

LESSON PLAN 3: The Sun-Factor

GENERATING ELECTRICITY WITH A SOLAR PANEL. FOR USE WITH THE SOLAR PANEL KIT

LEARNING OBJECTIVES:

1. To understand that solar power can be used to generate electricity.
2. To investigate examples of how solar power is used.
3. To design an object that uses solar power to make it work.

YOU WILL NEED:

Solar Panel Kit. Class activity sheets and extra paper. List of resources children can use for their homework research.

INTRODUCTION:

- Elicit the children's previous knowledge on renewable energy sources.
- Discuss why it is important that we use more renewable energy and reduce our consumption of fossil fuels.
- Explain that today's experiment will be investigating how the sun's energy, solar power, can be used to power different objects.

MAIN EXPERIMENT:

- Using the kit, show how solar power is converted into electricity to make the different objects work. Ask different children to have a go.
- Discuss different examples of how solar power is used (for example, in eco-friendly houses to heat water, or to power air-conditioning)

INDEPENDENT TASK:

- Explain to the children that they will be using the concept of solar power to invent their own solar-powered mechanism. They can be as creative as they like! What is important is that their design must have a useful purpose (e.g. to power a buzzer or heat water).
- Go through the **Sun-Factor** class activity sheet with the children. Emphasise that they need to draw up a labelled design plus a list of equipment they would need (which must, of course, include a solar panel).
- Give the children some time to discuss ideas in small groups and feedback to the rest of the class.

If practical at your school and with this class, pupils could later have the chance to construct their inventions in practice.

PLENARY:

- Ask the children to share their ideas with a partner and evaluate each other's work, using ratings of one to three stars (for aspects they liked) and a wish (a suggestion to make the design even better).

HOME ACTIVITY:

- Explain **The Climate Challenge** homework research and run through with them the basic concepts of environmental damage, acid rain, the greenhouse effect and climate change. You should supply them with a list of resources/websites. Encourage them to do their research with a parent or guardian and discuss with the adult the questions on the home activity sheet. Remind them that at the end of the homework, they need to think of a way they could reduce their family's impact on the environment.

LEARN MORE ABOUT SOLAR POWER BY VISITING:

<http://www.jatsgreenpower.com/solar-basics.html>

http://en.wikipedia.org/wiki/Solar_power

Baxi - helping the next generation learn about renewable energy.

To find out more go to: www.baxi.co.uk/renewables

