



BUILDING A SOLAR OVEN

FROM A PIZZA BOX

Solar ovens use sunlight to heat food. In this experiment, you will build your own solar oven and test how well it works!



QUESTION

How hot can your solar oven get?
Can it melt chocolate or toast a marshmallow?



HYPOTHESIS

I think _____
because _____
_____.



MATERIALS

- 1 pizza box (clean)
- Aluminum foil
- Plastic wrap (clear)
- Black construction paper or black paint
- Tape
- Scissors or box cutter (adult help)
- Ruler
- Pencil
- Thermometer (oven-safe or digital probe)
- Small pan or tray (oven-safe)
- Food to test (e.g., chocolate pieces, marshmallows, graham crackers)



DATA TABLE

Time (minutes)	Temperature (°F)	What happened?
0 (start)		
10		
20		
30		
45		
60		
90		
120		



PROCEDURE

- 1 Open the pizza box. This is the base of your oven.
- 2 Line the inside bottom and sides of the box with aluminum foil. Make it as smooth and shiny as possible.
- 3 Cover the bottom inside of the box with black construction paper or paint it black. This will help absorb heat.
- 4 On the lid (the top part of the box), cut out a rectangle about 2 inches from the edges.
- 5 Cover the cut-out hole with clear plastic wrap. Tape it tightly on all sides. This will act like a window.
- 6 Prop open the lid using a stick, ruler, or folded foil so the "window" faces the sun.
- 7 Place your pan or tray with food in the center of the oven.
- 8 Place your oven outside in direct sunlight.
- 9 Check the temperature every 10–15 minutes for 1–2 hours.



OBSERVATIONS

What did you notice about the temperature?

What happened to your food?

What worked well? What could you improve?



CONCLUSION

Was your hypothesis correct? Why or why not? _____
