



Anza-Borrego Just For Kids

Anza-Borrego Desert Natural History Association

www.abdnha.org/just-for-kids

SDGE Environmental
Champions Grant



BUILDING A SOLAR COOKER



1. Gather your materials.

You need: a box, some gallon clear plastic bags, masking tape, aluminum foil, scissors, a ruler and oven mitts. Paper clips are optional, but may come in handy for adjusting the angle of the top.



2. A glass pan or plate is also needed.

Any pan will work, but darker colored ones help absorb the heat and may cook the food faster.



3. Something black will help too.

A black cloth, black paper or black foam is an important ingredient to help absorb heat from the sun. Do NOT use a black plastic garbage bag as the high cooking temperatures will melt it.



4. Cutting the box.

Be careful with scissors or ask an adult to help you.



5. Cut on two sides.

Cut your box in two places to create a flap where you can have an easy opening into the cooker.



6. Cutting off some excess.

You can either fold part of the flap under or cut about half of it off.



7. Tape the side flaps down.

This will add some insulation to keep more of the heat in the cooker box.



8. Box is ready to add more materials.



9. Put extra cardboard in the bottom.

Put in one or more layers of cardboard pieces to provide insulation for the bottom of your cooker box. Insulation is important to keep the heat in the cooker.



10. Final layer of cardboard.

Add some foil to the front flap before inserting your black material. The foil acts to reflect the sun's heat into the box. The black fabric, paper or foam will absorb the heat.



11. Add aluminum foil to the back of the box.



12. More foil and something black.



13. Cover the top with plastic.

For a small box, 2 one-gallon sized clear bags will cover the top and the front opening. Tape the sides, leaving the front untaped so you can put in your nachos.



14. Use a ruler to seal the cooker.

The ruler may be easily removed to allow the plastic to be lifted in the front to put in or take out the nachos



15. Cooker is assembled!

Place the cooker in the sunlight and let it warm up for 10 minutes or so before putting in your food. Adjust the top flap so that sunlight is directed into the box.



16. About helpers.

If you have pets or small children around the house, you may want to put your cooker up on a small table rather than on the ground or patio floor.



17. Put in the nachos!

Be sure your plate or dish fits inside the box you've built.



18. Somebody should watch the cooking.

You should check on the nachos every 5 minutes or so to see how well they are cooking.



19. Now let the sun heat the box.

The ruler will seal your cooker and your nachos will start to cook.



20. Be patient.

A solar cooker is not nearly as fast as a microwave. It may take 20 minutes for the cheese to melt.



21. Putting in another batch.

Use the same plate or dish so it is already warm. Plus - use gloves to remove the plate. It will be hot.



22. Your solar cooker can get hot!

During our test, we were able to get the cooker heated to 100 degrees more than the outside temperature.



23. Finished product!

WHY DOES IT WORK?

The rays of the sun are a powerful source of energy. The aluminum foil reflects the energy of the sun into the box. The black material in the box absorbs the rays from the sun and gets hot. The plastic covering on the box makes a still airspace in the box so the heat does not escape. The temperature in the box gets hotter and hotter.

The cooker you made is a very basic cooker. But there are professional cookers you can buy that will cook just about anything on a very sunny day.