



waterwise Queensland

years
2 and 3

Water:
Learn it for life!

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A CD-ROM of these resources is available from:

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Water: o o Learn it for life!

years
2 and 3
units 1-2

Water is wonderful. Just stop and think of all the ways we use it ... we couldn't live without it. Everyone in the community is responsible for using water wisely at home, at school and at their workplace.

Unit 1—Wonderful water

Teacher information

Wonderful water	1
Introduction.....	1
Key concepts	1
Essential Learnings for this unit	2
Assessment overview	3
Essential Learnings for assessment	3
Assessable elements.....	4
Linking locally	4
Taking action	4
Unit overview.....	5
Resource 1—Student assessment task.....	6

Teaching and learning sequence

Lesson 1—Wondering about water	7
Resource 2—Wonderful water.....	9
Lesson 2—Water walk.....	10
Lesson 3—Rain, rain	12
Session 1—It’s raining	12
Session 2—Groundwater	14
Resource 3—Rain, rain	15
Resource 4—PrimaryConnections team roles and skills	16
Resource 5—PrimaryConnections role badges	17
Lesson 4—Go with the flow	18
Lesson 5—My water story.....	20
Resource 6—My water story.....	22
Lesson 6—Investigating water use at home.....	23
Session 1—Water detectives	23
Session 2—Graph it.....	24
Resource 7—Home water use detectives.....	25
Lesson 7—Community water use.....	26
Session 1—Interview planning	26
Session 2—Guest speaker	27
Lesson 8—Informative interviews.....	28
Resource 8—Guide to making judgements	30

Unit 2—Whizzy’s Waterwise experts

Teacher information

Introduction.....	31
Key concepts	31
Essential Learnings for this unit.....	32
Assessment overview	33
Essential Learnings for assessment.....	33
Assessable elements.....	34
Linking locally	34
Taking action.....	34
Student assessment task	35
Unit overview.....	36

Teaching and learning sequence

Lesson 1—Giving water use the slip	37
‘Whizzy’s Waterwise experts’ activity.....	38
Alternative ‘Whizzy’s Waterwise experts’ activity	39
Resource 1—Learning journey map	41
Resource 2—A letter from Whizzy	42
Lesson 2—Going on a water walk.....	43
Lesson 3—Using water wisely	45
Lesson 4—Poster talk	47
Resource 3—Poster evaluation sheet.....	49
Lesson 5—Water expert training session	50
Session 1—What we’ve learned	51
Session 2—Workstations	51
Resource 4—Looking at leaves (Workstation 1)	53
Resource 5—Water in me (Workstation 2)	54
Resource 6—How plants drink (Workstation 3)	55
Resource 7—A water cycle poem (Workstation 4).....	56
Resource 8—Just add water (Workstation 5)	57
Resource 9—Waterwise expert’s learning grid	58
Lesson 6—Making a poster plan	59
Resource 10—Waterwise expert’s job sheet.....	61
Resource 11—Technology design cycle	62
Lesson 7—Poster time.....	63
Resource 12—Parent’s poster evaluation sheet	65
Lesson 8—Posters on parade.....	66
Lesson 9—Saying goodbye to Whizzy (optional activity)	68
Resource 13—Guide to making judgements	70

Unit 1: Wonderful Water

Note: The ‘Wonderful water’ unit is adapted from ‘Water works’, a PrimaryConnections unit (Australian Academy of Science, 2006). We gratefully acknowledge the support of the Australian Academy of Science <www.science.org.au> in making its publications available to us for scientific educational use. Australian Academy of Science PrimaryConnections was funded by the Australian Government Department of Education, Science and Training as a quality teacher initiative under the Australian Government Quality Teacher Programme <www.qualityteaching.dest.gov.au>. Further information about PrimaryConnections can be found at <www.science.org.au/primaryconnections>.

‘Wonderful water’ incorporates assessment ideas based on the Queensland Studies Authority (QSA) Queensland curriculum framework.

Introduction

This unit provides opportunities for students to develop an understanding of, and an appreciation for, a precious natural resource—water. Through investigations, students explore how water is used, where water comes from, and how to use it responsibly.

Key concepts

- Water is found in many places.
- Water can be used in many ways.
- There are things we can do to conserve water.

❖ Essential Learnings for this unit—by the end of Year 3

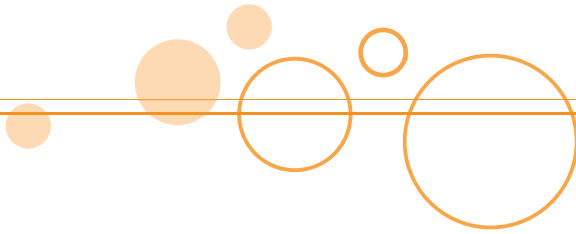
Ways of working	Knowledge and understanding
Science	
<p>Students are able to:</p> <ul style="list-style-type: none"> › pose questions and make predictions › identify and collect data, information and evidence › draw conclusions and give explanations, using data, information and evidence › communicate scientific ideas, data, information and evidence, using terminology, illustrations or representations. 	<p>Science as a human endeavour</p> <p>Science is a part of everyday activities and experiences.</p> <ul style="list-style-type: none"> › Science can impact on people and their environments. › Stewardship of the environment involves conserving natural resources.
English	
<p>Students are able to:</p> <ul style="list-style-type: none"> › construct simple literary and non-literary texts by planning and by using prior knowledge and experience to match an audience and purpose. 	<p>Writing and designing</p> <p>Writing and designing involves using language elements to construct literary and non-literary texts for familiar contexts.</p> <ul style="list-style-type: none"> › The purpose of writing and designing includes reporting and conveying simple messages and information. <p>Speaking and listening</p> <p>Speaking and listening involve using oral, aural and gestural elements to interpret and construct texts that achieve purposes in familiar contexts.</p> <ul style="list-style-type: none"> › Words and phrasing, volume and pitch can add interest and emphasis, clarify meaning and be monitored by listeners. › Nonverbal elements, including body language, facial expressions and gestures, add interest and emphasis, clarify meaning and are monitored by listeners. <p>Language elements</p> <p>Interpreting and constructing texts involve exploring and using grammar, punctuation, vocabulary, audio and visual elements, in print-based, electronic and face-to-face modes (speaking and listening, reading and viewing, writing and designing) in familiar contexts.</p> <ul style="list-style-type: none"> › Statements provide information; questions seek information; commands give orders; and exclamations emphasise or express emotions. › Vocabulary describes, labels and sequences, and can represent people, characters, places, events and things. <p>Literary and non-literary texts</p> <p>Exploring literary and non-literary texts involves developing an awareness of purpose, audience, subject matter and text structure.</p> <ul style="list-style-type: none"> › Texts are produced for particular audiences and their interests.

❖ Assessment overview

The assessment tasks move the learner from a representation of the sources and transport of water in the form of a storyboard to a team role-play of an interview in which the students demonstrate their understandings of water supply, distribution and conservation.

❖ Essential Learnings for assessment—by the end of Year 3

Ways of working	Knowledge and understanding
Science	
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Assessable elements

» Science

- Knowledge and understanding
- Investigating
- Communicating

» English

- Knowledge and understanding
- Constructing texts

Linking locally

Plan and conduct an interview with a guest speaker from the local community whose occupation involves water. Potential guest speakers could include a plumber, a farmer, a gardener or a local Council water management representative.

Taking action

Students become 'water detectives' to investigate water use in their homes, and share ideas about water conservation with their families.

Unit 1 overview

Phase	Lesson
Engage	
To capture interest and discover what we think we know	1. Wondering about water <ul style="list-style-type: none"> › Students use their senses to explore water and think about the origins, uses, users and responsibilities associated with water.
Explore	
To have shared, hands-on experiences	2. Water walk <ul style="list-style-type: none"> › Students investigate water around the school, describing how it is used, accessed and wasted. 3. Rain, rain (two sessions) <ul style="list-style-type: none"> › Students model rainfall and observe water falling on a range of surfaces. 4. Go with the flow <ul style="list-style-type: none"> › Students model the movement of water across a landscape and consider the effect of dams.
Explain	
To demonstrate what we have learned by exploring	5. My water story <ul style="list-style-type: none"> › Students role-play then create a storyboard to represent a water journey.
Elaborate	
To build understanding through an investigation	6. Investigating water use at home (two sessions) <ul style="list-style-type: none"> › Students become 'water detectives' to investigate where and how water is used in their homes. 7. Community water use (two sessions) <ul style="list-style-type: none"> › Students research other people's use and management of water by interviewing a guest speaker and then writing a factual recount of the interview.
Evaluate	
To review and reflect on learning	8. Informative interviews <ul style="list-style-type: none"> › Students represent what they know about water, where it comes from and how to use it responsibly in an interview format.

Resource 1

❖ Student assessment task

Unit 1: Wonderful water

» Setting the scene

Water is wonderful. Just stop and think of all the ways we use it ... we couldn't live without it! Everyone in the community is responsible for using water wisely at home, at school and at their workplace. You will investigate the journey of water as it moves through our community, different ways that people use water, and how we can use water more wisely.

» Purpose of the task

For you to show how well you can:

- › gather ideas and information from a range of sources about the uses of water and its supply
- › develop ideas for saving water in our community
- › consider the needs of listeners when you are presenting to your audience.

» Products to be completed

1. Working by yourself, make a storyboard that represents the journey of water through your local water supply system.
2. Working in a team, plan and act out an interview to show what you have learned about water and how it can be conserved.

» Stages in the learning journey

Checklist

	Student	Teacher
Lesson 1—Wondering about water. Students use their five senses to explore water.		
Lesson 2—Water walk. Students investigate water around the school.		
Lesson 3—Rain, rain (Session 2—Groundwater). Students observe water soaking into the ground.		
Lesson 4—Go with the flow. Students model rain falling on the land.		
Lesson 5—My water story. Students make a storyboard.		
Lesson 6—Investigating water use at home (Session 2—Graph it). Students organise and graph the information from the 'Water detectives' survey.		
Lesson 7—Community water use (Session 1—Interview planning). Students prepare questions for a guest speaker.		
Lesson 7—Community water use (Session 2—Guest speaker). Students interview a guest speaker and write journal notes about the visit.		
Lesson 8—Informative interviews. Students role play an interview to show what they understand about the ways different people use water.		

Wondering about water

» Lesson overview

Students use their senses to explore water and think about the origins, uses, users and responsibilities associated with water.

» Lesson objectives

Students will be able to:

- use their senses to describe water
- record and share their ideas about water
- discuss their ideas and questions for posting on the class 'Wondering about water' display space
- add words to the word wall.

» Equipment

For the class

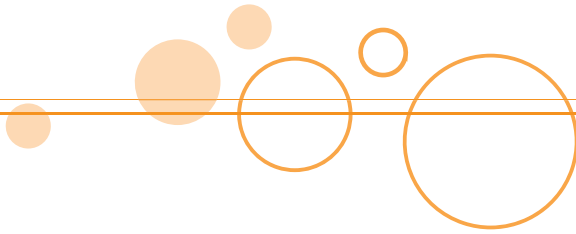
- class science journal
- word wall
- 'Wondering about water' wall
- containers filled with enough water to give each student a sample
- enlarged copy of 'Wonderful water' (Resource 2)
- enlarged copy of 'Student assessment task' (Resource 1)

For each student

- science journal
- small container (e.g. small plastic cup)
- one copy of 'Wonderful water' (Resource 2)
- one copy of 'Student assessment task' (Resource 1)

» Preparation

- Prepare a page in the class science journal entitled 'Using our five senses' with the subtitles 'Sight', 'Touch', 'Taste', 'Smell' and 'Sound'.
- Create a display space for the unit entitled 'Wondering about water' on a wall, whiteboard or series of charts. Headings should include:
 - › Where does water come from?
 - › What do we use water for?
 - › Who or what uses water?
 - › How can we use water responsibly?
 - › What do we want to know about water?



» Lesson steps

1. Introduce one of the water-filled containers to the class. Explain that the students will use their five senses to explore water.
2. Fill each student's small container with water and ask them to describe what it looks like. Record their observations in the class science journal, and/or individual journals, under 'Sight', using words or pictures. Share their descriptions without providing any corrections or formal definitions.
3. Ask students to smell the water, and to record and share their observations. Remind students that not all clear colourless liquids are water and that they should never taste or drink anything they are uncertain about. Explain the source of the water that the class is observing.
4. Ask students to taste the water, and to record and share their observations.
5. Ask students to feel the water, encouraging them to dip their fingers in it and rub it between their fingertips. Ask them to record and share their observations.
6. Ask students to put aside their water containers, close their eyes and visualise water falling as rain, gushing out of a tap, or crashing on a shoreline. Ask students to describe how water sounds; record under the 'Sound' heading.
7. Discuss the enlarged copy of 'Wonderful water' (Resource 2). Ask students to fill in their copies using words and/or pictures. Do not correct answers at this stage, as this activity aims to find out what students already know about water.
8. Introduce the 'Wondering about water' wall; invite students to make contributions to each question.
9. Begin a word wall with vocabulary about water.
10. Discuss how students can responsibly dispose of the remaining water in their containers (water a plant, clean paint brushes, provide water for a pet).
11. Introduce students to the assessment tasks for this unit using the 'Student assessment task' (Resource 1). Discuss the assessment with the class, using the enlarged version of Resource 1. Explain how you and the students will track their learning using the 'Stages in the learning journey' checklist.

» Curriculum links

English

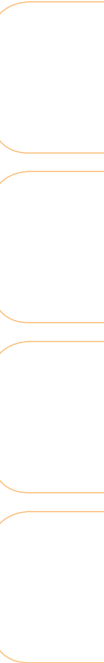
Read and write poems about water.

The Arts

Listen to and sing songs about water.

Create a water scene or water landscape pictures.

Use dye and water to create a crayon wash; put the coloured water in a spray bottle or use a straw to make bubbles or blow prints.



Resource 2

Wonderful water

Name:

Date:

Where does water come from?

What is water used for?

Who or what uses water?

How can I use water responsibly?



Water walk

» Lesson overview

Students investigate water around the school, describing how it is used, accessed and wasted.

» Lesson objectives

To obtain hands-on, shared experiences of water use at school, students:

- explore the school to find evidence of water use
- record their observations
- share their observations.

» Opportunities for assessment

Students can be assessed in the 'Explore' phase by monitoring their developing understanding and giving feedback that extends their learning.

» Equipment

For the class

- class science journal
- word wall
- 'Wondering about water' wall

Optional

- digital camera
- school plan
- plan of school site
- aerial photo of the school site

For each student

- science journal

» Lesson steps

1. Explain that students are going to investigate water use around the school. Ask students to predict how and where they might see water being used. Discuss possible water access points (bubblers, taps, hoses). Record students' predictions in the class science journal.

Optional: Introduce a simple plan or map of the school on which the places and ways water is used or accessed can be recorded while the class is outside. The route taken could also be recorded on return to the classroom. Explain the purposes and features of a plan or map.

Literacy focus

A map shows the location of items or places, the distance between them, and possible routes to take. Features of a map include a title, labels, arrows, symbols, and a key to explain the symbols.
2. Go for a walk around the school grounds and buildings to look for examples of how water is used (water features, plants, swimming pool) and how water is accessed (sprinklers, bubblers, taps).

Optional: Take photos of water uses and access points to display on the 'Wondering about water' wall, and ask students to record access points in their science journals.

Optional: Locate and show students the school water meter.

Optional: Ask students to draw and label individual maps of water in the school.
3. After returning to the classroom, ask students to record in their science journals their observations from the water walk under headings such as:
 - › Water is used for ...
 - › Places where water is used ...
 - › Water access points at the school are ...
4. Ask students to describe what they learned about water on their water walk. Add their responses to the 'Wondering about water' wall.
5. Discuss examples of the ways students observed water being used responsibly or irresponsibly and being wasted.
6. Add new vocabulary to the word wall.

» Curriculum links

The Arts

Water coming out of a tap sounds different from water in a flushing toilet. Record the water sounds that can be found or made, and use them to create a sound-scape or a story about water in the school, home or local environment.

Studies of Society and Environment (SOSE)

Consider how your class and school could become more environmentally sustainable by accessing the Department of Environment and Heritage website *Educating for a Sustainable Future—A National Environmental Education Statement for Australian Schools* <www.deh.gov.au/education>, and information about the *Australian Sustainable Schools Initiative* <www.deh.gov.au/education/sustainable-schools/index.html>.

Rain, rain

» Lesson overview

Students model rainfall and observe water falling on a variety of surfaces.

» Lesson objectives

To obtain hands-on, shared experiences of what happens to rain falling on different surfaces, students:

- model what happens when it rains
- investigate water falling on a variety of surfaces
- record and discuss observations
- observe a groundwater model.

» Opportunities for assessment

Informal assessment is an ongoing aspect of the 'Explore' phase. It involves monitoring students' developing understanding and giving feedback that extends their learning.

❖ Session 1—It's raining

» Equipment

For the class

- class science journal
- word wall
- 'Wondering about water' wall
- enlarged copy of 'Rain, rain' work sheet (Resource 3)
- water

Optional

- digital camera
- pictures or photographs of rainy or drought scenes

For each student

- group role badge (Manager, Speaker)
- science journal
- 'Rain, rain' work sheet (Resource 3)
- one cup with small holes in the bottom
- one bottle of water

»Preparation

- Punch small holes in the bottom of paper or polystyrene cups.
- Look for a range of surfaces in the playground—for example, paved areas, sand, concrete paths, grass, moss and soil.
- Set up the equipment table with cups, water bottles and activity sheets.

»Lesson steps

1. Discuss students' experiences with rain (walking or driving in it, splashing in puddles, etc.) and drought, using pictures, photographs or shared stories.
2. Explain that students are going to work in cooperative learning teams to investigate what happens to rain falling on different surfaces. Introduce and explain the team roles and skills charts. Refer to Resources 4 and 5. Allocate team members and roles, and point out the equipment table.
3. Introduce the enlarged copy of 'Rain, rain' and read it through with the class. Explain that students will record their observations when they return to the classroom after the investigation.
4. Ask students to predict what might happen to water when it falls on different surfaces. Record students' predictions in the class science journal.
5. Explain that teams are going to take turns pouring water from their bottles into the cups with holes in the bottom, and observe what happens when the water falls like rain on different surfaces. Ask Managers to collect the team equipment.
6. Leave the classroom, point out some appropriate surfaces, then give the teams time to investigate.
7. Return to the classroom and give the teams time to refine their observations on the 'Rain, rain' work sheet.
8. Ask teams to share their observations and compare them with the predictions in the class science journal.
9. Discuss how the activity simulates what happens during rain (soaks in or runs off) and discuss questions such as:
 - › What do you think happens to the water that soaks into the ground?
 - › Where does it go?
 - › Do you think we could collect this water and use it?
 - › What do you think happens to water that runs off?
 - › Where does it go?
 - › Do you think we could collect this water and use it?

Optional: Students record their predictions in their own journals.

❖❖❖ Session 2—Groundwater

For more detailed information about groundwater, refer to *Background Information for Teachers*.

» Equipment

For the class

- class science journal
- word wall
- ‘Wondering about water’ wall
- transparent container
- washed coarse gravel
- food colouring
- container (jug, bottle, watering can) filled with coloured water
- long eye-dropper or plastic syringe

» Preparation

- Put washed gravel into a transparent container.
- Add food colouring to a container filled with water.

» Lesson steps

1. Review the previous lesson and students’ observations. Explain that in this lesson, students are going to observe water that soaks in.
2. Slowly pour coloured water over the gravel in the transparent container. Ask students to observe the water.
3. Discuss how this models the formation of groundwater by asking ‘How is this like rain falling onto the ground and soaking in?’

4. Ask students how water could be retrieved from under the ground (wells and buckets, bores and pumps, windmills). Explain that in some places, groundwater comes to the surface naturally and flows back into rivers.
5. Demonstrate how water can be retrieved using a long eye-dropper or plastic syringe.
6. Add new vocabulary to the word wall and update the ‘Wondering about Water’ wall.

» Curriculum links

Science

Investigate the ability of different soil types to retain water.

Maths

Study measurement of liquids (volume and capacity).

Explore conservation of volume using different-shaped containers.

SOSE

Read about the use of water wells in ancient and modern civilisations.

The Arts

Create mobiles using rainy day shapes (clouds, umbrellas).

Create artworks depicting rainy weather scenes (drawings, collage, paintings).

Resource 3

❖ Rain, rain

Name:

Date:

What happens when rain falls on different surfaces? Investigate and record your observations.

Surface tested	What happened?

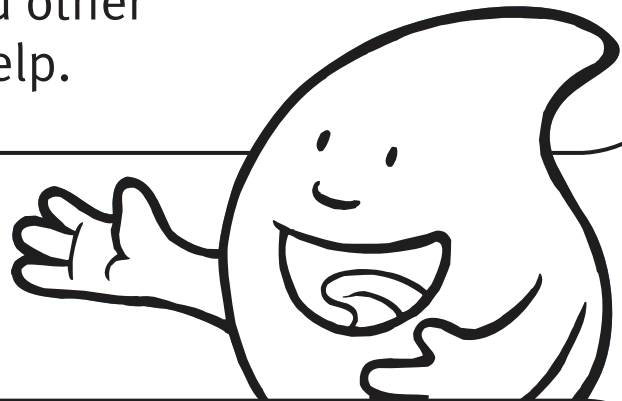


❖ PrimaryConnections team roles and skills

Team roles

- » **Manager**
Collects and returns all materials that the team needs.

- » **Speaker**
Asks the teacher and other team speakers for help.



Team skills

1. Move into your teams quickly and quietly.
2. Stay with your team.
3. Take turns.

Resource 5

❖ PrimaryConnections role badges

Speaker	Speaker	Speaker
Speaker	Speaker	Speaker
Speaker	Speaker	Speaker
Manager	Manager	Manager
Manager	Manager	Manager
Manager	Manager	Manager

Go with the flow

» Lesson overview

Students model the movement of water across a landscape and consider the effect of dams.

» Lesson objectives

To support students' exploration of the movement of water across the landscape, students:

- discuss the movement of water
- use a model to represent the movement of water across the landscape
- discuss how water moves across the landscape and can be contained in a dam.

» Equipment

For the class

- class science journal
- word wall
- 'Wondering about water' wall
- water
- bucket
- sand in a container
- food colouring (dark)
- **Optional:** digital camera

For each student

- team role badges
- science journal
- access to sand/sandpit
- one cup with holes in the bottom (from Lesson 3)
- a rectangular container in which to build a model
- **Optional:** toothpicks and small pieces of paper

» Preparation

- Add food colouring to a bucket of water.
- Put containers, cups and bottles of coloured water on the equipment table.
- Practise making a model out of sand and spooning coloured water onto the surface.

» Lesson steps

1. Review the previous lesson using the class science journal and the 'Wondering about Water' wall.
2. Brainstorm the places students think rainwater goes after it falls to the ground. Accept all answers and record them in the class science journal.
3. Explain that students will be working in cooperative learning teams to make a model landscape. Demonstrate how to make a hill out of sand in the corner of the container. Explain that teams are going to tip water over their hill and observe what happens.
4. Form teams and allocate roles. Ask Managers to collect equipment. (Refer to Lesson 3 for instructions on allocating team roles.)
5. After teams have prepared their landscape, direct them to pour coloured water slowly into the cup with the holes, and let the water fall on the top of the hill like gentle rain.
6. Make the link between the materials used in the model and the phenomena or landforms they represent (for example, 'The sand is like the land surface. It represents the hills, ridges, gullies, valleys and plateaus in the landscape. The coloured water represents rain. Rainwater soaks in, dries up or runs off and becomes the water that makes channels, rivers, streams, pools, swamps and lakes'). Ask teams to describe the landforms in their model and the processes that are occurring—water soaking in, running off or drying up, creating rivers, streams, pools, swamps or lakes.
7. Ask teams to look at their models and consider what would happen if there was a barrier built across one of the rivers to hold back water. Assist students to build understanding of a dam as an artificial barrier used to protect areas from flooding and to store water. Ask students where they would build a dam to collect water.
8. Demonstrate drawing a labelled diagram of the processes depicted in the model—for example, rainfall, run-off, river, and dam. Ask students to suggest names and labels for the parts. Discuss the purposes and features of a labelled diagram.

Literacy focus

A labelled diagram is a representation used to illustrate the shape and features of an object. Scientific labelled diagrams include a title, a drawing and labels indicating the main features. A line or arrow connects the label to the features.

9. Ask students to draw a labelled diagram of their model in their science journal.

Optional: Students create labels for their models using toothpicks and paper. Photograph the labelled models for inclusion in students' science journals.
10. Add new vocabulary to the word wall and update the 'Wondering about water' wall.

» Curriculum links

Science/SOSE

Display and discuss images of water as it is found in different locations and as it is part of different environments—for example, lakes, icebergs or rivers.

Research and read about the role of water in various environments—for example, a river, an ocean or a desert.

My water story

» Lesson overview

Students role-play then create a storyboard to represent a water journey.

» Lesson objectives

To introduce current scientific views and support students to describe sources of water, and how it is collected, transported, accessed and used, students:

- role-play the journey of water from a source to a point of use
- create a storyboard that represents the journey of water.

» Opportunities for assessment

In this lesson you are looking for evidence that students are developing an understanding of sources of water and of the ways water is collected, stored, moved and used as assessed using the 'Guide to making judgements' (Resource 8).

» Equipment

For the class

- class science journal
- word wall
- 'Wondering about water' wall
- one enlarged copy of 'My water story' work sheet (Resource 6)
- *Optional:* CD player and 'watery' music CD

For each student

- science journal
- 'My water story' work sheet (Resource 6)
- *Optional:* Access 'My water story' images from the Waterworks section of the PrimaryConnections website at <www.science.org.au/primaryconnections>. Select 'Curriculum resources', then select from the column at left *Stage 1 / Earth and beyond / Water works*.

» Lesson steps

1. Review the water walk entry in the class science journal. Discuss the previous lesson when rainfall was modelled. Discuss how water flowing from the school taps once fell as rain.
2. Brainstorm the stages water might have gone through on its journey to the school and record ideas in the class science journal. Distinguish between surface and groundwater sources—for example:
 - › Surface water falls as rain, flows over land into creeks and rivers, is stored in a dam, passes through a treatment plant, travels through a series of pipes and comes out of a tap.
 - › Groundwater falls as rain, soaks into the ground, is pumped from under the ground, passes through a water treatment plant and travels through a series of pipes to arrive at a tap.
3. Ask a group of volunteers to role-play the different stages in the water supply system for surface and groundwater.

Literacy focus

A role-play is a physical representation of a system, process or situation. It involves students using speech, gesture, actions or objects (props) to enact this representation.

4. As a class, role-play the water supply system.

Optional: Use ‘watery music’ CD as a background.

Optional: Perform the role-play for an audience.
5. Explain to students that they are going to represent their ideas about the stages in the water supply system by arranging pictures to create a storyboard in their science journal.

6. Introduce the enlarged copy of ‘My water story’ (Resource 6). Discuss the purpose and features of a storyboard.

Literacy focus

Storyboards are used to identify key elements and represent them in sequential order. They include a title, drawings showing important details, descriptive captions, and numbers to indicate the sequence of steps.

7. Provide each student with a copy of ‘My water story’ (Resource 6) or access to the images electronically (see ‘Equipment’).
8. Ask students to order their storyboard before adding notes to describe what is happening in each picture. Encourage students to look at the word wall, the ‘Wondering about water’ wall and their science journals for ideas.
9. Have students share their storyboards as an oral presentation to a small group or whole class.

» Curriculum links

ICT

The Le@rning Federation
 <www.thelearningfederation.edu.au>

- *Explore water pipes*, The Le@rning Federation learning object L18, L202
- *Where does tap water come from?* The Le@rning Federation learning object L19, L203.

Resource 6

My water story

Name:

Date:



Rain

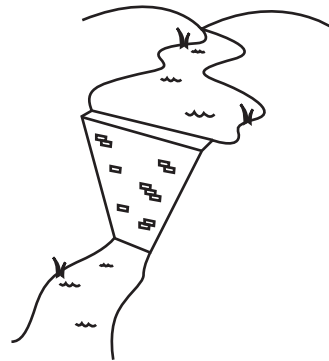
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Dam

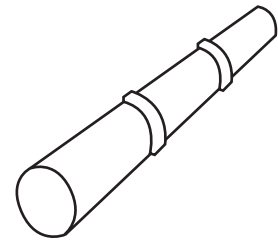
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Pipes

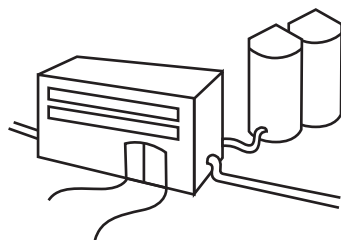
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Water treatment

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River

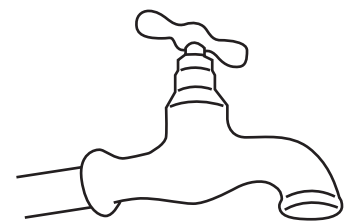
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Tap

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Investigating water use at home

» Lesson overview

Students become ‘water detectives’ to investigate where and how water is used in their homes.

» Lesson objectives

To help students plan and conduct an investigation of how water is used at home, students:

- predict how water is used at home
- survey the patterns of water use at home
- record their observations
- share their observations
- create a class graph showing patterns of water use at home
- discuss and interpret their observations.

» Opportunities for assessment

In this lesson you are looking for evidence of the extent to which students can follow directions to complete simple investigations at home; make, describe and record observations; and identify patterns in a simple column graph.

❖ Session 1—Water detectives

» Equipment

For the class

- class science journal
- enlarged copy of the ‘Home water use detectives’ sheet (Resource 7)

For each student

- ‘Home water use detectives’ sheet (Resource 7)

» Lesson steps

1. Review the class science journal entry from the water walk and explain that students are going to investigate how water is used at home.
2. Introduce the enlarged ‘Home water use detectives’ sheet (Resource 7). Ask students to predict which of the school water uses they think they will find at home. Record their predictions in the class science journal.
3. Ask students to predict other uses for water they might find at home. Record their predictions in the class science journal.
4. Model how to complete the ‘Home water use detectives’ sheet, using your home as an example.

5. Explain to students that they will survey four places around the home to be used for a class investigation. Discuss the need for students to investigate safely—for example, avoiding hot water, chemicals or appliances.
6. Distribute ‘Home water use detectives’ sheets and explain how students can write or draw their findings.

Optional: Students may create a simple plan or map of their home and garden and mark the water use areas.

... Session 2—Graph it

» Equipment

For the class

- class science journal
- word wall
- ‘Wondering about water’ wall
- poster paper or cardboard to create graph

For each student

- completed ‘Home water use detectives’ sheet (Resource 7)
- science journal

» Lesson steps

1. Have students share the results of the ‘Water detectives’ survey with a partner to discuss what they have in common.
2. Ask students to write their initials in the boxes on their completed sheet and cut out the four sections.
3. Explain that, as a class, we are going to organise their information in a graph. Ask students to suggest categories such as cooking, cleaning, drinking, gardening or recreation.

4. Discuss the features and purpose of a graph and organise the information into columns.

Literacy focus

A graph organises, represents and summarises information so that patterns and relationships can be identified. Graphs have a title and each variable is labelled on the graph axes, including the units of measurement.

5. Label the vertical axis of the graph with numbers. Count and record the number of responses in each group. Discuss and record a name for the graph and titles for each axis.
6. Use questioning and discussion to support students to analyse and interpret the information graphed.
7. Discuss examples of responsible and irresponsible water use and water wastage. Ask students to write statements in their science journals based on this discussion.
8. Add new vocabulary to the word wall and update the ‘Wondering about water’ wall.

» Curriculum links

SOSE

Research and read about the role and significance of water in the traditional and contemporary lifestyles of Indigenous people.

Research and read about water use in other parts of the world (Africa, India).

Contact your local Waterwatch group for information <www.waterwatch.org.au>.

Contact your local catchment care group.

Resource 7

❖ Home water use detectives

Name:

Date:

In our Science classes, we have been investigating water, including how it is used. We are going to investigate four water use places at home and then record examples of water use.

In each space, write or draw what the water is being used for and who uses it.

This resource sheet needs to be back at school by

The first water use place is

The second water use place is

Initials

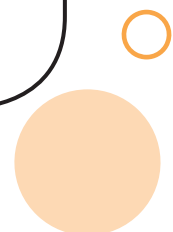
Initials

The third water use place is

The fourth water use place is

Initials

Initials



Community water use

» Lesson overview

Students research the ways that other people use and manage water by interviewing a guest speaker and recording notes about the interview in their science journal.

» Lesson objectives

To support students to research the ways that other people use and manage water, students:

- brainstorm questions and plan interviews with a guest speaker
- interview a guest speaker
- recount events in their science journals.

» Opportunities for assessment

In this lesson you are looking for evidence of the extent to which students can plan and conduct an interview and write notes from the guest speaker's interview.

❖ Session 1—Interview planning

» Equipment

For the class

- class science journal

For each student

- writing paper

» Preparation

- Organise a guest speaker to visit the class to talk to the students about how they use and manage water responsibly in their work.
- **Optional:** Organise an excursion to a workplace.

» Lesson steps

1. Ask the class about how their parents' occupations involve water.
2. Invite a visitor such as a plumber, farmer, gardener or local council representative to come to the classroom to be interviewed.
3. Explain the purpose and features of an interview.

Literacy focus

An interview is a discussion between two or more people where questions are asked by an interviewer of an interviewee to collect information and opinions. An interview is guided by questions relating to the purpose of the interview and can occur face to face or long distance via telephone or video link.

4. Brainstorm questions that students would like to ask a guest speaker about their use and management of water. Encourage open-ended rather than 'yes/no' questions. Record students' questions in the class science journal.
5. Before the guest speaker arrives, model appropriate oral communication skills such as looking at the person you are speaking to and using appropriate voice volume and pace. Ask students to practise these skills by conducting role-plays in pairs, taking turns to be the interviewer and interviewee.

» Session 2—Guest speaker

» Equipment

For the class

- class science journal
- word wall
- 'Wondering about water' wall
- *Optional:* digital camera

For each student

- science journal
- prepared questions from Session 1

» Lesson steps

1. Introduce the guest speaker and support students as they conduct the interview.
Optional: Photograph the visit.
2. Ask students to write and draw information in their science journals about the guest speaker's visit. Encourage them to compare and contrast their own water usage with that of the guest speaker. For instance, 'I use water to... but a hairdresser uses it to...'
3. Add new vocabulary to the word wall and update ideas on the 'Wondering about water' wall.

» Curriculum links

SOSE

Discuss and research how people accessed and used water in the past. Interview older people to see how they used water in the past.

Organise an excursion to a local farm, dam or water treatment plant.

Informative interviews

» Lesson overview

Students represent what they know about water, where it comes from and how to use it responsibly in an interview format.

» Lesson objectives

To provide opportunities for students to represent what they know about water, where it comes from and how to use it responsibly, and to reflect on their learning about water and its uses, students:

- review the unit using the class science journal, word wall, ‘Wondering about water’ wall and other resources developed during the unit
- record and share their ideas about water in an interview
- reflect on their learning journey in this unit.

» Opportunities for assessment

In this lesson you are looking for evidence that students can identify and describe uses and sources of water, compare and contrast their own and others’ water use, describe a way of transferring water from source to point of use, and identify actions that can be taken to conserve water.

Students will be formally assessed in teams on their level of understanding about the supply, distribution and conservation of water using a role-play interview format.

» Equipment

For the class

- class science journal
- word wall
- ‘Wondering about water’ wall
- *Optional:* digital camera

For each student

- team role badges
- science journal
- copy of ‘Wonderful water’ sheet (Resource 2) from Lesson 1
- *Optional:* new copy of ‘Wonderful water’ sheet (Resource 2) from Lesson 1

» Preparation

Watch televised interviews—for example, ABC’s *Behind the News*.

» Lesson steps

1. Review the class science journal, word wall, 'Wondering about water' wall and the class graph.
2. Remind students of the interview they participated in during Lesson 7, and explain that they are going to role-play an interview in cooperative learning teams to show how much they know and have learned about water and how to use water wisely.
3. Explain that students will cooperate to write questions and answers and practise their interview before they present their interview to the class. Explain that they can participate in the interview as themselves or as another water user.
4. Discuss the types of information that teams can include. For instance:
 - › Where does water come from?
 - › What is water used for?
 - › Who uses water?
 - › How do you use water responsibly?
5. Review and practise oral presentation skills such as eye contact and using appropriate volume and pace when speaking.
6. Form teams and allocate roles. Arrange for students to prepare, practise and present their interviews.
7. Review the 'Wonderful water' activity sheet from Lesson 1. Ask students to annotate their copy (in a different colour) to show their new or changed ideas.
8. Ask students to reflect on the most interesting or important things they have learned during this unit. Record students' ideas in the class science journal.

Optional: Students can create posters to use as backdrops for their interview presentations.

Resource 8

		Task-specific descriptors				
Assessable elements		A	B	C	D	E
Task-specific assessable elements Science <i>Knowledge and understanding</i> <i>Communicating</i> Explains the journey of water through the local water supply system using a storyboard and an interview. Makes suggestions about the stewardship of water resources.	A Sequencing and captioning of the story elements indicate a comprehensive understanding of the uses of water and the water supply system. Makes insightful suggestions about the stewardship of water resources.	B Sequencing and captioning of the story elements indicate a thorough understanding of the uses of water and the water supply system. Makes logical suggestions about the stewardship of water resources.	C Sequencing and captioning of the story elements indicate a satisfactory understanding of the uses of water and the water supply system. Makes relevant suggestions about the stewardship of water resources.	D Sequencing and captioning of the story elements indicate a variable understanding of the uses of water and the water supply system. Makes superficial suggestions about the stewardship of water resources.	E Sequencing and captioning of the story elements indicate a rudimentary understanding of the uses of water and the water supply system. Makes vague suggestions about the stewardship of water resources.	
	Science <i>Investigating</i> Identifies and collects information about the uses of water and the water supply system.	Identifies and collects accurate and significant information about the uses of water and the water supply system.	Identifies and collects accurate information about the uses of water and the water supply system.	Identifies and collects relevant information about the uses of water and the water supply system.	Identifies and collects disjointed information about the uses of water and the water supply system.	Identifies and collects minimal information about the uses of water and the water supply system.
English <i>Knowledge and understanding</i> <i>Constructing texts</i> Uses a role-play to convey simple messages and an understanding of the elements that add interest for the listener. Creates a simple interview script to suit the audience and purpose.	Creates an interview script with discernment and control. Presents the role-play with controlled and skilful use of phrasing, volume, pitch and gesture.	Creates an interview script that is purposeful and effective. Presents the role-play with purposeful and effective use of phrasing, volume, pitch and gesture.	Creates an interview script that is appropriate and competent. Presents the role-play with appropriate and competent use of phrasing, volume, pitch and gesture.	Creates an interview script that is variable in quality. Presents the role-play with variable use of phrasing, volume, pitch and gesture.	Creates an interview script that indicates a rudimentary understanding of language elements. Presents the role-play with minimal use of phrasing, volume, pitch and gesture.	

Feedback.....