



## Water is precious — water is wonderful

*Water is precious — water is wonderful* is a programme about water use and water conservation for use in Year 1 and 2 classes on the Kāpiti Coast.

### Introduction

On the Kāpiti Coast everybody recognises that water is a resource we need to use wisely. We need to make sure that we, and future generations, have a reliable, quality water supply and have healthy streams, rivers and lakes.

Since 2011, the Kāpiti Coast District Council has been working with iwi and educators to develop water education programmes for young people.

The Water Education Facilitator works with teachers to develop and implement water education programmes for young people, as well as assist schools to be efficient users of water. The Water Education Facilitator can be contacted at [watered@kapiticoast.govt.nz](mailto:watered@kapiticoast.govt.nz).

The Council has developed a series of learning programmes (from ECE to Year 9) that focus on water use on the Kāpiti Coast. Each learning programme is stand-alone and is intended to be adapted by teachers to meet the needs of their students.

Collectively the series of resources provide sequential learning for young people as they develop an understanding of water issues on the Coast and actions they and their families can take to use water wisely.

Activities are provided so students can investigate water and practise using water safely and wisely.

Key questions that are addressed in the learning programme are:

- What is water?
- Where is water found?
- Why do we need water?
- How do we capture, treat and use water?
- How do we conserve water or use water wisely?

### Learning intention

**Students understand that water is precious and that we all need to use water safely and wisely.**





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# Water is precious — water is wonderful

## Overview of

*Water is precious — water is wonderful* is a programme about water for use in Year 1 and 2 classes at primary schools on the Kāpiti Coast.

*Water is precious — water is wonderful* is a cross-curricula resource that can meet level 1 and 2 Achievement Objectives in English, Science, Social Studies, Health and The Arts curricula.

The learning programme is in six sections:

### 1. Water is precious

An introduction to the concept that water is precious and an exploration of what your students know about water and want to find out about water. Students briefly explore the cultural significance of water for themselves and for local iwi.

### 2. What is water?

An investigation of the physical properties of water that extends to students developing an understanding of the water cycle.

### 3. We need water to live

An exploration of the fact that all animals and plants need water to live.

### 4. Three waters – drinking water, stormwater and wastewater

An introductory exploration of the delivery, treatment and removal of drinking water, stormwater and wastewater on the Kāpiti Coast.

### 5. Being waterwise and conserving water

An investigation of ways to use water wisely and not waste it.

### 6. Taking action to conserve or value water

Students taking action at home or school to conserve or value water.

It is not expected that a school will use all the activities provided but teachers will select amongst the activities to build a programme that meets the identified needs of your students, their families, your school and your local area.





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### Curriculum links

Values highlighted in this unit	How students will be encouraged to develop the selected value or values during the unit
Respect Innovation, enquiry and curiosity Care Integrity	Students will be learning to respect, value and care for water, to use water safely and to conserve water.  Students will carry out a range of investigations to explore water as a solid, liquid and as a gas.

**Excellence** – aiming high, persevering **Innovation**, enquiry and curiosity **Diversity** – culture, language, heritage **Respect** – for themselves and others **Equity** – fairness and social justice **Community** and participation for the common good **Care** for the environment **Integrity** – accountability, honesty, acting ethically

Key competencies highlighted in this unit	How students will be encouraged to develop the selected competency or competencies during the unit
Managing self Thinking Relating to others Participating and contributing Using language, symbols and texts	Student will be encouraged to take responsibility for their own actions to use water wisely and conserve water.  Students will use oral and written language to describe water and will learn some water related terms and use these terms appropriately.  They will learn to measure water in litres.  As students work together to carry out investigations into the nature of water they will be encouraged to make predictions and test them. They will be encouraged to use their observation and developing language skills to record what they see.

**Managing self** – self-motivation, personal goals, appropriate behaviour, resourcefulness, sense of self and importance of heritage **Relating to others** – listen actively, recognise different points of view, negotiate, share ideas **Participating and contributing** – balancing rights, roles and responsibilities, and responding appropriately as a group member. **Thinking** – using creative, critical, metacognitive and reflective processes, drawing on personal knowledge and intuitions. **Using language, symbols, and texts** – interpreting language and symbols, using ICT, recognising how choices of language and symbol affect people's understanding.





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## Provision of water services

The Kāpiti Coast District Council is responsible for providing:

- a supply of safe drinking water;
- stormwater systems that remove water after heavy rain; and
- wastewater removal and treatment systems.



The Waikanae Water Treatment Plant

Kāpiti Coast residents pay for these services when they pay their rates. Different water services are provided in different areas on the Coast.

## Partnership with local iwi

The Council is proud of its relationship with the tāngata whenua. A Memorandum of Partnership between the three iwi (Ngāti Raukawa, Āti Awa ki Whakarongotai and Ngāti Toa) and The Council has been in place since 1994. The Memorandum guides the relationship between Council and tāngata whenua. The goal of the Memorandum is to forge a relationship of mutual benefit between the Council and tāngata whenua and create an effective and meaningful partnership.

## Support for teachers

The Kāpiti Coast District Council website [www.kapiticoast.govt.nz](http://www.kapiticoast.govt.nz) contains useful information for teachers and students

If teachers have specific questions, requests for loan resources or want to discuss their *Water is precious* learning programme they can contact the Water Education Facilitator at [wated@kapiticoast.govt.nz](mailto:wated@kapiticoast.govt.nz)

## Acknowledgements.

The Kāpiti Coast District Council would like to thank everyone who has been involved in the development of the *Water is precious* learning programmes.

This learning programme was written by Anne Brunt. Photographs were provided by Anne Brunt, Nicola Easthope, Ōtaki Playcentre, Kapanui School, Raumati South School, Liz Stretton, The Greater Wellington Regional Council, Waikanae Kindergarten and The New Zealand Fire Service.

A number of territorial authorities in New Zealand and Australia have developed educational programmes about water. Over time a number of activities have been created and modified for use and it is no longer possible to acknowledge authorship of specific activities. The Kāpiti Coast District Council would like to acknowledge the cooperation of local and regional Councils that has allowed the free exchange and use of material so we can all create quality educational programmes suited to our local areas.



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### Modelling water-wise behaviour

Before your class or your school begin the learning programme about water use and water conservation your staff may want to discuss:

- how your school values water;
- ways the school currently conserves water;
- any infrastructure issues your school has that impacts on how the school uses and conserves water;
- a whole school approach to valuing and conserving water;
- how the staff currently model water-wise behaviour and valuing water; and
- what type and level of social action your students may take at home and school after they have completed their learning about the value of water and the need to conserve water.

### Involving parents and caregivers

This work involves your students thinking about how they use, value and conserve water at school and in their homes.

Your students will be discussing their learning at home and doing some simple investigations at home. You may want to:

- inform parents about the intent of the learning programme and indicate that your students will be investigating how water is used at home;
- invite parents to come to the school to see and hear about what the students have learnt; and
- attend a talk with speakers from the Kāpiti Coast District Council that describes ways to conserve water, use energy efficiently and minimise waste.





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### Assistance for schools from the Kāpiti Coast District Council Green Team

Members of the Green Team can come to your school and offer FREE advice that focus on sustainable use of resources.

The Green Team can work with your staff to:

- complete a review of how efficiently your centre uses water and develop practical suggestions on how your school can reduce its water usage. (Water Conservation Adviser);
- complete an energy efficiency review and develop practical suggestions on how your school can be more energy efficient, reduce heating costs and be warmer, drier and Eco-design Adviser);
- develop sustainable gardens (Green Gardener);
- become an enviroschool (Enviroschools Facilitator);
- implement a water education programme (Water Education Facilitator); and
- develop and implement a waste minimisation programme (Waste Minimisation Officer).

### Free services for families

Families can also access the services of the Green Gardener, the Water Conservation Adviser and the Eco-design Adviser.

The Water Education Facilitator will provide brochures that outline these FREE services for families.

### Talks for parents and caregivers

Staff from Kāpiti Coast District Council's Green Team can come to your centre to deliver a presentation and a question and answer session that provides:

- an explanation of how our drinking water is treated (DVD)
- a discussion about water issues in Kāpiti and Council initiatives to encourage people to conserve water
- tips on how to use water efficiently and conserve water
- advice on how to make homes warmer, drier and healthier
- advice on how to minimise and dispose of household waste.

In terms 1 and 4, schools will be contacted by the Water Education Facilitator to ask if they want to invite their parents and carers to attend this presentation by the Kāpiti Coast District Council's Green Team.





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### Gathering resources to use in this programme

#### Books

The Kāpiti libraries have books about water use and conservation for loan including many listed here.

Your school may want to purchase some of the books about water, valuing water and water use and conservation listed here.

*I am water* Jean Marzollo (Scholastic 1996)  
*Taniwha* Robyn Kahukiwa (Puffin 2007)  
*Eel dreaming and Tuna moemoea* Ben Brown (Reed 2005)  
*I love the rain* M Park Bridges (Chronicle Books 2005)  
*This is the rain* Lola M. Schaefer (Greenwillow Books 2011)  
*What is water?* Rebecca Olien (Capstone 2005)  
*The snowflake* Neil Waldman (Milbrook Press 2003)  
*Flotsam* David Weisner (Clarity Books 2006)  
*Round the garden* Omri Glaser (Harry N. Abrams 1999)  
*River story* Meredith Hooper (Walker Children's Paperbacks 2010)  
*Morning on the lake* Jan Bourdeau (Kids Can Press 1997)  
*Incredible Ocean* playBac (playback Publication 2009)  
*Water water, Window on the World* Paul Harrison (Zero to ten 2010)  
*Tiddalik the Frog* Anne Faundez (QED Publishing 2004)  
*The drop in my drink* Meredith Hooper (Francis Lincoln Children Books 2008)  
*Rain dance* Cathy Applegate (Margaret Hamilton books 2000)  
*The Water Cycle (First Facts: Water All Around)* Rebecca Olien (Capstone 2006)  
*Our world of water* Beatrice Hollyer (Henry Holt and Co 2009)  
*The sunflower that went flop* J Cowley (Wright Group 1990)  
*A cool drink of water* Barbara Kerley (Nation Geographic Children's Books 2006)  
*One well, the story of water on earth (citizen kid)* Rochelle Strauss (Kid's Can Press 2007)  
*A drop of water: a book of science and wonder* Walter Wick (Scholastic Press 1997)  
*A drop around the world* Barbara Shaw (Dawn publications 1998)

#### Teacher/leader reference

*Water Fun experiments for budding scientists* Lisa Burke (D Kindersley 011)  
*The little book of sand & water* Sally Featherstone (Feathersone Education Ltd 2002)  
*Water, Water Everywhere* MJ Rauzon (Sierra Club Books for Children 1994)  
*A life like mine* Dorling Kindersley (UNICEF Teacher reference 2002)

### Drippy the Raindrop

Stories about Drippy the Raindrop that explain the water cycle and are suitable for five to seven-year-olds can be purchased at [www.drippytheraindrop.com](http://www.drippytheraindrop.com)

### Set up a water play area

Gather:

- a range of plastic bottles, funnels;
- containers and buckets;
- materials to make boats (foam trays, sticky tape, straws etc); and
- materials to test floating and sinking e.g. duplo blocks that float.

### Photographs

Gather photographs of children using and saving water, as well as events such as floods, storms, and droughts snow falling, etc.





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### Section 1: Water is precious

**This section introduces the concept that water is precious and explores what your students know about water and want to find out about water. Activities are provided to explore the cultural significance of water for your students, their families and local iwi.**

#### Introducing water is wonderful — he tāonga te wai

- Read this story to your students.

Adam loved to visit his Nan because he always had fun with Nan and her dog Jake. His Nan made the best ever banana cake, and the cake tin was always full.

One day Adam, Nan and Jake went down to the beach. It was a bit too cold for Adam to have a swim but Jake loved to chase a ball in and out of the water and soon he was very wet and sandy. Jake came right up to Adam and then he gave a great big shake. Adam laughed and tried to persuade Nan to let him have a swim. He said, 'Nan 'I'm so wet now I might just as well jump in.' But Nan said, 'No, Adam it's time for us to go home. We'll have some afternoon tea, but remember no cake for dogs.'

When Adam got to Nan's he went to wash his hands. He turned the tap on and washed his hands but there was Jake wanting a quick game so Adam chased him into the kitchen.

Nan gave Adam a big, big piece of cake and some fruit juice. Adam saved the icing till last. Jake sat under the table leaning on Adam's right foot. He looked like a dog that loved banana cake and just knew that Adam would share his cake with him.

Nan and Adam could hear a faint sound of running water. Nan went to investigate. When she came back she said: 'Adam, you left the bathroom tap running. We must always turn the tap off as our water is too wonderful to waste. Water is very special and we need to look after it.'

Adam was finishing his second piece of banana cake, and very, very carefully not looking down at Jake who was looking like a dog who NEEDED cake NOW. He started thinking about what Nan had said. Water was just water. Why is water wonderful, why is water special or precious, he wondered.

- Discuss why water is wonderful or precious with your students and record their answers.



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## Shaping your learning programme

Find out what your students know about water and what they want to find out about water and build your learning programme around this.

As you are working through this learning programme build two visual wall displays:

- o a word wall of vocabulary about water; and
- o a wonderful water wall where student work can be displayed.

## Exploring the cultural significance of water

**Valuing and respecting water is important in many cultures. This section encourages you to explore how valuing water is significant to local tangata whenua and to families with children in your class or school.**

### Value of water to Māori

The Water Education Facilitator can organise contact with a representative from your local iwi. You could ask them to visit your school or visit a local stream or river with your students and discuss the importance of water and local water environments to Māori. The iwi representative can explain the names of local areas, streams and rivers.

### Valuing our local waterways (streams, rivers, lakes or seas)



- Ask your students to identify where you can find natural waterways and identify local streams, rivers, lakes and beaches.
- Plan and conduct a visit to a local waterway and talk about what you can see, the plants and animals that live in, on or around the waterway and how the community values and uses the waterway.

## Big ideas

**Water is a precious resource.**

**Water has cultural significance for Māori.**

**Water has significance for many cultures.**

## vocabulary

precious  
treasure  
river  
lake  
sea

## kupu

<b>tāonga</b>	treasure
<b>wai</b>	water
<b>awa</b>	river
<b>roto</b>	lake
<b>moana</b>	sea



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## Water in our culture

- Use photographs provided by families or from other sources of cultural events. Events could include:
  - ◇ use of water in religious ceremonies e.g. baptism
  - ◇ use of water at cemeteries or urupa
  - ◇ competitions such as waka ama or dragon boating
  - ◇ festivals that feature water like Diwali
  - ◇ actions that show respect before gathering food from water
  - ◇ delivering prayers or karakia before going on or into water
  - ◇ respecting water sources as you complete activities in or on the water e.g. not putting rubbish in the water, not using the water as a toilet and not destroying plants or harming animals.
- Discuss how water is used in these cultural events. Ask questions like these:
  - ◇ Why is it important to think about water being special or precious during these activities?
  - ◇ What would happen to these events if there was little or no water?







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## Section 2: What is water?

This section has a range of activities that has students investigate water as a solid, liquid and a gas and concludes with the students developing an understanding of the natural water cycle.

TKI Science Concepts Book 15 *Where's the weather?* (evaporation and condensation at L1 and 2)

TKI Science Concepts Book 58 *Ice: melting and freezing* (L1 and 2) support this learning.

### Exploring water as a liquid

#### Equipment: (per group)

- o a two litre plastic milk container filled with water;
- o a measuring jug with a litre scale;
- o any other measuring device;
- o a cup; and
- o a range of small containers that can be filled with water
- Give a group of students a set of equipment and have them fill a cup with water.
- Have the students predict whether a container they have will hold more or less water than the cup and test their predictions.
- Let your students make and test predictions using other water containers.
- Use the jug to demonstrate that water is measured in litres and have the students measure out specific amounts of water.
- Discuss what items we buy that are measured in litres e.g. fruit juice, milk, soft drink, petrol or diesel.
- Discuss the ideas that all liquids can be measured in litres and that liquids have no shape as they take the shape of the container they are placed in.
- Get your students to think about the number of litres of water it might take to fill objects like their bath, a school water tank, or the hot water cylinder at home. A bath holds around 80 to 200 litres depending on the size of the tub, and hot water cylinders usually have 80 to 120 litres of water.



### Big ideas

**Water is a clear or colourless liquid that can be measured in litres.**

**Water has no shape.**

**Water has weight.**

### vocabulary

clear or  
colourless  
liquid  
litre

### kupu

**kanokore** clear or  
colourless  
**wai** liquid



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### Water has weight

#### Equipment:

- plastic bags;
- water containers of various types including some with lids or stoppers and some with handles that are easy to carry, others that are harder to carry. (no container should be too heavy for your students to carry when it has some water in it);
- a source of water e.g. tap;
- a suitable outside area of grass that leads to a school garden or a tree or plant that would benefit from watering; and
- a rope or alternative to mark out a pathway.
- Have your students partially fill a range of different sized plastic bags with water and tie them off, or use other suitable plastic containers.
- Have your students lift the bags, or containers, and feel the weight of them and experiment as they tip the bags over, and open them and let some of the water out, or add more water to them.
- As your students experiment with the containers of water discuss the idea that when you put water in a container, it finds its own level, and if you put in too much the water will overflow and be wasted. Discuss the fact that the container gets heavier as you put more water in it.



### Big ideas

**Water finds its own level in a container.**

**Water has weight and the more water you put in a container the heavier the container becomes.**







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### Carrying water

- Use these photographs to discuss the ideas that in many parts of the world people, including children, have to carry water a long way from where the water is found in wells or lakes or streams to their homes. Water is very precious and they must make sure all the water they carry gets home. They cannot spill it or they will have to go back for more.
- Mark out a suitable sized area and have your students work in pairs to find the best way to carry a nominated amount of water over the marked area and not spill the water.
- Demonstrate responsible use of a hose by turning it on only when you and the students are filling a container with water and discuss why you turn it off when you are not collecting water. You may want to use the water that is carried to water a plant.

### Big idea

**In some places around the world, carrying water for your family is an important responsibility for children.**



**Women and girls collecting water at the well and carrying it home in Niger**





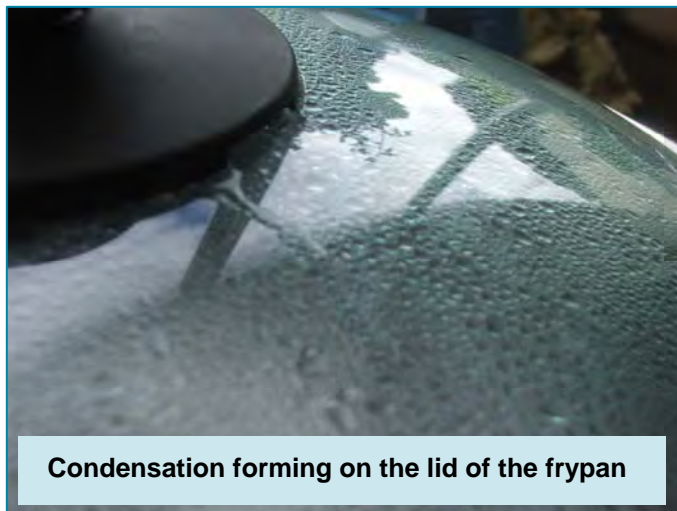
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## Water as a solid, liquid and a gas, and evaporation and condensation

This is an experiment to demonstrate what happens when water is heated.

### Equipment:

- o electric frypan with a glass lid or a pot with a glass lid;
- o if your frypan or pot does not have a glass lid, a metal tray, mirror or similar item that has been in the freezer;
- o water; and
- o ice cubes
- Put a small amount of water (just enough to cover the bottom) in an electric frypan or pot. Heat the water with the lid off, and have your students observe what happens.
- Ask your students what is happening to the water and if they can see the water vapour or steam.
- Boil the water until there is no water left and ask your students where they think the water went.
- Repeat the process but this time put a glass lid on the frypan or pot.
- Discuss what happens as the water vapour or steam rises and explore the idea that water can change from a liquid to a gas and back into a liquid.
- If you do not have a frypan or pot with a glass lid, hold a metal tray, mirror or similar item that has been in the freezer over the water vapour. Do this safely to avoid a steam burn.
- Show your students some ice cubes and ask them to predict what will happen when you heat them up in the frypan or pot with the lid on. Heat the ice to check their prediction.



Condensation forming on the lid of the frypan

## Big ideas

**Water can be a solid (ice), a liquid (water), or a gas (steam).**

**Steam is small water droplets in the air.**

**Evaporation is when water is heated up and turns into steam or water vapour.**

**Condensation is when steam or water vapour cools down and turns into water.**

## vocabulary

liquid  
gas  
steam  
water droplet  
water vapour  
evaporate  
melt

## kupu

wai	liquid
korohū	gas
mamaoa	steam
pata wai	water droplet
tākohu	water vapour
whakaeto	evaporate



# Water is precious — water is wonderful

## Evaporation

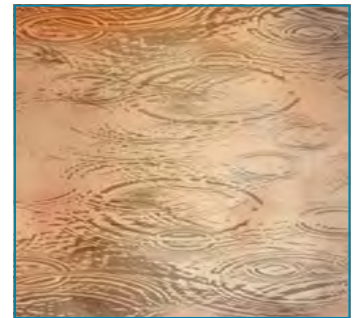
### Natural evaporation using saucers

#### Equipment:

- o saucers or other suitable wide flat containers;
- o teaspoons;
- o water; and
- o suitable outside area on a sunny day.
- Give groups of students two saucers each and have them measure out five teaspoons of water from a water container and put it in their saucers.
- Explain that they are going to investigate what happens when you put the saucers of water in safe spots outside with one saucer in the sun and one in the shade.
- Have the students make a prediction about what will happen to the water, and then test their prediction by checking the saucers over suitable time intervals.
- Discuss your results in terms of heat causing the water to evaporate into the air.
- You could extend this activity by repeating the experiment with some students starting with an ice cube made with five teaspoons of water, and some students starting with five teaspoons of hot water and observing what happens.

### Big ideas

**Water evaporates as the water warms up and the hotter it is the faster the evaporation.**



### Disappearing puddles

#### Equipment:

- o one litre containers of water
- o string
- o outside areas like netball court and garden
- Pour one litre of water onto a sunny area of concrete and another onto an area of garden and use string to outline the boundaries of the puddles. Monitor the puddles and watch as the water disappears.
- Discuss how heat causes evaporation but in the garden some of the water goes into the soil so the water in the garden disappears faster.
- Explore some other surfaces in the school grounds and make predictions about what will happen then test your predictions.



### Big ideas

**Water evaporates but it also goes into ground like soil.**



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## Rain, hail and snow – precipitation

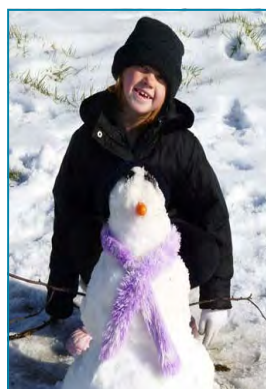
### How clouds work

#### Equipment:

- o cloud cotton balls;
- o tray with water; and
- o photographs of rain, hail and snow.



- Choose a wet day to explore the role of clouds in causing rain to fall. Ask what the sky looks like when it is raining or about to rain. Explain that the water that makes the rain is held in the clouds. When the clouds fill up with water they become so heavy with the water they burst open and rain falls from the sky. If it is very cold the water may fall as hail or snow.
- Give each student a cloud (cotton ball) and ask how it feels. Have your students place the cotton balls in water and watch as they become heavy and filled up with water. Have them describe how it feels and what happens when they pick it up.
- Ask your students to describe what it is like to be out in the rain, or hail or snow. Have them make a drawing and/or story of them and their family, friends and/or pets out in a rain, hail or snow storm and display them on your water wall.
- If you have photographs of a local hail storm or of snow falling in your area discuss them with the students and add them to your water wall.



### Big ideas

**When it rains, hails or snows water falls out of the sky onto the land.**

**This is called precipitation.**

### vocabulary

rain  
hail  
snow  
puddle  
precipitation

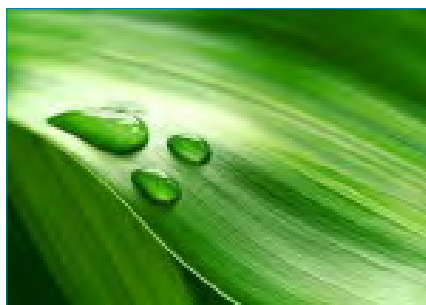
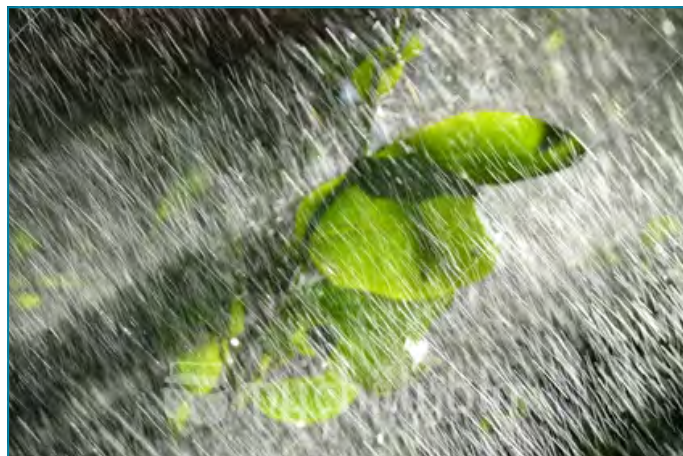
### kupu

ua	rain
ua kōhatu	hail
huka	snow
whakaeto	evaporate
whakauruhi	precipitate
tōhihi	puddle





## Rain, hail, and snow – precipitation pictures





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### How much rain is falling?

In this activity students can use a handmade or commercial rain gauge to measure the rainfall over a specified time.

#### Equipment:

- hand made or commercial rain gauge; and
- access to other weather information if required.
- Explain to your students that you are going to record the amount of rain that falls in a week (or other suitable timeframe) and decide with them if they are going to collect other weather details. Make or gather rain gauges.
- Work out with your students what weather information you will collect and where you will get the information, e.g. observation, newspaper, internet.
- Walk around the school grounds with your students and select some suitable places to set up the rain gauges you have made. Discuss what makes places suitable and not suitable e.g. out in the open, not near a tree that could drop extra water into it, not near a building that might shelter the rain gauge from the rain, or not where students can knock the rain gauge over.
- Set up the rain gauges in suitable places, making sure the gauges are firmly set into the ground so they will not be blown or knocked over.
- Record your weather observations and rain gauge recordings and discuss them and display them. You may choose to make a suitable bar or line graph of the rain gauge records.
- Discuss with your students who might be interested about weekly and annual rainfall statistics.
- If your school collects rainwater discuss how the water is gathered, collected and stored and what it is used for. Find out who collects rainwater at home and how they use it.
- Explain why we usually do not drink rainwater unless it has been specially treated so it is healthy to drink. *(It may have picked up paint particles, dirt or things that make us sick as it goes across the roof, down the pipes or into the tank and drinking it could make us ill).*



### Big ideas

We can measure rain fall using a rain gauge.

#### Making a rain gauge

##### Equipment:

- a large plastic soft drink bottle;
- a ruler;
- a marker pen; and
- a craft knife.
- Cut the top of a plastic softdrink bottle and fit it upside down into the rest of the bottle to form a funnel.
- Use a ruler and marker pen that will write on plastic to mark off a scale on the side of the water bottle every 10 mm.





## Water is precious — water is wonderful

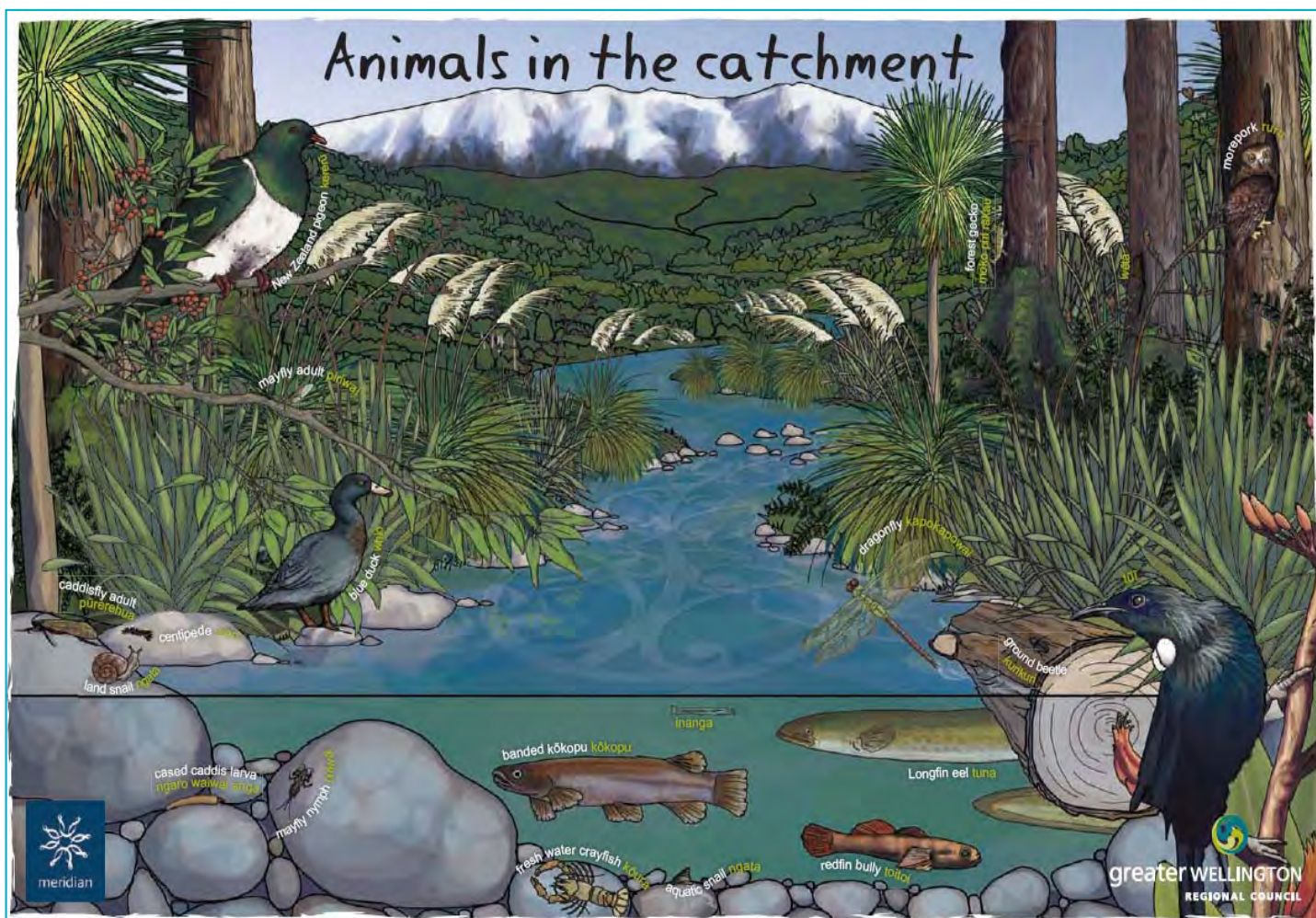
### How water freezes

- Have your students select a number of open containers that can hold water and won't break when FROZEN. Do not use a full glass container as this will break when the water freezes and expands.
- Partially fill the containers with water and put them in the freezer.
- Have your children check and see what is happening to the water in the containers and talk about the processes of freezing - turning liquid water into solid ice.
- Use this illustration of life in a river to discuss how important it is for living things that ice freezes from the top downwards.

### Big ideas

**Ice freezes from the surface down.**

**This means that a pond, river or lake will freeze on the top and the animals can live in the water underneath.**





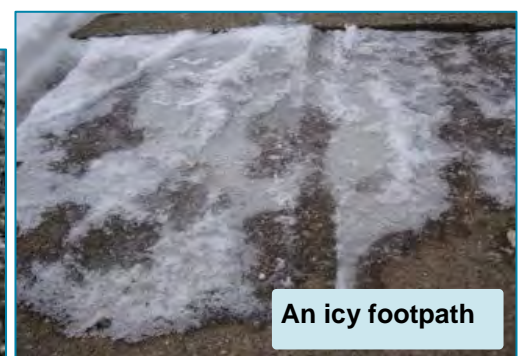
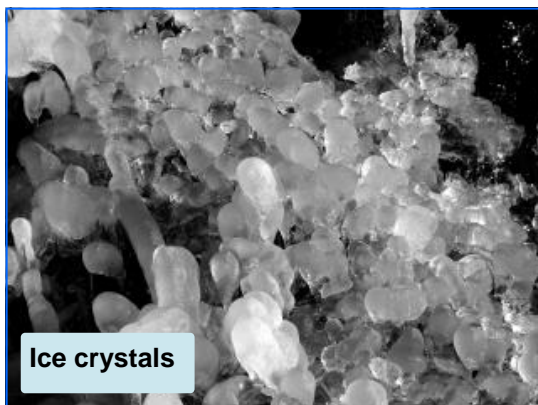


# Water is precious — water is wonderful

## Ice

### Equipment:

- o iceblock containers;
  - o iceblock sticks;
  - o possibly fruit juice or food colouring; and
  - o photographs of ice.
- Make plain water iceblocks with your students.
  - You could discuss the fact that we dissolve other things in water to make flavoured drinks or ice blocks and add fruit juice or food colouring to your iceblocks.
  - Eat and enjoy the ice blocks while discussing where your students might find ice, for example have they smashed the ice on a puddle? What might happen if a road was icy?
  - Use these photographs or any others you have for this discussion.





# Water is precious — water is wonderful

## Songs, poems and games

### Making a rainmaker to use during songs

#### Equipment

- o empty paper towel holder;
- o tissue paper / coloured material;
- o paint brush;
- o glitter glue;
- o water bowl;
- o rice or beans;
- o wax paper; and
- o rubber bands / glue.



- Have your students use colored tissue paper to create a design over the paper towel holder using a paint brush and water to temporarily set the tissue paper in place.
- Once they have all their tissue paper on, take glitter glue and spread it all over tissue paper being careful not to rip the paper as it rips very easily.
- Once dry, have the students take a large enough piece of wax paper to cover one end of paper towel holder and fasten a rubber band and / or use glue to secure.
- Quarter fill your towel holder with rice or dry beans.
- Finally secure the other end with wax paper and rubber bands and / or glue.
- You now have a rainmaker.

### Rain is falling down

*sing to the melody of ‘  
London Bridge is Falling  
Down’*

Lots of rain is falling down  
Falling down, falling down  
Lots of rain is falling down  
And the soil is happy!



### Incy wincy spider

Incy wincy spider went up the water spout.  
*(fingers imitate a moving spider)*  
Down came the rain and washed the spider  
out.  
*(fingers imitate falling rain)*  
Out came the sun and dried up all the rain.  
*(arms make a large circle)*  
And the incy wincy spider went up the spout  
again.



## Freeze and melt - a musical experience

- Explain to your students that they are a raindrop moving through the air and play the xylophone or other suitable instrument and have the students move around as a raindrop.
- Slow the tempo of the music down and tell the students the air around them is getting colder and colder and they are moving slower and slower.
- Slow music right down and tell the students they are turning into ice. Have them freeze into a shape.
- Shake a tambourine or other instrument and tell the students that the sun is shining and the air around them is getting warmer. Play the xylophone or other suitable instrument again as the students unfreeze, become a raindrop and move around again.
- Play the xylophone or other instrument on a rising scale and tell the students that the raindrop is getting hotter and hotter and is evaporating or changing into water vapour and going up, up into the sky. Have them jump, leap or reach up into the sky.
- Use the words solid, liquid, water, steam or water vapour, air and ground and evaporate as you play the game.

## Splash

Rain for the garden,  
(flutter fingers down to the ground)

Rain for the tree,  
(hold arms out like branches)

Rain made the puddle that I didn't see!  
(jump forward)

Whoops! Splash!

*From: Little hands Finger plays and action rhymes  
Emily Stetson & Vicky Congdon*



## Little Raindrops

This is the sun, high up in the sky.  
A dark cloud suddenly comes sailing by.  
These are the raindrops,  
Pitter, pattering down.  
Watering the flowers  
Growing on the ground.

*From: Everyday Circle Times,  
Liz & Dick Wilmes*





## Water is precious — water is wonderful

### A thunderstorm in the forest

This is a dramatic musical recreation of a thunderstorm and the sounds one might hear as the rain, thunder and lightning passes. *Instruments required are drums, rainsticks, bells, cymbals, whistles.*

- Divide your students into five small groups and allocate groups and instruments: whistles (birds), paper pom poms (wind), rainsticks and bells (rain), cymbals (lightning) and drums (thunder). Tell this story:

*As the sun shines down on thick rainforest, warm, dappled light flickers through to the cool, dark undergrowth below. Standing on the rainforest floor, surrounded by soft large ferns and slippery damp rocks you can hear the sounds of life all around. The sounds of birds whistling their beautiful song high in the treetops...*

- CUE your students with the whistles to begin softly playing their instruments.

*The rainforest begins to grow darker and darker as heavy rain clouds fill the sky. The treetops begin to sway back and forth as a cool wind blows between the branches.*

- CUE your students with the paper pom poms to begin playing their instruments.

*The first sounds of raindrops can be heard as the rain clouds begin to burst open.*

- CUE your students with the rainsticks and bells to begin softly playing their instruments.

*The wind blows stronger, the rain begins to fall heavier and a flash of lightning streaks across the sky.*

- CUE your students with the cymbals to begin playing their instruments.

*The lightning crashes and a loud rumble of thunder rolls through the rainforest as the storm covers the sky above.*

- CUE your children with the drums to begin playing their instruments.

*“The wind blows .....the lightning crashes ....the thunder rumbles .....the rain is pouring down .....*

- Have your students make a lot of noise with their instruments, creating a ‘storm’ of sound then place their instruments back on the floor group by group when cued in the story.

*The thunder stops ...the lightning stops ...the wind stops...the rain begins to fall more softly as it pitter patters on the leaves. The rain stops ... the birds begin to sing.*

- Cue your students with whistles to play again.



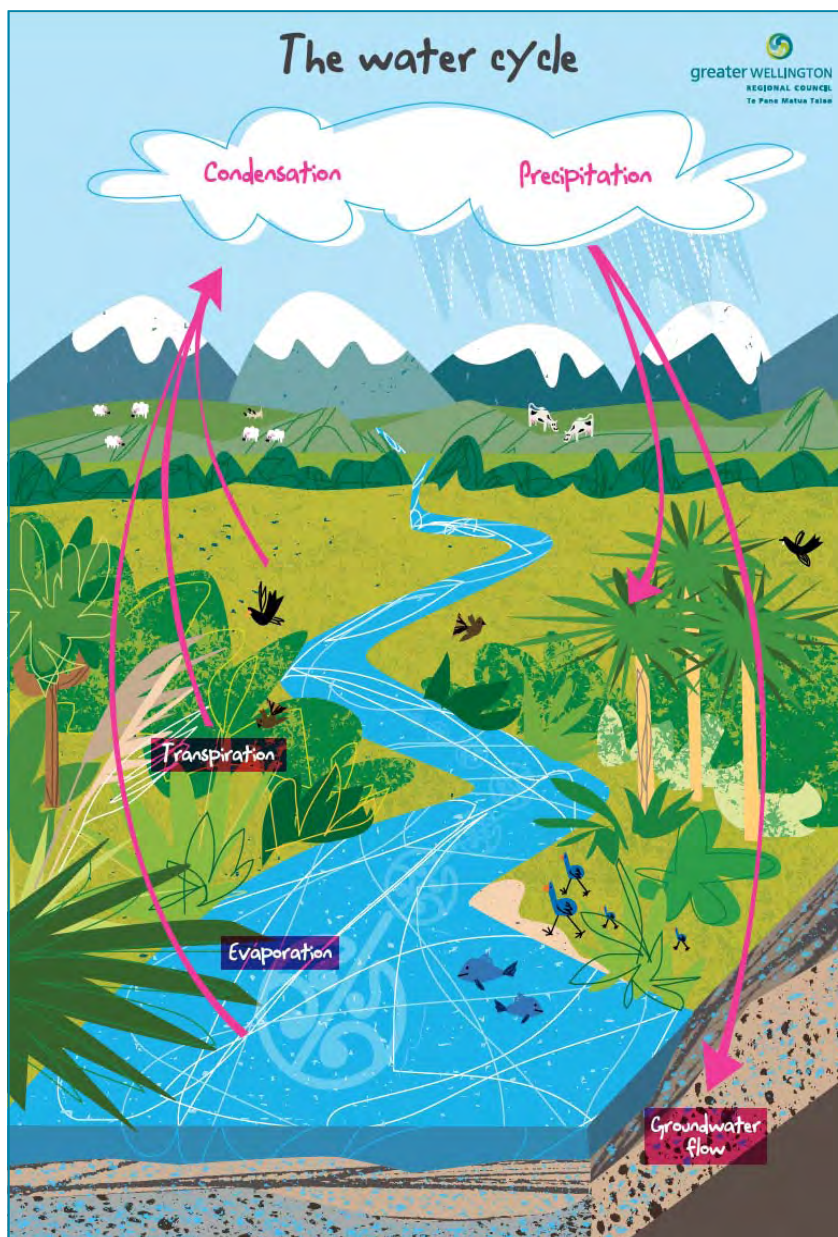


# Water is precious — water is wonderful

## The water cycle

These activities provide an introduction to the water cycle.

- Use this illustration and the explanation that follows on the next page to explain the water cycle to your students.
- YouTube has some animated songs about the water cycle suitable for this age group.



## Big ideas

**Water is cycled around the earth in a water cycle.**

**No new water can be created.**

## vocabulary

water cycle  
evaporation  
condensation  
precipitation  
transpiration

However the water cycle can be explained without using these terms.

## kupu

**mataora wai**  
water cycle

<b>wai</b>	water
<b>awa</b>	river
<b>roto</b>	lake
<b>moana</b>	sea





## Water is precious — water is wonderful

### The natural water cycle

Water falls out of the clouds as rain, hail or snow.

Plants, animals and people use some of the rainwater. Some of the rainwater flows into the creeks and then into our rivers. The water flows into lakes or into the ocean. Some of the water soaks into the earth creating groundwater.

The sun heats up water in rivers, lakes or the ocean and turns it into vapour or steam. The water vapour or steam leaves the river, lake or ocean and goes into the air.

When it gets cold, water vapour in the air gets cold and changes back into liquid, forming clouds. When so much water is stored in the clouds and they cannot hold it any more, the water falls back to earth as rain, hail, sleet or snow.

This means that water is constantly cycled around the earth.

### YouTube

**YouTube has some suitable animated songs about the water cycle.**

### Make your own water cycle

You will need:

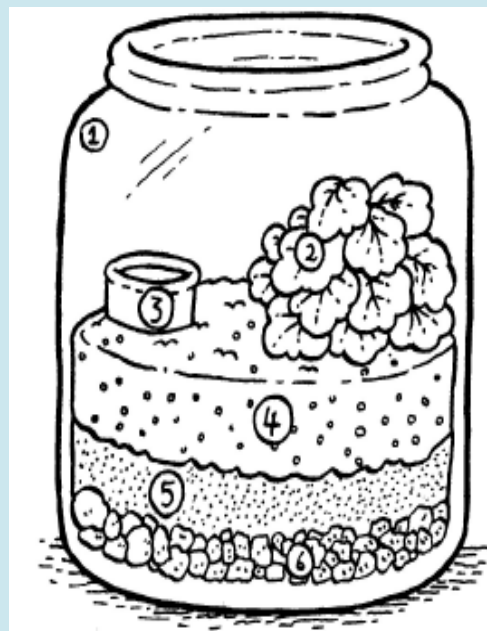
- o jar with a lid, or use kitchen foil as a lid;
- o plants;
- o bottle cap or shell of water;
- o soil;
- o sand; and
- o small rocks.

Have your students fill the jar as in the picture and put the lid on or stretch kitchen foil tightly over the top and secure with an elastic band.

Put the jar in a sunny place and see how the water cycle works.

Discuss what is happening with your children in these terms:

- plants need water to live;
- plants get water from the soil;
- water falls from the sky onto the soil;
- when it is sunny water evaporates or returns to the air;
- when it is cold water falls as water droplets onto the ground or soil; and
- the plants are able to live for a long time because the water is going around in a cycle.







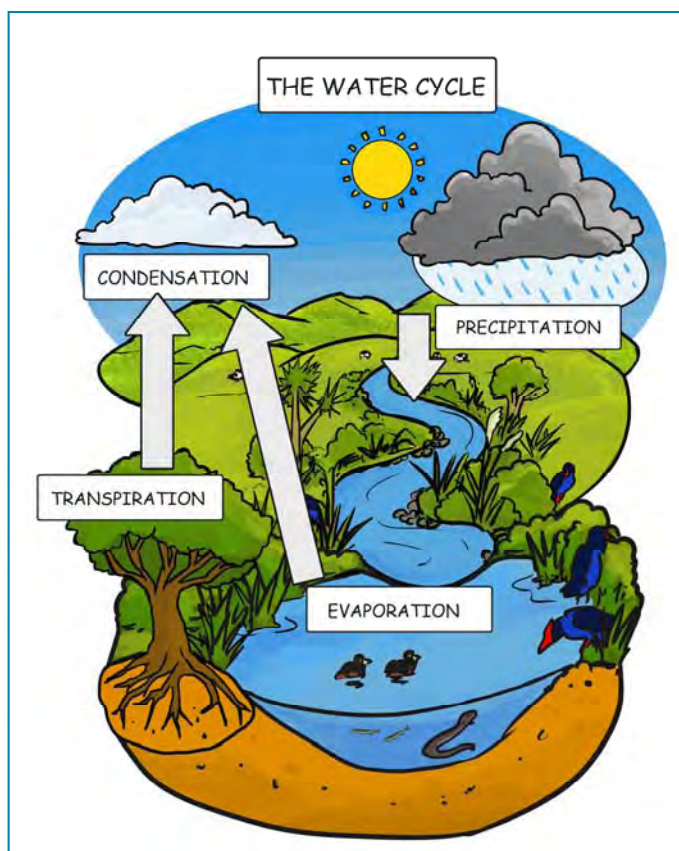
## Water is precious — water is wonderful

### Understanding the water cycle with Drippy the Raindrop

- Read *Drippy the Raindrop to the mountains and back* and *Drippy the Raindrop and the land of snow and ice* with your students.
- Create some more *Drippy the Raindrop* stories and ask your students to give Drippy some adventures as he passes through the water cycle, e.g. he lands on a dog, is shaken onto the ground, then drunk by a sheep or cow, passed out as urine and evaporated back into the clouds.
- Act out some of the *Drippy the Raindrop* stories or make artworks about Drippy's life as a raindrop.

### Reading about water and the water cycle

Use the book list provided to purchase books or borrow books at the Kāpiti Libraries to locate suitable reading material for your class.



### Recreating the water cycle on the white board or magnetic board

Place magnetic strips on the illustrations on the next two pages and have your children recreate the water cycle on the white or magnetic board.

### From the mountains to the sea

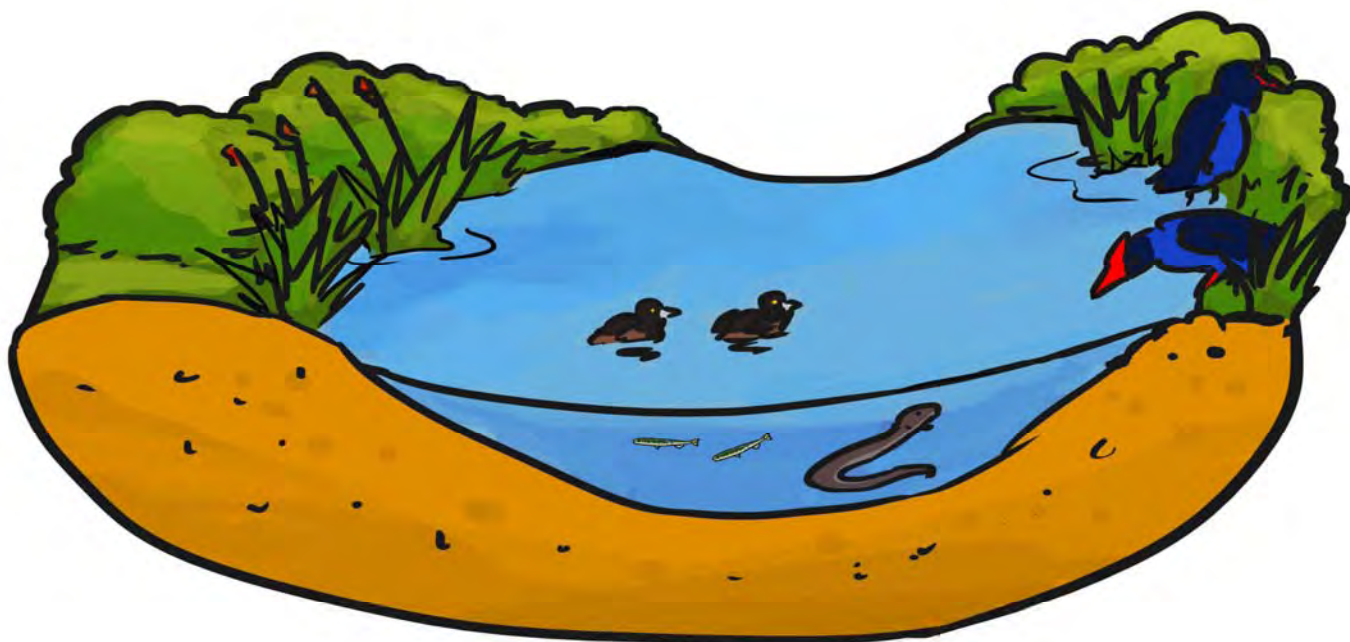
Use one or more of your walls to illustrate the journey of a water droplet starting in the clouds, falling onto plants on a mountain or hill, being washed down a stream or river and out to the sea.



Use this outline of a water droplet in your students' art work.



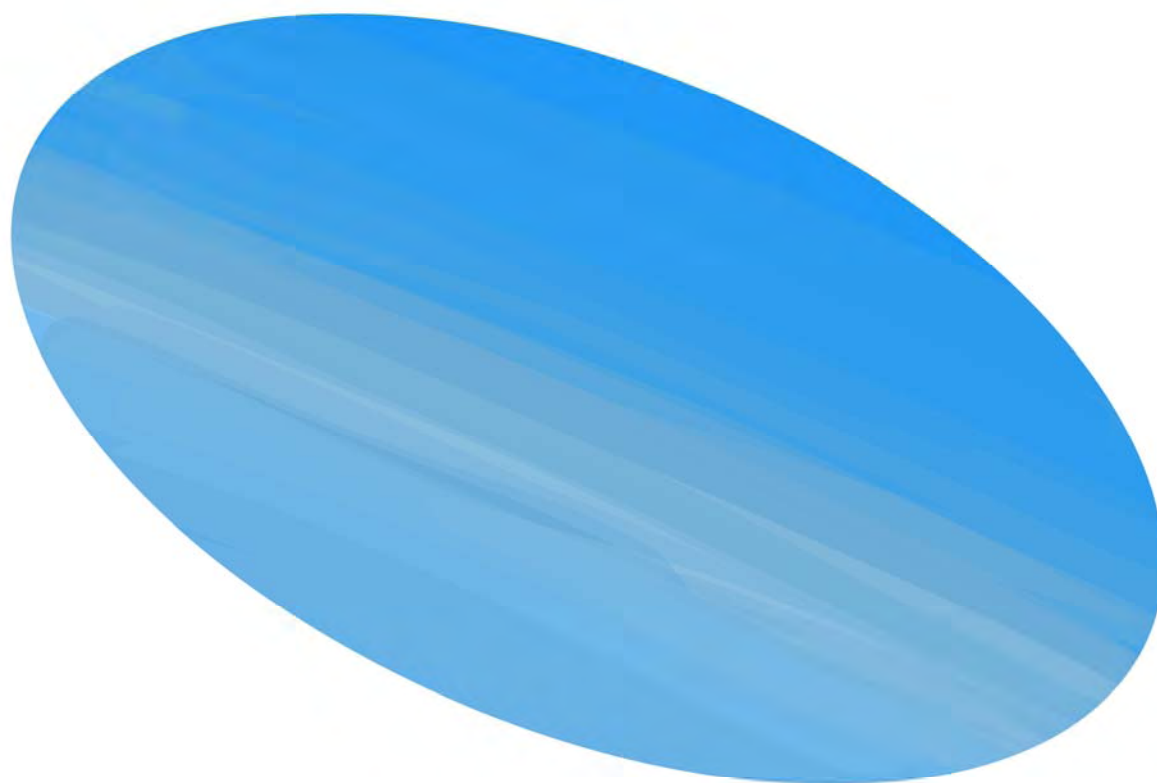
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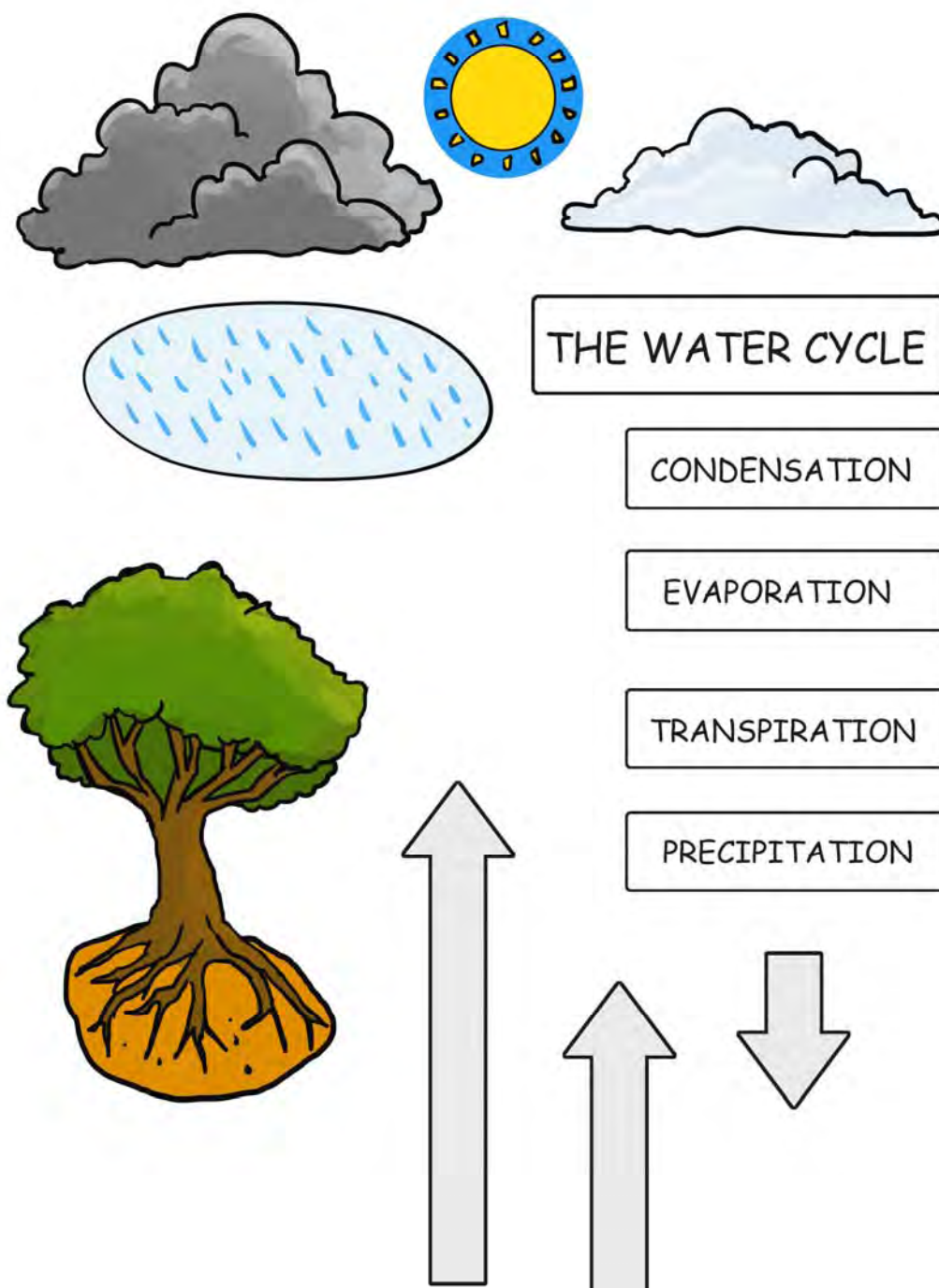
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Water is precious — water is wonderful





# Water is precious — water is wonderful

## Section 3: We need water to live

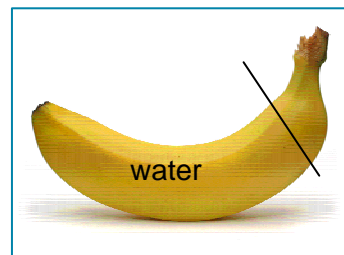
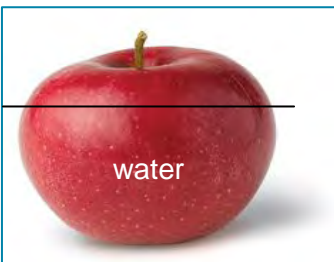
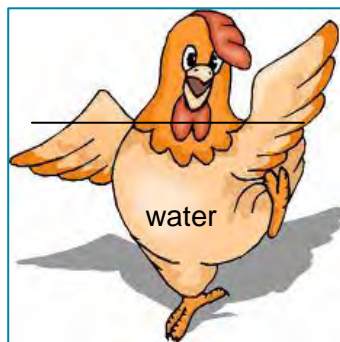
In this section students explore the idea that all animals and plants need water to live.

### How much of a person and some food items is water?

#### Equipment:

- o drawing paper; and
- o crayons, felt tips or paint.
- Choose one student and ask them to stand at the front. Ask the other students how much water there is in that child. If you had to fill them up with water where would the water come up to – their ankles, their knees, their hips, their armpits, their eyes or right over their head? The answer is 70% of a person is water and that would be up to a person's armpits.
- Explain that we must drink water everyday to be healthy. Sometimes we drink water, but sometimes we drink water when we drink milk or fruit juice. We also get water from the food we eat.
- Your students can draw and colour pictures of a human being and some of the other examples below. They can draw a dotted line at the level the water percentage represents.
- Here are some figures that you can use to give an idea of how much water each item consists of, and why everything depends on water:

◇ Lettuce	96% water
◇ Apple	85% water
◇ Pineapple	80% water
◇ Broccoli	91% water
◇ Banana	76% water
◇ Milk	87% water
◇ Chicken	75% water
◇ Ham	54% water
◇ An elephant	70% water
◇ A cob of corn	80% water



## Big ideas

**Water is essential to plant and animal life.**

**The human body is 70% water and water makes up more than half our body weight.**

**Water is the main component of each of our 100 billion body cells.**

**We cannot last for more than four to six days without drinking water or obtaining water from food.**



# Water is precious — water is wonderful

## Water in our bodies

### Equipment:

- small mirrors that have been placed in the freezer to make them cold
- Ask your students to think about how water gets into their body, for example when we:
  - ◇ drink water;
  - ◇ drink other liquids like milk or fruit juice that have a lot of water in them; and
  - ◇ eat food, as all food contains water.
- Discuss how we lose water, for example when we:
  - ◇ breathe out;
  - ◇ go to the toilet;
  - ◇ sweat;
  - ◇ cry; and
  - ◇ sneeze.



- We all breathe out water vapour. Normally we cannot see the water we breathe out; it is invisible. On very cold days we can see it; it looks like steam coming out of our mouth every time we breathe out.
  - Show your students that they breathe out water by placing a number of small mirrors in the fridge for an hour to chill. Have them breathe hard on the cold mirrors and discuss what happens (*the mirror mists over when the warm water vapour in our breath hits the cold mirror, and forms tiny droplets of water. This is called condensation*).
  - Ask your students if their windows at home are steamed over in the mornings when they wake up and if they know where those water droplets came from.
- The water droplets came from their family's breath while they were asleep. When the air outside is colder than the air inside, the water vapour from our breath condensates or gathers on the windows as it cools down.

## Big ideas

**Water enters our bodies when we drink water, or drink other liquids like milk or fruit juice that have a lot of water in them and when we eat food.**

**All food contains water.**

**Water leaves our body when we breathe out, go to the toilet, sweat, cry, and sneeze.**







# Water is precious — water is wonderful

## Plants need water to grow

### Equipment:

- o suitable containers;
- o potting mix;
- o radish seeds; and
- o water.

- Let your students work in groups and prepare three containers of soil.

**Container 1** Plant some radish seeds in a container with dry soil.

**Container 2** Put the same number of seeds in another container of dry soil and then water the soil.

**Container 3** Put the same number of seeds in a container with soil and soak the soil so that there is a water puddle on top of it.

- Keep the plants indoors or in a green house or suitable growing area and water **Container 2** with a small amount of water each day. Keep **Container 1** dry and keep the container very wet e.g. under a layer of water if possible.
- Have your students observe the containers and discuss what happens.
- If your school has a school garden use this to demonstrate and discuss growing things we eat and how we make sure the growing plants get water, especially in the summer. You can talk about mulching and how to water effectively.
- Discuss how gardeners make sure gardens do not get too much water.
- Explain that plants take in the water (absorb) they need from the ground through their roots. Use picture books to demonstrate the growing cycle.
- If your school does not have a garden and growing things is not an experience your students are familiar with, then you could have the Green Gardener visit and help you to set up a suitable school garden that can use rainwater to provide water for the growing plants.
- Alternatively you could set up a growing area in your classroom or in a suitable outside area and grow either flowers or vegetables from seed.

## Big ideas

**Plants need water to grow.**

**Plants can have too much water and die.**



**Rain barrels in the Raumati South School garden**





## Water is precious — water is wonderful

### Animals need water to live

- If your class or any of the students have a pet or maintain a fish tank discuss what your class or your students and their families do to keep their pets healthy.
- Discuss why you make sure animals have clean drinking water or clean water to live in, and what would happen if an animal could not get water to drink for over a week. *They would get sick and die.*
- Make sure your students understand that they and other animals need to drink water every day to be healthy.
- You could extend this unit by exploring the plants and animals that live in a specific water environment e.g. aquarium, pond or rock pool or ocean.

### Big ideas

**Animals need water to live.**

**Some animals are adapted or suited to live in aquatic environments.**







## Water is precious — water is wonderful

### Section 4: Three waters – drinking water, stormwater and wastewater

In this section students explore drinking water, stormwater and wastewater.

#### Safe drinking water

##### Equipment:

- o a glass of water; and
- o small samples of soil, paint, cooking oil and detergent.
- Demonstrate creating a glass of very dirty water by putting soil, paint, cooking oil and detergent in glass of water. Pretend to drink the water and discuss your students' reaction to establish why we should not drink dirty water.
- Explain that it is safe for us to drink water out of the tap because it has been treated to make sure it will not make us sick. If we drink water from rivers or streams or some rainwater it might make us sick. If your school collects rainwater for the garden, explain why you do not drink the water.
- Discuss why you do not drink water from the toilet, bath or shower water, or water from the sink, dishwasher or washing machine.
- Take some photographs of students drinking water at your school.
- Walk your students around the school and have them locate where there is water they can drink and identify water that is not safe to drink and why it is not safe to drink.
- Discuss why it is not a good idea to share your drink bottle with a friend. If you have a germ that could give you a cold or the flu, you could pass it on to your friend when they drink from your water bottle.



#### Big ideas

**Water from the tap has been treated to make it safe to drink.**

**Not all water is safe to drink.**

**We could get sick if we drink water from toilets and basins.**

**We should not share our water bottles because sharing water can spread germs (disease-causing organisms) that can make us sick.**





# Water is precious — water is wonderful



## Where does our water come from?

### Equipment:

- o tap;
  - o a glass of water; and
  - o illustration *Our water supply*.
- Demonstrate turning on the tap and filling up a glass of water and ask your students where they think the water comes from.
  - Use the illustration *Our water supply* to demonstrate where the water comes from. Use the appropriate explanation for your area of the Kāpiti Coast.
  - Have your students cut out the illustrations and create a water supply system that takes water from a river or a bore system to their house.
  - Have your students draw themselves and create a story about themselves and their family using the water.
  - Have your students cut out the illustrations and create a water supply system that takes water from a river or an underground system to their house.
  - Have your students draw themselves and the family using the water, write suitable captions and display the pictures.

Rain falls on the land and it goes into streams and rivers. Some goes under the ground.

In Waikanae we take water out of the river and treat it at the Waikanae Treatment Plant to make it safe to drink. The water is piped to reservoirs or large tanks where it is stored. Then the water is piped into our houses. We turn on the tap and drink safe water.

Some summers we need to use ground water as well as river water. We leave water in the river so that plants and animals can live there and people can use and enjoy the river. The river flows into the ocean.

In Paekākāriki the water we drink comes from a stream and from under the ground. It is treated before we drink it.

In Ōtaki the water comes from under the ground. It is treated before we drink it.

### Big ideas

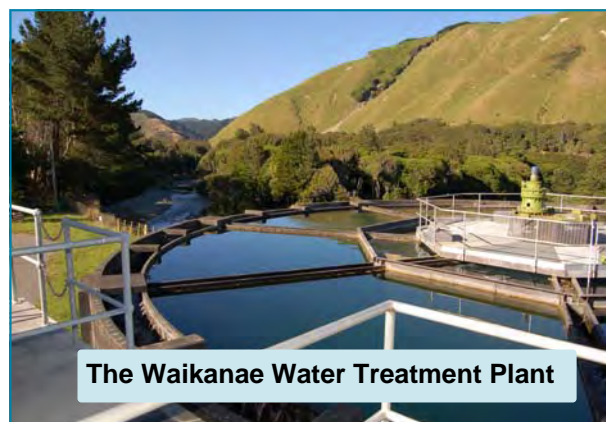
**Water is treated at a water treatment plant so it is safe to drink.**

**Water is stored in large reservoirs on the tops of hills.**

**Water is piped into our homes.**

### Teacher information

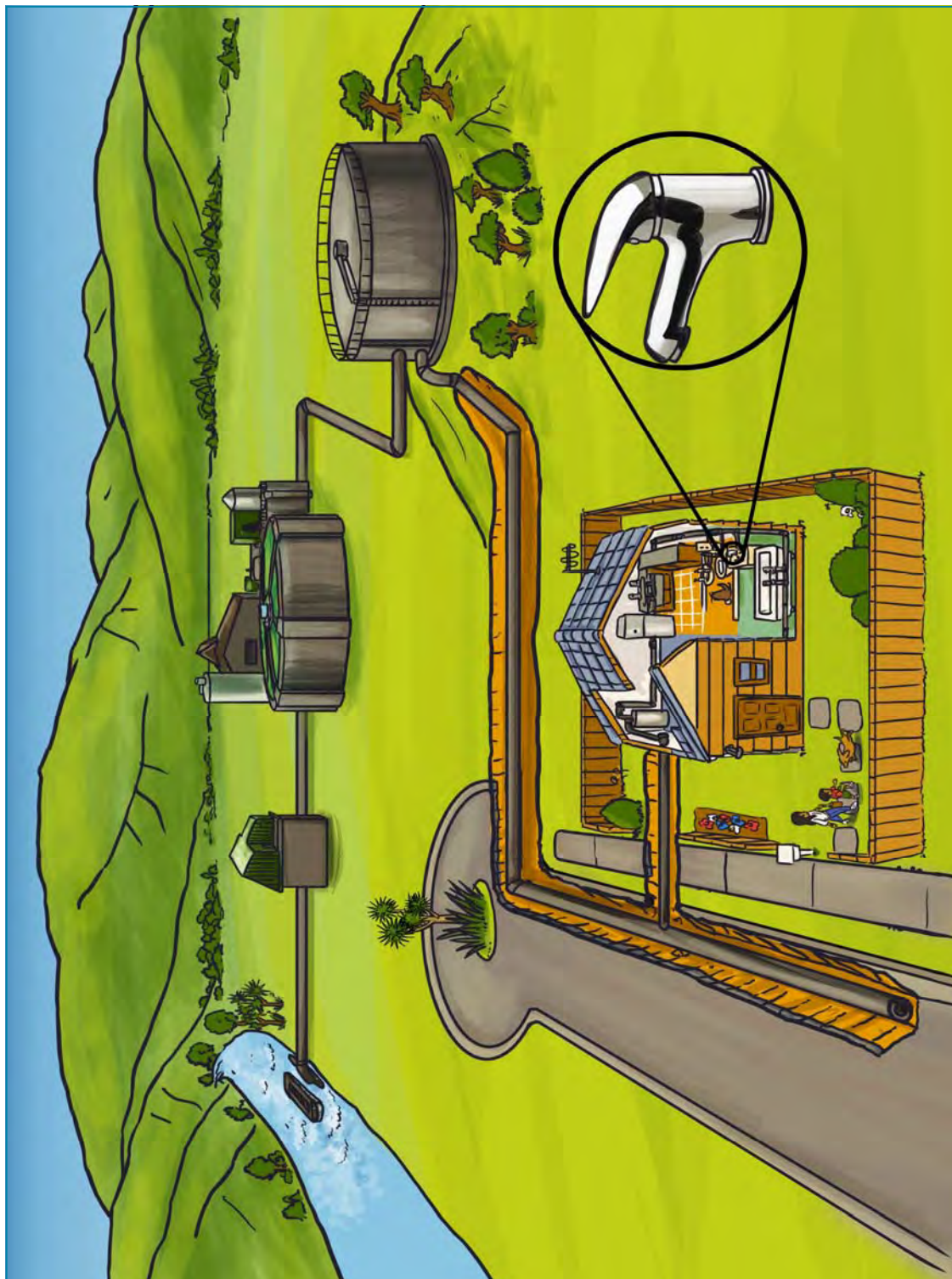
**Teachers may want to watch the 10 minute video clip *Our safe drinking water* at [www.kapiticoast.govt.nz](http://www.kapiticoast.govt.nz) to see how water is treated on the Kāpiti Coast.**



The Waikanae Water Treatment Plant



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Produced by Kāpiti Coast District Council.  
[www.kapiticoast.govt.nz](http://www.kapiticoast.govt.nz)

***Water is precious — water is wonderful***



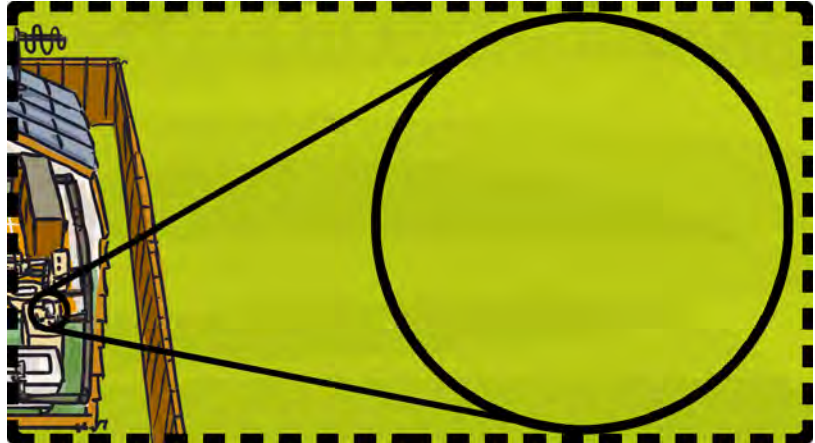


***Water is precious — water is wonderful***





Water is precious — water is wonderful





# Water is precious — water is wonderful

## Stormwater

### What is stormwater?



Installing new stormwater pipes

- Take your students outside after rain and observe your guttering and pipes taking stormwater to the stormwater drains. Ask your students what they think is happening and where they think the water is going. *It is untreated water that is returned to waterways like rivers, lakes and the sea.*
- Go outside the school and observe the water in the gutter flowing into a stormwater drain and review what is happening to the water.
- Ask what could happen if there was a very big storm, or the guttering broke or the drain blocked and discuss the term stormwater and ground that is flooded or has water lying on it.

### Big ideas

**Stormwater is water that falls to the ground in a big storm.**

**If too much rain falls in a storm, then the land and our homes can get flooded.**

**We have stormwater systems (drains and pipes) to make sure that stormwater can be collected and returned to rivers, lakes and seas.**

**We need to keep stormwater clean so that it does not harm plants and animals when it is returned to the rivers, lakes and seas.**

**To keep stormwater clean, we do not pour things such as paint, oil and detergent down the drain.**

### What happens to stormwater?

#### A stormwater drain



The Council provides and maintains stormwater systems to take untreated stormwater off the land into the stormwater drains and back to rivers, lakes and seas.

When people wash their cars and let the water reach the stormwater drain, or wash paint brushes or oily containers under the outside tap they are polluting the water that enters the stormwater system. The polluted water can affect plant growth and animal life when it is returned to rivers, lakes and seas.

Sometimes we have such a big storm that the system can't take all the water away and we have a flood.







## Water is precious — water is wonderful

### Stormwater systems and floods

- Ask the students if they have seen a flood, or seen water being pumped away after a flood. Use the photographs supplied here and any photographs your students have to discuss what can happen in a flood.
- Ask your students what would happen if their family washed their car on the driveway or by the side of the road. Where would the water go?
- Discuss why you do not put things like paint, detergent or oil into the stormwater drains.



Photographs from the Paekākāriki flood of October 2003







## Water is precious — water is wonderful

### Wastewater

- Ask your students what they think happens to the dirty water from the toilet, basin or sink. Select a correct explanation about how wastewater is treated in your area and discuss it with your students.
- Ask your students what would happen if we put all our dirty water back into rivers and the sea without cleaning it. *Dirty or polluted water can kill plants and animals, make us sick, change the physical nature of the water and the land around the waterway, make the water unattractive to look at or play in or on, and destroy or disrespect our precious tāonga.*

### Treating wastewater

Wastewater including sewage from Waikanae, Paraparaumu and Raumati is treated at the Paraparaumu Wastewater Treatment Plant. Clean water is returned to a local waterway and makes its way to the sea.

Ōtaki wastewater and sewage is treated at the Ōtaki Wastewater Treatment Plant and the clean water is returned to the land.

People in Paekākāriki and in rural areas do not have a community wastewater treatment plant. These households use septic tanks or other on site waste water treatment systems. where a household's sewage is collected in an underground tank, treated and released on the household property.

### Big ideas

**The water in our house that comes from the toilet, bathroom and laundry is called wastewater.**

**In most of the Kāpiti Coast wastewater is collected and treated to make it clean and then the clean water is returned to wetlands or to the land.**

**If we put dirty water like toilet waste or sewage back into our rivers and seas plants and animals could die, and animals and people could get sick.**



The Paraparaumu Wastewater Treatment Plant

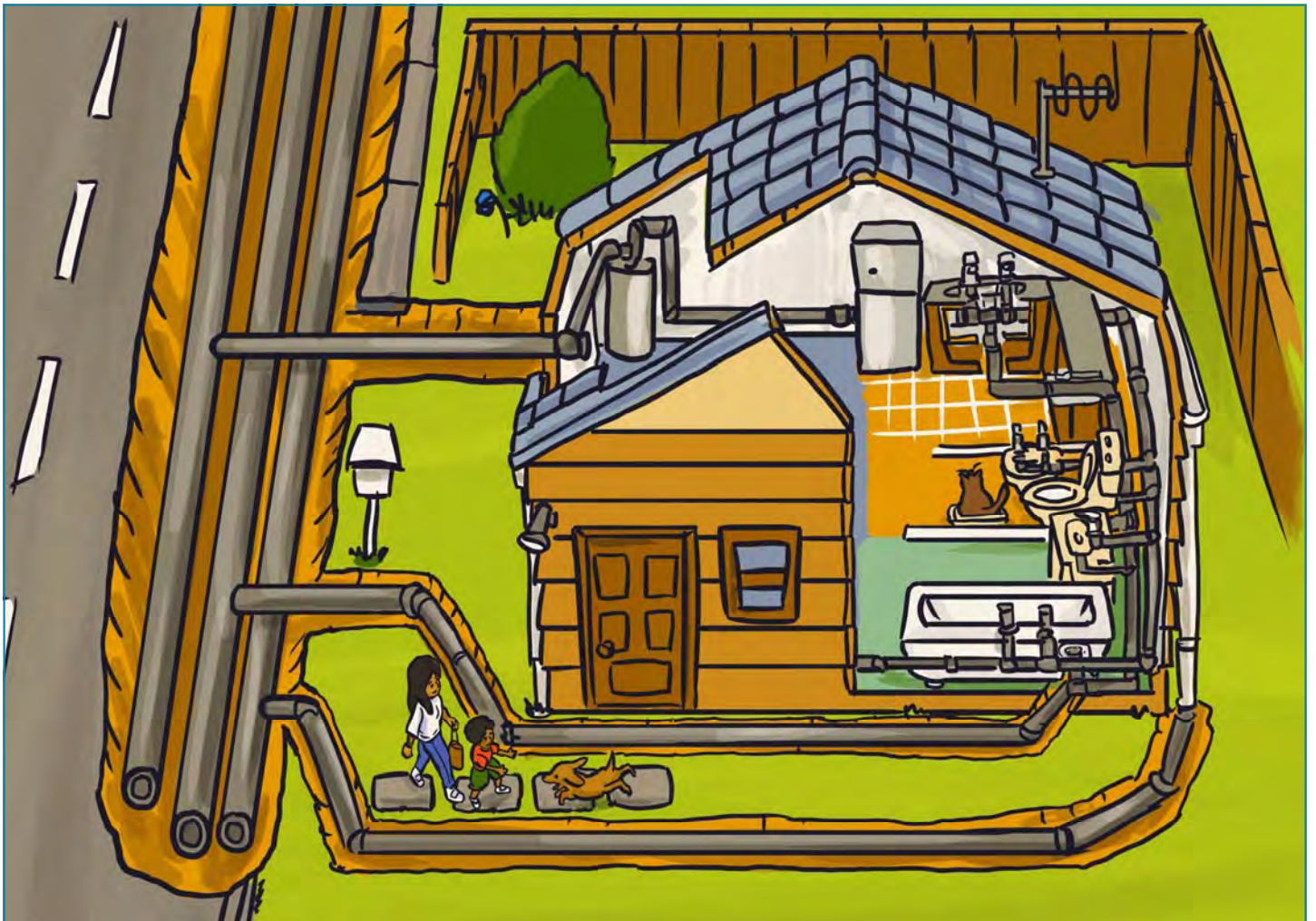


## Water is precious — water is wonderful

### Water coming into and leaving our house

Use this illustration to demonstrate:

- drinking water coming into house after it has been treated, stored in a reservoir and piped into the house;
- stormwater coming off the house and going back to a stream or wetland; and
- wastewater from the toilet going to be treated at a wastewater treatment plant or running into a septic tank.







## Water is precious — water is wonderful

### Section 5: Being waterwise and conserving water

In this section your students explore what we use water for and ways to be waterwise and conserve water.

#### What do we use water for?

- Take your class around the school and explore all the ways your students and the school use water. If you use, rainwater or bore water explain what you use this water for and why.
- Take photographs of your students and/or school staff using the water and make a photograph display of how your school uses water.
- Ask the students to describe other ways they use water at home, or when they are out playing or having fun e.g. swimming pools, activities at the river and at the beach.
- Use the provided photograph sequence to stimulate discussion.

#### Greywater

Greywater is the wastewater that comes from activities such as washing ourselves, our clothes and dishes.

Greywater does not include toilet or kitchen water.

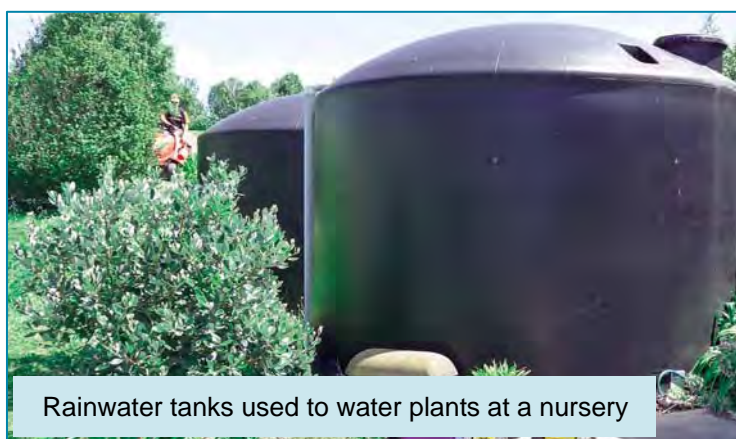
It is water that can be recycled for watering gardens (but not on vegetables). You can use greywater by watering plants below the ground.

Greywater is only suitable for a household **but not for a school** because unlike a household with one family, a school has too many people. To use greywater safely in a school you will need a specially designed system.

#### Big ideas

We can use water:

- to drink;
- to wash ourselves and keep us and our animals healthy;
- to put fires out;
- to clean things;
- for plants and animals to live in;
- for recreation or for activities in, on or under water;
- to appreciate;
- for cultural ceremonies; and
- for spiritual value.



Rainwater tanks used to water plants at a nursery





Water is precious — water is wonderful



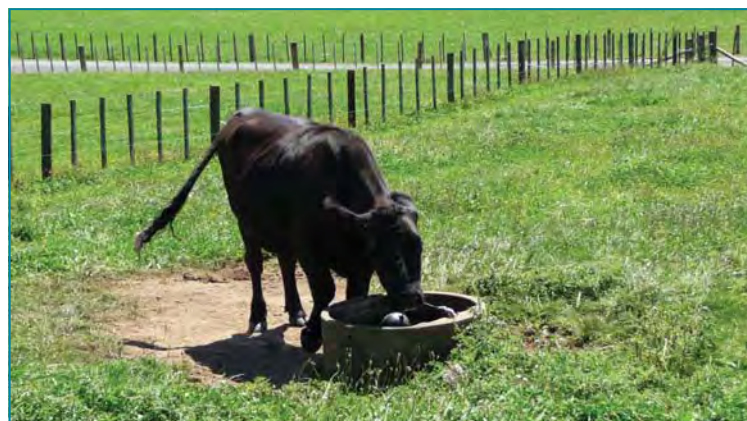
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***Water is precious — water is wonderful***





Water is precious — water is wonderful







Water is precious — water is wonderful



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**Water is precious — water is wonderful**





# Water is precious — water is wonderful

## Being waterwise

- Introduce the term 'being waterwise', or using water wisely and not wasting it.
- Take a walk around the school looking at every place where you use water. Discuss what you could do to waste water and what you could do to be waterwise and save water. Include actions your school staff take like filling up a dishwasher before they turn it on, using rainwater to water gardens, and growing plants that don't need a lot of water.
- Discuss why it is important that we wash our hands when they are dirty and after we have been to the toilet and demonstrate and have your students practise the waterwise hand washing way.

## Being waterwise at home

- Let your parents know that their children will be coming home and discussing ways the family can save water and send home the pamphlet *Saving water, especially in the summer months*.
- Ask your students to discuss being waterwise at home and then record the ideas that they come up with to save water. Make sure their ideas include turning the tap off and telling Mum or Dad if a tap is dripping or is accidentally left on.

- Talk about brushing teeth and explain that you can save water if you don't turn the tap on until you want to rinse the toothpaste out of your mouth.
- If your school has dual flushing toilets, discuss the flush buttons on the toilet and make sure your students know to use the appropriate flush.
- Set up some play situations where your students can role play being waterwise and talk about what they are doing to be waterwise.
- Focus on a targeted praise and reward system where students are praised when they are observed to be waterwise.



## Big ideas

**Being waterwise means taking actions to use water wisely or save water.**

**We can all save water at home and at school.**

## Waterwise hand washing

- Turn the tap on slowly and moisten hands.
- Turn the tap off while thoroughly soaping and rubbing hands.
- Turn the tap on again and rinse hands.
- Turn the tap off.
- Check that the tap is off and not dripping.





# Water is precious — water is wonderful

## Being waterwise in our school gardens

Visit your school garden and discuss with your students what you do to grow plants in ways that save water.



Kapanui students with their butterfly garden



Growing plants that do not need a lot of water

**Drink water every day.**

**Make sure your students understand they are not being waterwise if they stop drinking water.**

**We need to drink water to be healthy.**



## This Is The Way We Save Our Water

*Sing to the melody of 'This is the way we wash our hands.'*

Turn off the tap when you brush your teeth,  
Brush your teeth, brush your teeth.  
Turn off the tap when you brush your teeth,  
Early in the morning.  
Just a little flush when we use the toilet,  
Use the toilet, use the toilet.  
Just a little flush when we use the toilet,  
Early in the morning.  
We wash our car on the grass,  
On the grass, on the grass.  
We wash our car on the grass,  
Early in the morning.  
I'm helping all of us to save our water,  
Save our water, save our water.  
I'm helping all of us to save our water,  
Early in the morning.



Kapanui School's rain tank to water their garden





# Water is precious — water is wonderful

## Section 6: Taking action to use water wisely

In this section your students focus on what they and their families can do to be waterwise and conserve water.

### Taking action to conserve water

- Send a letter home explaining that your students are learning to be waterwise and conserve water. Ask parents and caregivers to go around their house and discuss sheet *Using water in the home*.
- Ask the parents or caregivers to identify one action their child can take to save water and to praise the child whenever they observe their child taking that action.
- Discuss with the students what they are doing to be waterwise and save water.
- Have your students create artworks that finish the starter sentence:  
*I save water when I ...*
- Have your students create plays that complete these sentences:  
*Our family saves water when we ...*  
*Our school saves water when we ...*
- Show your parents and caregivers :
  - ◊ what your students have done as they have learnt about valuing and conserving water; and
  - ◊ what your school does to value and conserve water.
- If your families are interested, work with the Water Education Facilitator to hold a meeting at your school (or join with other families with young children) to find out how they can conserve water, make homes more energy efficient and reduce waste.

## Big ideas

**We can all save water.**

**Every drop counts.**





# Water is precious — water is wonderful

## Using water in the home

### Water use area



### How much does the average home use?

Garden hose hand held up to 900 litres per hour.

Garden hose sprinkler up to 1,300 litres per hour

Garden hose, uncontrolled up to 2,000 litres per hour.

### What can we do to reduce our use?

- Water early morning or late at night to avoid evaporation.
- Mulch your garden.
- Avoid overwatering.
- Use greywater and/or rainwater to water your garden.
- Use a soaker hose.



Shower at 6 litres per minute for 5 minutes uses 30 litres .

Shower at 18 litres per minute for 5 minutes uses 90 litres.

- Take shorter showers.
- Change your showerhead to one that produces a lower flow rate.



A full load in a top loader uses 130 litres or more.

A full load in a front loader uses approximately 50 to 70 litres.

- Wash with a full load or use economy settings for part loads.
- Buy a washing machine with at least a four star WELS rating.



The average single flush toilet uses 11 litres per full flush.

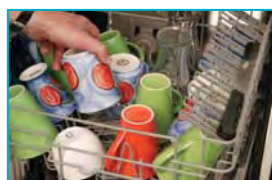
Modern dual flushing toilets use only 3 to 6 litres per flush.

- Use the dual flush appropriately.
- Install a dual flush toilet.
- If you have a single flush toilet install a Council supplied lead weight to manage the flush.



A tap that loses 2 drips per second can lose up to 380 litres per month send 15 to 30 litres of water down the drain every day.

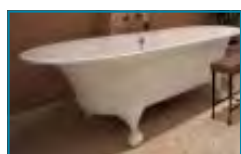
- Fix dripping taps.
- Don't leave the tap running when you clean your teeth.
- Don't leave the tap running to rinse the dishes or when you peel vegetables.



A dishwasher uses approximately 28 to 40 litres per wash cycle.

The kitchen sink holds 14 litres.

- Run the dishwasher with a full load of dishes.
- Buy a dishwasher with an three star water WELS rating.
- Wash the dishes in a half full sink instead.



A bath uses 80 to 200 litres of water depending on size.

- Consider showering instead of taking a bath.
- Use less water in the bath.