

Making a Pizza Box Solar Oven

Perhaps you've helped your mom make cookies. The first thing she usually does is to turn on the big kitchen oven to pre-heat it. But what if you didn't have electricity or gas to heat your oven? What if you didn't even have a kitchen? Or even a house? What if you lived in a refugee camp in Africa, because your family moved there to escape some really bad people? Or what if you lived on a tiny island that had never had electricity?

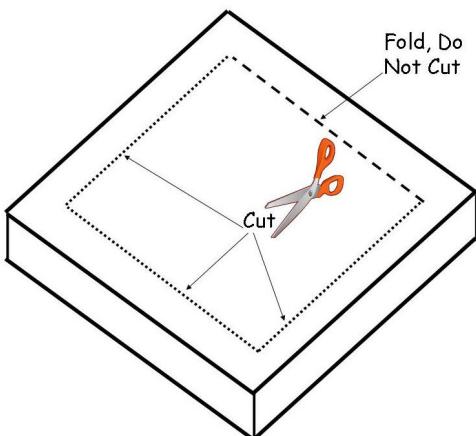
Chances are, the only way you could cook is to cut down trees for firewood, just like the Native Americans used to do. This works OK, as long as there are trees to cut down, but it is hard and dirty work, and the smoke makes the air dirty too.

If you did live on a tiny tropical island, you might see the sun high overhead. What if you could take its powerful rays to cook for you? You can.

The pizza box solar oven can reach temperatures of 275 degrees, hot enough to cook food and to kill germs in water. A general rule for cooking in a solar oven is to get the food in early and don't worry about overcooking. Solar cookers can be used for six months of the year in northern climates and year-round in tropical locations. Expect the cooking time to take about twice as long as conventional methods, and allow about one half hour for the oven to preheat.

What You'll Need

- ✓ Recycled pizza box
- ✓ Black construction paper
- ✓ Aluminum foil
- ✓ Clear plastic (heavy plastic laminate works best)
- ✓ Non-toxic glue, tape, scissors, ruler, magic marker
- ✓ Wooden dowel or straw



How to Make Your Pizza Box Oven

Draw a one inch border on all four sides of the top of the pizza box. Cut along three sides leaving the line along the back of the box uncut.

Diagram # 1

Form a flap by gently folding back along the uncut line to form a crease. (Diagram #2). Cut a piece of aluminum foil to fit on the inside of the flap. Smooth out any wrinkles and glue into place. Measure a piece of plastic to fit over the opening you created by forming the flap in your pizza box. The plastic should be cut larger than the opening so that it can be taped to the underside of the box top. Be sure the plastic becomes a tightly sealed window so that the air cannot escape from the oven interior.

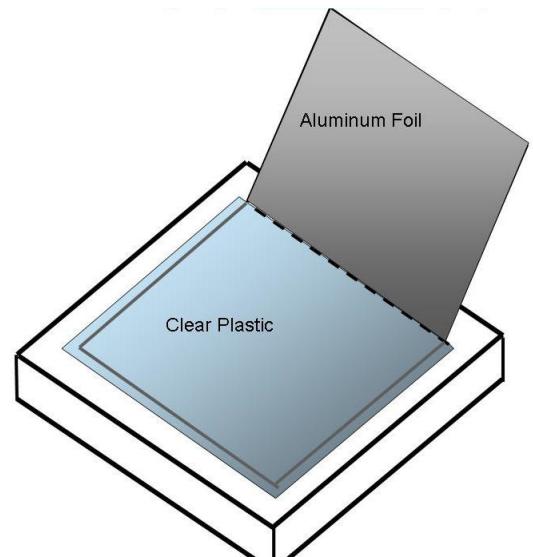
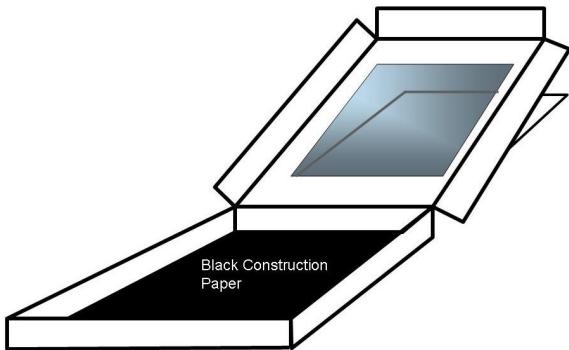
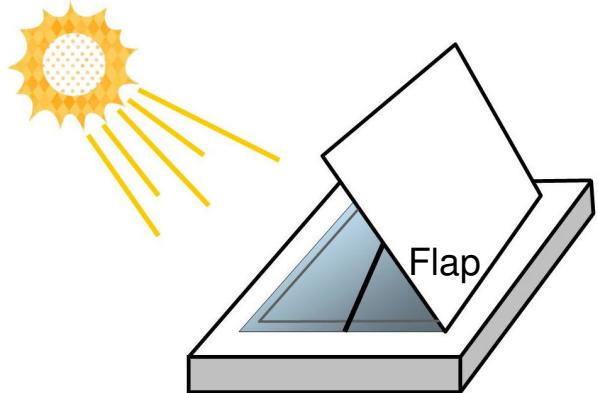


Diagram #2



Cut another piece of aluminum foil to line the bottom of the pizza box and carefully glue into place. Cover the aluminum foil with a piece of black construction paper and tape into place. (Diagram #3)

Diagram #3



Close the pizza box top with the window, and prop open the flap with a wooden dowel, straw, or other device and face towards the sun. (Diagram #4) Adjust until the aluminum reflects the maximum sunlight through the window into the oven interior.

Your oven is ready! You can try heating s'mores, English muffin pizzas, or hot dogs, or even try baking cookies or biscuits. Test how hot your oven can get using a simple oven thermometer!

Diagram #4

S'mores: Stack a piece of chocolate bar and a marshmallow between two graham crackers and heat until melted.

Hot dogs: Hot dogs come fully cooked from the package. Just heat until they are warm.

This solar oven has been adapted from many designs Please feel free to improvise!

Plans and instructions courtesy of Solar Now, Inc., (www.solarnow.org) of Beverly, MA, dedicated to promoting education about renewable energy and the environment.