

Solar Energy



Solar energy is an abundant power resource we love to use here on Earth! Solar energy comes from sunlight that is turned into energy we can use in our homes and other buildings. We collect sunlight through *solar panels* that are made up of *solar cells*.

English: Sun
French: Soleil
Ojibwe: Giizis

Solar energy can cook food, power vehicles, power homes, and much more. It is a *renewable energy*, this means it is a more sustainable choice than non-renewable sources like natural gases and fossil fuels. Unlike other types of energy, the sun won't ever run out!

Fun Fact!

The earth intercepts a lot of Solar Power, 173,000,000,000,000,000 watts (173 thousand terawatts). This is 10,000 times more power than our planet's population currently uses.

1. Cooking Pizza in a Solar Oven

Materials: A pizza box, scissors, tin foil, wooden skewer or spoon, tape, plastic bag, black construction paper, mini pitas, pizza sauce, cheese, toppings

1. Using sharp scissors, cut a flap in the lid of your pizza box. Cut along three sides, leaving about an inch between the sides of the flap and the edges of the lid. Fold this flap out so it stands up when the lid is closed.
2. Cover the inner side of the flap with aluminum foil to reflect the rays from the sun into your oven. To do this, tightly wrap foil around the flap, then tape it to the outer side of the flap.
3. Use clear plastic to create an airtight window for sunlight to enter into the box. Find a clear plastic bag that you can reuse, such as a freezer bag or clear grocery bag. Then open the box lid and tape the plastic bag over the opening of the flap in the lid. Tape each side down securely, sealing out the air.
4. Line the bottom of your box with black construction paper as black absorbs heat. The black surface is where you will set your pizza to cook.
5. It is best to set up your solar oven when the sun is high overhead, from 11 am to 3 pm. Take your oven outside to a sunny spot and adjust the flap until the most sunlight possible is reflecting off the



aluminum foil and onto the plastic-covered window. Tape your skewer or wooden spoon to the flap and the base of your oven to prop the flap open.

- Build your pizza! Our favourite recipe uses mini multigrain pitas, garlic pizza sauce, and shredded mozzarella. Once your pizza is ready on a plate, open the box and place it on the black paper. If you have a thermometer you can place it inside your oven before you close it, so you can check the temperature.
- To take food out of the oven, open the lid of the pizza box and use oven mitts to lift the plate out. Your pizza will be ready once the cheese has melted. Enjoy!



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2. Solar Tea

Use the energy from the sun directly to make your tea, instead of boiling a kettle indoors! You'll need a warm spring or summer day, when the air temperature won't cool the effects of the sun on your tea.

Materials: large glass jar with lid, water, 2-3 tea bags, optional lemon, mint, or other fruit

- Put the tea bags into a clean glass container. Fill with water and cap.
- Place outside where the sunlight can shine on the container for 3 to 5 hours. Move the container if necessary to keep it in the sun.
- When the colour of the tea has darkened and it passes your taste test, you can serve warm or pour over ice for iced tea!
- The tea might taste more mellow than if you used boiling water. The slow creation of the tea brings out a slightly different flavour!
- Note, solar tea won't keep as long as boiled tea. So be sure to make the amount you and your family will drink that day!



Activity 3: Spot Solar Energy

Many homes, cottages, and businesses use solar energy in some way. A building that is powered by solar energy is usually obvious because of the solar panels on the roof. Another common use is in outdoor lighting.

Can you spot these solar energy items? Circle each as you find it. If you find something not on this sheet, draw a picture of it in the space here:

