

Water supplies—Now and for the future

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

» Lesson overview

In the previous lessons, students explored the water treatment process and built a solar still to retrieve fresh water from sea water. In this lesson, students will consider future options for water supplies.

» Objectives

In this lesson, students:

- investigate how new water sources are managed in their local community
- explore a variety of ways to manage new water sources efficiently and effectively.

» Opportunities for assessment

Students may be assessed for group participation such as:

- cooperated with fellow members
- contributed positively to group and pair activities
- listened respectfully to the ideas of others
- worked without distracting others.

Student journals may also be assessed for the quality of information researched, the quality of labelled diagrams and the presentation of completed work.

» Equipment

For the class

- enlarged copy or overhead transparency of 'Comparison of water resource alternatives' (Resource 6)

For each team

- sheets of A3 paper or butcher's paper

» Preparation

- Source information about alternative water supply options for your area, if possible. In Brisbane, for instance, you could collect publications about alternative water sources from the Brisbane City Council, the Queensland Water Commission, South East Queensland Water and the Department of Environment and Resource Management. Information can be found at the following websites:
 - > <www.nrw.qld.gov.au/compliance/wic/guidelines_recycle.html>
 - > <www.thepremier.qld.gov.au/water/>
 - > <www.localgovernment.qld.gov.au/LocalGovernment/Localgovernmentdirectory.aspx> (for full local council listings)
- Organise for students to have access to the internet.

» Lesson steps

1. Review students' understanding of the solar still activity in the previous lesson. Explain that there are a number of water supply options that do not rely on rainfall. A large-scale desalination plant could provide fresh water for coastal Australian cities that have a shortage of water. Ask students to suggest alternative water sources.
2. Review local council specific data (see website listings mentioned in the 'Preparation' section of this lesson) and note the origin of local fresh water supplies and alternatives outlined.
3. Discuss the term 'alternative water sources'. For additional information, refer to *Background Information for Teachers*, available at www.nrw.qld.gov.au/waterwise/education/units/teacher_background.html, Section 6, 'Water reuse and alternatives'.
4. Divide students into teams of three or four. Ask students to examine each alternative in terms of their positives and negatives for the community and environment, the cost, and the amount of water it would provide (rough estimate). The main alternatives currently being debated are:
 - recycling water
 - desalination
 - building more dams
 - bringing online more groundwater
 - rainwater tanks.

5. Ask each team to copy the table (Resource 6) onto the A3 sheet of paper. Each student will need to copy the table into their journal so that they can add information as they find it. The teams collate and present their information table on the A3 paper, with relevant charts and diagrams included. These sheets can be displayed in the classroom.

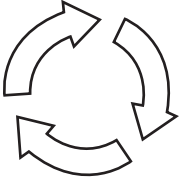
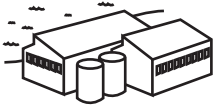


The use of rainwater tanks is an urban demand management tool that is promoted by councils and governments to extend existing water supplies.

» Optional activity

Emphasise that the activity in this lesson looked at new water sources, but there are also other water-saving ideas that could help use less water. Discuss the factors that will influence how water is managed over the next 50 years. Develop and paint a picture of a preferred vision for the future. What role do the users have now and in the future?

Resource 6

❖ Comparison of water resource alternatives

Water resource alternative	Positives	Negatives	Estimated costs	Estimated water usage
Recycling water 				
Desalination 				
Building more dams 				
More groundwater 				
Rainwater tanks 