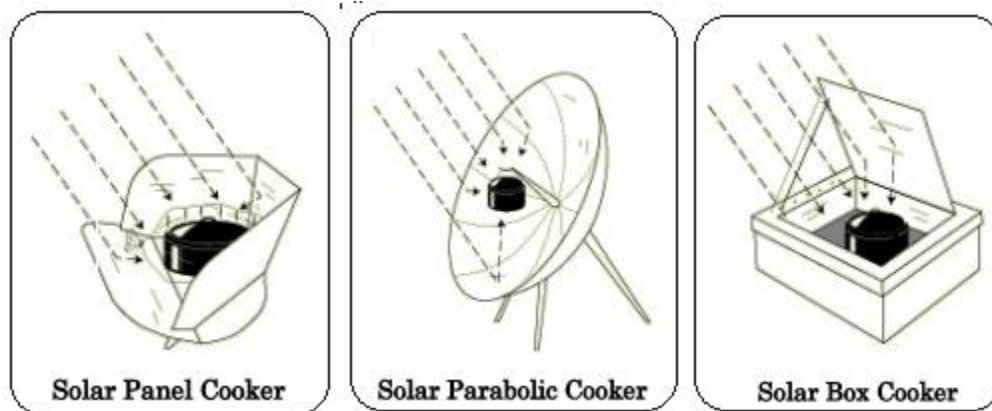


# How to Make Solar Cooker and Its Working

## ***Introduction to Solar Cooker:***

Solar energy is an important renewable energy that we get from the Sun. Solar energy is used for different purposes i.e. residential and commercial. Solar energy is one such energy that is available in abundance that too totally free of cost. As said before it is used for various purposes and one of the most essential use of solar energy is for cooking and heating food with the help of a solar cooker. This device uses the rays of the sun and converts it into heat energy for heating the food. The solar cooker uses the energy of the sun directly for preparing food just like the plants that use sunlight to prepare their food. Solar cookers are cheap and use no fuel because of which many people in developed and developing countries make use of it. Solar cookers are mainly used when the food is prepared outdoor and helps in lowering pollution and deforestation.

## ***Different Types of Solar Cookers:***



In these three kinds of solar cookers, the parabolic solar cooker is the best as it is much advanced in nature than the other two and is more efficient to use.

## **Working of Solar Cooker:**

A solar cooker is a container or a device that traps solar energy and helps in heating and cooking food. It mainly works on three principles i.e. concentration, absorption and retention. A solar cooker has a mirror that helps in letting the sun's UV rays in and converts it into infrared light rays. The infrared radiation has the power to make the protein fat and water molecules present inside the food to shake vigorously which heats up the food. The sun's heat actually does not help in heating the food but it is the rays derived from the sun which converts into heat energy and cooks the food. A lid is used to cover the food kept inside a pot so that the heat energy does not escape. An effective solar cooker thus helps in capturing heat and cooks food.

## **How to Make Solar Cooker:**

Before going to make a solar cooker, we have some requirements which are as follows:

- A dark colored pot preferably black with a lid. A dark pot is required because a dark object gets heated up quickly.
- You then require a large glass bowl or a transparent covering that will allow the rays of the sun to reach the dark cooking pot inside which food is kept. This helps in increasing the temperature and also prevents the heat from escaping out.
- You also require an extra material that will help you increase the sunlight inside the cooking pot. A mirror is generally used for this purpose as it can reflect the sunlight inside the cooker. Apart from a mirror an aluminum foil too can be used.
- The more the sun rays the more the heat and faster the food gets cooked.

For preparing a solar cooker you first need to understand the concept behind it. You require the following apparatus to prepare one.

- A reflective surface to trap heat that will be an aluminum foil, mirror
- Cardboard box, scissors, box knife
- Transparent plastic bag to seal the opening or closing the solar cooker well from all sides
- A dark pot containing food
- Newspapers to tape them inside the box for proper insulation
- A transparent bowl
- A ruler to set the angle of the sun rays for cooking food

A reflective surface plays a vital role in making a solar cooker. It is generally made of mirror or aluminum foil. This helps in trapping sunlight and directing it towards the pot inside the cooker. The pot that is dark in color i.e. black is used because dark objects attract heat. If not that then you can place a black metallic sheet at the bottom of the cooker and then place the pot above it. You need to cover the cooker with a plastic or glass sheet which again helps in trapping the rays of the sun and helps the food to get cooked. Covering the solar cooker well from all sides also reduces the cooking time.

You can make a solar cooker at home itself as it is very easy to make. There are many solar cookers available and you can either choose to buy one which is the cheapest and the best or make one on your own according to your own convenience and requirement. However you must make sure you have all the necessary equipments that is required to make a solar cooker. Also there should be good insulation inside the cooker so that the work takes place efficiently. Make sure you get the best one that will help you cook food early and easily.

## **Advantages of Solar Cooker:**

Solar cookers are mainly used in places where there is no access to electricity or any other fuel. Also poor people who cannot afford to buy cookers make use of this to prepare their daily food. Many people in developed countries however use solar cooker to prepare food as it helps them save money. The concept of cooking in solar cookers started in the year 1767 by a Swiss scientist. However the classis solar cookers made its way in the year 1950. After knowing about what a solar cooker is and how it works let's have a look at the many advantages of this device in our day to day life.

- Solar cookers help in preserving forests as sun's energy is renewable and solar cooker makes use of it which does not cause any pollution to the environment.
- The use of electricity has affected in global warming and as you know solar cooker does not require any electricity for its working again it does not lead to global warming.
- Use of solar cookers helps in decreasing global warming.

- Solar cookers do not produce smoke and can be used by anyone to cook food.
- In summers you can make use of the cooker effectively and also the food will get prepared within no time.
- Lastly it is totally free of cost.
- It is Very easy to use and is totally devoid of complexities unlike the other cookers.
- You can make recipe of your choice with the help of this cooker.

### ***Disadvantages of Solar Cooker:***

After looking at some of the advantages of solar cooker let's have a look at its disadvantages. If you are wondering about how a solar cooker can have disadvantages then you must remember that as every coin has two sides one good and bad so does this solar cooker.

- It cannot be used when the weather is cloudy as the sun is hidden by the clouds.
- Also solar cookers can be used to cook food only during the daytime.
- They cannot retain heat for a long period of time.
- It can cause burns if the device is not built and handled properly.
- It can destroy your eyesight if the beam of the sunlight gets reflected to your eyes.
- Also sometimes it takes a long time to cook food so it is better to cook in normal pressure cooker.
- Strong winds too can delay the cooking process of the solar cooker.
- Lastly it can only be used in places where there is excessive sunlight.
- The cooking process takes several hours; hence patience should be kept by the maker.

You now have a clear idea about what this device is all about and how the energy of sun is utilized in different ways. Now that you know what a solar cooker is and how useful it can be, make one and use easily. However keep the above mentioned points in mind and then go ahead to utilize it.

Source: <http://www.electronicshub.org/solar-cooker-information/>