

Keeping Warm or Cool

Apparatus

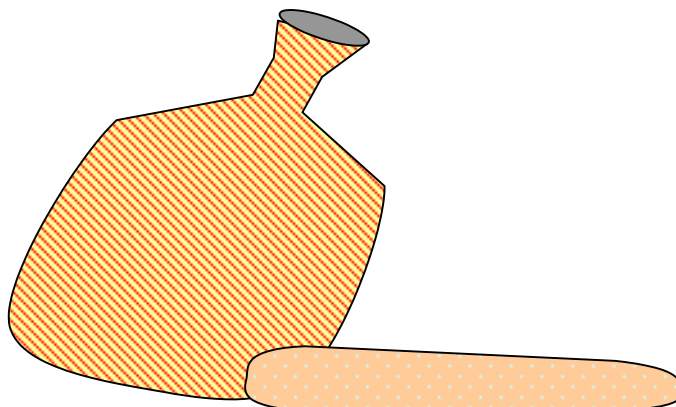
hot water bottle, ice pack, wheat heat pack, other hot and cold packs, preheated or cooled

Action

The students examine the hot and cold packs and measure their temperature. They then wait a while and measure the temperatures again. They should comment on the rate of cooling and explain why these materials are used.

The Physics

Hot water bottles and ice-packs rely on the high heat capacity of water to keep other items hot or cold. The water can lose or gain a lot of energy while changing temperature very little compared to most other substances. Other materials, such as wheat, are also used to fill heat packs.



Accompanying sheet

Keeping Warm or Cool

Examine the collection of items which are used to keep other objects hot or cold.

What do these objects have in common?

Measure their temperatures now and a little while later.

Have their temperatures changed significantly?