



## Overview

“Water Worries” combines explanations and persuasive arguments in a report that describes the serious water issues we face in New Zealand. The addition of a short procedural text tells how to make a water harvester at home.

The text headings support readers to navigate information about the water cycle and the reasons for concern, and the use of

everyday examples helps to make the message clear: we all need to worry about water.

The article has a strong theme of conservation of natural resources and the need for individuals to take action to make a difference.

Texts related by theme

“The Water Cycle” Con 2 2002 | “World’s Water Running Out” SJ 2.1.07 | “Saving Poormans Stream” SJ 3.1.10

## Text characteristics from the year 6 reading standard

abstract ideas, in greater numbers than in texts at earlier levels, accompanied by concrete examples in the text that help support the students’ understanding

some ideas and information that are conveyed indirectly and require students to infer by drawing on several related pieces of information in the text

**THE PROBLEMS**

Because of the water cycle, the quantity of water available on Earth will never change. But the amount of water we are using is changing. We use a lot more water today than we ever used in the past. One of the main reasons for this is farming and the need for irrigation.

New Zealand has always grown food to sell overseas, and the market for our dairy products continues to increase. Many New Zealand farmers are changing the kind of food they supply and are converting to dairy farms, which use more water. In places like Canterbury, where people once grew wheat or farmed sheep, this is putting serious pressure on the water supply. Some streams and rivers are drying up altogether. The water level in aquifers is also falling.

Having more cows also increases water pollution. This is because farmers need more grass and so are using more fertiliser to help the grass grow. Rainwater washes this fertiliser, along with animal waste, into our rivers. Eventually, this run-off filters down and pollutes our aquifers. Some of New Zealand’s shallowest aquifers already have high levels of harmful bacteria, like *E. coli* (short for *Escherichia coli*).

But not all of our water problems start on the country’s farms. Water pollution is also happening in our towns and cities.

Although the wastewater from your house is cleaned at sewerage plants before it’s put back into rivers, water from outdoor drains doesn’t get treated. This means anything that goes down a drain ends up in the water supply: household cleaners, paint, animal waste, herbicides, pesticides, and run-off from roads.

This dirty water is then back in the water cycle, but it’s of little use to us.

*A council worker takes a water sample to test the level of pollution in this urban stream.*

*The Manawatu River has recently been called one of the dirtiest rivers in the world. Most of the river’s pollution is caused by farm run-off, sewage from towns, wastewater from factories, and sediment from erosion.*

sentences that vary in length and in structure (for example, sentences that begin in different ways and different kinds of complex sentences with a number of subordinate clauses)

a significant amount of vocabulary that is unfamiliar to the students (including academic and content-specific words and phrases), which is generally explained in the text by words or illustrations

## Possible curriculum contexts

### SCIENCE (Planet Earth and Beyond)

LEVEL 3 – Earth systems: Appreciate that water, air, rocks and soil, and life forms make up our planet and recognise that these are also Earth's resources.

### ENGLISH (Reading)

LEVEL 3 – Structure: Show a developing understanding of text structures.

### ENGLISH (Writing)

LEVEL 3 – Structure: Organise texts, using a range of appropriate structures.

### Possible reading purposes

- To learn about water and water use
- To understand how people impact upon the water cycle
- To understand the impact of pollution on water supplies.

### Possible writing purposes

- To persuade others to protect water by caring for rivers and streams
- To describe how they could conserve water at home and school
- To propose and carry out a local research project into water use.

See [Instructional focus – Reading](#) for illustrations of some of these reading purposes.

See [Instructional focus – Writing](#) for illustrations of some of these writing purposes.

## Text and language challenges

### VOCABULARY:

- Possible unfamiliar words and concepts, including “rely”, “precious”, “Queuing”, “vapour”, “Eventually”, “moisture”, “groundwater”, “market”, “converting”, “pressure”, “aquifers”, “fertiliser”, “filters”, “run-off”, “bacteria”, “wastewater”, “sewerage”, “climate change”, “greenhouse gases”, “guarantee”, “drinkable”, “dramatically”, “sea fogs”, “harvesting”, “reliable”, “harvester”, “bamboo”, “twisty tie”, “upright”, “secure”, “draped”, “drought”
- Colloquial expressions, including “take for granted”, “every drop counts”, “There’s no doubt”
- Words that have more than one meaning, including “drives”, “springs”, “waste”, “treated”, “still”
- The use of “we” and “our” to mean everyone
- The scientific vocabulary: “E-coli”, “*Escherichia coli*”, “herbicides”, “pesticides”, “desalination”.

### Possible supporting strategies

Identify any new vocabulary that students should prioritise for learning (including scientific terms) and have them record this vocabulary. Plan for ways to ensure they have opportunities to encounter and use this vocabulary in many contexts. *The English Language Learning Progressions: Introduction*, pages 39–46, has useful information about learning vocabulary.

Create a “Water” chart, and use mind-mapping to add words related to water as the students discuss and read the article.

Some students will need support with the vocabulary before they begin reading. Identify the vocabulary your students will need to know in order to understand the story. You could select ten to fifteen items. Give pairs of students two to three items with sentences using each item. Have the pairs discuss the sentences and what they think their vocabulary items mean. Give pairs definitions for their items and have them match the definitions to the words. Check they have done this correctly and tell them to prepare to explain their words to the rest of the group (using acting, pictures, examples, and so on). Have the pairs explain their words, and stick their words and definitions onto the water chart. Refer and add to the chart during reading. Note words that have more than one meaning and check that students understand the relevant meaning as they read.

### SPECIFIC KNOWLEDGE REQUIRED:

- Knowledge of everyday domestic, commercial, industrial, and farming uses of water
- Awareness of the issues around the uses and pollution of water – locally, nationally, and globally
- Understanding of the water cycle.

### Possible supporting strategies

Support the students to make connections between this report and other information they have read, seen, or heard about on the same topic.

Discuss measures taken at school, at home, and elsewhere to reduce water pollution and to conserve water.

### TEXT FEATURES AND STRUCTURE:

- Report that includes an explanation and instructions
- Headings that indicate different sections of the report
- Photos with captions, illustrations, a flow chart, and a glossary
- The use of persuasive language.

### Possible supporting strategies

You could give pairs of students one of the headings and ask them to predict what details they think will be in that section. If appropriate, you could then conduct a jigsaw reading. Ask each pair to read their section and summarise the main points. Have the pairs work in small groups to share their information with others who read different sections, and repeat the process until each student has heard about each section. You may choose to conduct the jigsaw reading with only the first half of the article. Alternatively, you could have the pairs share their predictions about the sections and then read the text together. If necessary, support students to summarise the main ideas for each heading as they read.

Students can work in pairs to identify persuasive language features and other evidence for the author's point of view. For information about language for explaining and persuading and for ideas on how to support students, see *Supporting English Language Learning in Primary Schools: A Guide for Teachers of Years 5 and 6*, pages 42–49 and 50–57. For information about ordering and a PDF of this booklet, go to <http://esolonline.tki.org.nz/ESOL-Online/Teacher-needs/Reviewed-resources/Supporting-English-Language-Learning-in-Primary-School-SELLIPS>

# Instructional focus – Reading

**Science** (Planet Earth and Beyond, level 3 – Earth systems: Appreciate that water, air, rocks and soil, and life forms make up our planet and recognise that these are also Earth’s resources.)

**English** (Level 3 – Structure: Show a developing understanding of text structures.)

## Text excerpts from “Water Worries”

## Students (what they might do)

## Teacher (possible deliberate acts of teaching)

The bad news is that serious water issues are here to stay. In New Zealand, our problems with water supply and water pollution have really only just started. But one day, maybe sooner than we think, more people will start to understand that every drop counts ...

*Students ask questions about “bad news” and search the previous paragraph to infer that ease of turning on a tap for water is “good news”. They make connections between the text and their knowledge of the topic to identify the main idea that water availability and quality is a serious issue.*

*Students use their knowledge of familiar expressions to understand the literal meanings of the phrases “here to stay”, “sooner than we think”, and “every drop counts”.*

Having more cows also increases water pollution. This is because farmers need more grass, and they are using more fertiliser to help the grass grow. Rainwater washes this fertiliser, along with animal waste, into our rivers. Eventually, this run-off filters down and pollutes our aquifers. Some of New Zealand’s shallowest aquifers already have high levels of harmful bacteria, like E. coli (short for *Escherichia coli*).

*Students locate, evaluate, and integrate information from the water-cycle diagram on pages 40–41, the paragraphs that follow it, and the captioned photo of the Manawatū River to gain a deeper understanding of the impact of farming on water quality. They make connections with other knowledge to evaluate the increase in dairy farming and ask questions about the impact of farming on the New Zealand environment.*

In the meantime, you can help. Have shorter showers. Always think about what you’re tipping down the drain. Turn off the tap when you’re brushing your teeth. And never waste that glass of water!

*Students identify themselves as the subject of “you” and compare it with the general “we” used in other parts of the report. They integrate this extract with the section heading to identify that the main idea is that everyone needs to make changes. Students identify the short sentences as instructions or imperatives, and use this knowledge to infer that the author’s purpose includes persuading readers to save water.*

**PROMPT** the students to consider the meanings of expressions.

- If this is the “bad news”, what’s the “good news”?
- Turn to a partner and tell them what you think the good news is.

**ASK QUESTIONS** to support students’ understanding of the main idea.

What does the author mean when she says our problems have “only just started”?

Does every drop really count? Does the author mean this literally? Why do you think that?

What big idea is the author conveying?

**DIRECT** the students to work in pairs.

- Locate specific information from the text on page 42, the water-cycle diagram, and the captioned photo of the Manawatū River.
- Explain how these three information sources help you to understand the impact farming can have on water supplies.
- Discuss the points at which changes could be made to reduce the impact of dairy farming.

Some students may need support with identifying the complex relationships between ideas across the sentences, paragraphs, and sections. You could help these students by using graphic organisers such as flow charts.

**PROMPT** the students to review (or create) the “water” mind map, adding new words, ideas, and connections under headings such as Cycle, Uses, and Conservation.

- How do you relate to the big issues of water use? Where do you see yourself and your actions on the mind map?
- How much difference do you think individuals can make?
- What is the author’s point of view?
- Do you agree with her? Why or why not?

**GIVE FEEDBACK**

- Integrating information from the text and the water-cycle diagram has helped you understand some of the issues.
- The questions you raised as you were reading have helped us all to question our practices at school.
- Making connections with your own water use at home has clarified your understanding of the article.

## METACOGNITION

- Tell me more about the way you connected our day-to-day experience of water with the water cycle. How did this help you understand the text?
- How did you use the structure of the article to identify the main ideas?
- How did the water-cycle diagram support your understanding of the issues?

 Reading standard: by the end of year 6

 The Literacy Learning Progressions

 Assessment Resource Banks

# Instructional focus – Writing

**Science** (Planet Earth and Beyond, level 3 – Earth systems: Appreciate that water, air, rocks and soil, and life forms make up our planet and recognise that these are also Earth’s resources.)

**English** (Level 3 – Structure: Organise texts, using a range of appropriate structures.)

## Text excerpts from “Water Worries”

## Examples of text characteristics

## Teacher

(possible deliberate acts of teaching)

### The Water Cycle

1. The sun, which drives the water cycle, heats water in the ocean.

#### DIAGRAMS

*Labelled diagrams, such as cycles or flow charts, help readers by visually clarifying a process. The sequence is broken down into clearly defined stages, although in practice they may all occur at the same time.*

**PROMPT** the students to consider their use of diagrams.

- If you need to explain a process, could a diagram help make the process clear?
- Remember to write a heading that will capture the big idea.
- How will you split the process into steps?
- Are all the steps necessary or can you combine some of them?

Although the wastewater from your house is cleaned at sewerage plants before it’s put back into rivers, water from outdoor drains doesn’t get treated. This means anything that goes down a drain ends up in the water supply: household cleaners, paint, animal waste, herbicides, pesticides, and run-off from roads. This dirty water is back in the water cycle, but it’s of little use to us.

#### CAUSE AND EFFECT

*In an explanation, writers often explain causes and effects. This allows readers to understand a chain of events. Language such as “This means ...” helps readers to follow the causes and effects.*

**ASK QUESTIONS** about the students’ use of language to describe causes and effects.

- As you planned your writing, what language did you consider? Why did you make the choices you’ve made?
- Is there a place in your writing where you need to describe causes and effects? How will you explain them?

#### DETAILS

*Adding details to an explanation allows readers to make connections. One way of adding detail is to give examples. A general term like “waste” or “dirty water” is better understood through details, such as paint being washed down the drain.*

**DIRECT** the students to identify details in their writing.

- Choose a place in your writing where you want readers to understand a complex idea. Ask a partner to give feedback.
- Is it easy to understand? How could you improve it? Do you need more details?
- What do you want your readers to understand?
- How will you decide which details to include and which to leave out?

#### SPECIALIST VOCABULARY

*Authors choose their vocabulary to match their audience. The more an audience knows about a topic, the more technical the language can be. Authors assume their readers know some terms, and they explain or provide a glossary for other terms that may be outside their readers’ experiences.*

**PROMPT** the students to consider their use of specialist vocabulary.

- Remember to keep your audience in mind. They need to understand the words you’re using.
- Which words are essential? Which words can you replace with simpler words?
- How can you support your readers to understand challenging vocabulary?
- Remember you can explain it in the text or you can provide a glossary.

#### GIVE FEEDBACK

- Your planning made the structure clear, and the headings guided me through the big ideas.
- Adding details helped me understand why biodegradable products are good.
- The footnotes you’ve added helped me understand the technical words.

### METACOGNITION

- What is the main purpose of your writing? How did your language structure help you achieve your purpose?
- Tell us why you used technical language and a glossary, rather than using simpler terms or explaining them in the text.



Writing standard: by the end of year 6



The Literacy Learning Progressions