



Credit: Still Pictures

# Solar oven

This activity demonstrates clearly how energy from the Sun can be used directly to power a solar oven. As you work with the solar oven, remember that the point is for it to get hot enough to cook food – in other words, you should treat it like a real oven and exercise some caution when using it.

## You will need

- 2 pizza boxes, one larger than the other
- Pencil
- Craft knife
- Aluminium foil
- Newspapers or polystyrene foam
- Non-toxic black paint (or black card)

- Paint brush
- Non-toxic glue
- Sunglasses
- String
- Tape
- A plate
- Piece of clear plastic sheeting that will cover the large pizza box

## Steps

1

Centre the small pizza box on top of the large one. Use the pencil to outline all four sides of the smaller pizza box on the lid of the larger box. Set the small box aside and, with the craft knife, cut out three sides of the square you just drew. Leave the fourth side attached so you still have a connected lid.

2

Line the inside of the large box with aluminium foil then stuff the area around the sides with newspaper or cut polystyrene foam to fill the space. (This acts as insulation to help hold energy in the oven.)

3

Remove the lid of the small box and fit it into the large box. Add more stuffing if needed to fill the space between the two boxes.

4

Paint the inside bottom of the small box and the whole outside of the

large box with non-toxic black paint (or cover with black card). Line the rest of the small box with aluminium foil and use non-toxic glue to hold it in place.

5

Spread some glue on each of the pizza box flaps and smooth a large piece of aluminium foil on each (shiny side up). Try to keep the foil as wrinkle free as possible. Adjust the flaps so that they reflect light directly into the box when you line up the oven with the Sun. Try not to look directly at the aluminium foil, and wear sunglasses while adjusting the flaps. Poke a hole in the top of each flap and tie a piece of string through each hole. Tape the other end of each piece of string to the outside of the large box to hold each lid in place at the best angle for reflection.

6

Place the food you want to cook on a plate in the oven, and cover the oven with the clear plastic sheeting to trap the Sun's energy. Select foods that cook at low to medium temperatures such as biscuits, pizza and other simple foods (do not attempt to cook raw meat or to reheat chilled foods). It may take 20 minutes to 2 hours for the food to cook, depending on what you are making, so plan ahead and record the baking times for each thing you try.