



Power up

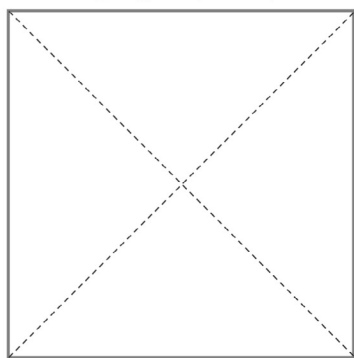
LINKED CHALLENGE

To make a simple wind turbine

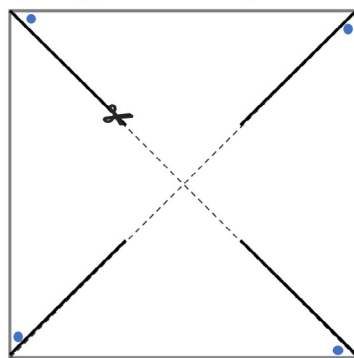
ACTIVITY OVERVIEW

Encourage children to recognise objects around the classroom that use electricity and discuss the different ways it is produced, including the use of fossil fuels and renewable energy. (The linked video could be used to support this.) Focus on why renewables are important. In this session, children will make a simple wind turbine.

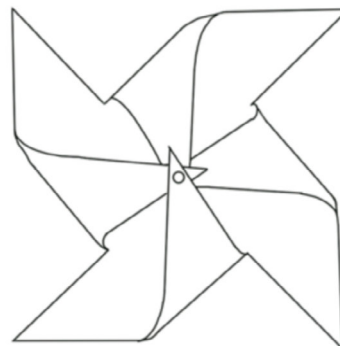
Fold along diagonals, then open out.



Cut along diagonals to ~2cm from centre. Mark dots as shown and carefully pierce each with pin.



Bring 'dotted' corners to centre and secure by pushing a dressmaker's pin through each dot and the centre point.



Attach this wind turbine to the top of a pencil by pushing the pin through the rubber. Test the turbine by taking it outside (on a windy day), using the class fan, or blowing. Explore different sizes of paper and/or card.

KEY FACTS/SCIENCE

Wind and water power are 'clean' sources of energy. They do not produce harmful greenhouse gases such as carbon dioxide that contribute to global warming.

Each blade of a turbine is similar in shape to the wing of an aeroplane, in this case catching the wind's energy as the air passes over the blades to create spin. In wind turbines, these moving blades turn a rotor, which is connected to a generator. A generator converts rotational movement into electricity. Children may have seen a dynamo on a bicycle work in a similar way (spinning wheels turn the rotor in the dynamo).

RESOURCES

Squares of paper (various types and sizes)
Rulers
Pencils
Scissors

Dressmaker pins
Modelling clay or mounting putty
Pencils with rubber tops
Class fan

Health & Safety:

Use modelling clay, mounting putty (or similar) to cap any pin point that protrudes the pencil rubber.

QUESTIONS/FURTHER LEARNING

- Does the size of the wind turbine or the type of paper/card from which it is constructed affect its movement?
- What do you think happens to the energy produced when the blades spin faster or slower?
- Why might it be better for our world to use renewable energy sources? Are there any disadvantages?

Online supporting video :
<https://tinyurl.com/kpdww5w>

