



Pizza Box Solar Cooker

Have you noticed how a car parked in the sun stays warm inside, even on cold days? That's because clear materials like glass and plastic trap the heat from the sun. We can use this principle to make solar powered ovens.

Materials

- 1 Medium Sized Pizza Box
- Black Construction Paper
- Aluminum Foil
- 1 Reynolds Oven Cooking Bag (made of nylon that can take up to 400 degrees F.) You can get 8 windows out of each bag.
- Masking Tape, Clear Tape (about 1" wide), Double-sided Tape, Glue (optional)
- Scissors (or Craft Knife if an adult helps)
- Pie Tins (or dark-colored oven-safe containers) to fit inside box
- Kabob stick (or wooden skewer) to hold flap open
- Newspaper for insulation
- Oven Thermometer (optional)
- Infrared Thermometer (optional instructor's tool)

What to Do

1. Draw a line about 1" in from the edges of the box.
2. Cut along the line. *Don't cut along the top edge where the hinge of the box is!*
3. Gently fold the flap back along the uncut edge to form a crease.
4. Put a piece of aluminum foil on the inside of the flap, and fold the edges around the back of the flap. Have the shinier side facing up. Smooth the foil, and tape the edges on the back of the flap with masking tape. Keep the tape from showing on the front side of the flap. This foil will reflect sunlight into the box. If time permits attach the foil with a glue/water mixture for smoother results.
5. Open the box and put a piece of piece of cardboard in the bottom for more insulation. Cover it with black paper to help absorb the sun's energy.
6. Cut a square of Oven Bag plastic that's about 1/2" bigger on all sides than the cutout in the box top. Tape it to the inside of the box top with clear tape. Tape one side, *then pull the plastic tight* and tape the other three sides. It must be airtight! Double-sided tape works best.
7. Roll up some newspaper, and fit it around the inside edges of the box top. This is the insulation to hold the sun's heat. It should be 1" to 1.5" thick. Use tape to hold it in place. A continuous roll of newspaper works best.
8. Use the kabob stick to hold the top flap up. Adjust it to reflect as much sunlight as possible into the box. To hold it in place, stick it about an inch through the top, and tape the other end to the box.
9. Review the online Pizza Box Cooker tutorial for more hints: www.solarschoolhouse.org. This tutorial is also included on the Teaching Solar DVD.

