Conductors and insulators

Given half a chance, energy will flow, transferring itself from one system to another. This activity uses polystyrene foam, metal, wood, glass and plastic to explore the properties of conductors and insulators.

You will need

- Assortment of materials, including polystyrene foam, metal, wood, glass and plastic
- Thermometer

Steps

1
Lay all the materials on a flat surface and leave for a few minutes until they reach room temperature.

2
Ask one person to measure the temperature on the surface of each of the materials.

3
Ask the class to predict which will be warmest, coldest, etc.

4
Ask one child to touch each object for a count of ten seconds before arranging the items in order – hottest to coldest – and recording findings.

5
Measure the temperature of each item again and compare with recorded findings based on perception of temperatures.

Analysis/ discussion

Before measuring the surface temperature of each item, ask the children to predict which ones they think will be hottest and coldest.

Ask the children to explain why they think there is a difference between the perceived and actual temperature of each item. (They should all be the same temperature but feel different because some materials are better conductors than others.)

What does this teach us about insulators and conductors?