

Water—A precious resource

» Lesson overview

In this lesson, students draw on their prior knowledge to explain what they think they already know about water, using everyday objects to cue their thinking. They devise questions to investigate how water is used in their home, school and community. They also find out how Indigenous groups sourced and carried water before the arrival of Europeans.

» Lesson objectives

In this lesson, students:

- identify their prior knowledge about the uses of water
- rank the uses of fresh water in order of importance
- explain why water is a precious resource
- learn that Indigenous communities in different places sourced and used water in different ways
- identify water use.

» Equipment

- student journal (see note on next page)
- one sheet of butcher's paper
- 25 water 'treasures' (e.g. garden trowel, mussel shell, fishing line)

» Preparation

- Collect 25 'water treasures' beforehand: select both natural and man-made items that relate to water and its importance, waterways and water pollution. You could include: garden trowel, cut-out of a washing machine, mussel shell, native tree leaf or seedling of a tree, fishing line, picture or toy representing aquatic life, plastic bag, bucket, glass of water, photograph of a thunderbox, flower, T-shirt, cigarette butt in a jar, book, slice of bread, picture of rainforest, soap, toy boat, picture of any animal, chocolate bar, toothpaste, clay, water, jar of spaghetti, drawing of a lily pad, globe, a picture of a dragonfly, (or draw and cut out your own). Ask students to bring a water-related item from home.
- Invite a representative from the local Indigenous community to talk to the class about how Indigenous people in your area lived, and the kinds of technology they used. Ask your guest speaker to focus particularly on how their people found, stored and carried water before the arrival of Europeans. (Refer to 'Linking locally' in the introduction to this unit.)

» Lesson steps

» Session 1—Water treasures

Adapted from *Watersense Teacher Resource File* (2007) reproduced courtesy of Brisbane City Council.

1. Ask students to sit in a circle and think about how water is used in your school and community. Place the water treasures in the middle of the circle.
2. Each student in turn chooses a treasure and shares their thoughts about how this treasure is connected to water and ourselves. As they are covered in the unit, draw connections between the various treasures and their importance to life and ourselves. Use this activity again at the end of the unit to evaluate the change in students' understanding.
3. Ask students to make a class list of the ways in which humans, animals and plants use water in the home, at school and in their community.
4. For each use of water identified by the students, discuss whether fresh, salt or recycled water is used or could be used.
5. Divide the class into teams; focus on those uses listed on the class list that require fresh water, and ask students to record them in their journal under that heading. Each team then ranks these uses from the most important (assign the number 1) to the least important (assign the number 10).

Teams share their rankings with the class, explaining the reasons for their choices. As a class, discuss:

- Which rankings were similar?
 - Which rankings were different?
6. As a class, decide on a final consensus list

and record this list on a sheet of butcher's paper so that it can be referred to in the next lesson. Ask the students to record and share their ideas about why water is a precious resource.

» Optional activity

A–Z of water: Students are given a sheet with A–Z down the left-hand side. The students then make a list of all the ways humans, animals and plants use water in the home, at school and in their community (Tony Ryan, 1990, *Thinker's Keys for Kids*).

A student journal is a record of the student's ideas, observations and experiences. It can include text, diagrams, drawings and images. The journal is a 'thinking diary' that should be dated and written in chronological order. Make sure that the students use full sentences in their journals. Refer to the appendix in the PrimaryConnections unit that explains the use of journals in more detail. The PrimaryConnections units are available from the Australian Academy of Science at <www.science.org.au/primaryconnections/>.

❖ Session 2—Indigenous people’s use of water

1. Discuss how Indigenous people used water before European settlement. Ask students to suggest how Indigenous people would have found water in areas where it was scarce. How would they have carried it from place to place?
2. Ask students to research Indigenous people’s water management, and record their findings in their student journal:
 - a. How did Indigenous people find water where it was scarce?
 - b. What different types of technologies did Indigenous people use to carry water in different parts of Australia? Discuss the headings that could be used on a retrieval chart to systematically gather information to answer this question. The retrieval chart could include headings such as:
 - ‘Type of technology’
 - ‘What it is made of?’
 - ‘How it is made?’
 - ‘Region of Australia where it is used’
 - ‘Interesting notes’.

Here are some resources to get the students started:

- *Finding water in the desert* is a fact sheet from the USMOB website. <www.usmob.com.au/factsheets/Fact_Sheet_01.pdf>

- *Buried treasure* is a news release about the work of Brad Moggridge, who has studied Indigenous people’s use of groundwater resources. <www.newsroom.uts.edu.au/news/detail.cfm?ItemId=6243>
 - *Aboriginal plant use and technology* from the Australian National Botanic Gardens is a fact sheet that provides a broad range of information about using Australian plants. <www.anbg.gov.au/education/pdfs/aboriginal_plant_use_and_technology.pdf>
 - ‘Aboriginal resource use’ explains how the rainforest people of North Queensland carried water in baskets. <www.wettropics.gov.au/rah/rah_resource.html>
3. Ask students to compare Indigenous people’s use of water to the current ways in which water is supplied to towns and cities.
 4. Begin a ‘Water journey words’ wall of words for this unit. See the PrimaryConnections program materials for more details. They can be sourced from <www.science.org.au/primaryconnections/index.htm>.