Insulation

Concept—Insulation can save energy

Caution: Supervision required

Curriculum Link:
Geograpy Curriculum and Science Curriculum—Envrionmental Awareness and Care strand

Experiment—Caution: Hot Water!

You will need:
- Thermometer (scale to 100°C)
- Two small teapots
- Tea cosy
- Small flask
- Kettle (or a hot-water tap)

1. Fill the kettle and heat enough water to fill the two teapots and flask (for safety reasons do not use boiling water).
2. Take the temperature of the water. Place equal amounts of water in each teapot and vacuum flask.
3. Place a tea cosy over one of the teapots and close the vacuum flask.
4. After five minutes take the temperature of the water in each container and record.
5. Continue taking the temperature at 5 minute intervals for at least 20 minutes.

The flask is well insulated—it is designed to prevent the transfer of heat. The tea cosy provided an extra layer of insulation similar to a lagging jacket on a hot-water cylinder. Walls, roofs and windows in our homes should also be insulated to keep the heat from escaping. If we did not have insulation we would waste a lot of energy. In hot climates houses are insulated from the heat of the sun.