

# WATER PRESSURE INVESTIGATION



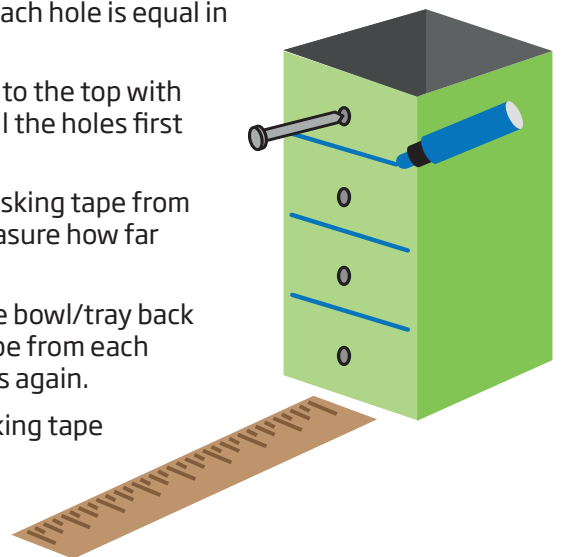
This investigation is ideal for KS2 or KS3. It encourages children to discuss what makes a fair test, make predictions, make observations, record results and draw conclusions.

## You will need

- |   |                |                          |
|---|----------------|--------------------------|
| • A large, rectangular fruit juice carton | • A ruler      | • Pair of scissors       |
| • Water                                   | • A marker pen | • Masking tape           |
|   | • A nail       | • A washing up bowl/tray |

## Method

- 1 Take your fruit juice carton and carefully cut off the top.
- 2 Using your ruler, measure four equally spaced sections on your carton, eg, 2 cm from the bottom, then space the second hole 2cm above this. Repeat. The size of the spaces will depend on the size of the carton you have. Use your marker pen to mark the sections.
- 3 Using the nail, push a hole through each section. Try to ensure that each hole is equal in size.
- 4 Cover up each of the holes with the masking tape and fill your carton to the top with water. Explain that you are going to remove the masking tape from all the holes first but encourage the children to make predictions beforehand.
- 5 Place the carton above the washing up bowl/tray and remove the masking tape from each hole. Observe what happens to the water and, using rulers, measure how far each of the jets of water travels.
- 6 Cover the holes with masking tape again and pour the water from the bowl/tray back into the carton. Explain that you are going to remove the masking tape from each hole individually now and encourage the children to make predictions again.
- 7 Place the carton above the bowl/tray and start by removing the masking tape from the bottom hole. Observe and measure how far the jet of water travels.
- 8 Repeat the process for the second, third and fourth hole.



## The science

As water has weight, the jets of water should travel different distances. The hole closest to the bottom of the carton will have a greater weight of water above it so the jet should travel the furthest. This weight of water is known as water pressure.

There is often high-water pressure at the bottom of reservoirs and dams which can be used to generate turbines. The water is directed on to water turbines, causing them to turn which generates power. This is known as hydro-electric power.

## Extensions

You could repeat this experiment with different shaped cartons to see what happens. You could add more holes to your carton or try fewer holes.

Once you've finished with the experiment, discuss with the children what you can do with the water left in your bowl/tray. Rather than tipping it down the drain and wasting it, can the children think of other ways to use it? For example, watering some plants or using the water in an art lesson. You can talk about why it isn't safe to drink it and talk about why it's important to save water. You can find out more about water conservation and its importance on our website [wessexwater.co.uk](http://wessexwater.co.uk)

You can also have a look at our education page to find more fun resources and investigations [wessexwater.co.uk/community/education](http://wessexwater.co.uk/community/education)

Have a look at our website to find out what happens to the water from your experiment when you tip it down the drain and also find out more about 'Stop the Block' [wessexwater.co.uk](http://wessexwater.co.uk)

Perhaps after the experiment, the water could be used to water some plants rather than tipping it down the drain.

