

# All About Mammals

Investigation Data Sheet



## How Do Animals Use Their Hair to Stay Warm?

Mammals live all over the world, and hair is one characteristic that helps mammals stay warm. A mammal's body hair provides insulation, which means it provides a barrier against heat loss.

### Objective

Examine how animals use their hair or fur to stay warm.

### Materials

- 2 1-liter jars with lids
- 1 box (at least 3 cm taller and wider than the jars)
- a measuring cup
- 2 thermometers
- cotton balls

**Safety Notice:** All applicable laboratory safety rules must be followed. Students should not perform any experimental activity without the teacher's supervision and express permission. Students must follow safety guidelines and wear appropriate protective gear.

### Procedure

1. First, place some cotton balls at the bottom of the box. Then, set one jar in the box and fill the sides of the box to the top with the more cotton balls.
2. Using the measuring cup, add two cups of warm water to each jar. Place a thermometer in each jar of warm water for one minute. Read and record the temperature of the water in each jar.
3. Remove the thermometers and seal each jar with a lid. Quickly cover the jar in the box with a layer of cotton balls. Close the lid on the box and leave the jars alone for ten minutes.
4. After ten minutes, uncover the jars and put a thermometer in each. Allow the thermometers to stand for one minute. Then, read and record the temperature of the water in each jar.

## Conclusions

- What happened to the water in the jar that was enclosed in cotton balls? Explain what caused that result.

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- Why is insulation important to the survival of many mammals?

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- All mammals have hair at some point in their lives. However, they do not all have the same kind of hair. How might the hair of a mammal living in a polar climate differ from the hair of a mammal living in a tropical rainforest?

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	Temperature at start	Temperature after 10 minutes
Jar enclosed in cotton		
Exposed jar		