

## CHAPTER- 20

# Solar Energy

It was 9:00 am on a Sunday. Sonu sat beside his elder brother Sunil and was reading a newspaper.

At that very moment, mother called out from the kitchen "Oh! There is no gas left in the cylinder. How shall I cook food now?"

Sunil was listening to this. He said, "Today, we'll cook food without using fire".

Sonu asked, "But how"

"With the help of solar energy! Uncle has a solar cooker. We'll use it to cook food," said Sunil. Sonu asked with great interest, "Tell me about solar energy and how food can be cooked in it."



Sunil said, "Yes, definitely. But first you'll have to answer my question."

**After taking bath, you dry the wet clothes in the open and they dry.**

**How do your clothes dry?**

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**What things can be done with the help of the heat of the sun?**

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Sunil and Sonu went to their aunt's house.

At their aunt's house a box was kept in the open. Sonu saw that the lid of the box had a mirror fixed to it. Inside the box were four containers painted with black varnish. The inside of the box was also painted black.

Sonu observed that the rays of the sun fall on the mirror and were reflected back to the containers.

Sunil said, "The containers are heated by the rays of the sun which help to cook the food inside it."

Sonu asked, "Why are the containers and the inner surface of the box coloured black?"

Sunil asked Sonu, "During summers, do you feel more heat on wearing white or black coloured clothes."

Sonu answered promptly that on wearing black coloured clothes we experience more heat.

Sunil explained that it was because of this reason that the containers and the inner surface of the solar cooker are painted black.

"What things can be cooked in it? asked Sonu.

Sunil told Sonu that one can cook dal, rice, idli, cake, vegetable etc.

Sunil and Sonu placed dal and rice in the solar cooker. The mirror lid of the cooker was opened and was positioned in a way that the sun rays fell directly on it and reflected the heat onto the containers. After approximately two hours they opened the lid and found the rice and dal cooked.

Sonu said, "Can we too make such a solar cooker?"

Sunil said, "Surely, why not."

The method of making a solar cooker as told by Sunil is given below:

### **Make Your Own Solar Cooker**

To make your solar cooker divide the class in groups of 2-3.

Take an empty carton box. Paint its inner surface black. Take 4 metal containers that can fit into it. Paint the outer surface of these containers with black varnish. On the inner surface of the lid, paste a mirror or a shiny sheet. Open the lid and fix a transparent sheet on the box. Put some rice and dal in the containers and keep them in the box.



Now position the lid in such a way that the rays of the sun fall directly on the mirror/shiny sheet and is reflected to the containers kept inside. Open the containers after 2-3 hours. Is the food cooked?

Sonu said, How wonderful is this solar energy! How easily can we get it without spending anything.

### Solar Lights

Sunil said, "We can also obtain electricity from solar energy" that can convert the solar heat into electricity.

These solar cells are fixed on the top most part of the house where maximum sunlight is available.

In many cities, solar cells have been placed which help in lighting tube-lights bulbs etc. Sunil further said, "Now you can even run the vehicles with the help of solar energy."



## What have We Learnt?

### Orals

1. Write any two uses of solar energy?
2. Why is black colour used in solar cooker?

### Written

1. Which fuel is used for cooking in your house and in the neighbourhood?
2. During which seasons a solar cooker can not be used?
3. What are the benefits of a solar cooker?
4. Why is a mirror fixed to the solar cooker?

## Find Around You

1. If someone has a solar cooker in your neighbourhood, observe it and find out how food is cooked in it.
2. Make a model of the solar cooker with the help of your friends.

