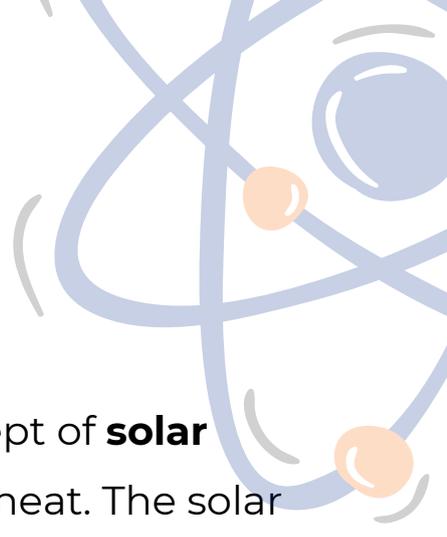
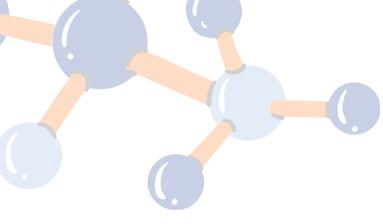


Simple Solar Oven



Little House of
Science.com

Learn about solar energy
and how the sun's heat
can cook food using a
homemade solar oven!



The Science Behind the Experiment:

This experiment introduces children to the concept of **solar energy** and how it can be harnessed to produce heat. The solar oven works by using tin foil to reflect sunlight into the box, black paper to **absorb** heat, and plastic wrap to trap the heat inside. This creates a **greenhouse effect** that warms up the inside of the box, allowing the food to cook. This hands-on project helps kids understand how renewable energy sources like sunlight can be used for practical purposes, and it provides a fun and engaging way to learn about the principles of heat and energy.

We're going to cook food using only the power of the sun! By making a simple solar oven from a pizza box, we'll see how sunlight can be used to warm up and cook our food. It's a cool way to learn about solar energy and how it works!

Definitions

Solar Energy- Energy from the sun that can be harnessed for heating and power.

Greenhouse Effect- The process of trapping heat inside a space, similar to how greenhouse gases trap heat in the Earth's atmosphere.

Absorption- The process by which a material takes in heat or light. Black paper absorbs more heat than other colours.



Materials:

- 1 empty pizza box (or similar cardboard box)
- Tin foil
- Plastic wrap
- Black card/construction paper
- Tape
- Scissors (for adult use)
- Small piece of food to cook (like cheese on toast or a s'more)
- A warm sunny day



Instructions:

1. Prepare the box- Carefully cut a flap in the lid of the pizza box. Make sure to leave a few centimetres around the edges of the flap. This will create a "window" that will let sunlight into the box.
2. Line the flap- Cover the underside of the flap with tin foil. Smooth it out and tape it in place. The shiny foil will reflect sunlight into the box.
3. Line the bottom of the box- Place a piece of black construction paper/card at the bottom of the pizza box. This will absorb heat and help cook the food.



4. Seal the box- Cover the opening created by the flap with plastic wrap. Stretch the plastic wrap tightly over the opening and tape it around the edges to seal it. This will create a greenhouse effect inside the box.

5. Cook your food- Place your small piece of food, like a s'more or a slice of cheese on toast, on the black paper inside the box. Close the lid and place the box in a sunny spot.

7. Observe and wait- Allow the solar oven to sit in the sun for at least 30-60 minutes. Check periodically to see how the food is cooking. You should notice that the food warms up or melts as the sunlight is trapped and converted into heat inside the box.

8. Clean up- After the food has cooked, carefully remove it from the box. Clean up any leftover food and dispose of any waste properly.

9. Discuss and observe- Discuss how the solar oven works by trapping sunlight and converting it into heat. Explain how the black paper absorbs the heat and how the plastic wrap helps keep the heat from escaping.