Year 6: Science

Activity Sheet 1: Solar hot water

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

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

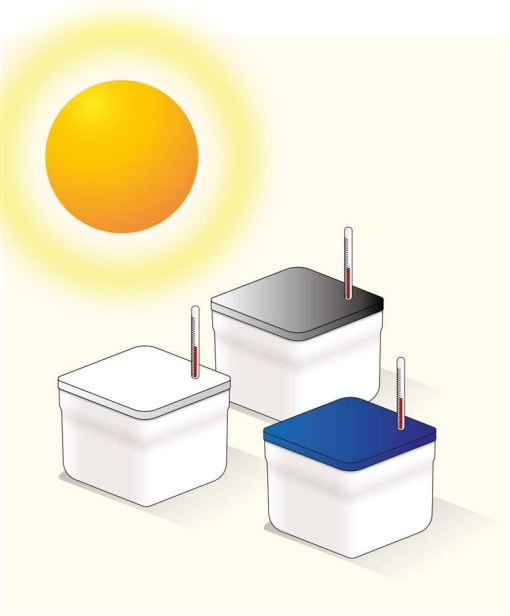

Figure 1: Final material set up

Explore

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

Extension

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