

# WATERWATCH



## Upper Murrumbidgee

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# EDUCATION

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Assessing Water Quality

## Secondary Education: Years 9 - 12

# Content Codes Achievement Standards

Supported by:



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# Assessing Water Quality

## Secondary Education: Yr 9 - 12

### Australian National Curriculum Alignments

**Yr9: Science:** ACSIS165, ACSIS166, ACSIS169, ACSIS170

**Humanities & Social Sciences:** ACHGK061, ACHGK063, ACHGS070

**Mathematics:** ACMSP228, ACMSP283

**Yr10: Science:** ACSIS199, ACSIS200, ACSIS203, ACSIS204, ACSIS205

**Humanities & Social Sciences:** ACHGK070, ACHGK071, ACHGK073, ACHGK074, ACHGS072, ACHGS073, ACHGS074, ACHGS077, ACHGS079, ACHGS080

**Mathematics:** ACMSP278

**Yr11-12\*: Science: Chemistry: Unit 2:** ACSCH063, ACSCH066

**Humanities & Social Sciences: Geography: Unit 1:** ACHGE001, ACHGE002, ACHGE006, ACHGE007, ACHGE009

**Unit 2:** ACHGE028, ACHGE029, ACHGE033, ACHGE038, ACHGE046

**Unit 3:** ACHGE054, ACHGE059, ACHGE064, ACHGE066, ACHGE072, ACHGE084

\* Lesson may be used to contribute to learning outcomes.

## Achievement Standards

**Yr9: Science:** They design methods that include the control and accurate measurement of variables and systematic collection of data and describe how they considered ethics and safety. They analyse trends in data, identify relationships between variables and reveal inconsistencies in results.

**Humanities & Social Sciences: Geography:** They predict changes in the characteristics of places over time and identify the possible implications of change for the future. Students analyse alternative strategies to a geographical challenge using environmental, social and economic criteria.

Students synthesise data and information to draw reasoned conclusions. Students propose action in response to a geographical challenge, taking account of environmental, economic and social factors, and predict the outcomes and consequences of their proposal.

**Mathematics:** Students compare techniques for collecting data from primary and secondary sources.

**Yr10: Science:** When analysing data, selecting evidence and developing and justifying conclusions, they identify alternative explanations for findings and explain any sources of uncertainty. They construct evidence-based arguments and select appropriate representations and text types to communicate science ideas for specific purposes.

**Humanities & Social Sciences: Geography:** Students identify, analyse and explain significant interconnections between people, places and environments and explain changes that result from these interconnections and their consequences. They predict changes in the characteristics of places and environments over time, across space and at different scales and explain the predicted consequences of change.

They evaluate their findings and propose action in response to a contemporary geographical challenge, taking account of environmental, economic, political and social considerations. They explain the predicted outcomes and consequences of their proposal.

**Yr10: Mathematics:** They make the connections between algebraic and graphical representations of relations.

**Yr11-12: Science: Chemistry: Unit 2:** Understand how models of the shape and structure of molecules and intermolecular forces can be used to explain the properties of substances, including the solubility of substances in water.

Use science inquiry skills to design, conduct, evaluate and communicate investigations into the properties and behaviour of gases, water, aqueous solutions and acids and the factors that affect the rate of chemical reactions.

**Humanities & Social Sciences: Geography: Unit 1:** Understand that places and environments can be influenced by both natural and ecological hazards.

Understand the complexity of human–environment interdependence in relation to natural and ecological hazards.

Apply geographical inquiry and a range of skills, including spatial technologies and fieldwork, to investigate natural and ecological hazards.

**Humanities & Social Sciences: Geography: Unit 2:** Understand the processes resulting in change in places and how the places investigated can be made more sustainable.

Apply geographical inquiry and a range of skills, including spatial technologies and fieldwork, to investigate a challenge associated with the sustainability of places.

Evaluate alternative strategies or proposals to manage the selected challenge.

**Humanities & Social Sciences: Geography: Unit 3:** Understand the local and regional effects of land cover change on ecosystems, and the interrelationships between land cover change and global climate change or biodiversity loss.

Apply geographical inquiry and a range of skills, including spatial technologies and fieldwork, to investigate land cover change and its consequences.