

Cubs Solar Day Program for Special interest area (Stem and Innovation)

When- On a Saturday or Sunday (preferably 10 am to 2 pm)

Where- Scouts Hall ground/any open area where you get good sunlight.

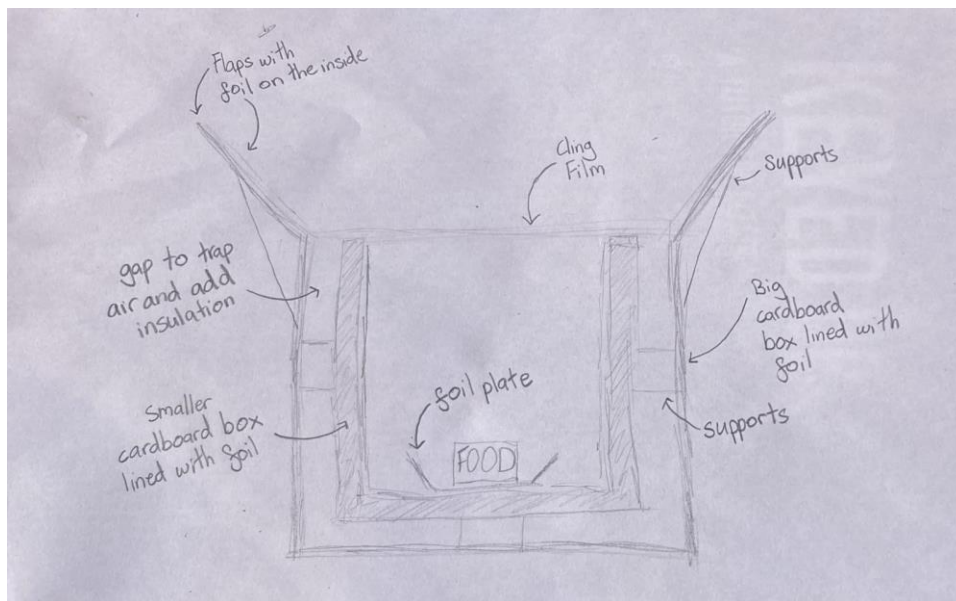
Pre-Solar day activity-

Cubs are instructed to prepare a solar oven/cooker at home and bring it to the Solar day to test.

More information can be found-

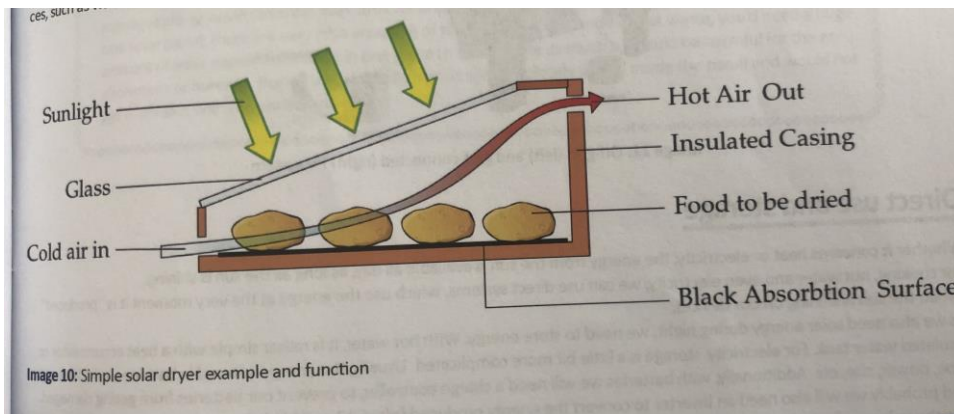
[https://solarcooking.fandom.com/wiki/Solar_Cooking_Wiki_\(Home\)](https://solarcooking.fandom.com/wiki/Solar_Cooking_Wiki_(Home))

One of the great solar oven plan our scout troop made as below;





Even Cubs can try making a Solar dehydrator (picture is from solar energy handbook)



Solar day activities;

Cubs can be divided into patrols and do the following activities.

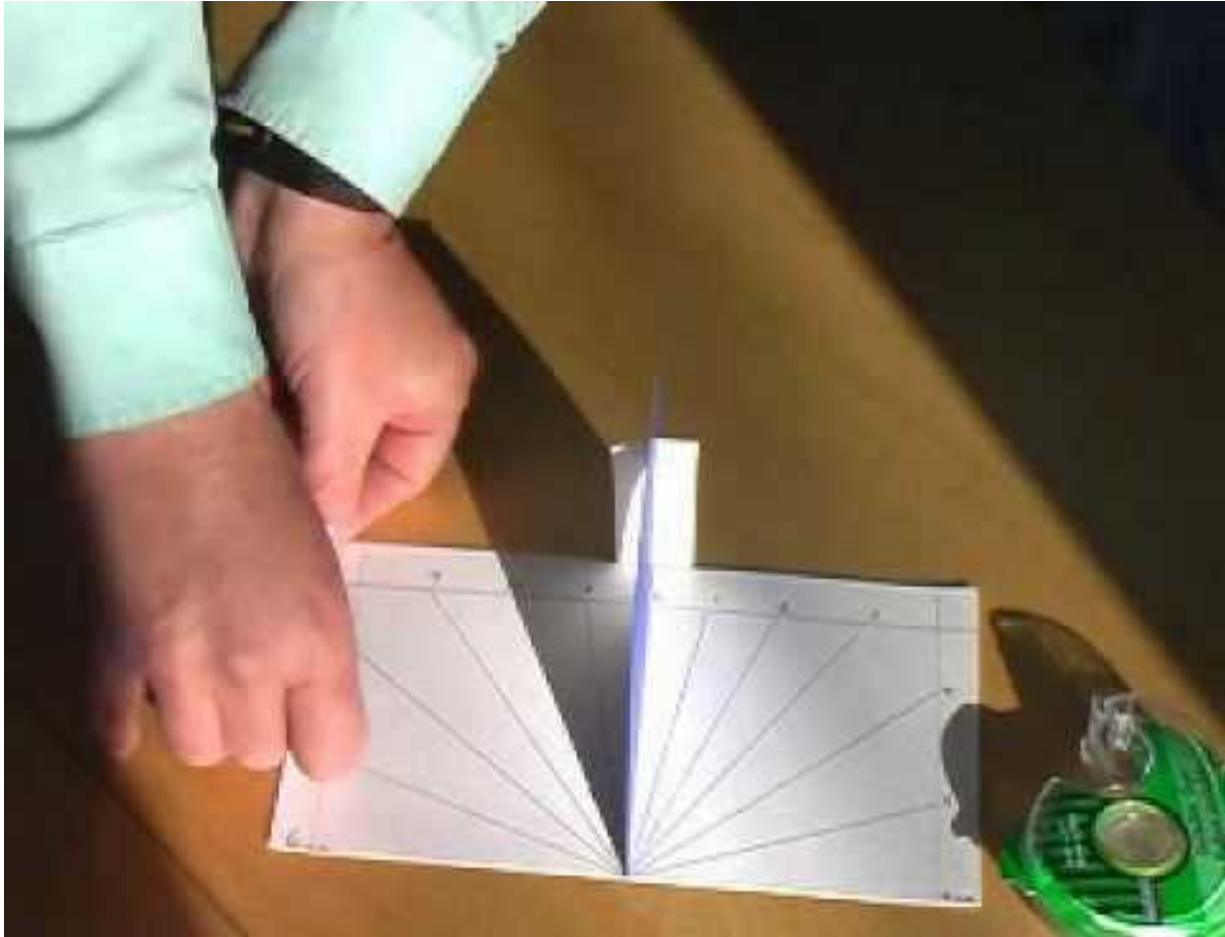
1. **Test their solar oven/cooker.** The simple thing they could make is smore's.

Equipment's- biscuits, chocolate chips/chocolate, marshmallows and their solar oven/cooker.

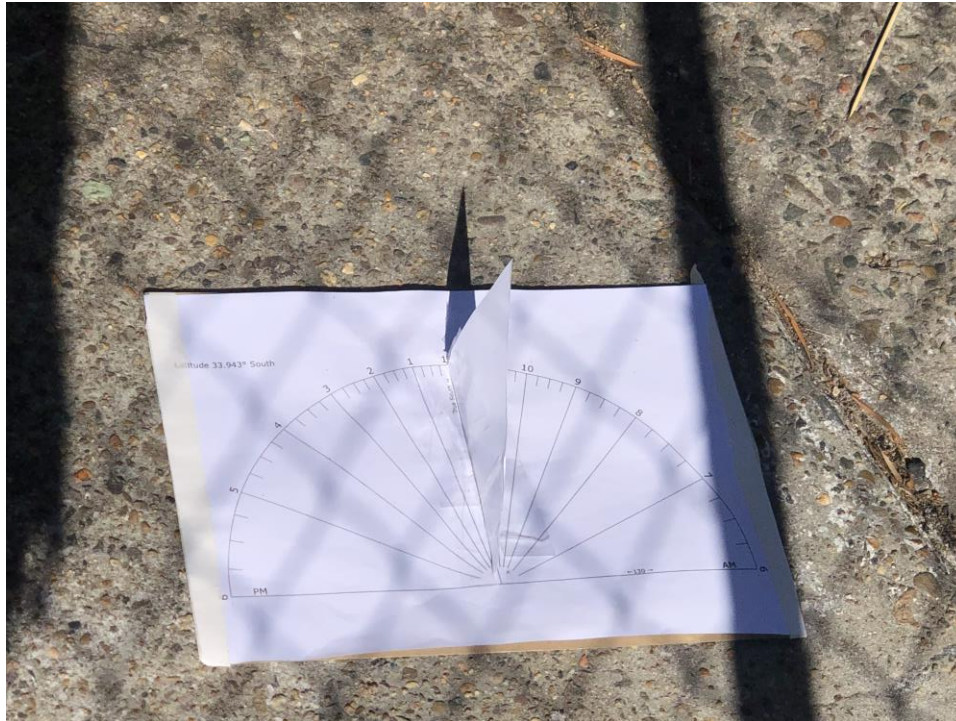
2. **Sundial** – Cubs will make a sundial in patrol and calibrate it.

Sundial links-<https://www.sundialsaustralia.com.au/sundials>

Set up sundial-[Setup a Sundial](#)



The most accurate sundial that we made in our scout troop project patrol as below;



3. Colors of solar energy

Colours of solar energy

Paint small PET plastic bottles in different colours, at least one black, one white. Alternatively, you can wrap coloured paper around the bottles. Fill them with water and measure their temperature.

Put the bottles in direct sunlight and after 30 minutes, measure their temperature again. What can you observe?

Advanced: Measure the temperature of different material surfaces in direct sunlight (mirror, glass, dusty and clean glass, etc). What can you observe and what does it mean for the use of solar energy?

Age Level	1 / 2
Time	30 minutes
Result / Aim	Show how different colours absorb sunlight
Materials	<ul style="list-style-type: none"> • PET bottles • Different colours • Water • Thermometer

4. Solar compass

Method 1-

Materials needed-analogue watch.

<https://www.wikihow.com/Use-an-Analog-Watch-as-a-Compass>

Method 2-

Materials needed- wooden stick/pole

Cubs will learn how to find the north using the shadow of wood stick/pole.

5. Solar arts

Cubs can learn about the strength of sunlight, to focus and be creative.

Solar art

Always wear sunglasses for this experiment!

Wear ultra strong sunglasses or sunglasses with an extra layer of UV absorbing black plastic.

You may use car window tint and glue it on the sunglasses.

Try to focus the sunlight with a lens on a wooden plank so that the wood gets slightly burned. You can make a drawing or write a text or your name. To make it easier, you can first draw lines with a pencil (not pen) on the wood. When you're done, put the lenses back in a closed container. If left in the sunlight, it may cause a fire. On the other hand, if you need a fire, you can easily light one with the help of the sun and a lens. For this activity, never leave children without supervision and keep a pail of water close by in case of emergency.

Age Level	1 / 2 / 3
Time	15 minutes - 1 hour
Result / Aim	Learn about the strength of sunlight, to "focus" and be creative Good introduction to the parabolic cooker
Materials	<ul style="list-style-type: none">• Lens• Dark sunglasses with UV protection or darkened sunglasses• Wooden planks• Water

Thank you.

1st Carlingford Scouts Troop "Bartoo" Go solar Project patrol

2023 August.

Reference- Solar Energy Handbook.