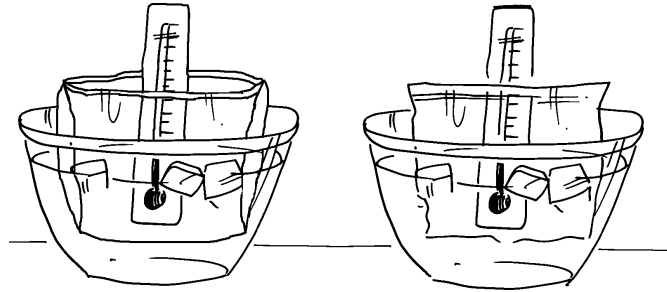


# Blubber Insulator



## FORM

I know that when I put a thermometer into ice water, the temperature on the thermometer goes down. If I put the thermometer into something that is an insulator, the temperature should not go down as fast. The better the insulator, the slower the temperature change.

What if I put the thermometer into ice water, a plain baggie, or a baggie with shortening?

I think the baggie with shortening is the best insulator. When I hold an ice cube with my hand in a baggie with shortening I don't feel the cold. When I hold an ice cube with my hand in just a baggie, I feel the cold. I feel the cold the most when I just hold an ice cube with nothing on my hand.

## DESIGN

1. I am going to use a thermometer, baggies, shortening, and ice water.
2. Put a thermometer in a cup of ice water and record the temperature every twenty seconds for two minutes.
3. Put a thermometer in a baggie and then into a cup of ice water and record the temperature.
4. Put a thermometer into a baggie with one tablespoon of shortening. Squish the shortening so that it surrounds the thermometer. Put this baggie into a cup of ice water and record the temperature for two minutes.

## COLLECT

Here is what I found:

time	nothing	baggie	shortening
0	21	21	21
20	3	13	17
40	3	9	14
60	3	7	12
80	3	6	10
100	3	4	9
120	3	4	9

## ANALYZE

My hypothesis was supported by my results. The temperature went down much slower with shortening than just a baggie. It was 4 or 5 degrees colder with the baggie only than with the shortening every time I recorded the temperature. Next time, I would put three baggies inside each other and then inside a fourth baggie and see if several layers of plastic and the air trapped between the baggies is a good insulator.

