****Australian National Curriculum at the Urrbrae Wetland

**Junior Science**

The science curriculum as set out in the Australian National Curriculum, aims to provide opportunities for students to develop an understanding of scientific concepts, processes and practices with a strong emphasis on inquiry based learning. Here at the Urrbrae Wetland, we offer a broad range of activities with outcomes that coincide with achievement standards set out in the Australian Curriculum, especially in the areas of biological science and scientific inquiry skills.

* + Literacy
  + Personal and social capability
  + Critical and creative thinking
  + Sustainability
  + Literacy
  + Critical and creative thinking
  + Numeracy
  + Sustainability
  + Literacy
  + Intercultural understanding
  + Personal and social capability
  + Sustainability
  + Aboriginal and Torres Strait Islander histories and cultures
  + Asia and Australia´s engagement with Asia
  + Literacy
  + Critical and creative thinking
  + Literacy
  + Personal and social capability
  + Critical and creative thinking
  + Literacy
  + Personal and social capability

Below is a summary of how excursions to the Urrbrae Wetland can assist junior primary students to meet a number of science achievement standards, not to forget the seven general capabilities and cross-curriculum priorities that are also covered though involvement of the described activities.

The material below focuses specifically on the activities included in the “***Wetland Detectives Program***” for junior primary students. An excursion to the Urrbrae Wetland is not meant to be a one off learning experience, but an integral part of a unit. To ensure all the achievements standards are met, it is important for teachers to conduct follow up activities in the classroom, which supports the learning undertaken during the excursion.

For more information on each activity, please visit to the Urrbrae Wetland Learning Centre website:

www.urrbraewetlandLC.org

*The possibilities for learning experiences are only limited by your imagination and are by no means limited to the activities listed below. Activities can be developed for every age group in any learning area. To discuss more ideas or how you can meet a diverse range of cross curriculum needs detail please contact the Urrbrae Wetland Manager.*

**General Capabilities**

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|  | **Organising Elements** | | | |
| **Literacy** | Reading and viewing texts  Listening  Oral interactions  Understanding how visual elements create meaning | | | |
| **Numeracy** | Calculating and estimating  Interpreting and drawing conclusions from statistical information  Using Measurement | | | |
| **ICT Capabilities** | Investigating with ITC  Communicating with ICT  Managing and operating ICT | | | |
| **Critical and Creative Thinking** | Inquiring – identifying, exploring and clarifying information  Generating innovative ideas and possibilities  Reflecting on thinking, actions and processes  Analysing, synthesising and evaluating information | | | |
| **Personal and Social Capabilities** | Social awareness  Social management | | | |
| **Ethical Behaviour** | Understanding ethical concepts and issues  Exploring values, rights and ethical principles | | | |
| **Intercultural Understandings** | Recognising  Respect | | | |
| **Cross Curriculum Priorities** | |  | | |
|  | | **Organising Ideas** | | |
|  | | **Systems** | **Worldviews** | **Futures** |
| [Sustainability](http://www.australiancurriculum.edu.au/CrossCurriculumPriorities/Sustainability) | | OI.2 OI.3 | OI.5 | OI.8 |

Foundation Year Achievement Standard

By the end of the Foundation year, students describe the [properties](http://www.australiancurriculum.edu.au/Glossary?a=S&t=properties) and behaviour of familiar objects. **They suggest how the** [**environment**](http://www.australiancurriculum.edu.au/Glossary?a=S&t=environment) **affects them and other living things.**

**Students share observations of familiar objects and events.**

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| ***Foundation Year Content Descriptions*** | | | **Activity** |
| **Science Understanding** | **Biological sciences** | Living things have basic needs, including food and water [(ACSSU002)](http://www.australiancurriculum.edu.au/Curriculum/ContentDescription/ACSSU002) | * Who Lives Under the Water? * Who Lives Above the Water? * Who Eats Who? |
| **Earth and space sciences** | Daily and seasonal changes in our [environment](http://www.australiancurriculum.edu.au/Glossary?a=S&t=environment), including the weather, affect everyday life [(ACSSU004)](http://www.australiancurriculum.edu.au/Curriculum/ContentDescription/ACSSU004) | * What is an Ecosystem? * What if you had to Live Here? * Indigenous Plant Trail |
| **Science as a Human Endeavour** | **Nature and development of science** | Science involves exploring and observing the world using the [senses](http://www.australiancurriculum.edu.au/Glossary?a=S&t=senses)[(ACSHE013)](http://www.australiancurriculum.edu.au/Curriculum/ContentDescription/ACSHE013) | * What is an Ecosystem? * Indigenous Plant Trail |
| **Science Inquiry Skills**   * + Literacy   + Personal and social capability   + Critical and creative thinking   + Literacy   + Literacy   + Personal and social capability   + Critical and creative thinking | **Questioning and predicting** | Respond to questions about familiar objects and events [(ACSIS014)](http://www.australiancurriculum.edu.au/Curriculum/ContentDescription/ACSIS014) | * Does the wetland clean the Water? |
| **Planning and conducting** | Explore and make observations by using the [senses](http://www.australiancurriculum.edu.au/Glossary?a=S&t=senses)[(ACSIS011)](http://www.australiancurriculum.edu.au/Curriculum/ContentDescription/ACSIS011) | * How does the Wetland Work? * What if you had to Live Here? * Indigenous Plant Trail |
|  | **Processing and analysing data and information** | Engage in discussions about observations and use methods such as drawing to represent ideas [(ACSIS233)](http://www.australiancurriculum.edu.au/Curriculum/ContentDescription/ACSIS233) | * Wetland Detective Activities |
|  | **Communicating** | Share observations and ideas [(ACSIS012)](http://www.australiancurriculum.edu.au/Curriculum/ContentDescription/ACSIS012) | * Wetland Detective Activities |

* + Critical and creative thinking
  + Personal and social capability
  + Ethical behaviour
  + Sustainability
  + Aboriginal and Torres Strait Islander histories and cultures
  + Personal and social capability
  + Information and communication technology capability
  + Numeracy

### Year 1 Achievement Standard

By the end of Year 1, students describe objects and events that they encounter in their everyday lives, and the effects of interacting with [materials](http://www.australiancurriculum.edu.au/Glossary?a=S&t=materials) and objects. **They identify a range of habitats. They describe changes to things in their** [**local environment**](http://www.australiancurriculum.edu.au/Glossary?a=S&t=local+environment) **and suggest how science helps people care for environments.**

### Students make predictions, and investigate everyday phenomena. They follow instructions to record and sort their observations and share their observations with others.

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| ***Year 1 Content Descriptions*** | | | **Activity** |
| **Science Understanding** | **Biological sciences** | Living things have a variety of external features [(ACSSU017)](http://www.australiancurriculum.edu.au/Curriculum/ContentDescription/ACSSU017) | * Who Lives above and below the water? * What do Insects do? |
|  | Living things live in different places where their needs are met [(ACSSU211)](http://www.australiancurriculum.edu.au/Curriculum/ContentDescription/ACSSU211) | * Who Lives above and below the water? * What is an ecosystem? |
| * + Literacy   + Numeracy   + Literacy   + Critical and creative thinking   + Sustainability   + Literacy   + Critical and creative thinking | **Earth and space sciences** | [Observable](http://www.australiancurriculum.edu.au/Glossary?a=S&t=Observable) changes occur in the sky and landscape [(ACSSU019)](http://www.australiancurriculum.edu.au/Curriculum/ContentDescription/ACSSU019) | * What is an Ecosystem? * Does the wetland clean the water? |
| **Science as a Human Endeavour**   * + Literacy   + Personal and social capability   + Critical and creative thinking   + Sustainability   + Personal and social capability   + Ethical behaviour   + Sustainability   + Aboriginal and Torres Strait Islander histories and cultures | **Nature and development of science** | Science involves asking questions about, and describing changes in, objects and events [(ACSHE021)](http://www.australiancurriculum.edu.au/Curriculum/ContentDescription/ACSHE021) | * Wetland Detective Activities |
|  | Use and influence of science | People use science in their daily lives, including when caring for their [environment](http://www.australiancurriculum.edu.au/Glossary?a=S&t=environment) and living things [(ACSHE022)](http://www.australiancurriculum.edu.au/Curriculum/ContentDescription/ACSHE022) | * Wetland Detective Activities * Threats to wetland mystery Box |
| **Science Inquiry Skills**   * + Literacy   + Personal and social capability   + Critical and creative thinking   + Literacy   + Literacy   + Personal and social capability   + Critical and creative thinking | **Questioning and predicting** | Respond to and pose questions, and make predictions about familiar objects and events [(ACSIS024)](http://www.australiancurriculum.edu.au/Curriculum/ContentDescription/ACSIS024) | * Does the Wetland Clean the water? * Who Eats Who? |
| **Planning and conducting** | Participate in different types of [guided investigations](http://www.australiancurriculum.edu.au/Glossary?a=S&t=guided+investigations) to explore and answer questions, such as manipulating [materials](http://www.australiancurriculum.edu.au/Glossary?a=S&t=materials), testing ideas, and accessing information sources [(ACSIS025)](http://www.australiancurriculum.edu.au/Curriculum/ContentDescription/ACSIS025)Literacy   * + Personal and social capability   + Critical and creative thinking   + Numeracy | * Wetland Detectives |
|  |  | Use informal measurements in the collection and recording of observations, with the assistance of [digital technologies](http://www.australiancurriculum.edu.au/Glossary?a=S&t=digital+technologies) as appropriate [(ACSIS026)](http://www.australiancurriculum.edu.au/Curriculum/ContentDescription/ACSIS026) | * Does the Wetland Clean the water? * Who lives below the water? |
|  | **Processing and analysing data and information** | Use a range of methods to sort information, including drawings and provided [tables](http://www.australiancurriculum.edu.au/Glossary?a=S&t=tables)[(ACSIS027)](http://www.australiancurriculum.edu.au/Curriculum/ContentDescription/ACSIS027)Literacy   * + Critical and creative thinking   + Numeracy | * Wetland Detectives |
|  |  | Through discussion, compare observations with predictions [(ACSIS212)](http://www.australiancurriculum.edu.au/Curriculum/ContentDescription/ACSIS212) | * Wetland Detectives |
|  | Evaluating | Compare observations with those of others [(ACSIS213)](http://www.australiancurriculum.edu.au/Curriculum/ContentDescription/ACSIS213) | * Wetland Detectives |
|  | **Communicating** | Represent and communicate observations and ideas in a variety of ways such as oral and written language, drawing and role play [(ACSIS029)](http://www.australiancurriculum.edu.au/Curriculum/ContentDescription/ACSIS029) | * Wetland Detectives |

### Year 2 Achievement Standard

By the end of Year 2, **students describe changes to objects,** [**materials**](http://www.australiancurriculum.edu.au/Glossary?a=S&t=materials) **and living things.** They identify that certain [materials](http://www.australiancurriculum.edu.au/Glossary?a=S&t=materials) and resources have different uses and describe examples of where science is used in people’s daily lives.

**Students pose questions about their experiences and predict outcomes of** [**investigations**](http://www.australiancurriculum.edu.au/Glossary?a=S&t=investigations)**.** **They use informal measurements to make and compare observations. They follow instructions to record and represent their observations and communicate their ideas to others.**

* + Intercultural understanding
  + Personal and social capability
  + Critical and creative thinking
  + Ethical behaviour
  + Sustainability
  + Aboriginal and Torres Strait Islander histories and cultures

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| ***Year 2 Content Descriptions*** | | | **Activity** |
| **Science Understanding** | **Biological sciences** | Living things grow, change and have offspring similar to themselves [(ACSSU030)](http://www.australiancurriculum.edu.au/Curriculum/ContentDescription/ACSSU030) | * Life Cycles of Macroinvertebrates |
| Chemical sciences | Different [materials](http://www.australiancurriculum.edu.au/Glossary?a=S&t=materials) can be combined, including by mixing, for a particular purpose [(ACSSU031)](http://www.australiancurriculum.edu.au/Curriculum/ContentDescription/ACSSU031) | * Does the wetland clean the water? **-** Water testing   (phosphates and nitrates) |
| * + Literacy   + Numeracy   + Literacy   + Critical and creative thinking   + Sustainability   + Literacy   + Critical and creative thinking | **Earth and space sciences** | Earth’s resources, including water, are used in a variety of ways [(ACSSU032)](http://www.australiancurriculum.edu.au/Curriculum/ContentDescription/ACSSU032) | * How does the Wetland work? |
| **Science as a Human Endeavour**   * + Literacy   + Personal and social capability   + Critical and creative thinking   + Sustainability   + Personal and social capability   + Ethical behaviour   + Sustainability   + Aboriginal and Torres Strait Islander histories and cultures | **Nature and development of science** | Science involves asking questions about, and describing changes in, objects and events [(ACSHE034)](http://www.australiancurriculum.edu.au/Curriculum/ContentDescription/ACSHE034) | * Making Observations Introduction * Indigenous Plant Trail * Wetland Detectives |
| Use and influence of science | People use science in their daily lives, including when caring for their [environment](http://www.australiancurriculum.edu.au/Glossary?a=S&t=environment) and living things [(ACSHE035)](http://www.australiancurriculum.edu.au/Curriculum/ContentDescription/ACSHE035) | * Wetland Detectives * Threats to Wetland Mystery Box |
| **Science Inquiry Skills**   * + Literacy   + Personal and social capability   + Critical and creative thinking   + Literacy   + Literacy   + Personal and social capability   + Critical and creative thinking | **Questioning and predicting** | Respond to and pose questions, and make predictions about familiar objects and events [(ACSIS037)](http://www.australiancurriculum.edu.au/Curriculum/ContentDescription/ACSIS037) | * Wetland Detectives |
| **Planning and conducting** | Participate in different types of [guided investigations](http://www.australiancurriculum.edu.au/Glossary?a=S&t=guided+investigations) to explore and answer questions, such as manipulating [materials](http://www.australiancurriculum.edu.au/Glossary?a=S&t=materials), testing ideas, and accessing information sources [(ACSIS038)](http://www.australiancurriculum.edu.au/Curriculum/ContentDescription/ACSIS038)Literacy   * + Critical and creative thinking   + Numeracy   + Personal and social capability   + Critical and creative thinking   + Numeracy | * Wetland Detectives |
|  |  | Use informal measurements in the collection and recording of observations, with the assistance of [digital technologies](http://www.australiancurriculum.edu.au/Glossary?a=S&t=digital+technologies) as appropriate [(ACSIS039)](http://www.australiancurriculum.edu.au/Curriculum/ContentDescription/ACSIS039) | * Does the wetland clean the water? * Who Lives Under the Water? |
|  | **Processing and analysing data and information** | Use a range of methods to sort information, including drawings and provided [tables](http://www.australiancurriculum.edu.au/Glossary?a=S&t=tables) [(ACSIS040)](http://www.australiancurriculum.edu.au/Curriculum/ContentDescription/ACSIS040)Literacy   * + Critical and creative thinking   + Numeracy   + Critical and creative thinking   + Numeracy | * Testing Water without water * Does the Wetland clean the water? |
|  |  | Through discussion, compare observations with predictions [(ACSIS214)](http://www.australiancurriculum.edu.au/Curriculum/ContentDescription/ACSIS214) | * Wetland Detectives |
|  | Evaluating | Compare observations with those of others [(ACSIS041)](http://www.australiancurriculum.edu.au/Curriculum/ContentDescription/ACSIS041) | * Who Lives Under and above The Water? * Does the Urrbrae Wetland clean the water? |
|  | **Communicating** | Represent and communicate observations and ideas in a variety of ways such as oral and written language, drawing and role play [(ACSIS042)](http://www.australiancurriculum.edu.au/Curriculum/ContentDescription/ACSIS042)Literacy | * Wetland Detectives |

### Year 3 Achievement Standard

By the end of Year 3, students use their understanding of the movement of the Earth, [materials](http://www.australiancurriculum.edu.au/Glossary?a=S&t=materials) and the behaviour of heat to suggest explanations for everyday observations. **They describe features common to living things**. **They describe how they can use science** [**investigations**](http://www.australiancurriculum.edu.au/Glossary?a=S&t=investigations) **to respond to questions and identify where people use science knowledge in their lives.**

#### Students use their experiences to pose questions and predict the outcomes of [investigations](http://www.australiancurriculum.edu.au/Glossary?a=S&t=investigations). They make formal measurements and follow procedures to collect and present observations in a way that helps to answer the [investigation](http://www.australiancurriculum.edu.au/Glossary?a=S&t=investigation) questions. Students suggest possible reasons for their findings. They describe how safety and fairness were considered in their [investigations](http://www.australiancurriculum.edu.au/Glossary?a=S&t=investigations). They use diagrams and other representations to communicate their ideas.

* + Literacy
  + Personal and social capability
  + Critical and creative thinking
  + Literacy
  + Personal and social capability
  + Information and communication technology capability
  + Numeracy
  + Literacy
  + Personal and social capability
  + Numeracy
  + Literacy
  + Intercultural understanding
  + Personal and social capability
  + Critical and creative thinking
  + Ethical behaviour
  + Sustainability
  + Aboriginal and Torres Strait Islander histories and cultures

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| *Year 3 Content Descriptions* | | | **Activity** |
| **Science Understanding** | **Biological sciences** | Living things can be grouped on the basis of [observable](http://www.australiancurriculum.edu.au/Glossary?a=S&t=observable) features and can be distinguished from non-living things [(ACSSU044)](http://www.australiancurriculum.edu.au/Curriculum/ContentDescription/ACSSU044) | * What is an Ecosystem? |
| **Science as a Human Endeavour**   * + Literacy   + Personal and social capability   + Critical and creative thinking   + Sustainability   + Personal and social capability   + Ethical behaviour   + Sustainability   + Aboriginal and Torres Strait Islander histories and cultures | **Nature and development of science** | Science involves making predictions and describing [patterns](http://www.australiancurriculum.edu.au/Glossary?a=S&t=patterns) and [relationships](http://www.australiancurriculum.edu.au/Glossary?a=S&t=relationships)[(ACSHE050)](http://www.australiancurriculum.edu.au/Curriculum/ContentDescription/ACSHE050) | * Does the Wetland Clean the Water? * Testing Water without Water |
| Use and influence of science | Science knowledge helps people to understand the effect of their actions [(ACSHE051)](http://www.australiancurriculum.edu.au/Curriculum/ContentDescription/ACSHE051) | * Threats to wetland Mystery box * How does the Wetland work? |
| **Science Inquiry Skills**   * + Literacy   + Personal and social capability   + Critical and creative thinking   + Literacy   + Literacy   + Personal and social capability   + Critical and creative thinking | **Questioning and predicting** | With guidance, identify questions in familiar contexts that can be investigated scientifically and predict what might happen based on prior knowledge [(ACSIS053)](http://www.australiancurriculum.edu.au/Curriculum/ContentDescription/ACSIS053) | * Wetland Detectives * Testing Water without Water * Does the Wetland Clean the Water? |
| **Planning and conducting** | Suggest ways to plan and conduct [investigations](http://www.australiancurriculum.edu.au/Glossary?a=S&t=investigations) to find answers to questions [(ACSIS054)](http://www.australiancurriculum.edu.au/Curriculum/ContentDescription/ACSIS054)Literacy   * + Personal and social capability   + Information and communication technology capability   + Critical and creative thinking   + Numeracy   + Critical and creative thinking   + Numeracy   + Personal and social capability   + Critical and creative thinking   + Numeracy | * Who lives under the water? * Does the Wetland Clean the Water? * Testing Water without Water |
|  |  | Safely use appropriate [materials](http://www.australiancurriculum.edu.au/Glossary?a=S&t=materials), [tools](http://www.australiancurriculum.edu.au/Glossary?a=S&t=tools) or equipment to make and record observations, using formal measurements and [digital technologies](http://www.australiancurriculum.edu.au/Glossary?a=S&t=digital+technologies) as appropriate [(ACSIS055)](http://www.australiancurriculum.edu.au/Curriculum/ContentDescription/ACSIS055) | * Marco   -invertebrates   * Water Testing |
|  | **Processing and analysing data and information** | Use a range of methods including [tables](http://www.australiancurriculum.edu.au/Glossary?a=S&t=tables) and simple column [graphs](http://www.australiancurriculum.edu.au/Glossary?a=S&t=graphs) to represent [data](http://www.australiancurriculum.edu.au/Glossary?a=S&t=data) and to identify [patterns](http://www.australiancurriculum.edu.au/Glossary?a=S&t=patterns) and [trends](http://www.australiancurriculum.edu.au/Glossary?a=S&t=trends) [(ACSIS057)](http://www.australiancurriculum.edu.au/Curriculum/ContentDescription/ACSIS057)Literacy   * + Critical and creative thinking   + Numeracy   Literacy   * + Critical and creative thinking   + Numeracy   + Critical and creative thinking   + Numeracy | * Data collected from Marco-invertebrate counts and water testing is represented as tables and graphs. |
|  |  | Compare results with predictions, suggesting possible reasons for findings [(ACSIS215)](http://www.australiancurriculum.edu.au/Curriculum/ContentDescription/ACSIS215) | * Class comparison to reflect on the diversity of results relating to Marco   -invertebrate population and water Testing |
|  | Evaluating | [Reflect on](http://www.australiancurriculum.edu.au/Glossary?a=S&t=Reflect+on) the [investigation](http://www.australiancurriculum.edu.au/Glossary?a=S&t=investigation), including whether a test was fair or not [(ACSIS058)](http://www.australiancurriculum.edu.au/Curriculum/ContentDescription/ACSIS058) | * Discuss sampling technique, and why different groups collected a variety of results |
|  | **Communicating** | Represent and communicate ideas and findings in a variety of ways such as diagrams, physical representations and simple [reports](http://www.australiancurriculum.edu.au/Glossary?a=S&t=reports)[(ACSIS060)](http://www.australiancurriculum.edu.au/Curriculum/ContentDescription/ACSIS060)Literacy | * Wetland Detective Activity Sheets |

### Year 4 Achievement Standard

* + Personal and social capability
  + Critical and creative thinking

#### Literacy

* + Personal and social capability
  + Numeracy
  + Literacy
  + Personal and social capability
  + Critical and creative thinking
  + Sustainability

By the end of Year 4, students apply the [observable](http://www.australiancurriculum.edu.au/Glossary?a=S&t=observable) [properties](http://www.australiancurriculum.edu.au/Glossary?a=S&t=properties) of [materials](http://www.australiancurriculum.edu.au/Glossary?a=S&t=materials) to explain how objects and [materials](http://www.australiancurriculum.edu.au/Glossary?a=S&t=materials) can be used. They use contact and non-contact [forces](http://www.australiancurriculum.edu.au/Glossary?a=S&t=forces) to describe interactions between objects. They discuss how natural and human processes cause changes to the Earth’s surface**. They describe** [**relationships**](http://www.australiancurriculum.edu.au/Glossary?a=S&t=relationships) **that assist the survival of living things and sequence key stages in the life cycle of a plant or animal.** **They identify when science is used to ask questions and make predictions. They describe situations where science understanding can influence their own and others’ actions.**

**Students follow instructions to identify investigable questions about familiar contexts and predict likely outcomes from** [**investigations**](http://www.australiancurriculum.edu.au/Glossary?a=S&t=investigations)**. They discuss ways to conduct** [**investigations**](http://www.australiancurriculum.edu.au/Glossary?a=S&t=investigations) **and safely use equipment to make and record observations. They use provided** [**tables**](http://www.australiancurriculum.edu.au/Glossary?a=S&t=tables) **and simple column** [**graphs**](http://www.australiancurriculum.edu.au/Glossary?a=S&t=graphs) **to organise their** [**data**](http://www.australiancurriculum.edu.au/Glossary?a=S&t=data) **and identify** [**patterns**](http://www.australiancurriculum.edu.au/Glossary?a=S&t=patterns) **in** [**data**](http://www.australiancurriculum.edu.au/Glossary?a=S&t=data)**. Students suggest explanations for observations and compare their findings with their predictions. They suggest reasons why their methods were fair or not. They complete simple** [**reports**](http://www.australiancurriculum.edu.au/Glossary?a=S&t=reports) **to communicate their methods and findings.**

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| *Year 4 Content Descriptions Literacy* | | | **Activity** |
| **Science Understanding** | **Biological sciences** | Living things have life cycles [(ACSSU072)](http://www.australiancurriculum.edu.au/Curriculum/ContentDescription/ACSSU072) | * Macro Life Cycles |
|  | Living things, including plants and animals, depend on each other and the [environment](http://www.australiancurriculum.edu.au/Glossary?a=S&t=environment) to survive [(ACSSU073)](http://www.australiancurriculum.edu.au/Curriculum/ContentDescription/ACSSU073) | * What is an Ecosystem? |
| **Science as a Human Endeavour**   * + Literacy   + Personal and social capability   + Critical and creative thinking   + Sustainability   + Personal and social capability   + Ethical behaviour   + Sustainability   + Aboriginal and Torres Strait Islander histories and cultures | **Nature and development of science** | Science involves making predictions and describing [patterns](http://www.australiancurriculum.edu.au/Glossary?a=S&t=patterns) and [relationships](http://www.australiancurriculum.edu.au/Glossary?a=S&t=relationships)[(ACSHE061)](http://www.australiancurriculum.edu.au/Curriculum/ContentDescription/ACSHE061) | * Testing Water without Water * Does the Wetland Clean the Water? |
| Use and influence of science | Science knowledge helps people to understand the effect of their actions [(ACSHE051)](http://www.australiancurriculum.edu.au/Curriculum/ContentDescription/ACSHE051) | * Threats to wetland Mystery box * How does the Urrbrae Wetland Work? |
| **Science Inquiry Skills**   * + Literacy   + Personal and social capability   + Critical and creative thinking   + Literacy   + Literacy   + Personal and social capability   + Critical and creative thinking | **Questioning and predicting** | With guidance, identify questions in familiar contexts that can be investigated scientifically and predict what might happen based on prior knowledge [(ACSIS053)](http://www.australiancurriculum.edu.au/Curriculum/ContentDescription/ACSIS053) | * Wetland Detectives * How healthy is the Wetland water (Macroinvertebrates as biological indicators) * Does the Wetland Clean the Water? |
| **Planning and conducting** | Suggest ways to plan and conduct [investigations](http://www.australiancurriculum.edu.au/Glossary?a=S&t=investigations) to find answers to questions [(ACSIS054)](http://www.australiancurriculum.edu.au/Curriculum/ContentDescription/ACSIS054)Literacy   * + Personal and social capability   + Information and communication technology capability   + Critical and creative thinking   + Numeracy   + Critical and creative thinking   + Numeracy   + Personal and social capability   + Critical and creative thinking   + Numeracy | * Using the questions in Wetland Detectives as a guides, conduct an investigation to try a find possible answers. |
|  |  | Safely use appropriate [materials](http://www.australiancurriculum.edu.au/Glossary?a=S&t=materials), [tools](http://www.australiancurriculum.edu.au/Glossary?a=S&t=tools) or equipment to make and record observations, using formal measurements and [digital technologies](http://www.australiancurriculum.edu.au/Glossary?a=S&t=digital+technologies) as appropriate [(ACSIS055)](http://www.australiancurriculum.edu.au/Curriculum/ContentDescription/ACSIS055) | * Wetland Detective Activities to solve a range of wetland related questions |
|  | **Processing and analysing data and information** | Use a range of methods including [tables](http://www.australiancurriculum.edu.au/Glossary?a=S&t=tables) and simple column [graphs](http://www.australiancurriculum.edu.au/Glossary?a=S&t=graphs) to represent [data](http://www.australiancurriculum.edu.au/Glossary?a=S&t=data) and to identify [patterns](http://www.australiancurriculum.edu.au/Glossary?a=S&t=patterns) and [trends](http://www.australiancurriculum.edu.au/Glossary?a=S&t=trends) [(ACSIS057)](http://www.australiancurriculum.edu.au/Curriculum/ContentDescription/ACSIS057)Literacy   * + Critical and creative thinking   + Numeracy   Literacy   * + Critical and creative thinking   + Numeracy   + Critical and creative thinking   + Numeracy | * Data collected from Marco-invertebrate counts and water testing is represented as tables and graphs. |
|  |  | Compare results with predictions, suggesting possible reasons for findings [(ACSIS215)](http://www.australiancurriculum.edu.au/Curriculum/ContentDescription/ACSIS215) | * Class comparison to reflect on the diversity of results relating to Macroinvertebrate population and water Testing |
|  | Evaluating | [Reflect on](http://www.australiancurriculum.edu.au/Glossary?a=S&t=Reflect+on) the [investigation](http://www.australiancurriculum.edu.au/Glossary?a=S&t=investigation), including whether a test was fair or not [(ACSIS058)](http://www.australiancurriculum.edu.au/Curriculum/ContentDescription/ACSIS058) | * Discussion and analysis of sampling technique, and why different groups collected a variety of results |
|  | **Communicating** | Represent and communicate ideas and findings in a variety of ways such as diagrams, physical representations and simple [reports](http://www.australiancurriculum.edu.au/Glossary?a=S&t=reports)[(ACSIS060)](http://www.australiancurriculum.edu.au/Curriculum/ContentDescription/ACSIS060)Literacy | * Wetland Detective Activity Sheets |

**Year 5 Achievement Standard**

By the end of Year 5, students [classify](http://www.australiancurriculum.edu.au/Glossary?a=S&t=classify) substances according to their [observable](http://www.australiancurriculum.edu.au/Glossary?a=S&t=observable) [properties](http://www.australiancurriculum.edu.au/Glossary?a=S&t=properties) and behaviours. They explain everyday phenomena associated with the transfer of light. They describe the key features of our solar [system](http://www.australiancurriculum.edu.au/Glossary?a=S&t=system)**. They** [**analyse**](http://www.australiancurriculum.edu.au/Glossary?a=S&t=analyse) **how the form of living things enables them to function in their environments.** Students discuss how scientific developments have affected people’s lives and how science knowledge develops from many people’s contributions.

**Students follow instructions to pose questions for** [**investigation**](http://www.australiancurriculum.edu.au/Glossary?a=S&t=investigation)**, predict what might happen when** [**variables**](http://www.australiancurriculum.edu.au/Glossary?a=S&t=variables) **are changed, and plan** [**investigation**](http://www.australiancurriculum.edu.au/Glossary?a=S&t=investigation) **methods. They use equipment in ways that are safe and improve the accuracy of their observations. Students construct** [**tables**](http://www.australiancurriculum.edu.au/Glossary?a=S&t=tables) **and** [**graphs**](http://www.australiancurriculum.edu.au/Glossary?a=S&t=graphs) **to organise** [**data**](http://www.australiancurriculum.edu.au/Glossary?a=S&t=data) **and identify** [**patterns**](http://www.australiancurriculum.edu.au/Glossary?a=S&t=patterns)**. They use** [**patterns**](http://www.australiancurriculum.edu.au/Glossary?a=S&t=patterns) **in their** [**data**](http://www.australiancurriculum.edu.au/Glossary?a=S&t=data) **to suggest explanations and refer to** [**data**](http://www.australiancurriculum.edu.au/Glossary?a=S&t=data) **when they** [**report**](http://www.australiancurriculum.edu.au/Glossary?a=S&t=report) **findings. They describe ways to improve the fairness of their methods and communicate their ideas, methods and findings using a range of text types**

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| ***Year 5 Content Descriptions*** | | | **Activity** | |
| **Science Understanding** | **Biological sciences** | Living things have structural features and [adaptations](http://www.australiancurriculum.edu.au/Glossary?a=S&t=adaptations) that help them to survive in their [environment](http://www.australiancurriculum.edu.au/Glossary?a=S&t=environment)[(ACSSU043)](http://www.australiancurriculum.edu.au/Curriculum/ContentDescription/ACSSU043) | | * Who Live above and/or below the water * What do insects do? | |
| **Science as a Human Endeavour**   * + Literacy   + Personal and social capability   + Critical and creative thinking   + Sustainability   + Personal and social capability   + Ethical behaviour   + Sustainability   + Aboriginal and Torres Strait Islander histories and cultures | **Nature and development of science** | Science involves testing predictions by gathering [data](http://www.australiancurriculum.edu.au/Glossary?a=S&t=data) and using [evidence](http://www.australiancurriculum.edu.au/Glossary?a=S&t=evidence) to develop explanations of events and phenomena [(ACSHE081)](http://www.australiancurriculum.edu.au/Curriculum/ContentDescription/ACSHE081) | | Wetland Detective Activities | |
| Use and influence of science | Scientific knowledge is used to inform personal and community decisions [(ACSHE217)](http://www.australiancurriculum.edu.au/Curriculum/ContentDescription/ACSHE217) | | * Threats to Wetland Mystery Box. | |
| **Science Inquiry Skills**   * + Literacy   + Personal and social capability   + Critical and creative thinking   + Literacy   + Literacy   + Personal and social capability   + Critical and creative thinking | **Questioning and predicting** | With guidance, pose questions to clarify practical problems or inform a scientific [investigation](http://www.australiancurriculum.edu.au/Glossary?a=S&t=investigation), and predict what the findings of an [investigation](http://www.australiancurriculum.edu.au/Glossary?a=S&t=investigation) might be [(ACSIS231)](http://www.australiancurriculum.edu.au/Curriculum/ContentDescription/ACSIS231) | | * Wetland Detectives * How healthy is the Wetland water (Macroinvertebrates as biological indicators) * Does the Wetland Clean the Water? | |
| **Planning and conducting** | With guidance, plan appropriate [investigation](http://www.australiancurriculum.edu.au/Glossary?a=S&t=investigation) methods to answer questions or solve problems [(ACSIS086)](http://www.australiancurriculum.edu.au/Curriculum/ContentDescription/ACSIS086)Personal and social capability   * + Information and communication technology capability   + Critical and creative thinking   + Numeracy   + Critical and creative thinking   + Numeracy   + Personal and social capability   + Critical and creative thinking   + Numeracy | | * Using the questions in Wetland Detectives as a guide, conduct an investigation to try a find possible answers. | |
|  |  | Safely use appropriate [materials](http://www.australiancurriculum.edu.au/Glossary?a=S&t=materials), [tools](http://www.australiancurriculum.edu.au/Glossary?a=S&t=tools) or equipment to make and record observations, using formal measurements and [digital technologies](http://www.australiancurriculum.edu.au/Glossary?a=S&t=digital+technologies) as appropriate [(ACSIS055)](http://www.australiancurriculum.edu.au/Curriculum/ContentDescription/ACSIS055) | | * Wetland Detective Activities to collect data and solve a range of wetland related questions | |
|  | **Processing and analysing data and information** | Use a range of methods including [tables](http://www.australiancurriculum.edu.au/Glossary?a=S&t=tables) and simple column [graphs](http://www.australiancurriculum.edu.au/Glossary?a=S&t=graphs) to represent [data](http://www.australiancurriculum.edu.au/Glossary?a=S&t=data) and to identify [patterns](http://www.australiancurriculum.edu.au/Glossary?a=S&t=patterns) and [trends](http://www.australiancurriculum.edu.au/Glossary?a=S&t=trends) [(ACSIS057)](http://www.australiancurriculum.edu.au/Curriculum/ContentDescription/ACSIS057)Literacy   * + Critical and creative thinking   + Numeracy   Literacy   * + Critical and creative thinking   + Numeracy   + Critical and creative thinking   + Numeracy | | * Data collected from Macro-invertebrate counts and water testing is represented as tables and graphs. | |
|  |  | Decide which [variable](http://www.australiancurriculum.edu.au/Glossary?a=S&t=variable) should be changed and measured in fair tests and accurately observe, measure and record [data](http://www.australiancurriculum.edu.au/Glossary?a=S&t=data), using [digital technologies](http://www.australiancurriculum.edu.au/Glossary?a=S&t=digital+technologies) as appropriate [(ACSIS087)](http://www.australiancurriculum.edu.au/Curriculum/ContentDescription/ACSIS087) | | * Comparison of Macroinvertebrate populations from different sites or water test results from around the wetland. * Class comparison to reflect on the diversity of results relating to Macroinvertebrate population and water Testing | |
|  |  | Use equipment and [materials](http://www.australiancurriculum.edu.au/Glossary?a=S&t=materials) safely, identifying potential risks [(ACSIS088)](http://www.australiancurriculum.edu.au/Curriculum/ContentDescription/ACSIS088) | | * Scientific Investigation | |
|  | Evaluating | Suggest improvements to the methods used to investigate a question or solve a problem [(ACSIS091)](http://www.australiancurriculum.edu.au/Curriculum/ContentDescription/ACSIS091) | | * Conclusion of activity * Discussion and analysis of sampling technique, and why different groups collected a variety of results | |
|  | **Communicating** | Communicate ideas, explanations and processes in a variety of ways, including [multi-modal texts](http://www.australiancurriculum.edu.au/Glossary?a=S&t=multi-modal+texts)[(ACSIS093)](http://www.australiancurriculum.edu.au/Curriculum/ContentDescription/ACSIS093)Literacy | | Wetland Detective Activity Sheets | |

Year 6 Achievement Standard

By the end of Year 6, students compare and [classify](http://www.australiancurriculum.edu.au/Glossary?a=S&t=classify) different types of [observable](http://www.australiancurriculum.edu.au/Glossary?a=S&t=observable) changes to [materials](http://www.australiancurriculum.edu.au/Glossary?a=S&t=materials). They [analyse](http://www.australiancurriculum.edu.au/Glossary?a=S&t=analyse) requirements for the transfer of electricity and describe how energy can be transformed from one form to another to generate electricity. They explain how natural events cause rapid change to the Earth’s surface**. They describe and predict the effect of environmental changes on individual living things.** Students explain how scientific knowledge is used in decision making and identify contributions to the development of science by people from a range of cultures.

**Students follow procedures to develop investigable questions and** [**design**](http://www.australiancurriculum.edu.au/Glossary?a=S&t=design)[**investigations**](http://www.australiancurriculum.edu.au/Glossary?a=S&t=investigations) **into simple cause-and-effect** [**relationships**](http://www.australiancurriculum.edu.au/Glossary?a=S&t=relationships)**. They identify** [**variables**](http://www.australiancurriculum.edu.au/Glossary?a=S&t=variables) **to be changed and measured and describe potential safety risks when planning methods. They collect, organise and interpret their** [**data**](http://www.australiancurriculum.edu.au/Glossary?a=S&t=data)**, identifying where improvements to their methods or** [**research**](http://www.australiancurriculum.edu.au/Glossary?a=S&t=research) **could improve the** [**data**](http://www.australiancurriculum.edu.au/Glossary?a=S&t=data)**. They describe and** [**analyse**](http://www.australiancurriculum.edu.au/Glossary?a=S&t=analyse)[**relationships**](http://www.australiancurriculum.edu.au/Glossary?a=S&t=relationships) **in** [**data**](http://www.australiancurriculum.edu.au/Glossary?a=S&t=data) **using graphic representations and construct** [**multi-modal texts**](http://www.australiancurriculum.edu.au/Glossary?a=S&t=multi-modal+texts) **to communicate ideas, methods and findings.**

* + Literacy
  + Information and communication technology capability
  + Critical and creative thinking
  + Numeracy
  + Literacy
  + Intercultural understanding
  + Personal and social capability
  + Critical and creative thinking
  + Sustainability
  + Aboriginal and Torres Strait Islander histories and cultures
  + Asia and Australia´s engagement with Asia
  + Literacy
  + Personal and social capability
  + Critical and creative thinking
  + Sustainability
  + Asia and Australia´s engagement with Asia
  + Literacy
  + Critical and creative thinking
  + Sustainability

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| *Year 6 Content Descriptions* | | | **Activity** |
| **Science Understanding** | **Biological sciences** | The growth and survival of living things are affected by the physical conditions of their [environment](http://www.australiancurriculum.edu.au/Glossary?a=S&t=environment) [(ACSSU094)](http://www.australiancurriculum.edu.au/Curriculum/ContentDescription/ACSSU094) | * What is an ecosystem * Macroinvertebrate Investigation |
| **Science as a Human Endeavour**   * + Literacy   + Personal and social capability   + Critical and creative thinking   + Sustainability   + Personal and social capability   + Ethical behaviour   + Sustainability   + Aboriginal and Torres Strait Islander histories and cultures | **Nature and development of science** | Science involves testing predictions by gathering [data](http://www.australiancurriculum.edu.au/Glossary?a=S&t=data) and using [evidence](http://www.australiancurriculum.edu.au/Glossary?a=S&t=evidence) to develop explanations of events and phenomena [(ACSHE098)](http://www.australiancurriculum.edu.au/Curriculum/ContentDescription/ACSHE098) | * Macroinvertebrates and Water quality investigations. |
| Use and influence of science | Scientific knowledge is used to inform personal and community decisions [(ACSHE220](http://www.australiancurriculum.edu.au/Curriculum/ContentDescription/ACSHE220) | * Threats to wetland mystery box * How does the wetland work? |
| **Science Inquiry Skills**   * + Literacy   + Personal and social capability   + Critical and creative thinking   + Literacy   + Literacy   + Personal and social capability   + Critical and creative thinking | **Questioning and predicting** | With guidance, pose questions to clarify practical problems or inform a scientific [investigation](http://www.australiancurriculum.edu.au/Glossary?a=S&t=investigation), and predict what the findings of an [investigation](http://www.australiancurriculum.edu.au/Glossary?a=S&t=investigation) might be [(ACSIS232](http://www.australiancurriculum.edu.au/Curriculum/ContentDescription/ACSIS232)) | * Macroinvertebrates and Water quality investigations including: * Testing Water without Water * Does the Wetland Clean the Water? |
| **Planning and conducting** | With guidance, plan appropriate [investigation](http://www.australiancurriculum.edu.au/Glossary?a=S&t=investigation) methods to answer questions or solve problems [(ACSIS103)](http://www.australiancurriculum.edu.au/Curriculum/ContentDescription/ACSIS103)Information and communication technology capability   * + Critical and creative thinking   + Numeracy   + Critical and creative thinking   + Numeracy   + Personal and social capability   + Critical and creative thinking   + Numeracy | * Plan and conduct a scientific investigation, guided by the scientific method, with a focus on wetland organisms and/or water quality |
|  |  | Decide which [variable](http://www.australiancurriculum.edu.au/Glossary?a=S&t=variable) should be changed and measured in fair tests and accurately observe, measure and record [data](http://www.australiancurriculum.edu.au/Glossary?a=S&t=data), using [digital technologies](http://www.australiancurriculum.edu.au/Glossary?a=S&t=digital+technologies) as appropriate [(ACSIS104)](http://www.australiancurriculum.edu.au/Curriculum/ContentDescription/ACSIS104) | * Abiotic vs biotic factors   Habitat Survey |
|  |  | Use equipment and [materials](http://www.australiancurriculum.edu.au/Glossary?a=S&t=materials) safely, identifying potential risks [(ACSIS105)](http://www.australiancurriculum.edu.au/Curriculum/ContentDescription/ACSIS105) | * Plan and conduct Scientific Investigations |
|  | **Processing and analysing data and information** | Construct and use a range of representations, including [tables](http://www.australiancurriculum.edu.au/Glossary?a=S&t=tables) and [graphs](http://www.australiancurriculum.edu.au/Glossary?a=S&t=graphs), to represent and describe observations, [patterns](http://www.australiancurriculum.edu.au/Glossary?a=S&t=patterns) or [relationships](http://www.australiancurriculum.edu.au/Glossary?a=S&t=relationships) in [data](http://www.australiancurriculum.edu.au/Glossary?a=S&t=data) using [digital technologies](http://www.australiancurriculum.edu.au/Glossary?a=S&t=digital+technologies) as appropriate [(ACSIS107)](http://www.australiancurriculum.edu.au/Curriculum/ContentDescription/ACSIS107)Critical and creative thinking   * + Numeracy   Literacy   * + Critical and creative thinking   + Numeracy   + Critical and creative thinking   + Numeracy | * Recording and summarizing data from scientific investigation |
|  |  | Compare [data](http://www.australiancurriculum.edu.au/Glossary?a=S&t=data) with predictions and use as [evidence](http://www.australiancurriculum.edu.au/Glossary?a=S&t=evidence) in developing explanations [(ACSIS221)](http://www.australiancurriculum.edu.au/Curriculum/ContentDescription/ACSIS221) | * Collation and analysis of data collected through:   - Marco invertebrate population counts, water testing and habitat surveys |
|  | Evaluating | Suggest improvements to the methods used to investigate a question or solve a problem [(ACSIS108)](http://www.australiancurriculum.edu.au/Curriculum/ContentDescription/ACSIS108) | * Conclusion of activity |
|  | **Communicating** | Communicate ideas, explanations and processes in a variety of ways, including [multi-modal texts](http://www.australiancurriculum.edu.au/Glossary?a=S&t=multi-modal+texts)[(ACSIS110)](http://www.australiancurriculum.edu.au/Curriculum/ContentDescription/ACSIS110)Literacy | * Multi-modal presentation of scientific investigation |

Literacy

* + Personal and social capability
  + Information and communication technology capability

### Year 7 Achievement Standard

### By the end of Year 7, students describe techniques to separate pure substances from mixtures. They represent and predict the effects of unbalanced [forces](http://www.australiancurriculum.edu.au/Glossary?a=S&t=forces), including Earth’s gravity, on motion. They explain how the relative positions of the Earth, sun and moon affect phenomena on Earth. They [analyse](http://www.australiancurriculum.edu.au/Glossary?a=S&t=analyse) how the [sustainable](http://www.australiancurriculum.edu.au/Glossary?a=S&t=sustainable) use of resources depends on the way they are formed and cycle through Earth [systems](http://www.australiancurriculum.edu.au/Glossary?a=S&t=systems). They predict the effect of environmental changes on feeding [relationships](http://www.australiancurriculum.edu.au/Glossary?a=S&t=relationships) and [classify](http://www.australiancurriculum.edu.au/Glossary?a=S&t=classify) and organise diverse organisms based on [observable](http://www.australiancurriculum.edu.au/Glossary?a=S&t=observable) differences. Students describe situations where scientific knowledge from different science disciplines has been used to solve a real-world problem. They explain how the solution was viewed by, and impacted on, different groups in society.

**Students identify questions that can be investigated scientifically. They plan fair experimental methods, identifying** [**variables**](http://www.australiancurriculum.edu.au/Glossary?a=S&t=variables) **to be changed and measured. They select equipment that improves fairness and accuracy and describe how they considered safety. Students draw on** [**evidence**](http://www.australiancurriculum.edu.au/Glossary?a=S&t=evidence) **to support their** [**conclusions**](http://www.australiancurriculum.edu.au/Glossary?a=S&t=conclusions)**. They summarise** [**data**](http://www.australiancurriculum.edu.au/Glossary?a=S&t=data) **from different sources, describe** [**trends**](http://www.australiancurriculum.edu.au/Glossary?a=S&t=trends) **and refer to the quality of their** [**data**](http://www.australiancurriculum.edu.au/Glossary?a=S&t=data) **when suggesting improvements to their methods. They communicate their ideas, methods and findings using** [**scientific language**](http://www.australiancurriculum.edu.au/Glossary?a=S&t=scientific+language) **and appropriate representations.**

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| ***Year 7 Content DescriptionsLiteracy***   * + *Critical and creative thinking*   + *Ethical behaviour*   + *Sustainability*   + *Aboriginal and Torres Strait Islander histories and cultures* | | | | **Activity** | |
| **Science Understanding** | **Biological sciences** | | There are differences within and between groups of organisms; [classification](http://www.australiancurriculum.edu.au/Glossary?a=S&t=classification) helps organise this diversity [(ACSSU111)](http://www.australiancurriculum.edu.au/Curriculum/ContentDescription/ACSSU111) | * Classification of Wetland organisms above and below the water. * Identification of Macroinvertebrates using a dichotomous key | |
|  | | Interactions between organisms can be described in terms of food chains and food webs; human activity can affect these interactions [(ACSSU112)](http://www.australiancurriculum.edu.au/Curriculum/ContentDescription/ACSSU112) | * Who Eats Who? * What is an Ecosystem? * Threats to Wetland Mystery Box | |
|  | Earth and space sciences | | Some of Earth’s resources are renewable, but others are non-renewable [(ACSSU116)](http://www.australiancurriculum.edu.au/Curriculum/ContentDescription/ACSSU116)Literacy   * + Critical and creative thinking   + Numeracy   + Sustainability | * Threats to wetland mystery box * How does the wetland work? | |
|  |  | | Water is an important resource that cycles through the [environment](http://www.australiancurriculum.edu.au/Glossary?a=S&t=environment)[(ACSSU222)](http://www.australiancurriculum.edu.au/Curriculum/ContentDescription/ACSSU222) | * Macroinvertebrates and Water quality investigations including: * Threats to wetland mystery box * How does the wetland work? | |
| **Science as a Human Endeavour**   * + Literacy   + Personal and social capability   + Critical and creative thinking   + Sustainability   + Personal and social capability   + Ethical behaviour   + Sustainability   + Aboriginal and Torres Strait Islander histories and cultures | **Nature and development of science** | | Science knowledge can develop through [collaboration](http://www.australiancurriculum.edu.au/Glossary?a=S&t=collaboration) and connecting ideas across the disciplines of science [(ACSHE223)](http://www.australiancurriculum.edu.au/Curriculum/ContentDescription/ACSHE223) | * Plan and conduct a scientific investigation, guided by the scientific method, with a focus on wetland organisms, habitat and/or water quality * Abiotic vs biotic factors | |
| Use and influence of science | | Science and [technology](http://www.australiancurriculum.edu.au/Glossary?a=S&t=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)](http://www.australiancurriculum.edu.au/Curriculum/ContentDescription/ACSHE120) | * How does the wetland work? * Urban Wetlands, are they a waste of land? | |
|  |  | | People use understanding and skills from across the disciplines of science in their occupations | * Students look at the different jobs and research projects that are taking place right here at the Urrbrae Wetland. | |
| **Science Inquiry Skills**   * + Literacy   + Personal and social capability   + Critical and creative thinking   + Literacy   + Literacy   + Personal and social capability   + Critical and creative thinking | **Questioning and predicting** | | Identify questions and problems that can be investigated scientifically and make predictions based on scientific knowledge [(ACSIS124)](http://www.australiancurriculum.edu.au/Curriculum/ContentDescription/ACSIS124) | * Macroinvertebrates and Water quality investigations including: * How healthy is the Urrbrae Wetland? (Macroinvertebrates as biological indicators) * Does the Wetland Clean the Water? (water testing) | |
| **Planning and conducting** | | Collaboratively and individually plan and conduct a range of [investigation](http://www.australiancurriculum.edu.au/Glossary?a=S&t=investigation) types, including fieldwork and experiments, ensuring safety and ethical guidelines are followed [(ACSIS125)](http://www.australiancurriculum.edu.au/Curriculum/ContentDescription/ACSIS125)Literacy   * + Personal and social capability   + Information and communication technology capability   + Ethical behaviour | * Plan and conduct a scientific investigation, guided by the scientific inquiry method, with a focus on wetland organisms, habitat and/or water quality. * Discuss abiotic and biotic factors | |
|  |  | | In fair tests, measure and control [variables](http://www.australiancurriculum.edu.au/Glossary?a=S&t=variables), and select equipment to collect [data](http://www.australiancurriculum.edu.au/Glossary?a=S&t=data) with accuracy appropriate to the task [(ACSIS126)](http://www.australiancurriculum.edu.au/Curriculum/ContentDescription/ACSIS126) | * + Plan and conduct a Scientific Investigation focusing on accurate sampling methods and use of accurate digital equipment. | |
|  | | **Processing and analysing data and information** | Construct and use a range of representations, including [graphs](http://www.australiancurriculum.edu.au/Glossary?a=S&t=graphs), keys and [models](http://www.australiancurriculum.edu.au/Glossary?a=S&t=models) to represent and [analyse](http://www.australiancurriculum.edu.au/Glossary?a=S&t=analyse) [patterns](http://www.australiancurriculum.edu.au/Glossary?a=S&t=patterns) or [relationships](http://www.australiancurriculum.edu.au/Glossary?a=S&t=relationships), including using [digital technologies](http://www.australiancurriculum.edu.au/Glossary?a=S&t=digital+technologies) as appropriate [(ACSIS129)](http://www.australiancurriculum.edu.au/Curriculum/ContentDescription/ACSIS129)Literacy   * + Information and communication technology capability   + Critical and creative thinking   + Numeracy | * Recording and summarising data collected during scientific investigation * Collation and analysis of data collected through:   - Marco invertebrate population counts, water testing and habitat surveys |
|  | |  | Summarise [data](http://www.australiancurriculum.edu.au/Glossary?a=S&t=data), from students’ own [investigations](http://www.australiancurriculum.edu.au/Glossary?a=S&t=investigations) and [secondary sources](http://www.australiancurriculum.edu.au/Glossary?a=S&t=secondary+sources), and use scientific understanding to identify [relationships](http://www.australiancurriculum.edu.au/Glossary?a=S&t=relationships) and draw [conclusions](http://www.australiancurriculum.edu.au/Glossary?a=S&t=conclusions) [(ACSIS130)](http://www.australiancurriculum.edu.au/Curriculum/ContentDescription/ACSIS130) | * This outcome is achieved though summary of both data collected during their investigation and secondary information gathered during the initial wetland tour. |
|  | | Evaluating | [Reflect on](http://www.australiancurriculum.edu.au/Glossary?a=S&t=Reflect+on) the method used to investigate a question or solve a problem, including [evaluating](http://www.australiancurriculum.edu.au/Glossary?a=S&t=evaluating) the quality of the [data](http://www.australiancurriculum.edu.au/Glossary?a=S&t=data) collected, and identify improvements to the method [(ACSIS131)](http://www.australiancurriculum.edu.au/Curriculum/ContentDescription/ACSIS131)Literacy   * + Personal and social capability   + Critical and creative thinking   + Numeracy | * Covered through the ‘discussion’ section of their scientific investigation. Students are provided with open questions to encourage them to critically anaylse and evaluate their methodology. |
|  | |  | Use scientific knowledge and findings from [investigations](http://www.australiancurriculum.edu.au/Glossary?a=S&t=investigations) to [evaluate](http://www.australiancurriculum.edu.au/Glossary?a=S&t=evaluate) claims [(ACSIS132)](http://www.australiancurriculum.edu.au/Curriculum/ContentDescription/ACSIS132) | * Students use either results to either refute or support their initial hypothesis answer their initial question. |
|  | | **Communicating** | Communicate ideas, findings and solutions to problems using [scientific language](http://www.australiancurriculum.edu.au/Glossary?a=S&t=scientific+language) and representations using [digital technologies](http://www.australiancurriculum.edu.au/Glossary?a=S&t=digital+technologies) as appropriate [(ACSIS133)](http://www.australiancurriculum.edu.au/Curriculum/ContentDescription/ACSIS133) | * Multi-modal presentation of scientific investigation. |