Teacher Lesson Guide

The water cycle and Snowy Hydro

The important stuff

This unit was designed for		Total content duration	
Target audience	**Year 3 & 4**	**Total content duration**	**60-70 minutes**
Curriculum links also for		**This unit contains**	**Duration**
Scientific understanding	Year 3 & 4	**The water cycle**	10-15 min
Science as a Human Endeavour	Year 3 & 4	**Teacher demonstrations**	30-35 min
Science inquiry	Year 3 & 4	**Water cycle wheel**	20 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 unit introduces the water cycle through short explanations, teacher demonstrations and hands-on modelling. It builds core understanding of how water moves and changes state, with activities that are easy to run in a primary classroom.

The unit begins with a brief video and fact sheet to introduce evaporation, condensation and precipitation. Teacher-led demonstrations then allow students to observe how adding or removing heat causes water to change state, supporting Year 3 Chemical Sciences outcomes and Year 4 Earth and Space Sciences requirements.

Students finish the unit by creating a water cycle wheel, using a physical model to show how water moves through the sky, landscape and ocean. This activity supports science inquiry skills by helping students organise information and identify relationships between processes. Discussion throughout the unit encourages students to think about how understanding the water cycle helps people explain weather and manage water in the real world.

Find detail on ideas discussed in this unit

Lesson breakdown

Activity timing and delivery guide			
Order	**Duration**	**Activity description**	**Notes**
1	10-15 min	Introducing the water cycle	Play the Kirsten Banks video and use the water cycle fact sheet to introduce the water cycle.
2	30-35 min	Teacher demonstrations	Set up the **evaporation** demonstration first as this will take the longest to demonstrate. Then set up the **condensation** practical as this will take the second longest. Do the **precipitation** demonstration last.
3	20 min	The Water Cycle Wheel	Get students to create their own water cycle wheel from their knowledge of the water cycle

For this lesson you will need	
Teaching resources	
Video	Science of the snowy scheme with Dr Kirsten Banks: Water
Teacher demonstrations	Evaporation Teacher Practical Guide Condensation Teacher Practical Guide Precipitation Teacher Practical Guide
Demonstration materials	Evaporation: Clear plastic glass or cup Marker Water Condensation: Two heat proof cups Hot water Ice cubes Precipitation: Clear plastic glass or cup Water Shaving cream Food colouring (blue works best)
Student resources	
Water cycle wheel	Water cycle fact sheet Water cycle wheel activity sheet Coloured pencils Scissors glue

Key themes and ideas

Within this unit, students will explore

- **Introducing the water cycle**: Students are introduced to evaporation, condensation and precipitation through a short video and fact sheet that build shared language and understanding.
- **Observing changes of state**: Teacher-led demonstrations allow students to see how heating and cooling water causes changes of state, linking directly to Year 3 and 4 science concepts.
- **Modelling water movement**: Students create a water cycle wheel to represent how water moves through the sky, landscape and ocean, reinforcing key processes.
- **Science in the real world**: Guided discussion explores how understanding the water cycle helps people explain weather and manage water resources.

Curriculum alignment

Years 3 & 4

Science understanding	
Year 3	
Chemical sciences	AC9S3U04 investigate the observable properties of solids and liquids and how adding or removing heat energy leads to a change of state
Year 4	
Earth and space sciences	AC9S4U02 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
Science as a human endeavour	
Use and influence of science	AC9S3H02/AC9S4H02 consider how people use scientific explanations to meet a need or solve a problem
Science inquiry	
Processing, modelling and analysing	AC9S3I04/AC9S4I04 construct and use representations, including tables, simple column graphs and visual or physical models, to organise data and information, show simple relationships and identify patterns

All year level curriculum areas in focus

Science Learning Area

Key ideas

- Patterns, order and organisation
- Stability and change
- Matter and energy
- Systems

Cross curriculum priorities

Sustainability

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.

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.

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.

SD3: Sustainable design requires an awareness of place, past practices, research and technological developments, and balanced judgements based on projected environmental, social and economic impacts.

General capabilities

Critical and Creative Thinking

- Inquiring
- Analysing

Literacy

- Speaking and listening
- Reading and viewing

Personal and social capability

- Social awareness