

Insulation

Grade Levels:

4-6

Question:

Which materials make good insulators?

Possible Hypotheses:

Foam is a good/poor insulator.

Cloth is a good/poor insulator.

Paper is a good/poor insulator.

Materials:

Two shoeboxes

Scissors

Two thermometers

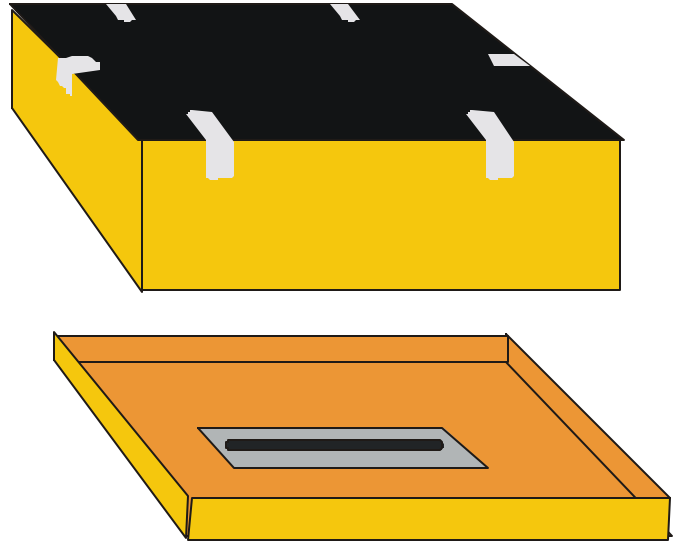
Piece of Styrofoam about one inch thick

Newspaper

Towel

Black construction paper

Tape



Procedure:

1. Tape black construction paper to the outside bottoms of the shoeboxes.
2. Place the box tops in a sunny place with the thermometers inside facing up. Record the temperatures.
3. Invert one box onto a top so the black bottom is toward the sun. This is your control.
4. Tape a piece of Styrofoam to the inside of the bottom of the second box, and then place it upside down over the second top.
5. Record the temperatures of both boxes after 15 minutes.
6. Remove the Styrofoam and tape thick pieces of newspaper in the bottom of the box. Repeat the procedure and record the temperatures.
7. Remove the newspaper and tape a towel into the bottom of the box. Repeat the procedure and record the temperatures.

Analysis and Conclusion:

Which material was the best insulator? What other substances might make good insulators?