How long can you stand icy water ?

Measurement Activity 3:

Refer to the 'Blubber Experiment' worksheet for instructions.

Use a stopwatch to measure how long your hand can withstand the conditions of icy water.

How is this time affected by adding a layer of fat around your hand?

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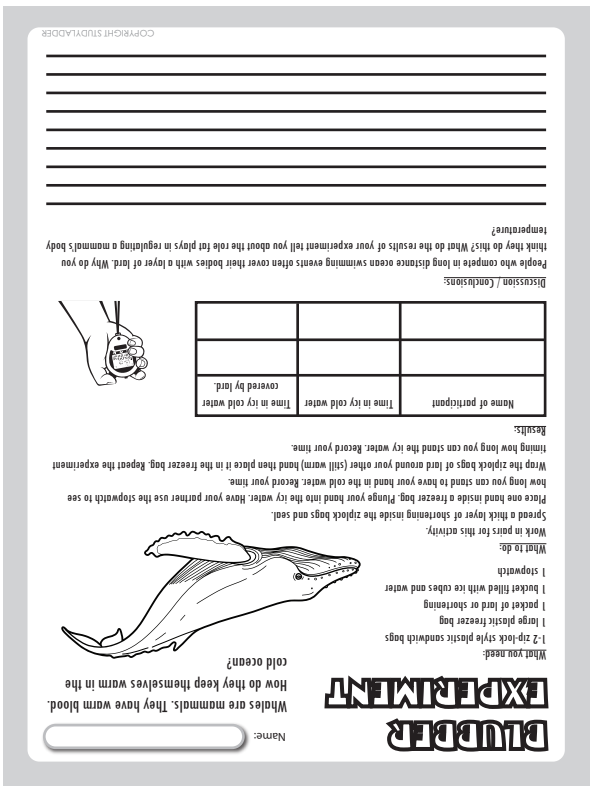

BLUBBER EXPERIMENT

Name:

Whales are mammals. They have warm blood. How do they keep themselves warm in the cold ocean?

What you need:
1-2 zip-lock style plastic sandwich bags
1 large plastic freezer bag
1 packet of lard or shortening
1 bucket filled with ice cubes and water
1 stopwatch

What to do:
Work in pairs for this activity.
Spread a thick layer of shortening inside the ziplock bags and seal.
Place one hand inside a freezer bag. Plunge your hand into the icy water. Have your partner use the stopwatch to see how long you can stand to have your hand in the cold water. Record your time.
Wrap the ziplock bags of lard around your other (still warm) hand then place it in the freezer bag. Repeat the experiment timing how long you can stand the icy water. Record your time.

Results:

Name of participant	Time in icy cold water	Time in icy cold water covered by lard.

Discussion / Conclusions:
People who compete in long distance ocean swimming events often cover their bodies with a layer of lard. Why do you think they do this? What do the results of your experiment tell you about the role fat plays in regulating a mammal's body temperature?

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