

Teacher Lesson Guide

Moving water through the Snowy Scheme

The important stuff

This unit was designed for		Total content duration	
Target audience	Year 9 & 10	Total content duration	50-75 minutes
Curriculum links also for		This unit contains	Duration
Scientific understanding	Year 9-10	Using the water cycle	20-30 min
Science as a Human Endeavour	Year 9-10	Moving water in practice	10-15 min
Science Inquiry	Year 9-10	Water Audit	20-30 min
Detailed curriculum code alignment for ACARA v9 is available in the Curriculum Alignment section of this unit guide.		Check the timing and notes of these activities and find links to all of the individual resources in the Lesson Breakdown section of this unit guide.	

An overview of the lesson

This lesson looks over the way the Snowy Scheme harnesses the energy of the natural water cycle to generate electricity. Moving water through a series of dams and power stations is a giant and complex network. The Snowy Scheme does not use the water, but rather the movement of it. There are many complexities about how the water is moved to ensure that natural flows are emulated.

[Suggested prior knowledge](#)

[Find detail on ideas discussed in this unit](#)

Lesson breakdown

Activity timing and delivery guide			
Order	Duration	Activity description	Notes
1	10-15 min	Using the water cycle	Re-cap how the water cycle operates by using the mountains as context
2	10-15 min	Movement of water through the Snowy Scheme	Learn about Snowy Hydro's water licenses, water releases and how much water is moved
3	10-15 min	Moving water in practice	Take a look at the fact sheets about the two networks used for the Snowy Scheme. Compare and contrast the networks and why there might be differences.
4	20-30 min	Water Audit activity	Assign this sheet for a school water audit. Students can also do a water audit in their homes

For this lesson you will need	
Student resources	
Fact sheets	Water cycle factsheet Water in the Snowy Scheme Moving water in practice: The Snowy-Murray network Moving water in practice: The Snowy-Tumut network
Activity Worksheet	Water Audit activity

Key themes and ideas

Suggested prior knowledge before this lesson

- identify sources of water and describe key processes in the water cycle, including movement of water through the sky, landscape and ocean; precipitation; evaporation; and condensation ([AC9S4U02](#))

Within this unit, students will explore

- **Theme:** Elaboration
- **Theme:** Elaboration
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Curriculum alignment

Years 9 & 10

Science understanding	
Year 9	
Physical sciences	AC9S9U05 apply the law of conservation of energy to analyse system efficiency in terms of energy inputs, outputs, transfers and transformations
Year 10	
<i>There are no direct year 10 science understanding curriculum links in this unit</i>	
Science as a human endeavour	
Nature and development of science	AC9S9H02 / AC9S10H02 investigate how advances in technologies enable advances in science, and how science has contributed to developments in technologies and engineering
Science inquiry	
Processing, modelling and analysing	AC9S9I05 / AC9S10I05 analyse and connect a variety of data and information to identify and explain patterns, trends, relationships and anomalies

All year level curriculum areas in focus

Science Learning Area	Cross curriculum priorities	General capabilities
Key ideas	Sustainability	Critical and Creative Thinking
<ul style="list-style-type: none"> Stability and change Scale and measurement Matter and energy Systems 	<p>Systems: SS1: All life forms, including human life, are connected through Earth's systems (geosphere, biosphere, hydrosphere and atmosphere) on which they depend for their wellbeing and survival. SS2: Sustainable patterns of living require the responsible use of resources, maintenance of clean air, water and soils, and preservation or restoration of healthy environments.</p> <p>World Views SW1: World views that recognise the interdependence of Earth's systems, and value diversity, equity and social justice, are essential for achieving sustainability.</p> <p>Design: SD1: Sustainably designed products, environments and services aim to minimise the impact on or restore the quality and diversity of environmental, social and economic systems.</p>	<ul style="list-style-type: none"> Inquiring Analysing Reflecting
		Literacy
		<ul style="list-style-type: none"> Speaking and listening Reading and viewing Writing
		Numeracy
		<ul style="list-style-type: none"> Number sense and algebra Measurement and geometry
		Personal and social capability
		<ul style="list-style-type: none"> Self-awareness