



Polar Bear Science Experiment

Encourage curious young minds to go on an arctic exploration to discover how polar bears stay warm in frigid conditions with the use of blubber. This sensory science experiment provides children three years and up hands-on learning opportunities to investigate the science of cause and effect, temperature, and insulation. Children will experience the freezing temperatures by placing their hands in ice water. Next, they will place their hands into the (safely sealed) bag of shortening to feel how blubber provides insulation.

How Does the Polar Bear Science Experiment Work?

In this experiment, shortening mimics the thick layer of blubber beneath a polar bear's fur. Placing the shortening within two ziplock bags creates a barrier between it and children's hands, while also mimicking the effects of the blubber layer. The fat content of shortening generates insulating heat that will surround children's hands when placed in the bag. After comparing the chilly temperature of the ice water bath surrounding the blubber bag, children will better understand the importance of the insulating heat of blubber and fur that polar bears need to keep them warm!

Required Materials:

- 2 Large Ziplock Bags
- Shortening
- Large Empty Tub
- Ice

Optional Materials:

- *Polar Bear, Polar Bear* (Item #18424)
- *Polar Animals Set* (Set of 6) (Item #32271)

Scan this **QR Code** to view this activity on our **website** and to check out more of our **Insights and Inspirations** articles!



1. Create Your Blubber Pouch

Turn one of your large ziplock bags inside out. Fill it $\frac{3}{4}$ of the way with shortening. We recommend using a spatula for easy filling. Place your second ziplock bag inside your filled bag, making sure to squish the bottom of the bag inside the blubber bag. Roll down the tops to secure the bags together and keep the shortening inside.

2. Learn How Polar Bears Stay Warm

Fill a large tub $\frac{3}{4}$ of the way with ice. You can add a little water to create extra cold temperatures. Ask the child to place their hand, uncovered, into the ice. Next, place your "blubber pouch" into the tub and have the child place their hand inside. Have them compare their uncovered hand to their "blubber" protected hand.

