



Australian
CURRICULUM
Review

SCIENCE

CONSULTATION CURRICULUM

Comparative information F-6

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COMPARISON OF CURRENT AND REVISED CURRICULUM IN SCIENCE

Content descriptions Foundation to Year 2

Strand: Science Understanding

Sub-strand: Biological sciences	Foundation <i>Students learn to:</i>	Year 1 <i>Students learn to:</i>	Year 2 <i>Students learn to:</i>
Original	Living things have basic needs, including food and water (ACSSU002)	Living things have a variety of external features. (ACSSU017)	Living things grow, change and have offspring similar to themselves (ACSSU030)
Proposed	explore external features of plants and animals and ways they can be grouped based on these features (AC9SFU01)	explore the basic needs of plants and animals, including air, water, food and shelter and how the place they live meets those needs (AC9S1U01)	explore the differences between living and non-living things and the life cycles of plants and animals (AC9S2U01)
Original		Living things live in different places where their needs are met (ACSSU211)	
Proposed		<i>Removed</i>	

Sub-strand: Earth and spaces sciences	Foundation <i>Students learn to:</i>	Year 1 <i>Students learn to:</i>	Year 2 <i>Students learn to:</i>
Original	Daily and seasonal changes in our environment affect everyday life (ACSSU004)	Observable changes occur in the sky and landscape (ACSSU019)	Earth's resources are used in a variety of ways (ACSSU032)
Proposed	<i>Removed</i>	explore daily and seasonal changes in the environment and how these changes affect everyday life (AC9S1U02)	<i>Removed</i>

Sub-strand: Physical sciences	Foundation <i>Students learn to:</i>	Year 1 <i>Students learn to:</i>	Year 2 <i>Students learn to:</i>
Original	The way objects move depends on a variety of factors, including their size and shape (ACSSU005)	Light and sound are produced by a range of sources and can be sensed (ACSSU020)	A push or a pull affects how an object moves or changes shape (ACSSU033)
Proposed	explore how objects move and how factors including their size, shape and material, affect their motion (AC9SFU02)	explore pushes and pulls in terms of strength and direction and the effect of these forces on objects' motion and shape (AC9S1U03)	explore how vibrating objects make sounds, how sound energy causes objects to vibrate, and how to produce a variety of sounds (AC9S2U02)

Sub-strand: Chemical sciences	Foundation <i>Students learn to:</i>	Year 1 <i>Students learn to:</i>	Year 2 <i>Students learn to:</i>
Original Chemical Science	Objects are made of materials that have observable properties (ACSSU003)	Everyday materials can be physically changed in a variety of ways (ACSSU018)	Different materials can be combined for a particular purpose (ACSSU031)
Proposed	explore how objects can be composed of different materials, and describe observable properties of those materials (AC9SFU03)	<i>Removed</i>	explore how everyday materials can be physically changed without changing their material composition, including by bending, twisting, stretching and being broken into smaller pieces (AC9S2U03)

Content descriptions Years 3 to 5
Strand: Science Understanding

Sub-strand: Biological sciences	Year 3 <i>Students learn to:</i>	Year 4 <i>Students learn to:</i>	Year 5 <i>Students learn to:</i>
Original	Living things can be grouped on the basis of observable features and can be distinguished from non-living things (ACSSU044)	Living things have life cycles (ACSSU072)	Living things have structural features and adaptations that help them to survive in their environment (ACSSU043)
Proposed	<i>Removed</i>	<i>Removed</i>	investigate how particular structural features and behaviours of living things enable their survival in specific habitats (AC9S5U01)
Original		Living things depend on each other and the environment to survive (ACSSU073)	
Proposed		investigate the roles and interactions of consumers, producers and decomposers within a habitat and how food chains represent feeding relationships (AC9S4U01)	

Sub-strand: Earth and space sciences	Year 3 <i>Students learn to:</i>	Year 4 <i>Students learn to:</i>	Year 5 <i>Students learn to:</i>
Original	Earth's rotation on its axis causes regular changes, including day and night (ACSSU048)	Earth's surface changes over time as a result of natural processes and human activity (ACSSU075)	The Earth is part of a system of planets orbiting around a star (the sun) (ACSSU078)
Proposed	investigate sources of water and key processes in the water cycle, including movement of water through the sky,	investigate how physical weathering, erosion and deposition cause slow or rapid change to	investigate the relationship between the sun and planets in the solar system and how Earth's tilt, rotation on its axis and revolution

	landscape and ocean; precipitation, evaporation; and condensation (AC9S3U01)	Earth's surface and the factors that can impact erosion in local environments (AC9S4U02)	around the sun cause cyclic observable phenomena, including variable day and night length (AC9S5U02)
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Sub-strand: Physical sciences	Year 3 <i>Students learn to:</i>	Year 4 <i>Students learn to:</i>	Year 5 <i>Students learn to:</i>
Original	Heat can be produced in many ways and can move from one object to another (ACSSU049)	Forces can be exerted by one object on another through direct contact or from a distance (ACSSU076)	Light from a source forms shadows and can be absorbed, reflected and refracted (ACSSU080)
Proposed	investigate sources of heat energy and temperature changes when heat energy is transferred from one object to another (AC9S3U02)	investigate how forces can be exerted by one object on another and how frictional, gravitational and magnetic forces can affect the motion of objects (AC9S4U03)	investigate sources of light and how light travels in a straight path, interacts with objects to form shadows and can be reflected and refracted (AC9S5U03)

Sub-strand: Chemical sciences	Year 3 <i>Students learn to:</i>	Year 4 <i>Students learn to:</i>	Year 5 <i>Students learn to:</i>
Original	A change of state between solid and liquid can be caused by adding or removing heat (ACSSU046)	Natural and processed materials have a range of physical properties that can influence their use (ACSSU074)	Solids, liquids and gases have different observable properties and behave in different ways (ACSSU077)
Proposed	investigate the observable properties of solids, liquids and gases and how adding or removing heat energy changes the state of water (AC9S3U03)	investigate the properties of materials including fibres, metals, ceramics, glass and plastics and how these properties influence their use (AC9S4U04)	investigate how the observable properties of solids, liquids and gases can be described by modelling the motion and arrangement of particles and how adding or removing heat energy affects particle movement (AC9S5U04)

Content descriptions Year 6
Strand: Science Understanding

Sub-strand: Biological sciences	Year 6 <i>Students learn to:</i>
Original	The growth and survival of living things are affected by physical conditions of their environment (ACSSU094)
Proposed	investigate the physical conditions of aquatic and terrestrial ecosystems and how the growth and survival of living things is affected by changing physical conditions (AC9S6U01)

Sub-strand: Earth and space sciences	Year 6 <i>Students learn to:</i>
Original	Sudden geological changes and extreme weather events can affect Earth's surface (ACSSU096)
Proposed	investigate the key processes of the rock cycle, the timescales over which they occur, and how the characteristics of sedimentary, igneous and metamorphic rocks reflect their formation and influence their use (AC9S6U02)

Sub-strand: Physical sciences	Year 6 <i>Students learn to:</i>
Original	Electrical energy can be transferred and transformed in electrical circuits and can be generated from a range of sources (ACSSU097)
Proposed	investigate the transfer and transformation of energy in electrical circuits, including the role of electric current, circuit components, insulators and conductors (AC9S6U03)

Sub-strand: Chemical sciences	Year 6 <i>Students learn to:</i>
Original	Changes to materials can be reversible or irreversible (ACSSU095)
Proposed	investigate why dissolving, mixing and changes of state are classified as reversible changes and compare with irreversible changes, including burning, cooking and rusting, that produce new substances (AC9S6U04)

Content descriptions Foundation to Year 4
Strand: Science as a Human Endeavour

Sub-strand: Nature and development of science	Foundation <i>Students learn to:</i>	Years 1 and 2 <i>Students learn to:</i>	Years 3 and 4 <i>Students learn to:</i>
Original	Science involves observing, asking questions about, and describing changes in, objects and events (ACSHE013)	Science involves observing, asking questions about, and describing changes in, objects and events (ACSHE021) (ACSHE034)	Science involves making predictions and describing patterns and relationships (ACSHE050) (ACSHE061)
Proposed	explore how scientists use observation and questioning to learn about the natural world (AC9SFH01)	explore how scientists use patterns to make predictions and apply their understanding creatively to develop new ideas or propose solutions (AC9S2H01)	investigate how scientists use data and evidence to develop explanations, and how scientists share scientific knowledge (AC9S4H01)

Sub-strand: Use and influence of science	Foundation <i>Students learn to:</i>	Years 1 and 2 <i>Students learn to:</i>	Years 3 and 4 <i>Students learn to:</i>
Original		People use science in their daily lives, including when caring for their environment and living things (ACSHE022) (ACSHE035)	Science knowledge helps people to understand the effect of their actions (ACSHE051) (ACSHE062)
Proposed		explore how people use science in their daily lives (AC9S2H02)	investigate how scientific knowledge helps people to meet a need or solve a problem (AC9S4H02)

Content descriptions Years 5 to 6

Strand: Science as a Human Endeavour

Sub-strand: Nature and development of science	Years 5 and 6 <i>Students learn to:</i>
Original	Science involves testing predictions by gathering data and using evidence to develop explanations of events and phenomena and reflects historical and cultural contributions (ACSHE081) (ACSHE098)
Proposed	investigate why advances in science are often the result of collaboration of many different scientists and describe how scientific knowledge has changed over time (AC9S6H01)
Sub-strand: Use and influence of science	Years 5 and 6 <i>Students learn to:</i>
Original	Scientific knowledge is used to solve problems and inform personal and community decisions (ACSHE083) (ACSHE100)
Proposed	investigate how scientific knowledge is used by individuals and communities to identify problems, consider responses and make decisions (AC9S6H02)

Content descriptions Foundation to Year 4
Strand: Science Inquiry

Sub-strand: Questioning and predicting	Foundation <i>Students learn to:</i>	Years 1 and 2 <i>Students learn to:</i>	Years 3 and 4 <i>Students learn to:</i>
Original	Pose and respond questions about familiar objects and events (ACSIS014)	Pose and respond to questions, and make predictions about familiar objects and events (ACSIS024) (ACSIS037)	With guidance, identify questions in familiar contexts that can be investigated scientifically and make predictions based on prior knowledge (ACSIS053) (ACSIS064)
Proposed	pose questions and make predictions based on experiences (AC9SF101)	pose questions and make predictions to explore observed simple patterns or relationships (AC9S2101)	pose questions and make predictions to explore observed patterns or relationships (AC9S4101)

Sub-strand: Planning and conducting	Foundation <i>Students learn to:</i>	Years 1 and 2 <i>Students learn to:</i>	Years 3 and 4 <i>Students learn to:</i>
Original	Participate in guided investigations and make observations using the senses (ACSIS011)	Participate in guided investigations to explore and answer questions (ACSIS025) (ACSIS038)	With guidance, plan and conduct scientific investigations to find answers to questions, considering the safe use of appropriate materials and equipment (ACSIS054) (ACSIS065)
Proposed	engage in explorations safely and make observations using their senses (AC9SF102)	suggest and follow safe procedures to investigate questions and test predictions (AC9S2102)	use provided scaffolds to plan and conduct investigations to answer questions or test predictions, including identifying the elements of fair tests, and considering the safe use of materials and equipment (AC9S4102)
Original		Use informal measurements to collect and record observations, using digital	Consider the elements of fair tests and use formal measurements and digital technologies as appropriate, to make and record

		technologies as appropriate (ACSIS026) (ACSIS039)	observations accurately (ACSIS055) (ACSIS066)
Proposed	N/A	make and record observations, including informal measurements, using digital technologies as appropriate (AC9S2I03)	follow procedures to make and record observations, including making formal measurements using familiar scaled instruments and using digital technologies as appropriate (AC9S4I03)

Sub-strand: Processing, modelling and analysing	Foundation <i>Students learn to:</i>	Years 1 and 2 <i>Students learn to:</i>	Years 3 and 4 <i>Students learn to:</i>
Original Processing and analysing data and information	Engage in discussions about observations and represent ideas (ACSIS233)	Use a range of methods to sort information, including drawings and provided tables and through discussion, compare observations with predictions (ACSIS027) (ACSIS040)	Use a range of methods including tables and simple column graphs to represent data and to identify patterns and trends (ACSIS057) (ACSIS068)
Proposed Processing, modelling and analysing	represent observations in provided templates and identify patterns with guidance (AC9SFI03)	sort and order data and information and represent patterns, including with provided tables and visual or physical models (AC9S2I04)	construct and use representations, including tables, simple column graphs and visual or physical models, to organise data and information, show relationships and identify patterns and trends (AC9S4I04)
Original Processing and analysing data and information			Compare results with predictions, suggesting possible reasons for findings (ACSIS215) (ACSIS216)
Proposed			<i>Removed</i>

Sub-strand: Evaluating	Foundation <i>Students learn to:</i>	Years 1 and 2 <i>Students learn to:</i>	Years 3 and 4 <i>Students learn to:</i>
Original		Compare observations with those of others (AC9S213) (ACSIS041)	Reflect on investigations, including whether a test was fair or not (ACSIS058) (ACSIS069)
Proposed	compare observations with predictions (AC9SFI04)	compare observations with predictions and others' observations, consider if investigations are fair and identify further questions (AC9S2I05)	compare findings with those of others, consider if investigations were fair, identify questions for further investigation and draw conclusions (AC9S4I05)

Sub-strand: Communicating	Foundation <i>Students learn to:</i>	Years 1 and 2 <i>Students learn to:</i>	Years 3 and 4 <i>Students learn to:</i>
Original	Share observations and ideas (ACSIS012)	Represent and communicate observations and ideas in a variety of ways (ACSIS029) (ACSIS042)	Represent and communicate observations, ideas and findings using formal and informal representations (ACSIS060) (ACSIS071)
Proposed	share observations and ideas with others (AC9SFI05)	communicate observations, findings and ideas through multimodal texts (AC9S2I06)	create multimodal texts to communicate findings and ideas for identified audiences, using digital technologies as appropriate (AC9S4I06)

Content descriptions Years 5 to 6

Strand: Science Inquiry

Sub-strand: Questioning and predicting	Years 5 and 6 <i>Students learn to:</i>
Original	With guidance, pose clarifying questions and make predictions about scientific investigations (AC9S6I01) (AC9S6I02)
Proposed	pose investigable questions and make predictions to identify patterns or test relationships (AC9S6I01)
Sub-strand: Planning and conducting	Years 5 and 6 <i>Students learn to:</i>
Original	Identify, plan and apply the elements of scientific investigations to answer questions and solve problems using equipment and materials safely and identifying potential risks (AC9S6I03) (AC9S6I04)
Proposed	plan and conduct repeatable investigations to answer questions, including, as appropriate, deciding the variables to be changed and measured in fair tests, describing potential risks, planning for the safe use of equipment and materials and identifying required permissions to conduct investigations on Country or Place (AC9S6I02)
Original	Decide variables to be changed and measured in fair tests, and observe measure and record data with accuracy using digital technologies as appropriate (AC9S6I05) (AC9S6I06)
Proposed	use equipment to observe, measure and record data with reasonable precision, using digital technologies as appropriate (AC9S6I03)
Sub-strand: Processing, modelling and analysing	Years 5 and 6 <i>Students learn to:</i>
Original Processing and analysing data and information	Construct and use a range of representations, including tables and graphs, to represent and describe observations, patterns or relationships in data using digital technologies as appropriate (AC9S6I07) (AC9S6I08)

Proposed Processing, modelling and analysing	construct and use appropriate representations, including tables, graphs and visual or physical models, to organise and process data and information and identify patterns, trends and relationships (AC9S6I04)
Original Processing and analysing data and information	Compare data with predictions and use as evidence in developing explanations (ACSIS218) (ACSIS221)
Proposed Processing, modelling and analysing	<i>Removed</i>

Sub-strand: Evaluating	Years 5 and 6 <i>Students learn to:</i>
Original	Reflect on and suggest improvements to scientific investigations (ACSIS091) (ACSIS108)
Proposed	compare methods and findings with those of others, including recognising possible sources of error, posing questions for further investigation and drawing reasonable conclusions (AC9S6I05)

Sub-strand: Communicating	Years 5 and 6 <i>Students learn to:</i>
Original	Communicate ideas, explanations and processes using scientific representations in a variety of ways, including multi-modal texts (ACSIS093) (ACSIS110)
Proposed	create multimodal texts to communicate ideas and findings for specific purposes and audiences, including selection of language features, using digital technologies as appropriate (AC9S6I06)

Achievement standards Foundation to Year 1

	Foundation	Year 1
Original	<p>By the end of the Foundation year, students describe the properties and behaviour of familiar objects. They suggest how the environment affects them and other living things.</p> <p>Students share and reflect on observations, and ask and respond to questions about familiar objects and events.</p>	<p>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 and objects. They describe changes in their local environment and how different places meet the needs of living things.</p> <p>Students respond to questions, make predictions, and participate in guided investigations of everyday phenomena. They follow instructions to record and sort their observations and share them with others.</p>
Proposed	<p>By the end of Foundation students group plants and animals based on external features. They identify factors that affect the movement of objects. They describe the observable properties of materials that make up objects. They describe how scientists investigate the world around them.</p> <p>Students pose questions and state predictions. They engage in explorations safely. With guidance, they make and represent observations and identify patterns. They reflect on their explorations by comparing their observations with their predictions. They share observations and ideas with others.</p>	<p>By the end of Year 1 students describe where plants and animals live and how they meet their needs. They recognise patterns of change in their environment and describe how these affect their everyday life. They explain how to change the motion and shape of objects. They describe how scientists make predictions and they identify science in their daily life.</p> <p>Students pose questions and make predictions to explore observations. They follow safe procedures to make and record observations. They sort and order data and information using provided templates and with guidance, represent patterns. They compare observations with predictions and identify further questions. They use provided scaffolds to communicate observations, findings and ideas.</p>

Achievement standards Years 2 to 3

	Year 2	Year 3
Original	<p>By the end of Year 2, students describe changes to objects, materials and living things. They identify that certain materials and resources have different uses and describe examples of where science is used in people's daily lives.</p> <p>Students pose and respond to questions about their experiences and predict outcomes of investigations. They use informal measurements to make and compare observations. They record and represent observations and communicate ideas in a variety of ways.</p>	<p>By the end of Year 3, students use their understanding of the movement of Earth, materials and the behaviour of heat to suggest explanations for everyday observations. They group living things based on observable features and distinguish them from non-living things. They describe how they can use science investigations to respond to questions.</p> <p>Students use their experiences to identify questions and make predictions about scientific investigations. They follow procedures to collect and record observations and suggest possible reasons for their findings, based on patterns in their data. They describe how safety and fairness were considered and they use diagrams and other representations to communicate their ideas.</p>
Proposed	<p>By the end of Year 2 students identify common characteristics of living things, including life cycles. They describe how sound energy can be observed and explain how to produce a variety of sounds. They describe ways materials can be physically changed without changing their composition. They explain why creativity is important in science and describe ways people use science in their daily lives.</p> <p>Students pose questions and make predictions to explore observed patterns or relationships. They suggest steps to be followed in an investigation, and independently follow safe procedures safely to make and record observations. They sort and order data and information using provided scaffolds and represent patterns in data. They compare their observations with those of others, consider the fairness of the investigation with guidance and identify further questions. They communicate observations, findings and ideas through multimodal texts.</p>	<p>By the end of Year 3 students identify key processes in the water cycle and describe how water is cycled through the environment. They identify sources of heat energy and predict temperature changes as a result of heat transfer. They classify solids, liquids and gases based on observable properties and describe how to cause a change of state. They explain why data and evidence are important in science inquiry and describe an everyday solution that reflects science knowledge.</p> <p>Students pose questions and make predictions to explore cause-and-effect-relationships. They use scaffolds to plan safe investigations and fair tests. They use familiar classroom instruments to make measurements. They organise data and information using provided scaffolds to show relationships and patterns. They compare their findings with those of others, consider the fairness of the investigation, identify further questions and draw conclusions. They show awareness of purpose when communicating ideas and findings.</p>

Achievement standards Years 4 to 5

	Year 4	Year 5
Original	<p>By the end of Year 4, students apply the observable properties of materials to explain how objects and materials can be used. They describe how contact and non-contact forces affect interactions between objects. They discuss how natural processes and human activity cause changes to Earth's surface. They describe 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 understand the effect of their actions.</p> <p>Students follow instructions to identify investigable questions about familiar contexts and make predictions based on prior knowledge. They describe ways to conduct investigations and safely use equipment to make and record observations with accuracy. They use provided tables and column graphs to organise data and identify patterns. Students suggest explanations for observations and compare their findings with their predictions. They suggest reasons why a test was fair or not. They use formal and informal ways to communicate their observations and findings.</p>	<p>By the end of Year 5, students classify substances according to their observable properties and behaviours. They explain everyday phenomena associated with the transfer of light. They describe the key features of our solar system. They analyse how the form of living things enables them to function in their environments. Students discuss how scientific developments have affected people's lives, help us solve problems and how science knowledge develops from many people's contributions.</p> <p>Students follow instructions to pose questions for investigation and predict the effect of changing variables when planning an investigation. They use equipment in ways that are safe and improve the accuracy of their observations. Students construct tables and graphs to organise data and identify patterns in the data. They compare patterns in their data with predictions when suggesting explanations. They describe ways to improve the fairness of their investigations, and communicate their ideas and findings using multimodal texts.</p>
Proposed	<p>By the end of Year 4 students identify the roles of organisms in a habitat and construct food chains. They identify frictional, gravitational and magnetic forces and represent the effect of forces on interactions between objects. They describe key processes that change Earth's surface and identify factors that impact change. They relate the uses of materials to their physical properties. They explain the role of evidence in developing explanations and identify different ways scientific knowledge is shared. They describe a science-based design and the needs it meets.</p>	<p>By the end of Year 5 students explain how the form and behaviour of living things enables survival. They model the solar system and demonstrate how the relative positions of Earth and the sun result in observed phenomena on Earth. They identify sources of light and model the transfer of light to explain observed phenomena. They relate the particulate structure of solids, liquids and gases to their observable properties. They explain the role of collaboration in science inquiry and describe an example of scientific knowledge that has changed over time. They describe how science knowledge has helped people make decisions.</p>

	<p>Students pose questions and make predictions to explore patterns and cause-and-effect relationships. They plan investigations using planning scaffolds, identify key elements of fair tests and describe how they conduct investigations safely. They use simple procedures to make accurate formal measurements. They organise data and information to show relationships and patterns. They compare their findings with those of others, analyse the fairness of the investigation, identify further questions for investigation and draw conclusions. They show awareness of audience and purpose when communicating ideas and findings.</p>	<p>Students plan safe investigations to identify patterns or relationships. They identify risks associated with investigations and identify key intercultural considerations when planning fieldwork. They identify variables to be changed and kept constant. They use equipment to collect data with appropriate precision. They organise data and information and describe patterns, trends and relationships. They compare their methods and findings with those of others, posing questions for further investigation and drawing reasonable conclusions. They use language features to reflect their purpose and audience when communicating their ideas and findings.</p>
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Achievement standards Year 6

Year 6	
Original	<p>By the end of Year 6, students compare and classify different types of observable changes to materials. They analyse requirements for the transfer of electricity and describe how energy can be transformed from one form to another when generating electricity. They explain how natural events cause rapid change to Earth's surface. They describe and predict the effect of environmental changes on individual living things. Students explain how scientific knowledge helps us to solve problems and inform decisions and identify historical and cultural contributions.</p> <p>Students follow procedures to develop investigable questions and design investigations into simple cause-and-effect relationships. They identify variables to be changed and measured and describe potential safety risks when planning methods. They collect, organise and interpret their data, identifying where improvements to their methods or research could improve the data. They describe and analyse relationships in data using appropriate representations and construct multimodal texts to communicate ideas, methods and findings.</p>
Proposed	<p>By the end of Year 6 students explain how the growth and survival of living things are impacted by changes in physical conditions. They represent changes in Earth materials as they move through the rock cycle and relate their properties to their uses. They represent the transfer and transformation of electrical energy in electrical circuits. They classify and compare reversible and irreversible changes to substances. They explain why science is often collaborative and describe how scientific knowledge has changed over time. They describe how individuals and communities use scientific knowledge.</p> <p>Students plan safe, repeatable investigations to identify patterns or test relationships. They describe risks associated with investigations and describe key intercultural considerations when planning fieldwork. They identify variables to be changed and kept constant. They use equipment to collect and record data with appropriate precision. They organise and process data and information to examine patterns, trends and relationships. They compare their own and others' methods and findings, considering possible sources of error, posing questions for further investigation and drawing reasonable conclusions. They select and use language features effectively for their purpose and audience when communicating their ideas and findings.</p>