Solar Cookers

FADE IN

INT. HOME- DAY

BOY comes into room back from school- puts school bag down. Sees MOTHER rearranging room.

BOY

What is going on Ma?

MOTHER

Your Chachi just called to say that they are coming over tomorrow. They will be staying at our home for about 3 weeks. I am just making room for them.

BOY (excitedly)

You mean Chintu, Pintu and Mintu will be coming too?

MOTHER

Yes all three of your cousins will be coming too. Along with your Chacha and Chachi

BOY

Yeah! That will be lots of fun. Can we have late afternoon baths with hot water – just like we did at their house?

Mother

Oh! I had completely forgotten that they are used to having baths in hot water. Where will I get gas from for heating up so much of water? There is such a delay in getting gas cylinders nowadays. I will have to ask our neighbours when they get back tomorrow for their extra gas cylinder. I do so hate asking for favours. But what to do?

BOY

Don't worry Ma. We are learning about solar ovens in class this week. Maybe I will be able to find some information that can help you.

MOTHER

What is a solar oven? I heard that a new solar oven shop has opened up near the old flour mill.

BOY

Solar ovens are ovens that do not need any fuel to cook in. You only need sunlight to cook in them.

MOTHER

Need no fuel? You mean they don't need any gas or Kerosene to cook in them?

BOY

Yes. That is what teacher told us.

MOTHER

Let me check out the new shop today itself and see what kind of oven is this.

FADE OUT

FADE IN

INT. SHOP – DAY

A SHOPKEEPER behind a counter is showing a variety of solar cookers that he has on display.

MS of shopkeeper along with the cooker he has in his hands

SHOPKEEPER

And this madam is the solar cooker that I was talking about. It costs only Rs 2000.

MOTHER

2000 rupees! That's a lot of money. I thought solar cookers are very inexpensive

SHOPKEEPER

Madam…., If you want a if you want a sturdy solar cooker that cooks food in a short amount of time you must go for these more expensive solar cookers. They are made of reflectors that are more sturdy than aluminium foil. They reflect the sunlight to the black aluminium pot where the food is kept.

BOY

Ma why do they have lanterns, fans, lamps in this shop?

SHOPKEEPER

They all work with solar energy. That's why I stock them.

BOY

You mean they do not need any electricity or batteries?

SHOPKEEPER

They do need electricity. But the electricity they need gets generated from solar energy. So all you need is sunlight to charge them. They can even work in villages where no electricity has reached. If you want you can watch this video that will explain all about solar energy.

CU of video

Solar energy (picture of sun beaming and talking)

I give the earth energy in the form of heat and light. Scientists on earth have been using my energy in many ways. Let's see how they have been using my energy.

These scientists have converted my energy into solar electricity using a solar panel.

Using a solar panel we can harness solar energy into electricity. This electricity can be used to power fans, lights, TVs or other household items. You may have seen solar street lamps in big citires around you. Many buildings have solar water heaters.

Solar energy can also be used for making stoves. These stoves make no smoke, and use no fuel except sunlight. Depending on the construction of these ovens, they can be used to heat water, cook rice, dal and khichdi, boiled vegetables and make stews.

MOTHER

What an informative video. I wish your classmates could have seen this. You were saying that this topic is being taught in your class this week right?

SHOPKEEPER

Madam you can keep a copy of this video if you want to. I have many of them.

MOTHER

Oh thank you!

FADE OUT

FADE IN

Classroom. Teacher turning off a TV that has been brought into the classroom

TEACHER

Thank you ----- for bringing in this video. It summarises all that is in the textbook about the topic very well.

STUDENTS

Can we now look at everybody's solar oven models that we have made?

TEACHER

Sure. Some of our more enterprising students have even tried out their solar cookers and say that they work well.

STUDENTS

Can we try them in our lunch break miss?

TEACHER

That's exactly what I was thinking about myself also. Let's do that

FADE OUT

FADE IN

OUTDOOR school ground. Teacher crouching with a lot of students nearby.

STUDENT

See this model.

It uses a tyre tube with a black pot inside. And is covered with a glass top.

TEACHER.

The black tyre absorbs sun radiation very efficiently.

STUDENT

Yes. Yes. Yes! I read that black objects absorb radiated heat very efficiently. And the heat from the sun comes in the form of radiation

TEACHER

Correct! The air inside the tyre cannot escape out of the tyre and keeps heating up. This air gets very hot and heats the vessel kept in the center of the tyre tube. This transfer of heat will be through conduction. Aluminium is a very good conductor of heat so the vessel we have used is made of Aluminium. The entire thing is covered with a glass top so that sunlight can enter the oven through radiation. But the heated air cannot escape the oven.

This is another very simple oven made with a black basket covered with aluminium foils. The aluminium foils reflects the sunlight onto the black pot kept in the center. This concentrates the heat and helps cook the food faster.

BOY (Muttering to himself)

I think I have found what Ma can use to heat the water in our house! I have a cycle tube at home!

FADE OUT

FADE IN

EXT- Sunny Courtyard

Mother lifting a black vessel of water out of the cycl tube and pouring into a bucket.

MOTHER

This solar oven that you made is so good! Who knew that a cycle tube could heat up so much of water! You really are learning good things in school!

FADE OUT