

Linking the Australian Curriculum with NRM Education resources

Water (Years 7-10)

Big ideas

Living more sustainably includes understanding and knowing the demands on water resources, including the needs of humans, and the needs of environment systems. Reducing water usage, and sharing water resources are essential for the long-term sustainability of the planet's water. Sustainable living requires sustainable water resources. Learning about water and the connections between the water cycle, catchments and ecosystems is essential to understanding issues affecting the sustainable use of water.

We live in the driest state on the driest inhabited continent on earth. South Australians truly feel the effects of water shortages, drought, climate change and a growing population. To ensure that we cope and in fact prosper under these conditions, it's essential that we use water sustainably now and forever. (Source: DEWNR - www.environment.sa.gov.au/managing-natural-resources/water-use)

Overview

There are many challenges in South Australia relating to water supply and sustainable usage.

The following are some of the sustainability water themes students can learn about and possibly take action for:

- capturing rain and using it as a resource in the local area
- the water cycle
- water in the home; where it comes from and where it goes when it leaves our house
- local and global water harvesting and recycling strategies
- groundwater salination and desalination strategies
- variations in global access to clean water
- social justice and water use and accessibility
- the demand for, and use of, water in agriculture and industry
- local use of water and how this can be reduced
- rain levels in the local area compared to areas around the world
- valuing water as a finite resource
- current and potential climate change impacts on water supply locally and globally
- effects of water pollution on environmental, social and economic systems
- impact of building water infrastructures e.g. dams, pumps for ground water, artificial wetlands
- water as a form of energy (hydropower)
- water management strategies for the local area
- innovative technologies related to water



- how water is bought and sold

Sustainability in the Australian Curriculum

Education for sustainability develops the knowledge, skills, values and world views necessary for people to act in ways that contribute to more sustainable patterns of living. It enables individuals and communities to reflect on ways of interpreting and engaging with the world. Sustainability education is futures-oriented, focusing on protecting environments and creating a more ecologically and socially just world through informed action. Actions that support more sustainable patterns of living require consideration of environmental, social, cultural and economic systems and their interdependence. (Source: The Australian Curriculum v7.2: www.australiancurriculum.edu.au/CrossCurriculumPriorities/Sustainability)

These are just a few Curriculum links and ideas that connect to NRM Education resources.

You are encouraged to seek further connections when planning learning experiences.

Learning areas	Strands	Learning experience ideas	NRM Education resources
Geography Year 7	Geographical Knowledge and Understanding Unit 1: Water in the world	Investigate the flow of water in your local catchment (e.g. Torrens River, Port River, Sturt River/Patawalonga or the Onkaparinga). How does it connect places as it moves through the environment and how does this affect these places? <i>Ethical understanding, Numeracy, Personal and social capability</i>	The Best of Catchment Connections This curriculum resource provides a systematic approach to teaching about catchments and ecosystems; including understanding catchments, human impacts and taking action. Plan your own catchment/waterway tour. Catchment Education – Teacher Information Pack Teacher information about catchments, images and activities. Issues for water catchments in South Australia poster Borrow a water quality testing kit Test water at different locations along your chosen waterway. Fresh Water Quality Monitoring – Teacher Information Pack Borrow a macro-invertebrate kit Aquatic macro-invertebrates tell us a lot about the health of our waterways, how healthy is yours? Macro-invertebrate Teacher Information Pack Inland Waterways (education kit) – available for loan from NRM Education Loan Library



	<p>Geographical Knowledge and Understanding</p> <p>Unit 2: Place and liveability</p>	<p>Research water use in your home for a week. Analyse the kinds of use and propose suggestions to your parents to reduce it.</p> <p><i>Ethical understanding, Numeracy, Personal and social capability</i></p>	<p>Food and Our Carbon Footprint How to lower our food footprint as consumers</p>
	<p>Reflecting and Responding</p>	<p>Reflect on the influence of water quality on the liveability of your local suburb/Adelaide/South Australia. Explore the factors that influence the decisions people make about where to live and their perceptions of the liveability of places</p> <p><i>Literacy, Personal and social capability</i></p>	<p>Food and Our Carbon Footprint How to lower our food footprint as consumers</p>
		<p>Reflect on their learning to propose individual and collective action in response to water as a contemporary geographical challenge, taking account of environmental, economic and social considerations, and predict the expected outcomes of their proposal</p> <p><i>Ethical understanding, Literacy, Personal and social capability</i></p> <p>The worldview some people have is they can do whatever they like regardless of the impact on other life and the planet. Other people believe that they need to live sustainably with the planet and other people and living things. What is your worldview? What is the main view of other people in your life? Discuss the consequences of both worldviews.</p> <p><i>Literacy, Personal and social capability</i></p>	<p>Sustainable and Attainable – Planning and Action Create a Voice – action planning template and project planning model.</p>
<p>Geography</p> <p>Year 9</p>	<p>Geographical Knowledge and Understanding</p> <p>Unit 1: Biomes and food security</p>	<p>Investigate the challenges to food production, including land and water degradation, shortage of fresh water, competing land uses, and climate change, for Australia and other areas of the world</p> <p><i>Ethical understanding, ICT capability, Intercultural understanding, Literacy, Personal and social capability</i></p>	<p>Food and Our Carbon Footprint How to lower our food footprint as consumers</p>
<p>Science</p> <p>Year 7</p>	<p>Science Understanding</p> <p>Earth and space sciences</p>	<p>Water is an important resource that cycles through the environment. Conduct a water audit to collect data about the water sources within the school. Are there areas that water use could be reduced? What is the importance of water to the school and school community?</p> <p><i>Numeracy</i></p>	<p>The Best of Catchment Connections</p> <p>Includes information on the water needs of the Adelaide and Mount Lofty Ranges, a water use survey and other student activities. See pages 119-127.</p> <p>Sustainable and Attainable Involve students in identifying, understanding and assessing water</p>



			patterns in the school environment, encouraging students to plan and take action.
Science Year 8	Science as a human endeavour Use and influence of science	Investigate the technologies and natural systems that influence the development of practices of human activity in relation to water resource management. <i>Ethical understanding, ICT capability</i>	Wetlands Wetland Information Kit: Wetland Resources for Schools (folder) – available for loan from NRM Education Loan Library
Other resources	Identification charts		
	Teacher information packs		
	Fact sheets		
	Other links	SA Water's education program Department for Environment, Water and Natural Resources (DEWNR) The Murray Darling Basin Authority	

© Australian Curriculum, Assessment and Reporting Authority (ACARA) 2010 to present, unless otherwise indicated. This material was downloaded from the Australian Curriculum website (www.australiancurriculum.edu.au) (Website) (accessed 25/2/2016) and was not modified. The material is licensed under [CC BY 4.0](https://creativecommons.org/licenses/by/4.0) (<https://creativecommons.org/licenses/by/4.0>).

