



# PROJECT SHEET: CONSTRUCT A PIZZA SOLAR OVEN

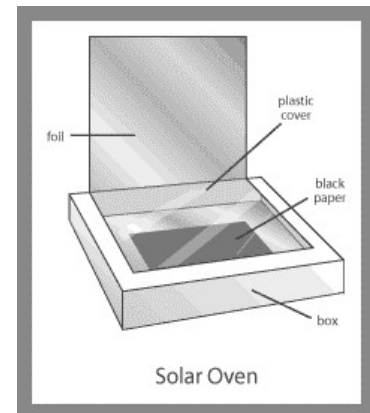
Name:

## COOKING WITH SOLAR ENERGY

**Design Brief:** We will be building solar cookers to convert sunlight into heat to cook.

**Question:** *What are you expecting to find out?*

Will food cook in a pizza box solar oven on a sunny day?



**Hypothesis:** *What do you think will happen?*

**Materials:** *What items will you need?*

Pizza box	Aluminium foil	Thick black paper	See through plastic or plastic wrap
Scissors	Ruler	Glue	Sticky tape

**Procedure:** *What steps will you follow?*

- Construct a pizza box solaroven.
  - Use your ruler to draw a square on the pizza box lid about 2-3cm from the edge. Cut along three sides (sides and front). Leave the fourth line along the box's hinge uncut. This forms a flap. Fold the flap so that it can be lowered or lifted.
  - Spread glue on the inside flap. Line the lid flap with aluminium foil with shiny side upwards. Make it as smooth as you can.
  - Use see-through plastic (or plastic wrap) to cover the hole made by the flat lid. This is the seal for your solar oven. Make it as smooth as possible.
  - Line the bottom of the box with aluminium foil. Smooth out wrinkles.
  - Cut out a piece of thick black paper to fit on the bottom of the pizza box. Tape in place. *Why do you think you need black paper? You may like to insulate the sides of your pizza box with crumpled newspaper. Are there any advantages of insulating the oven?*
  - Decide how you will keep the flap open at an angle that reflects the sun's rays from the aluminium foil into the oven. Adjust the flap while cooking to catch the sun's rays.
  - Your oven is now ready to use for cooking.
- Place the pizza box solar oven where it will receive the most sunlight. This may change during the day.

3. Now you can cook with your solar cooker. You may like to try:
  - a) Boiling water
  - b) Melting chocolate (try milk, dark and white types).
  - c) Cook a small pizza with pita bread or slice bread with simple toppings such as a Margherita or Ham and Pineapple pizza.
  - d) Hot dog sausage
  - e) Cooking s'mores or other yummy food!
4. Recycle the solar cooker or take it home and experiment with other food ideas.

***Observations: What changes did you observe?***

***Conclusions: What did you learn?***

Ref: <https://www-tc.pbs.org/weta/roughscience/discover/images/solaroven.gif>