



Blubber Glove Experiment

This experiment will help you to understand how the blubber layer found on penguins, whales and seals helps them to survive the extreme cold of Antarctica.

What you will need:

- 1 Large bowl half filled with cold water (or use the kitchen sink)
- 1 Bag of ice cubes
- 1 tub of butter
- 1 pair of rubber washing up gloves
- 1 stopwatch (most mobile phones have one built in)
- 1 towel

What you will do:

Pour the ice cubes in to the water and wait 5 minutes to allow them to chill the water.

Once the 5 minutes is up it is time to get cold! Start the stopwatch and put one of your hands into the water and keep it in until you feel it starting to tingle or get too cold for comfort. Once this happens take your hand out and stop the stopwatch. Look at the time you managed, did you think you would have managed longer? Dry your hand and get ready for the messy next step!

Spoon some of the butter into one of the rubber washing up gloves (it sometimes helps to squeeze the gloves to move the butter around inside). Now put your hand into the glove and then spoon more butter to try and make sure your hand is fully covered and surrounded inside the glove. Once you have done this restart the stopwatch and put your gloved hand in the icy water – be careful not to let water get into the glove. You should find that the butter acts in the same way as blubber and stops the cold getting through to your skin. Keep your hand in for as long as you can manage and once you are done remember to stop the stopwatch. How much longer did you manage this time compared to your first attempt without the “blubber” protection?

It is possible to do this experiment without the glove. Just cover your hand in a thick layer of butter-but it is much messier this way!