

In a spin

Quick guide

Age range

7+

25 mins



Outside / indoor



Covers topics on
Science
Problem-solving

Individual activity



Task

Make a water turbine and demonstrate how water makes this work.

You will need

- An empty two-litre drinks bottle
- Scissors
- A pencil
- String
- A jug of water
- A bowl or bucket

What to do

1. Cut the top off the bottle and discard.
2. Carefully make eight evenly spaced holes around the bottom of the bottle.
3. Enlarge the holes with the pencil, pushing the pencil into the holes at an angle.
4. All the holes should point in the same direction.
5. Make two more holes near the top of the bottle and tie a short string across the top to make a handle.
6. Hold the turbine over a bucket.
7. Pour water from a jug into the turbine.
8. As the water pours through the holes, the turbine will spin round (see diagram on reverse).

REMEMBER to use the water collected in the bucket for something else!

Fun fact

We have been harnessing water power for thousands of years. The Greeks used water wheels to grind wheat into flour more than 2,000 years ago. You can still see water wheels in action today.

Leaders' notes

This experiment demonstrates how water can be used to power a turbine and can lead to a discussion about renewable resources.

Hydro electric power is a renewable resource which is used to generate 20% of the world's power. CHP (combined heat and power) units use methane gas generated through the wastewater treatment process to power their plants.

Water and energy use are closely linked. Heating water makes up about a third of your household energy bill and hot water use in the home accounts for 5% of the UK's total carbon emissions – that's about the same as its aviation emissions.

In a spin diagram

