

ACTIVITY IDEA: Making a solar oven

Millions of people around the world use solar ovens to cook their food. Solar ovens cause no pollution, the user does not need wood or electricity and, through the power of the sun, they can cook their food, heat water and sanitise utensils.

In this activity students have the chance to build a solar oven using a cardboard box, aluminium foil, glass or Perspex, string, tape and a nail.

Instructions

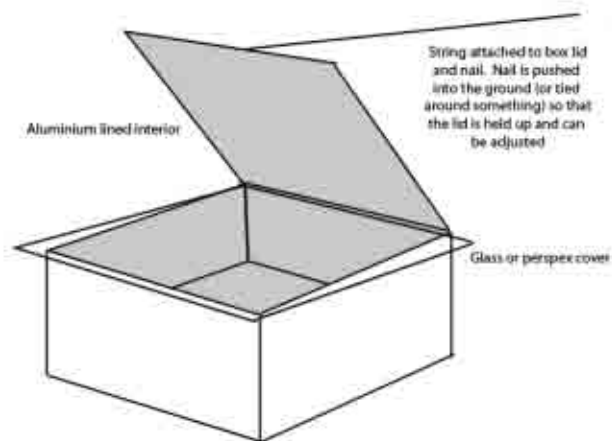
What you will need:

- a cardboard box with lid
- scissors
- aluminium foil
- glass or clear sheet of Perspex
- a nail
- tape
- string
- thermometer
- pot or plate or glass containing water.

Instructions

This experiment needs to be performed outside on a hot and sunny day.

- Line the inside of the box with aluminium foil, including the lid.
- Tape one end of the string to the top of the box and tie the other end around a nail.
- Push the nail into the ground. This will allow you to have the lid open at varying degrees to catch the light.
- Place a thermometer inside the box and cover it with the Perspex/glass sheet.
- Make a note of the initial temperature and record the temperature every minute for 10 minutes.
- Try heating water and see if you could get it hot enough to make a cup of Milo.
- Divide into groups and compare different effects such as:
 - having the lid at different angles
 - different volumes of water
 - different sized containers.
- Collect and compare results using a table.



Questions

- How much did the temperature change inside the box?
- If you compared your results with other groups, were your results similar? Do you think it was a fair test?
- What do you think would happen if you removed the glass? You might want to try it and see if you are right.





