

LESSON PLAN 2: Blow out!

USING WIND POWER TO TURN A MINI-TURBINE. FOR USE WITH THE L.E.D. BLOW LIGHT KIT

LEARNING OBJECTIVES:

1. Recognise and explain patterns made by physical and human features in the environment.
2. Recognise some physical and human processes and explain how these can cause changes in places and environments.

YOU WILL NEED:

L.E.D. Blow Light Kit. Class activity sheets. Printed materials and/or internet access for children to research wind turbines. Tissue paper or other equipment for homework experiment.

INTRODUCTION:

- Elicit the children's previous knowledge on renewable energy sources.
- Explain that you will be looking at how wind power can be used to power a light bulb.

MAIN EXPERIMENT:

- Show the children the mini wind turbine from the kit and demonstrate how the bulb lights up when you blow on the propeller. Ask different children to have a go.
- Explain that when the rotor blades turn, they power a motor that then creates electricity to light up the bulb. Explain how this can happen on a large scale, with big wind turbines.
- Discuss where wind might blow strongest. Introduce the term microclimate as a zone where the climate differs from the surrounding area.
- Ask where the children think would be most suitable for locating wind turbines (e.g. large, open space; out at sea)

INDEPENDENT TASK:

The class **Blow out!** activity sheet is best completed by small groups of about five children. You will need a second adult to go with the investigating group.

- Ask the children to suggest areas in the school and grounds that they could investigate for wind strength.
- The small group visits these places with the kit, accompanied by an adult. Observe which microclimates are most successful at turning the mini turbine and therefore would be best for generating electricity.
- While one group is out, the rest of the class research the use of wind turbines to create electricity and where in the UK/world they could find turbines.

PLENARY:

- Ask the children to feedback their findings.
- Discuss how a wind turbine could be used in school, where best to locate it and what it might replace.

HOME ACTIVITY:

- Explain the homework task, **Put a sock on it!** - building a wind sock. Show them how to use a compass to identify the wind direction (N,S,E,W). Go through the list of equipment with them and supply any items necessary, such as the tissue paper. Make sure they understand that they should do the experiment with a parent or guardian.

LEARN MORE ABOUT WIND POWER BY VISITING:

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

<http://www.re-energy.ca/>

<http://www.kidwind.org/>

Baxi - helping the next generation learn about renewable energy.

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

