

# Creating a Solar Oven

## Step 1: Building the Oven

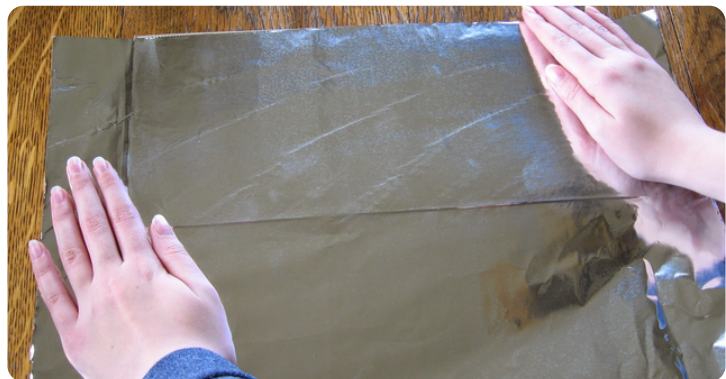
Cut an arch out of one of the sides of your shoebox and then use that piece to trace and cut out a matching arch on the other side of the shoebox.



Trace your card stock paper to fit over the open side of the arch and cut it out.



Use a piece of aluminum foil to glue it over the card stock. Make sure to keep the aluminum foil as straight as possible.



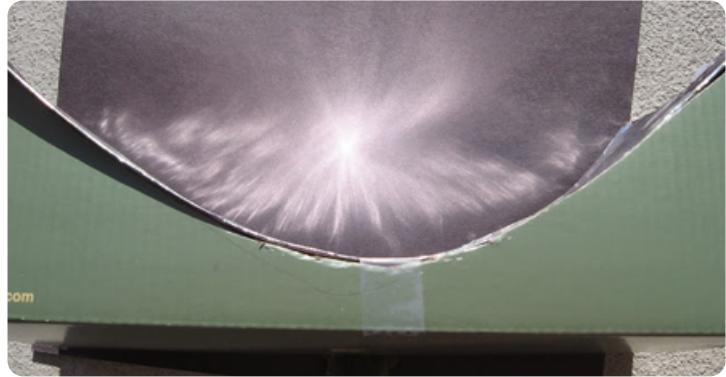
Trim off the extra foil around the card stock and glue the card stock to the open side of your shoebox.



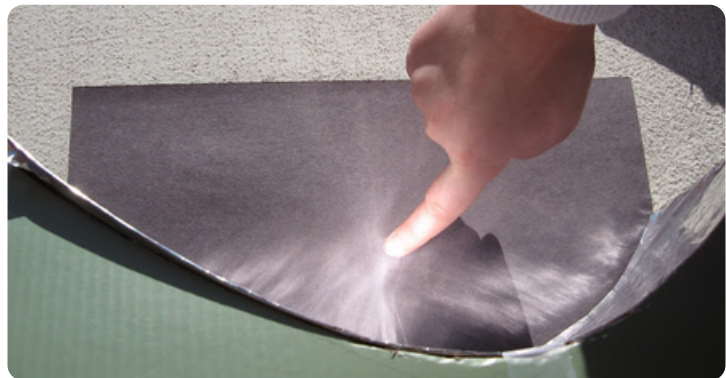
## Step 2: Testing the Oven

Take the solar oven outside. Be sure to bring your data table, a pencil, and the materials for testing your oven (skewer, timer, marshmallows).

Tilt the box on its side and put a black piece of construction paper underneath so the aluminum foil reflects down onto the black paper to show where the focal point of the heat is.

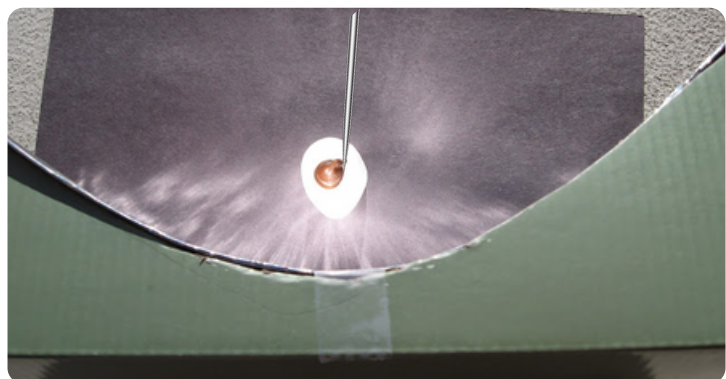


After the paper has sat in the sun for a little bit, touch the focal point carefully to make sure it is nice and hot.



Make sure that one group member is ready with the timer and knows how to work it. Put one marshmallow on your skewer.

At the same time, start the timer and put the marshmallow directly over the focal point. Hold the marshmallow very still for 3 minutes. Make sure that one group member is recording data in the data table while the marshmallow is cooking.



## Data Table

Directions: One partner will hold the marshmallow over the focal point while the other partner times and records in the chart what is happening at each time slot. Partners will then switch roles and test with another marshmallow. If your marshmallow melts before the 3 minutes is up, just stop writing observations at that time slot.

Time (Min : Sec)	Observations about Marshmallow 1	Observations about Marshmallow 2
0:00		
0:15		
0:30		
0:45		
1:00		
1:15		
1:30		
1:45		
2:00		
2:15		
2:30		
2:45		
3:00		

