

Week 5: Solar Snacks

Soak in the summer sun! Almost all the energy on Earth comes from the sun. Solar energy is absorbed by the land, water and atmosphere and is converted into heat that creates winds and currents in our atmosphere and oceans. Heat, or thermal energy, can be focused to create a solar oven that can cook food.

experiment

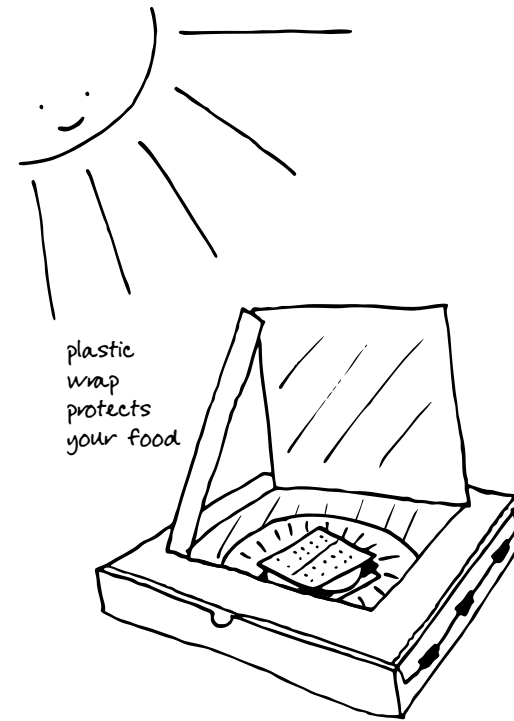
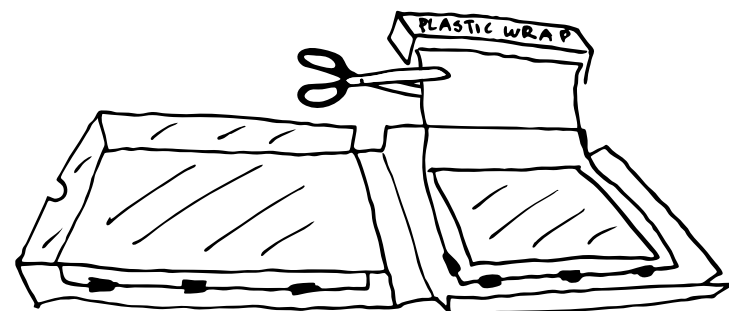
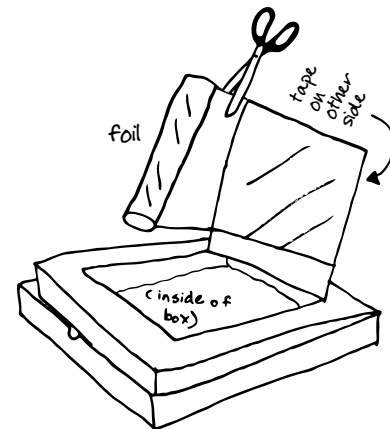
SOLAR OVEN

Materials

- Pizza box
- Aluminum foil
- Plastic wrap
- Tape
- Scissors
- Ruler
- Paper plate
- Food (try making s'mores!)



Cut out three sides of a square on the pizza box lid about two inches from the sides. Fold back the flap and cover the inside with foil (shiny side out), taping it in place. Open the box and cover the bottom and sides with foil. Cover the hole in the box lid that the flap made with plastic wrap, taping it in place. Put food on a paper plate and place it inside the box on the foil bottom.



Close the lid, fold back the flap and prop it open with a ruler. Put the box outside, with the flap facing the sun. Be patient! It may take an hour or longer to cook your food.



Safety note:

The solar oven can get very hot. Use caution when handling.

What's happening?

The sun's light rays are collected by the foil flap and concentrated inside the box. The rays are transformed into thermal energy that slowly raises the temperature inside the box, causing the food to cook.

Game on!

Who can make the yummiest food in their solar oven? What food cooks the fastest? Change the shape and size of your solar oven—try using a smaller or larger box, or making the shape of a parabola (a curved shape that focuses the sun's rays onto one point) with lots of tin foil.

More ways to play in the sun

Go outside with color-changing UV beads. See what happens if you cover them in sunscreen or put them in water. You can find UV beads online at Amazon or science supply stores.

Convert sunlight into heat, electricity and rainbows in MSI's *Science Storms* exhibit. (msichicago.org/sciencestorms)

Explore the sun up close at nasa.gov/vision/universe/solarsystem/sun_for_kids_main.html.

Count five ways you have interacted with the sun's energy today.

- _____
- _____
- _____
- _____
- _____

Solar oven recipe ideas

Make up your own recipes for the solar oven.

