# Adaptations

Animals have many different adaptations that help them survive. Some features of their bodies help them in the summer and some help them survive the cold winter. What body covering keeps an animal warm the longest? This experiment will demonstrate whether fur, feathers, scales or an extra layer of fat work best for keeping an animal warm.

## What you need:

- Four sandwich-sized plastic bags
- One bowl of icy water
- One stopwatch or something that can count seconds
- Bits of scrap paper\*
- One thick sock (wool works best)\*
- Craft feathers or a mitten with down feathers\*
- One cup of butter or shortening\*



### How to:

- 1. Prepare a container of icy, cold water and dip your bare hand into the water.
- 2. Leave your hand in the water until it gets uncomfortably cold. How many seconds can you leave it in the water before it gets too cold? Record your observations on the data table.
- 3. Put scraps of paper in a plastic bag to imitate scales. Put your hand in the bag. Repeat step two.
- 4. Put your hand in the sock and cover it with the plastic bag to imitate fur. Repeat step two.
- 5. Put your hand into the bag with the feathers. Repeat step two.
- 6. Measure a cup of butter and put it into the plastic bag. Put your hand into the bag. Repeat step 2.

\*Don't let water get in the bag!



# **Fun Fact**



Animals can use a few different strategies to survive the Michigan winter. They can stay active all winter searching for food. They can migrate to a different area of the country where their food source is still plentiful. Or they can hibernate or brumate. Hibernation and brumation are similar strategies where an animal slows down its body functions like breathing and heart rate and goes into a sort of deep sleep. Hibernation is what mammals do; brumation is what amphibians and reptiles do.

Body Covering	Bare Hand	Paper Scraps (Scales)	Wool Sock (Fur)	Feathers	Butter (Fat)
How many seconds can you keep your hand in icy water?					

# What's happening?

Animals have developed many adaptations that allow them to thrive. Animals with thick coats of fur and/or feathers and animals with a layer of blubber beneath their skin can tolerate extremely cold conditions. Both the external coat and the insulating fat trap warm air near the body, preventing the heat from escaping.

#### Related Books:



Extremely Gross Animals: Stinky, Slimy and Strange Animal Adaptations by Claire Eamer



Funny Butts, Freaky Beaks and Other Incredible Creature Features by Alex Morss



Amazing Animals of the World by Jana Nová

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