubber on a whale. The Crisco keeps the participant's finger warm, just like the blubber keeps the whale insulated.

## Discussion

1. What do you do to stay warm when it's cold out? How is that different from a whale's blubber?
2. How do other animals protect themselves from weather conditions, like extreme cold or extreme heat?
3. What do you think would happen to the whales if they didn't have blubber to keep them warm?



This activity is excerpted from the Teacher's Guide to:

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