

Safety:

Be careful with knives

Instruments:

- a cork
- modeling clay
- a pitcher
- a plastic bottle
- a funnel
- a plastic tube
- scissors
- tape
- stiff plastic
- two toothpicks
- a glass bowl
- a knife
- a nail

Chemicals:

- water (in a pitcher)

Experiment:

- Using the knife, cut four grooves in the cork and trim four plastic strips as broad as the cork.
- Firmly seat the strips in the cork grooves. This will be the water wheel.
- Press the nail horizontally through the plastic bottle to make two holes for the axle.
- Cut the bottom of the bottle off evenly, so that that bottle won't fall over.
- Push the toothpicks through the holes and into the center of the cork, which should be inside the bottle.
- Push the funnel into one end of the plastic tube and tape around the contact point carefully.
- Place the bottle in the bowl and put the tube into the bottle mouth.
- Pour water into the funnel so that the wheel turns.
- Hold the funnel up higher.
- What happens when you do?

Advice for the teacher:

Holding the funnel higher makes the water flow more quickly and the wheel turns faster.

In a water-powered power station the water flows through huge tubes, which carry the water to the turbine paddles. This is similar to the effect of the pupils' water wheel. The turbines crank a generator, which creates an electric current.

Tip:

The teacher should pay close attention due to the various sharp and pointy tools which are used in this experiment.

It is important to aim the hose directly at the paddles of the wheel.

The ends of the toothpicks can also be covered with clay for a little added protection.
