

Many homes have solar panels or solar hot water. Explore how students can use the sun's energy to heat water.

Materials

Materials required	Per experiment
White plastic container – with dark lid	1
White plastic container – with white lid	1
White plastic container – with coloured lid	1
Tap water (cold)	300 ml
Measuring cups or jug	1
Thermometers	3
Scissors	1
Labels	3
Marker pen	1

Method

- Pierce a small hole (just big enough to slide a thermometer into) in the corner of each plastic lid
- Label each of the lids
 - Container 1
 - Container 2
 - Container 3
- Pour equal amounts of tap water into the three containers
- Secure the lids
- Stand a thermometer in each container
- Place the three containers into a sunny spot
- Test the water temperature at regular intervals (i.e. every five minutes for thirty minutes)

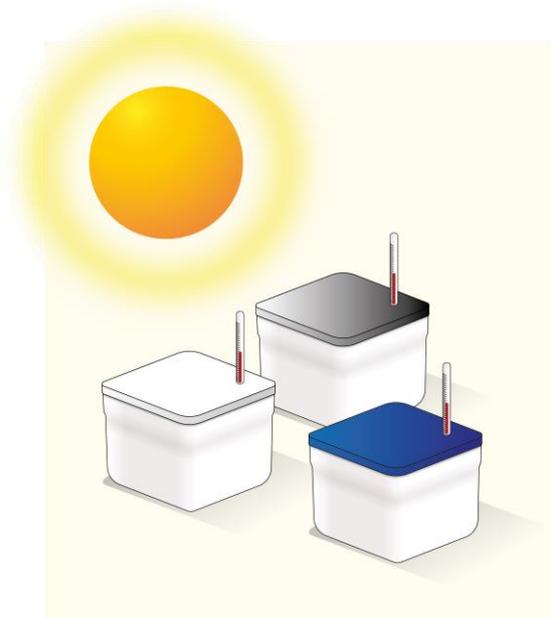


Figure 1: Final material set up

Explore

- Observe and record the water temperature and regular intervals (i.e. every five minutes for thirty minutes)
- Record your findings on a blank piece of paper
- Graph your results
 - Which container showed the greatest change in its thermometer reading?
 - Why do you think the heat in one particular container changed the most?

Extension

- Could you change any of the materials to get a better result?
- What weather conditions would make for better results?