






**Grade**

# 3-4

## Whales and Scales

*What makes whales different from fishes? Whales and humans are warm-blooded mammals. Most fishes are cold-blooded and cannot heat their bodies. Use this “blubber mitt” experiment to give your students an opportunity to discover the warm-blooded difference.*

**I**N this activity, students learn to distinguish the differences between marine mammals and fishes. Students will practice conducting an investigation using concrete materials and learn to make and test hypotheses. The goal is to evaluate findings of the experiment and to describe adaptations that enable animals to live in cold water marine environments.

| <b>MATERIALS</b>  |  |
|---|--|
|  | Plastic Bags                                     |
|  | Bucket/sink filled with cold water and ice cubes |
|  | Lard/vegetable shortening                        |

### Steps

- 1)** Smear a 1-2 cm thick coating of lard on the outside of one plastic bag, leaving 5 cm at the top bare.
- 2)** Slip another plastic bag around the lard layer on the outside of the first plastic bag, sandwiching the lard between layers of plastic.
- 3)** Fill a bucket with cold water from the tap, add ice cubes.

**During your class** have your students put one hand into the middle of the “blubber bag” and shape the bag around their hand. Then, have the student dip both of their hands into ice water, making sure that water does not spill inside the blubber bag/mitt. Ask your students to compare how each hand feels in the icy water. Is one hand colder than the other?

**Discuss** how blubber keeps whales warm in cold water: through insulation. See next page for more discussion topics.

# Whales and Scales:

## Things to Talk About With Your Class

### **How does blubber help whales?**

It heats and protects them.

### **How do scales help fish?**

Scales are used for protection; fish do not need to stay warm because they are cold-blooded.

### **Think about having your whole body submersed in water— how would you breathe?**

People must come to the water's surface and breathe air into their lungs.

### **How do fishes breathe?**

They use their gills in the water.

### **How do whales breathe?**

They inhale air through their blowholes into their lungs at the water's surface.

### **Which marine/aquatic animals lay eggs?**

Most fishes; some fishes do give birth to live young, but they provide little parental care and do not nurse them.

### **Which marine/aquatic animals give birth to live young?**

Many animals do; Whales give birth to live young, nurse them and provide parental care.