

Sourcing water

Curriculum focus

Year	Topic	Focus
Year 7	Science – Science understanding	<ul style="list-style-type: none"> Structures and processes involved with plant growth and reproduction.
Year 8		<ul style="list-style-type: none"> The interrelationships between organisms, energy and matter in ecosystems, and the effects of human activity on the sustainability of ecosystems.
Years 8 and 9	Geography – Geographical knowledge and understanding	<ul style="list-style-type: none"> Exploring the concepts of environment, nature and wilderness. Exploring the perception and use of environmental resources.

Learning outcomes

Students will learn about:

- understanding the different sources of water
- investigating the advantages and disadvantages of different water sources
- analysing and interpreting information to determine the best option
- exploring and evaluating new ideas
- communicating conclusions and ideas

Resources

- Fact sheet – Sources of water for your garden
- Sourcing water worksheets 1 and 2
- Glossary

Web resources

- Sydney Water - sydneywater.com.au/Publications/
- Australian Water Association - www.awa.asn.au
- Gardening Australia - <http://www.abc.net.au/gardening/factsheets/>
- Department of the Environment, Water, Heritage and the Arts - <http://www.environment.gov.au/water/publications/index.html>

Learning sequence

Lesson 1

Objectives: To explore the different sources of water available for garden use.

Task:

- As a class, discuss the current water shortages and how this could affect gardens (not including lawns) and the type of plants chosen by people who are planning to create a new garden or update an old one.
- Discuss where the water comes from for each of the water supply options:
 1. Rainwater tanks
 2. Greywater
 3. Bores (groundwater)
 4. Tap water

More information about rainwater tanks, greywater and bores is available in the fact sheet '*Sources of water for your garden.*'

- Discuss the words 'environmental,' 'social' and 'economic.' These words are often used to describe the type of benefit or disadvantage that one thing has on another. Work as a large group to define each of these terms.
- In groups of two discuss the advantages and disadvantages of using water from each source for watering a garden, and complete Worksheet 1.

There is often debate about people using water resources to water their gardens.

- As a class, discuss the different water sources available and the suitability of each for home garden watering. Use the completed worksheets to compare answers and discuss differences in opinion. Consider:
 - Are there environmental reasons why one water source is more suitable for garden watering than the other?
 - Are there social reasons why one water source is more suitable for garden watering than the other?

- Are there economic reasons why one water source is more suitable for garden watering than the other?
- Class discussion: When watering gardens (not including lawns), is one water source better than another, or is a combination of two or more the best solution?

The following task can be completed as homework.

- Students write a short report, to discuss the benefits of using one or a combination of the discussed water sources. Remember to include information about:
 - which source(s) you have chosen
 - why you have made the choice you have
 - environmental, social and/or economic benefits

Lesson 2

Objectives: To explore alternative sources of water for the garden.

Task:

- As a class, brainstorm other water sources apart from rainwater, groundwater, tap water and greywater that could be used to water gardens.

This task can be completed as homework.

- Students are to interview parents and complete worksheet 2. Students may interview a neighbour, friend or relative if they live in a situation without a garden.
- Using the completed worksheets, students draw a picture of their chosen gardens, showing their water saving ideas. Select one or two students to discuss their gardens and the plans they have come up with to decrease garden watering requirements.

Lesson 3

Objectives: To investigate ways of reducing water use in gardens.

Task:

- As a class, brainstorm other actions to reduce garden water requirements, eg planting low water use plants, mulching.

This exercise does not consider the costs and other guidelines that may hinder a change in water supply (such as health and safety, planning approvals etc). Encourage students to use a variety of resources, including books, reports and the Internet, to investigate these factors.

- Invite someone from the school environment management team or the school gardener to speak to your class about the school gardens. An alternative would be to invite a grounds person or horticulturalist from your local council to come and speak about the public gardens in your suburb. Ask your representative to discuss the following:

Are the gardens regularly watered or not watered at all?

What are the reasons for this?

If they are watered, where does the water come from?

Are there future plans to increase water efficiency in the gardens?

- As a class, discuss whether there are alternative options available for sourcing water for the school/council gardens.

Worksheet 1 – Sourcing water

Using the table below, list the advantages and disadvantages of using each of the water supply options, to water home gardens. See if you can include at least one environmental, social and economic reason for each.

Source	Advantages	Disadvantages
Rainwater		
Greywater		
Bores		
Tap		

Worksheet 2 – Sourcing water

Name of garden: _____

Water source: Rain Grey water Bore water Tap water

What are the advantages of using this source of water?

Are there any disadvantages to using this source of water?

Outline an alternative to supply your garden with water, eg could a combination of sources be used?

Why have you selected this option over others?
