

8A2 8B2 Heating and Cooling

Lesson 3: Conductors and Insulators

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September 14, 2010

We measured our own temperatures using a forehead thermometer, and the temperature of some water baths using a laboratory alcohol thermometer. Not all groups measured the same temperature of the water. We identified three reasons for this:

- The thermometers have limited accuracy, for example $\pm 2^{\circ}\text{C}$
- The technique used to read the thermometers may have been flawed
- The water baths may change in temperature as they warm up or cool down

Conductors and Insulators

Temperature and heat are not the same. Whereas the temperature of an object is how hot it is, its heat is a measure of how much energy it contains. When the temperature of an object increases, its molecules vibrate faster, and so it has more heat energy.

Heat energy is transferred from hotter places to colder places. In the next few lessons, we shall be discovering the three ways in which this happens. The first of these is called conduction.