

Comparison of AC v8.4 to v9.0

Year 6: Science

Key	same/refined	removed	new	moved
-----	--------------	---------	-----	-------

Note that v8.4 content descriptions may have been reordered to align with v9.0 content descriptions.

Version 8.4			Version 9.0		
Achievement standard			Achievement standard		
<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>			<p>By the end of Year 6 students explain how changes in physical conditions affect living things. They model the relationship between the sun and planets of the solar system and explain how the relative positions of Earth and the sun relate to observed phenomena on Earth. They identify the role of circuit components in the transfer and transformation of electrical energy. They classify and compare reversible and irreversible changes to substances. They explain why science is often collaborative and describe different individuals' contributions to scientific knowledge. They describe how individuals and communities use scientific knowledge.</p> <p>Students plan safe, repeatable investigations to identify patterns and test relationships and make reasoned predictions. They describe risks associated with investigations and key intercultural considerations when planning field work. They identify variables to be changed, measured and controlled. They use equipment to generate and record data with appropriate precision. They construct representations to organise and process data and information and describe patterns, trends and relationships. They identify possible sources of error in their own and others' methods and findings, pose questions for further investigation and select evidence to support reasoned conclusions. They select and use language features effectively for their purpose and audience when communicating their ideas and findings.</p>		
Strands	Sub-strands	Content descriptions	Content descriptions	Sub-strands	Strands
Science understanding	Biological sciences	the growth and survival of living things are affected by physical conditions of their environment ACSSU094	investigate the physical conditions of a habitat and analyse how the growth and survival of living things is affected by changing physical conditions AC9S6U01	Biological sciences	Science understanding
	Earth and space sciences	sudden geological changes and extreme weather events can affect Earth's surface ACSSU096	describe the movement of Earth and other planets relative to the sun and model how Earth's tilt, rotation on its axis and revolution around the sun relate to cyclic observable phenomena, including variable day and night length AC9S6U02 Moved from Year 3	Earth and space sciences	
	Physical sciences	electrical energy can be transferred and transformed in electrical circuits and can be generated from a range of sources ACSSU097	investigate the transfer and transformation of energy in electrical circuits, including the role of circuit components, insulators and conductors AC9S6U03	Physical sciences	
	Chemical sciences	changes to materials can be reversible or irreversible ACSSU095	compare reversible changes, including dissolving and changes of state, and irreversible changes, including cooking and rusting that produce new substances AC9S6U04	Chemical sciences	
Science as a human endeavour	science involves testing predictions by gathering data and using evidence to develop explanations of events and phenomena and reflects historical and cultural contributions ACSHE098 Moved to Years 3–4		examine why advances in science are often the result of collaboration or build on the work of others AC9S6H01 Moved from Years 7–8	Science as a human endeavour	
	scientific knowledge is used to solve problems and inform personal and community decisions ACSHE100 Moved to Years 3–4		investigate how scientific knowledge is used by individuals and communities to identify problems, consider responses and make decisions AC9S6H02 Moved from Years 3–4		
Science inquiry skills	with guidance, pose clarifying questions and make predictions about scientific investigations ACSIS232		pose investigable questions to identify patterns and test relationships and make reasoned predictions AC9S6I01	Science inquiry	
	identify, plan and apply the elements of scientific investigations to answer questions and solve problems using equipment and materials safely and identifying potential risks ACSIS103 decide variables to be changed and measured in fair tests, and observe measure and record data with accuracy using digital technologies as appropriate ACSIS104		plan and conduct repeatable investigations to answer questions, including, as appropriate, deciding the variables to be changed, measured and controlled in fair tests; describing potential risks; planning for the safe use of equipment and materials; and identifying required permissions to conduct investigations on Country/Place AC9S6I02 use equipment to observe, measure and record data with reasonable precision, using digital tools as appropriate AC9S5I03		
	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 ACSIS107 Moved to Years 3–4 compare data with predictions and use as evidence in developing explanations ACSIS221 Moved to Years 1–2		construct and use appropriate representations, including tables, graphs and visual or physical models, to organise and process data and information and describe patterns, trends and relationships AC9S6I04 Moved to Years 3–4		
	reflect on and suggest improvements to scientific investigations ACSIS108		compare methods and findings with those of others, recognise possible sources of error, pose questions for further investigation and select evidence to draw reasoned conclusions AC9S6I05		
	communicate ideas, explanations and processes using scientific representations in a variety of ways, including multi-modal texts ACSIS110		write and create texts to communicate ideas and findings for specific purposes and audiences, including selection of language features, using digital tools as appropriate AC9S6I06		

Considerations for planning for Year 6, in the first year of implementation

Key	assumed prior knowledge	duplicated content
-----	-------------------------	--------------------

In the initial year of implementing the Australian Curriculum v9.0: Science, teachers need to consider the implications of content changes as they transition from v8.4.

The table below:

- identifies changes between v8.4 and v9.0 that may influence the sequence of students' learning
- outlines considerations for planning teaching and learning programs for the first year of implementation
- recognises that content in both SHE and SI are taught in two-year bands from Year 1.

	Year 5 content in v8.4	Year 6 content in v9.0	Considerations
Science understanding	Year 5 living things have structural features and adaptations that help them to survive in their environment ACSSU043	Year 6 investigate the physical conditions of a habitat and analyse how the growth and survival of living things is affected by changing physical conditions AC9S6U01	<ul style="list-style-type: none"> • Students in Year 6 during implementation will miss content relating to the water cycle, as it appears in Year 7 in v8.4 and Year 4 in v9.0 <ul style="list-style-type: none"> - identify sources of water and describe key processes in the water cycle, including movement of water through the sky, landscape and ocean; precipitation; evaporation; and condensation AC9S4U02. Therefore, including the water cycle as additional content related to the physical conditions of a habitat is required.
	solids, liquids and gases have different observable properties and behave in different ways ACSSU077	compare reversible changes, including dissolving and changes of state, and irreversible changes, including cooking and rusting that produce new substances AC9S6U04	<ul style="list-style-type: none"> • Students in Years 6 during implementation will miss content relating to the particle theory as used to explain changes of state, as it appears in Year 8 in v8.4 and Year 5 in v9.0 <ul style="list-style-type: none"> - explain observable properties of solids, liquids and gases by modelling the motion and arrangement of particles AC9S5U04. Therefore, consider modelling the motion and arrangement of particles when discussing changes to state.
Science as a human endeavour	Years 5–6 Science involves testing predictions by gathering data and using evidence to develop explanations of events and phenomena and reflects historical and cultural contributions ACSHE081	Years 5–6 examine why advances in science are often the result of collaboration or build on the work of others AC9S6H01	<ul style="list-style-type: none"> • During the first year of implementation, students in Year 6 will miss the following content that appears in Year 4 v9.0 <ul style="list-style-type: none"> - examine how people use data to develop scientific explanations AC9S4H01. Therefore, consider providing opportunities to understand how data is used to develop scientific explanations.
Science inquiry	Years 5–6 with guidance, identify questions in familiar contexts that can be investigated scientifically and make predictions based on prior knowledge ACSIS064	Years 5–6 pose investigable questions to identify patterns and test relationships and make reasoned predictions AC9S6I01	<ul style="list-style-type: none"> • During the first year of implementation, students in Year 6 will miss the following content that appears in Year 4 v9.0 <ul style="list-style-type: none"> - pose questions to explore observed patterns and relationships and make predictions based on observations AC9S4I01. Therefore, opportunities to explore observed patterns and relationships need to be provided to support students to identify patterns and test relationships.
	with guidance, plan and conduct scientific investigations to find answers to questions, considering the safe use of appropriate materials and equipment ACSIS065	plan and conduct repeatable investigations to answer questions, including, as appropriate, deciding the variables to be changed, measured and controlled in fair tests; describing potential risks; planning for the safe use of equipment and materials; and identifying required permissions to conduct investigations on Country/Place AC9S6I02	<ul style="list-style-type: none"> • During the first year of implementation, students in Year 6 will miss the following content that appears in Year 4 v9.0 <ul style="list-style-type: none"> - 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 AC9S4I02. Therefore, opportunities to plan and conduct investigations to test predictions need to be provided.
	use a range of methods including tables and simple column graphs to represent data and to identify patterns and trends ACSIS068	construct and use appropriate representations, including tables, graphs and visual or physical models, to organise and process data and information and describe patterns, trends and relationships AC9S6I04	<ul style="list-style-type: none"> • During the first year of implementation, students in Year 6 will miss the following content that appears in Year 4 v9.0 <ul style="list-style-type: none"> - construct and use representations, including tables, simple column graphs and visual or physical models, to organise data and information, show simple relationships and identify patterns AC9S4I04. Therefore, opportunities to construct and use representations to show simple relationships need to be provided prior to being required to describe relationships.
	compare results with predictions, suggesting possible reasons for findings ACSIS216	compare methods and findings with those of others, recognise possible sources of error, pose questions for further investigation and select evidence to draw reasoned conclusions AC9S6I05	<ul style="list-style-type: none"> • During the first year of implementation, students in Year 6 will miss the following content that appears in Year 4 v9.0 <ul style="list-style-type: none"> - compare findings with those of others, consider if investigations were fair, identify questions for further investigation and draw conclusions AC9S4I05. Therefore, opportunities to understand how to draw conclusions need to be provided before moving to drawing reasoned conclusions.
	represent and communicate observations, ideas and findings using formal and informal representations ACSIS071	write and create texts to communicate ideas and findings for specific purposes and audiences, including selection of language features, using digital tools as appropriate AC9S6I06	<ul style="list-style-type: none"> • During the first year of implementation, students in Year 5 will miss the following content that appears in Year 4 v9.0 <ul style="list-style-type: none"> - write and create texts to communicate findings and ideas for identified purposes and audiences, using scientific vocabulary and digital tools as appropriate AC9S4I06. Therefore, consider providing opportunities to write and create texts for identified purposes and audiences using scientific vocabulary.

© State of Queensland (QCAA) 2023

Licence: <https://creativecommons.org/licenses/by/4.0> | **Copyright notice:** www.qcaa.qld.edu.au/copyright — lists the full terms and conditions, which specify certain exceptions to the licence. | **Attribution** (include the link): © State of Queensland (QCAA) 2023 www.qcaa.qld.edu.au/copyright.

Unless otherwise indicated, material from Australian Curriculum is © ACARA 2010–present, licensed under [CC BY 4.0](https://creativecommons.org/licenses/by/4.0). For the latest information and additional terms of use, please check the [Australian Curriculum](http://www.australiancurriculum.edu.au) website and its [copyright notice](http://www.australiancurriculum.edu.au/copyright).