

# Water Energy

Renewable Robbie discovered that water can be extremely powerful.



Watermills have been used for hundreds and hundreds of years. Renewable Robbie thinks you would enjoy this experiment....to make your own waterwheel! The model is like the old waterwheels used for grinding corn or powering linen mills. It is the weight of the water in the buckets that causes the wheel to overbalance and turn.

## What you need...

Two pieces of cardboard  
Scissors  
Bright crayon / felt tip / pen  
Egg carton  
Stapler  
Pencil  
String  
Egg cup  
Access to a water tap

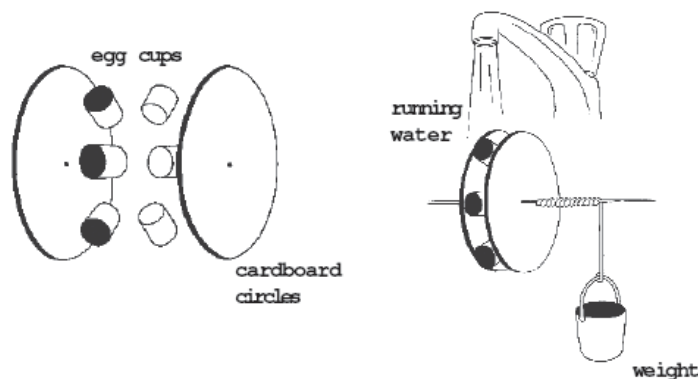
## Instructions...

1. Carefully cut out two circles from the cardboard, about 15 cm in diameter.





2. Brightly colour one side of each circle.
3. Ask your teacher to punch a hole through the centre of each circle.
4. Carefully cut out the egg cups from an egg carton. You need to decide how many egg cups your wheel will need. Six might be the best number to choose.
5. Evenly staple the cups around the outside edge of one of the circles, then staple the second disc onto the other side of the egg cups.
6. Push a pencil through the holes in the centre of the circles and your waterwheel is ready to go.
7. Once you have tested the wheel, you can attach some string and an egg cup as shown below. You can test how much weight the wheel will lift by putting it under a running tap and adding different sizes of weights to the egg cup.



Explain in your own words how the waterwheel works

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Can you think of any ways to improve the design?

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Today, electricity can be produced by building dams. Put the following sentences in order to explain the process:

- The blockage causes the river to flood the valley which creates a **reservoir**. A reservoir looks like a lake.
- The generators spin round to produce **electricity**.
- The water from the pipes flows away down the river.
- The water turns the **turbines** inside the pipes. The turbines are connected to **generators**.
- The dam blocks a river which is flowing through a valley.
- Large **pipes** in the dam forces the water to flow through under pressure.

1. 

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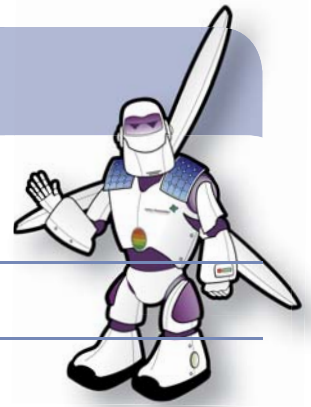
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## Newspaper Activity

Renewable Robbie thinks there are many advantages of using water energy especially in Northern Ireland where there is so much rain!

Your task is to write a brief newspaper article to try to convince the public in Northern Ireland of the benefits of using water as energy. Use the space below. Use the top box for a heading and the box to the right for a picture. Then, use the lines to write the article. Good luck!



