

CAPTURING RAIN

Activity 6

Gravity and Water Pressure

Whenever you hold your finger over the opening of a tap or hose it feels like your finger is being 'blown away' by the water coming out. This is called "Water Pressure". Like the Waingake Treatment Plant feeds water to Gisborne using gravity, this activity will show you how gravity can change water pressure...

You will need – 2 x plastic soft drink bottles (1 litre) – one labeled 'Reservoir' the other labeled 'House', 1 x 750 mm length of plastic tubing (15-20 mm diameter), funnel, ruler, stopwatch, 1 litre of water, jug

Step 1 Set up the equipment so that it looks like the diagram below. Ask your teacher to help you make a hole near the base of each bottle. This should be just big enough to fit the plastic hose so that it makes a waterproof join.



- Step 2** Tip all the water into the jug and raise the reservoir 100 millimetres above the house.
Step 3 Fill the "reservoir" bottle with water and time how long it takes to flow to the "house". Write this result onto the recording sheet below.
Step 4 Tip all the water into the jug and raise the reservoir 200 millimetres above the house.
Step 5 Once again, fill the "reservoir" bottle with water and time how long it takes to flow to the "house". Write this result onto the recording sheet below.
Step 6 Keep repeating these steps until you have recorded how long it takes water to flow into the house when the reservoir is 500 millimetres above the house.
Step 7 Prepare a report telling what this activity shows you about gravity, water pressure and height. Use your data to give examples.
Step 8 Use this equipment to design your own experiment about water pressure.

Height of reservoir above house	Time
100mm	
200mm	
300mm	
400mm	
500mm	