



## Greater Houston

### **Activity: Blubber**

#### **Learning Objective: Animal adaptations in extreme temperatures**

#### **Materials: Ice water, crisco, gloves, bucket**

#### **Directions:**

- Have each student put their hand in a bowl/bucket filled with ice water. Ask them what that feels like.
- Cover a glove with a thick layer of Crisco shortening and cover the glove with a Ziploc bag. Tell the students that this glove has fat on it which simulates the blubber on a whale.
- Have each student put their hand in the glove and place it back in the ice water. Ask them what it feels like now.
- Explain that the glove and Crisco is insulating their hand and protecting them from feeling the cold.

#### **Fun Facts:**

- Despite the freezing-cold temperatures, about four million people call the Arctic home.
- There are three types of whales that live in the Arctic: the Beluga, Narwhal, and the Baleen (Bowhead). All are mammals and their thick layer of blubber keeps them warm in the frigid waters. However, they have to be careful around sea ice since they need to come up for air.
- In the Arctic Circle, there is at least one 24 hour period every summer during which the sun doesn't set. This is known as "Midnight Sun".
- There is also at least one 24 period in the winter during which the sun doesn't rise. This is known as the "Polar Night".

#### **Discussion Questions:**

- Q1: What other animals can you think of that live in the arctic?
- Q2: What is the coldest temperature recorded in the Arctic?
- Open-ended: What's the coldest temperature you've felt?
- Q3: What famous place is located in the Arctic? Hint: Christmas

#### **(Optional) Answer Key:**

- A1: Arctic fox, Arctic Hare, Polar bear, Seals (to name a few)
- A2: -90 °F (-68 °C)
- A3: North Pole

# ARCTIC ADAPTATION: BLUBBER



# What is it?

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- Blubber is a very specialized, thick kind of fat found right under the skin of arctic animals.
- What does it do?
  - stores energy
  - Keeps in heat
  - Helps with floatation



# Storing energy

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- Energy is stored as protein and fat in blubber.
- Because energy can be stored in blubber, arctic animals can go for long periods of time without eating, and not lose the energy to walk!



# Insulation

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- Blubber insulates arctic animals, meaning, it keeps them warm! Especially when they swim through icy water.
- Bodies lose energy trying to stay warm in cold water. Blubber helps arctic animals keep energy by keeping their bodies warm.



# Buoyancy

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- Blubber also helps keep animals buoyant, meaning, it helps them float!
- Blubber is less dense than the water around it, so animals can float better in the ocean!



# Animals with Blubber

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- Polar bears
- Walruses
- Penguins
- Sea Lions
- Whales

