Year 2 plan — Australian Curriculum: Science

Implementation year: School name:

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| Identify curriculum | Year level description(highlighted aspects indicate differences from the previous year level) | The *Science Inquiry Skills* and *Science as a Human Endeavour* strands are described across a two-year band. In their planning, schools and teachers refer to the expectations outlined in the Achievement Standards and also to the content of the *Science Understanding* strand for the relevant year level to ensure that these two strands are addressed over the two-year period. The three strands of the curriculum are interrelated and their content is taught in an integrated way. The order and detail in which the content descriptions are organised into teaching/learning programs are decisions to be made by the teacher.From Foundation to Year 2, students learn that observations can be organised to reveal patterns, and that these patterns can be used to make predictions about phenomena. In Year 2, students describe the components of simple systems, such as stationary objects subjected to pushes or pulls, or combinations of materials, and show how objects and materials interact through direct manipulation. They observe patterns of growth and change in living things, and describe patterns and make predictions. They explore the use of resources from Earth and are introduced to the idea of the flow of matter when considering how water is used. They use counting and informal measurements to make and compare observations and begin to recognise that organising these observations in tables makes it easier to show patterns. |
| 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. |
| Source: Australian Curriculum, Assessment and Reporting Authority (ACARA), *Australian Curriculum v3.0: Science for Foundation–10* <www.australiancurriculum.edu.au/Science/Curriculum/F-10>. |
| Teaching and learning | Term overview | Term 1 | Term 2 | Term 3 | Term 4 |
| Mix, make and useDuring this term children investigate combinations of different materials to make something they can use in their daily lives. Children will:* observe a variety of materials, and describe ways in which materials are used
* investigate the effects of mixing materials together
* suggest why different parts of everyday objects are made from different materials
* identify sustainable materials that can be changed and remade or recycled into new products
* ask questions and make predictions and compare observations to predictions
* participate in safe guided investigations
* collect and use diagrams and provided tables to record information
* represent and communicate observations and ideas using oral and written language and drawing
* describe changes in materials using knowledge of science
* appreciate the role of science in their everyday lives.
 | Exemplar unit: Good to growDuring this term children investigate how people use science in their daily lives, including when caring for their environment and living things. Children will:* recognise that living things have predictable characteristics at different stages of development
* explore different characteristics of life cycles in animals
* identify the Earth’s resources, including water, that are important to a community garden
* consider what might happen if there was a change in a familiar available resource, including water
* ask questions and make predictions and compare observations to predictions
* participate in safe guided investigations
* collect and use diagrams and provided tables to record information
* represent and communicate observations and ideas using oral and written language and drawings
* appreciate how science is used in their everyday lives.
 | What’s happening? Push, pull, playDuring this term children explain the movement of equipment used for their play and why some items change in shape. They develop an understanding that science involves asking questions about and describing changes in objects.Children will:* explore different ways that objects move on land, through water and in the air
* participate in safe guided investigations that explore how different strengths of pushes and pulls affect the movement of objects
* identify toys that use the forces of push or pull
* consider the effects of objects being pulled towards the Earth
* ask questions and make predictions and compare observations to predictions
* collect and use diagrams and provided tables to record information
* represent and communicate observations and ideas using oral and written language and drawing
* appreciate how science is used in their everyday lives.
 | Toy factoryDuring this term children design a toy that moves, using a variety of sustainable materials. They identify ways that humans manage and protect Earth’s resources.Children will:* revise concepts from Term 1 and 3
* participate in safe guided investigations to explore how different strengths of pushes and pulls affect the movement of objects
* design a moving toy from sustainable materials
* identify materials that can be changed and remade or recycled into new products
* ask questions and make predictions and compare observations to predictions
* collect and use diagrams and provided tables to record information
* represent and communicate observations and ideas using oral and written language and drawing
* appreciate how science is used in their everyday lives.
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| Aboriginal and Torres Strait Islander perspectives | Science provides opportunities for children to strengthen their appreciation and understanding of Aboriginal peoples and Torres Strait Islander peoples and their living cultures. Specific content and skills within relevant sections of the curriculum can be drawn upon to encourage engagement with:* Aboriginal and Torres Strait Islander frameworks of knowing and ways of learning
* Indigenous contexts in which Aboriginal and Torres Strait Islander peoples live
* Aboriginal peoples’ and Torres Strait Islander peoples’ contributions to Australian society and cultures.

Science provides opportunities to explore aspects of Australian Indigenous knowing with connection to, and guidance from, the communities who own them. Using a respectful inquiry approach, children have the opportunity to explore non-Indigenous science interpretations of Aboriginal and Torres Strait Islander lifestyles including knowledge of natural phenomena; native flora and fauna; and land, water and waste management. Using an inquiry approach enables children to learn science in contexts that are valued by Aboriginal and Torres Strait Islander children, their peers and communities, acknowledging their values and approaches to learning. |
| **Teaching and learning** | General capabilities and cross‑curriculum priorities | Opportunities to engage with:Description: gc_literacy gc_numeracyDescription: gc_ict Description: gc_criticalDescription: gc_ethical Description: gc_personal_socialgc_intercultural cc_sust | Opportunities to engage with:Description: gc_literacy gc_numeracyDescription: gc_ict Description: gc_criticalDescription: gc_ethical Description: gc_personal_socialgc_intercultural cc_sust | Opportunities to engage with:Description: gc_literacy gc_numeracyDescription: gc_ict Description: gc_criticalDescription: gc_ethical Description: gc_personal_socialgc_intercultural cc_sust | Opportunities to engage with:Description: gc_literacy gc_numeracyDescription: gc_ict Description: gc_criticalDescription: gc_ethical Description: gc_personal_socialgc_intercultural cc_sust |
| Key to general capabilities and cross-curriculum priorities | Description: Description: gc_literacy Literacy  Description: Description: gc_numeracy Numeracy  Description: Description: gc_ict ICT capability  Description: Description: gc_critical Critical and creative thinking  Description: Description: gc_ethical Ethical behaviour  Description: Description: gc_personal_social Personal and social capability  Description: Description: gc_intercultural Intercultural understanding Aboriginal and Torres Strait Islander histories and cultures  Description: cc_asia Asia and Australia’s engagement with Asia  Description: cc_sust Sustainability |
| Develop assessment | AssessmentFor advice and guidelines on assessment, see: [www.qsa.qld.edu.au](http://www.qsa.qld.edu.au) | An assessment folio is a targeted collection of a child’s work for ongoing review and analysis, and for reporting a child’s achievement and progress at a point in time. Administrators and teachers determine the evidence that will be collected to demonstrate a pattern of achievement within the child’s learning across the Australian Curriculum and the remaining Queensland learning areas, where applicable. |
| Term 1 | Term 2 | Term 3 | Term 4 |
| Week | Assessment instrument | Week | Assessment instrument | Week | Assessment instrument | Week | Assessment instrument |
| 1 | Supervised assessment: Short response (Written)Identify current knowledge with a diagnostic tool at the beginning of the unit and use formatively when building upon prior knowledge. | 2–8 | Collection of work (Written) Science journal: communicate observations and ideasduring/following each lesson with ongoing feedback provided by the teacher.  | 1–10 | Collection of work (Written) * Science Journal: communicate observations and ideas during/following each lesson with ongoing feedback provided by the teacher.
* Investigation planner: test ideas about forces and the resultant effects; use tables to record information.
 | 2–6 | Collection of work (Written) * Science Journal: communicate observations and ideas during/following each lesson with ongoing feedback provided by the teacher.
* Investigation planner: test ideas about combining different materials; use tables to record information.
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| 2–7 | Collection of work (Written) * Science journal: communicate observations and ideas during/following each lesson with ongoing feedback provided by the teacher.
* Investigation planner: test ideas and use tables to record information.
 | 2–9  | Guided research (Multimodal) * Sort cards showing lifecycle stages of a plant or animal and place in the correct order of the life cycle.
* Work in small groups using science journal to develop an oral response to directed questions.

The assessment package *Which water* in the QSA Assessment Bank could be used as assessment in this unit. | 8–10  | Experimental investigation: Labelled diagram (Written)Develop force-arrow diagrams for a variety of toys and familiar equipment. The assessment package *Force it to move* in the QSA Assessment Bank could be used as assessment in this unit. | 8 | Guided research: Presentation (Multimodal)Create an annotated drawing of a designed toy with a proposal about using sustainable materials.  |
| 8 | Experimental investigation: Model design and explanation (Multimodal)Create a labelled diagram with a reflection about a product designed and constructed. Justify selections made during the “evaluate” phase of inquiry.  | 9 | Supervised assessment: Short responses (Written/Oral)Toys, the materials they are made from and the way they work are displayed in a concept cartoon. Choose and justify the best explanation for the scenario. |
| Make judgments and use feedback | Moderation | Teachers meet to review samples of multimodal presentations and moderate to ensure consistency of judgments.Teachers take opportunities to informally discuss children’s development of skills and knowledge as the term progresses. | Teachers and children develop tasks.Teachers select representative folios and meet to ensure consistency of judgments to inform future planning. | Teachers take opportunities to informally discuss children’s development of skills and knowledge as the term progresses.Teachers moderate randomly sampled folios to ensure consistency of judgments. | Teachers take opportunities to informally discuss children’s development of skills and knowledge as the term progresses.Teachers moderate randomly sampled folios to ensure consistency of judgments. |

Year 2 Science: review for balance and coverage of content descriptions

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| Science Understanding | 1 | 2 | 3 | 4 |
| Biological sciences |
| Living things grow, change and have offspring similar to themselves [(ACSSU030)](http://www.australiancurriculum.edu.au/Curriculum/ContentDescription/ACSSU030) |  | ✓ |  |  |
| Chemical sciences |
| Different materials can be combined, including by mixing, for a particular purpose [(ACSSU031)](http://www.australiancurriculum.edu.au/Curriculum/ContentDescription/ACSSU031) | ✓ |  |  | ✓ |
| 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) |  | ✓ |  | ✓ |
| Physical sciences |
| A push or a pull affects how an object moves or changes shape [(ACSSU033)](http://www.australiancurriculum.edu.au/Curriculum/ContentDescription/ACSSU033) |  |  | ✓ | ✓ |

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| Science as a Human Endeavour | 1 | 2 | 3 | 4 |
| 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) | ✓ | ✓ | ✓ |  |
| Use and influence of science |
| People use science in their daily lives, including when caring for their environment and living things [(ACSHE035)](http://www.australiancurriculum.edu.au/Curriculum/ContentDescription/ACSHE035) | ✓ | ✓ | ✓ | ✓ |

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| Science Inquiry Skills | 1 | 2 | 3 | 4 |
| 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) | ✓ | ✓ | ✓ | ✓ |
| Planning and conducting |
| Participate in different types of guided investigations to explore and answer questions, such as manipulating materials, testing ideas, and accessing information sources [(ACSIS038)](http://www.australiancurriculum.edu.au/Curriculum/ContentDescription/ACSIS038) | ✓ | ✓ | ✓ | ✓ |
| Use informal measurements in the collection and recording of observations, with the assistance of digital technologies as appropriate [(ACSIS039)](http://www.australiancurriculum.edu.au/Curriculum/ContentDescription/ACSIS039) | ✓ | ✓ | ✓ | ✓ |
| Processing and analysing data and information |
| Use a range of methods to sort information, including drawings and provided tables [(ACSIS040)](http://www.australiancurriculum.edu.au/Curriculum/ContentDescription/ACSIS040) | ✓ | ✓ | ✓ | ✓ |
| Through discussion, compare observations with predictions [(ACSIS214)](http://www.australiancurriculum.edu.au/Curriculum/ContentDescription/ACSIS214) | ✓ | ✓ | ✓ | ✓ |
| Evaluating |
| Compare observations with those of others [(ACSIS041)](http://www.australiancurriculum.edu.au/Curriculum/ContentDescription/ACSIS041) | ✓ | ✓ | ✓ | ✓ |
| 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) | ✓ | ✓ | ✓ | ✓ |

Source: Australian Curriculum, Assessment and Reporting Authority (ACARA), *Australian Curriculum v3.0: Science for Foundation–10* <www.australiancurriculum.edu.au/Science/Curriculum/F-10>.