

Year 2 Science Curriculum and assessment plan

Example

Level description	Context and cohort considerations
<p>In Year 2 students build on their experiences of the natural and physical world to identify the components of simple systems. They appreciate that Earth is a planet in space and identify other celestial objects. They explore the ways components in a system interact, such as by using their bodies or combining and manipulating objects to make sounds. They build on their understanding of properties of materials to recognise that those properties stay the same when the material is changed physically.</p> <p>They continue to build their understanding of patterns by observing that some patterns, such as the changing positions of the sun, moon and stars, can only be observed over certain timescales. As they explore patterns and relationships, they use counting and informal measurements to make and compare observations and recognise that organising these observations in tables makes it easier to identify and represent patterns. They appreciate that science involves making and organising observations to identify patterns and relationships, and that these patterns and relationships are the basis of scientific predictions.</p> <p>Inquiry questions can help excite students' curiosity and challenge their thinking. Following are examples of inquiry questions that could be used to prompt discussion and exploration:</p> <ul style="list-style-type: none"> • Who does science? • How do we know Earth is round? • How can we make and sense music? • What's the best material? Why? • How does the sky change over time? 	<p>During weekly Science lessons, students widen their focus from how they use science in their everyday lives to how other people use patterns in scientific data to make predictions.</p> <p>Unit 1 focuses on developing content from two strands — Science as a human endeavour and Science inquiry strands. This is because there is no Biological Science sub-strand in the Year 2 Science understanding strand. Units 2, 3 and 4 focus on the sub-strands of Chemical sciences, Physical sciences and Earth and space sciences respectively.</p> <p>Note: Across the units, students will be explicitly taught to use safe scientific practices when engaging in hands-on investigations, even when this is not assessed.</p>


Unit 1 — Think like a scientist	Unit 2 — Will it break?	Unit 3 — Make some noise	Unit 4 — Patterns in the sky
<p>Duration: 10 weeks</p> <p>Providing students with the knowledge, understanding and skills to think like a scientist sparks their curiosity and transforms them into explorers of their surroundings.</p> <p>In this unit, students explore the familiar surroundings of their school yard to identify an outdoor space in which to enjoy reading and that is safely out of the sun.</p> <p>Using this everyday scenario, students make observations, ask questions and suggest steps to gather data that assists in deciding where and when a sun-safe reading place may be in the school yard.</p> <p>By measuring shadow lengths at different times of the day, students experience how people can use science in their daily lives. Students use teacher-provided tables to sort and order their data to assist in their decision-making.</p> <p>Students, therefore, continue to develop their numeracy skills by using both informal units of measurement to collect data on changing shadow lengths as well as drawing an informal map. While asking questions (e.g. 'Did we all measure the shadow length at the same time?'), students discuss how to represent data and the fairness of their investigation.</p>	<p>Duration: 10 weeks</p> <p>This unit builds on students' prior knowledge of the properties of materials by challenging students to investigate the physical changes that can be made to materials.</p> <p>A play-based introductory investigation using modelling clay invites students to explore bending, twisting, stretching and breaking materials into smaller pieces. While doing so, students observe that the material composition of the clay does not change.</p> <p>Continuing to think like scientists, students explore familiar materials they might use to wrap food (e.g. plastic wrap, foil, brown paper and waxed paper) and identify ways to change the materials without changing the materials' composition.</p> <p>Students collect data based on their observations using digital cameras or iPads. This assists them build their digital literacy by sorting their data into the teacher-provided tables.</p> <p>Students compare their observations with their classmates and identify questions. They also build literacy skills by using adjectives to add meaning to their descriptions.</p>	<p>Duration: 10 weeks</p> <p>Sound is not only something we hear, it is a form of energy that sets things in motion.</p> <p>In this unit, students make different sounds and observe how sound energy impacts objects. This introduces the concept of energy that occurs through playing with sound and supports students to learn about other types of energy in Year 3.</p> <p>As part of the unit, students follow safe procedures to use tuning forks, simple drums and their own voices to explore sound vibrations. On understanding that sound is a form of energy, students pose questions and explore relationships between variables to make different sounds using classroom materials and musical instruments.</p> <p>Students collaborate by working in groups, sharing equipment to make sound and recording their observations using a scaffolded science journal.</p> <p>In posing questions about simple relationships, students are continuing to develop critical and creative thinking skills.</p>	<p>Duration: 10 weeks</p> <p>Observing the movement of the sun, moon and stars across the sky can ignite students' interest in and thinking about systems.</p> <p>In this unit, students identify the components of the solar system and by observing patterns in the sky they can predict phenomena such as the sun rising.</p> <p>Students record the position of the sun in the sky throughout the day, to identify patterns in the sun's transit for a month. They observe and describe these short-term patterns of the sun's movement using a calendar. Students can consolidate their understanding at home by observing and describing the movement of the moon across the night sky.</p> <p>Using a range of texts, including those by Aboriginal peoples and Torres Strait Islander peoples, students also consider examples of how patterns in the sky help people to navigate and make predictions about seasonal food availability.</p> <p>By using everyday and scientific language and structuring texts to sequence events such as the sun's transit, students make sense of their world and explain how people use patterns to make scientific predictions.</p>

	Unit 1 — Think like a scientist		Unit 2 — Will it break?		Unit 3 — Make some noise		Unit 4 — Patterns in the sky	
	Assessment 1 — Experimental investigation	Timing	Assessment 2 — Investigation	Timing	Assessment 3 — Experimental investigation	Timing	Assessment 4 — Supervised assessment	Timing
Assessment	<p>Description: Students collect data on the changing length of shadows in their school yard over three weeks. They collate this data in a scaffolded science journal provided by the teacher.</p> <p>Students use the recorded data to make predictions about where and when the best time would be for outdoor reading being out of the sun at school.</p> <p>Technique: Experimental investigation</p> <p>Mode: Practical and written</p> <p>Conditions:</p> <ul style="list-style-type: none"> • group work • individual response • written response up to 75 words 	Week 7–9	<p>Description: Students use photographs taken throughout the unit to populate a graphic organiser to demonstrate their understanding of physical changes to materials. They use scientific and everyday vocabulary to compare their observations with the observations of their classmates.</p> <p>Technique: Investigation</p> <p>Mode: Multimodal written and visual</p> <p>Conditions:</p> <ul style="list-style-type: none"> • written response up to 75 words 	Week 9	<p>Description: Students use a scaffolded science journal to record their observations on:</p> <ul style="list-style-type: none"> • how to make a variety of sounds • the vibrations made by sound energy. <p>Technique: Experimental investigation</p> <p>Mode: Practical and written</p> <p>Conditions:</p> <ul style="list-style-type: none"> • group work • individual response • written response up to 75 words • teacher observation of student demonstration 	Week 7–9	<p>Description: Students respond to questions about celestial bodies and the patterns in their changing positions in the sky.</p> <p>Technique: Supervised assessment</p> <p>Mode: Written</p> <p>Conditions:</p> <ul style="list-style-type: none"> • short response items • 30 minutes 	Week 9
Achievement standard	<p>By the end of Year 2 students identify celestial objects and describe patterns they observe in the sky. They demonstrate how different sounds can be produced and describe the effect of sound energy on objects. They identify ways to change materials without changing their material composition. They describe how people use science in their daily lives and how people use patterns to make scientific predictions.</p> <p>Students pose questions to explore observed patterns or relationships and make predictions based on experience. They suggest steps to be followed in an investigation and follow safe procedures to make and record observations. They use provided tables and organisers to sort and order data and represent patterns in data. With guidance, they compare their observations with those of others, identify whether their investigation was fair and identify further questions. They use everyday and scientific vocabulary to communicate observations, findings and ideas.</p>		<p>By the end of Year 2 students identify celestial objects and describe patterns they observe in the sky. They demonstrate how different sounds can be produced and describe the effect of sound energy on objects. They identify ways to change materials without changing their material composition. They describe how people use science in their daily lives and how people use patterns to make scientific predictions.</p> <p>Students pose questions to explore observed patterns or relationships and make predictions based on experience. They suggest steps to be followed in an investigation and follow safe procedures to make and record observations. They use provided tables and organisers to sort and order data and represent patterns in data. With guidance, they compare their observations with those of others, identify whether their investigation was fair and identify further questions. They use everyday and scientific vocabulary to communicate observations, findings and ideas.</p>		<p>By the end of Year 2 students identify celestial objects and describe patterns they observe in the sky. They demonstrate how different sounds can be produced and describe the effect of sound energy on objects. They identify ways to change materials without changing their material composition. They describe how people use science in their daily lives and how people use patterns to make scientific predictions.</p> <p>Students pose questions to explore observed patterns or relationships and make predictions based on experience. They suggest steps to be followed in an investigation and follow safe procedures to make and record observations. They use provided tables and organisers to sort and order data and represent patterns in data. With guidance, they compare their observations with those of others, identify whether their investigation was fair and identify further questions. They use everyday and scientific vocabulary to communicate observations, findings and ideas.</p>		<p>By the end of Year 2 students identify celestial objects and describe patterns they observe in the sky. They demonstrate how different sounds can be produced and describe the effect of sound energy on objects. They identify ways to change materials without changing their material composition. They describe how people use science in their daily lives and how people use patterns to make scientific predictions.</p> <p>Students pose questions to explore observed patterns or relationships and make predictions based on experience. They suggest steps to be followed in an investigation and follow safe procedures to make and record observations. They use provided tables and organisers to sort and order data and represent patterns in data. With guidance, they compare their observations with those of others, identify whether their investigation was fair and identify further questions. They use everyday and scientific vocabulary to communicate observations, findings and ideas.</p>	
Moderation	<p>Calibration:</p> <p>Refer to QCAA moderation advice on the QCAA website under the Assessment tab in the learning area.</p>		<p>Calibration:</p> <p>Refer to QCAA moderation advice on the QCAA website under the Assessment tab in the learning area.</p>		<p>Expert:</p> <p>Refer to QCAA moderation advice on the QCAA website under the Assessment tab in the learning area.</p>		<p>Consensus:</p> <p>Refer to QCAA moderation advice on the QCAA website under the Assessment tab in the learning area.</p>	

Content descriptions	Units				Content descriptions	Units				Content descriptions	Units			
Science understanding	1	2	3	4	Science as a human endeavour	1	2	3	4	Science inquiry	1	2	3	4
Earth and space sciences recognise Earth is a planet in the solar system and identify patterns in the changing position of the sun, moon, planets and stars in the sky AC9S2U01	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Use and influence of science describe how people use science in their daily lives, including using patterns to make scientific predictions AC9S2H01	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Questioning and predicting pose questions to explore observed simple patterns and relationships and make predictions based on experiences AC9S2I01	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Physical sciences explore different actions to make sounds and how to make a variety of sounds, and recognise that sound energy causes objects to vibrate AC9S2U02	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Planning and conducting suggest and follow safe procedures to investigate questions and test predictions AC9S2I02	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Chemical sciences recognise that materials can be changed physically without changing their material composition and explore the effect of different actions on materials including bending, twisting, stretching and breaking into smaller pieces AC9S2U03	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>						make and record observations, including informal measurements, using digital tools as appropriate AC9S2I03	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
										Processing, modelling and analysing sort and order data and information and represent patterns, including with provided tables and visual or physical models AC9S2I04	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
										Evaluating compare observations with predictions and others' observations, consider if investigations are fair and identify further questions with guidance AC9S2I05	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
										Communicating write and create texts to communicate observations, findings and ideas, using everyday and scientific vocabulary AC9S2I06	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

General capabilities	Units			
	1	2	3	4
Critical and creative thinking	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Digital literacy	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ethical understanding	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Intercultural understanding	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Literacy	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Numeracy	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Personal and social capability	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Cross-curriculum priorities	Units			
	1	2	3	4
Aboriginal and Torres Strait Islander histories and cultures	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Asia and Australia's engagement with Asia	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sustainability	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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