

TRY THIS OUT!



WATER WHEEL

Time: 15 Minutes
Difficulty: Medium

Here in Canada, so much of our energy comes from one of our most precious natural resources – water! With lakes, oceans, and waterfalls all around the country, it's no surprise that we harness its movement as a source of renewable energy. Now, you can see how these energy-harnessing water wheels work – by creating your own!

WHAT YOU NEED:

- An aluminum pie plate
- 3-6 small plastic cups
- A wooden skewer or dowel
- Half a metre of string
- Waterproof tape (electrical or duct tape)
- A water jug or container
- A large bucket

MAKE IT:

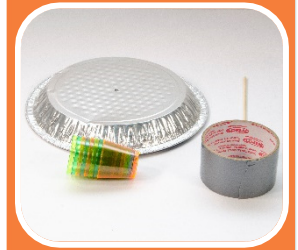
1. The aluminum pie plate will be the spinning centre of the waterwheel. Pierce a hole in the centre of the plate with a pen or skewer.
2. The cups will be arranged around the spinning centre plate as the paddles of the water wheel. To do this, make evenly-spaced markings around the plate – one for every cup you plan to attach to the wheel.
3. Use duct or electrical tape to secure each cup to the outside of the plate, where you have marked. Make sure all cups are facing in the same direction!
4. To make a central rod, pass a wooden skewer through the centre of the plate. Make sure that the plate spins easily around the rod without getting caught.

TEST IT:

To make the water wheel spin, have a friend hold both ends of the rod over a sink or bucket to catch any spills. Pour water over the wheel using a water jug or container, and watch as it spins

EXPLAIN IT:

As the water falls, it pushes against the cups, filling them with heavy water. Gravity causes them to move closer to the ground, spinning the central wheel in the process. This spinning can be transformed into other types of energy.



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OBSERVE IT:

Water is very powerful! This image from 1949 shows a water wheel powering a grain mill at Moulin de la Remy in Baie-St-Paul, Quebec.



GO FURTHER:

Try making changes to your waterwheel to see how they affect the efficiency. You can change the speed of the falling water, add more cups, or take some cups away. How can you make your water wheel conserve the most amount of energy by spinning the fastest?