

Blubber Gloves



What you'll need:

- 2 quart size zipper seal plastic bags
- Shortening (such as Crisco)
- Bowl of ice and water



To do:

1. Make a blubber glove. Fill one bag with about four or five spoonfuls of shortening. Turn the second bag inside out and place inside the shortening bag. Put your hand in the inside-out bag and using your fingers, spread the shortening out evenly so there is a layer of shortening between the two bags. Close the zippers at the top to seal the bag. (For a stronger seal, use tape!)
2. Fill a bowl with ice and water.
3. With your hand inside the blubber glove, slowly dip it into the water. What do you feel?

What's going on?

Do you ever wonder how animals that live in cold water can keep warm? The answer is blubber! Located directly under the skin, blubber is a thick layer of adipose tissue, or fat that insulates the mammal from cold waters. Remember that mammals are warm-blooded animals; they use their internal metabolism to maintain a constant body temperature. Humpback whales have a core temperature of 96-99 °F, and live in water as cold as in your experiment. The blubber insulates the animal, keeping heat in, similar to how a Styrofoam cup keeps your coffee or hot cocoa warm! Whales, dolphins, seals and walrus all have blubber.

In addition to heat retention, blubber also stores energy! Food energy is stored as fat. When food is scarce the animal will metabolize the energy stored in the fat to survive. Blubber also aids in buoyancy and can help some animals swim!

