Wet Rocks Australian Curriculum links Science Learning Area _All (LINKS TO YEAR 3 ON FOLLOWING PAGES)

		Year 7 Content description	Year 8 Content description	Year 9 Content description	Year 10 Content description
Science understanding	**Biological Sciences**			Ecosystems consist of communities of interdependent organisms and abiotic components of the environment; matter and energy flow through these systems (ACSSU176) Literacy Critical and creative thinking Numeracy Sustainability	
	Chemical Sciences				
	Earth and Space Sciences	Some of Earth's resources are renewable, but others are non-renewable (ACSSU116) Literacy, Critical and creative thinking, Numeracy, Sustainability Water is an important resource that cycles through the environment (ACSSU222) Critical and creative thinking, Sustainability	Sedimentary igneous and metamorphic rocks contain minerals and are formed by processes that occur within Earth over a variety of time scales (ACSSU153) Literacy, Critical and creative thinking, Numeracy		Global systems, including the carbon cycle, rely on interactions involving the biosphere, lithosphere, hydrosphere and atmosphere (ACSSU189) Literacy Critical and creative thinking Ethical behaviour Sustainability
	Physical Sciences				
Science as human endeavour	**Nature and development of science**	Science knowledge can develop through collaboration and connecting ideas across the disciplines of science (ACSHE223) Literacy, Intercultural understanding, Personal and social capability, Sustainability, Aboriginal and Torres Strait Islander histories and cultures	Science knowledge can develop through collaboration and connecting ideas across the disciplines of science (ACSHE226) Literacy, Personal and social capability, Critical and creative thinking		
	Use and influence of science	Science and technology contribute to finding solutions to a range of contemporary issues; these solutions may impact on other areas of society and involve ethical considerations (ACSHE120) Literacy, Critical and creative thinking, Ethical behaviour, Sustainability, Aboriginal and Torres Strait Islander histories and cultures Science understanding influences the development of practices in areas of human activity such as industry, agriculture and marine and terrestrial resource management (ACSHE121) Literacy, Intercultural understanding Personal and social capability, Ethical behaviour, Sustainability, Aboriginal and Torres Strait Islander histories and cultures People use understanding and skills from across the disciplines of science in their occupations (ACSHE224) Literacy, Sustainability	Science and technology contribute to finding solutions to a range of contemporary issues; these solutions may impact on other areas of society and involve ethical considerations (ACSHE135) Literacy, Personal and social capability ,Critical and creative thinking, Ethical behaviour Sustainability	People can use scientific knowledge to evaluate whether they should accept claims, explanations or predictions (ACSHE160) Literacy, Critical and creative thinking, Ethical behaviour	

		Year 7 Content description	Year 8 Content description	Year 9 Content description	Year 10 Content description
Science inquiry skills	**Questioning and predicting**	Identify questions and problems that can be investigated scientifically and make predictions based on scientific knowledge (ACSIS124) Literacy, Personal and social capability, Critical and creative thinking		Formulate questions or hypotheses that can be investigated scientifically (ACSIS164) Literacy Information and communication technology capability Critical and creative thinking	
	Planning and conducting	Collaboratively and individually plan and conduct a range of investigation types, including fieldwork and experiments, ensuring safety and ethical guidelines are followed (ACSIS125) Literacy, Personal and social capability, Information and communication technology capability, Ethical behaviour In fair tests, measure and control variables, and select equipment to collect data with accuracy appropriate to the task (ACSIS126) Literacy Personal and social capability Information and communication technology capability Numeracy			
	Processing and analysing data and information	Construct and use a range of representations, including graphs, keys and models to represent and analyse patterns or relationships, including using digital technologies as appropriate (ACSIS129) Literacy, Information and communication technology capability, Critical and creative thinking, Numeracy Summarise data, from students' own investigations and secondary sources, and use scientific understanding to identify relationships and draw conclusions (ACSIS130) Literacy, Critical and creative thinking, Numeracy			
	Evaluating				
	Communicating	Communicate ideas, findings and solutions to problems using scientific language and representations using digital technologies as appropriate (ACSIS133) Literacy, Personal and social capability, Information and communication technology capability		Communicate scientific ideas and information for a particular purpose, including constructing evidence-based arguments and using appropriate scientific language, conventions and representations	

Year 3 Worksheets in context of the National Curriculum

The groundwater program represented by the series of worksheets has been teacher assessed against the National Curriculum. This assessment focused on the Science Inquiry Skills of the National Curriculum and is summarised in Table 1.

Science as a Human Endeavour

Worksheets 1, 2, and 3a-e of the program conclude with discussion points. These help students and teacher explore what they have been learning beyond the worksheet task.

- Predictions, describing patterns and relationships.
  This is achieved through analysis, experimental predictions, examination of results, discussions, and linking the unknowns of groundwater with familiar activities (such as crosswords) and materials (such as Tim Tams and flower pots). Activities within the program encompass measuring, graphing, subtraction, comparing, and familiarisation with the format of scientific writing.
- Helping people understand the effect of their actions
  The groundwater focus includes exploration of how human extraction of water can affect natural flows. This is clearly explored in Activities 3b (Sandcastles) and 3e (Thickshake cones of depression).

Table 1. Overview of how worksheets relate to Science Inquiry Skills

WORKSHEET	QUESTIONING PREDICTING	PLANNING CONDUCTING	PROCESSING ANALYSING DATA & INFORMATION	EVALUATING	COMMUNICATING	LINKED TO ENGLISH	LINKED TO MATHEMATICS
1. THE TALE OF GROBBIN AND WESSEL	✓		✓		✓	✓	
2. MAKING AND EXPERT IMPRESSION	✓	✓	✓		✓	✓	✓
3. EXPLORE IT! (ACTIVITIES)							
3A TIM TAM AQUITARDS AND AQUIFERS	✓	✓	✓	✓	✓	✓	
3B SANDCASTLES	✓	✓	✓	✓	✓	✓	✓
3C FLOWER POT AQUIFERS	✓	✓	✓	✓	✓	✓	✓
3D FEELING THE PRESSURE	✓	✓	✓	✓	✓	✓	✓
3E THICKSHAKE CONES OF DEPRESSION	✓	✓		✓	✓	✓	
4. SEARCHING FOR GROUNDWATER					✓	✓	
5. GETTING CLUED-UP	✓			✓	✓		
6. ARE YOU AN EXPERT?	✓			✓	✓	✓	

English

The thread tying the beginning and end of the program together is language. This is done by presenting technical words as an opportunity to build expertise. An assessment sheet (Worksheet 6) allows students to get a measure of how familiar they have become with these words during the course of the program. Groundwater is a topic directly relevant to living in Australia, and the history of Australian Aborigines. These elements are opened for discussion through presentation of a story in Worksheet 1.

Numeracy

The course links with numeracy through measurement (Activities 3b, 3c and 3d) and graphing (Activity 3c). There is ample opportunity to expand this – groundwater is a topic that involves considerable mathematical modelling and analysis!