

# Comparison of AC v8.4 to v9.0

## Year 5: Science

Key	same/refined	removed	new	moved
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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 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>			<p>By the end of Year 5 students explain how the form and behaviour of living things enables survival. They describe key processes that change Earth's surface. They identify sources of light and model the transfer of light to explain observed phenomena. They relate the particulate arrangement of solids, liquids and gases to their observable properties. They describe examples of collaboration leading to advances in science, and scientific knowledge that has changed over time. They identify examples where scientific knowledge informs the actions of individuals and communities.</p> <p>Students plan safe investigations to identify patterns and relationships and make reasoned predictions. They identify risks associated with investigations and key intercultural considerations when planning field work. They identify variables to be changed and measured. They use equipment to generate data with appropriate precision. They construct representations to organise data and information and describe patterns, trends and relationships. They compare their methods and findings to those of others, identify possible sources of error in their investigation, pose questions for further investigation and draw reasoned conclusions. They use language features that reflect 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	living things have structural features and adaptations that help them to survive in their environment ACSSU043	examine how particular structural features and behaviours of living things enable their survival in specific habitats AC9S5U01	Biological sciences	Science understanding
	Earth and space sciences	the Earth is part of a system of planets orbiting around a star (the sun) ACSSU078 <b>Moved to Year 2</b>	describe how weathering, erosion, transportation and deposition cause slow or rapid change to Earth's surface AC9S5U02 <b>Moved from Year 4</b>	Earth and space sciences	
	Physical sciences	light from a source forms shadows and can be absorbed, reflected and refracted ACSSU080	identify sources of light, recognise that light travels in a straight path and describe how shadows are formed and light can be reflected and refracted AC9S5U03	Physical sciences	
	Chemical sciences	solids, liquids and gases have different observable properties and behave in different ways ACSSU077	explain observable properties of solids, liquids and gases by <u>modelling the motion and arrangement of particles</u> AC9S5U04	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 ACSHE081 <b>Moved to Years 3–4</b>		examine why advances in science are often the result of collaboration or build on the work of others AC9S5H01 <b>Moved from Years 7–8</b>	Science as a human endeavour	
	scientific knowledge is used to solve problems and inform personal and community decisions ACSHE083 <b>Moved to Years 3–4</b>		investigate how scientific knowledge is used by individuals and communities to identify problems, consider responses and make decisions AC9S5H02 <b>Moved from Years 3–4</b>		
Science inquiry skills	<u>with guidance</u> , pose clarifying questions and make predictions about scientific investigations ACSIS231		pose <u>investigable</u> questions to <u>identify patterns and test relationships</u> and make <u>reasoned</u> predictions AC9S5I01	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 ACSIS086 decide variables to be changed and measured in fair tests, and observe measure and record data with <u>accuracy</u> using digital technologies as appropriate ACSIS087		plan and conduct <u>repeatable</u> investigations to answer questions, including, as appropriate, deciding the variables to be changed, measured and <u>controlled</u> in fair tests; describing potential risks; planning for the safe use of equipment and materials; and identifying <u>required permissions to conduct investigations on Country/Place</u> AC9S5I02 use equipment to observe, measure and record data with <u>reasonable precision</u> , using digital tools as appropriate AC9S5I03		
	construct and use a range of representations, including tables and graphs, to represent and describe observations, patterns or <u>relationships</u> in data using digital technologies as appropriate ACSIS090 <b>Moved to Years 3–4</b> <u>compare data with predictions</u> and use as evidence in developing explanations ACSIS218 <b>Moved to Years 1–2</b>		construct and use appropriate representations, including tables, graphs and <u>visual or physical models</u> , to organise and process data and information and describe patterns, <u>trends</u> and relationships AC9S5I04 <b>Moved to Years 3–4</b>		
	reflect on and suggest improvements to scientific investigations ACSIS091		compare methods and findings with those of others, <u>recognise possible sources of error</u> , <u>pose questions for further investigation</u> and <u>select evidence to draw reasoned conclusions</u> AC9S5I05		
	communicate ideas, explanations and processes using scientific representations in a variety of ways, including <u>multi-modal texts</u> ACSIS093		write and create texts to communicate ideas and findings <u>for specific purposes and audiences</u> , including <u>selection of language features</u> , <u>using digital tools as appropriate</u> AC9S5I06		

## Considerations for planning for Year 5, in the first year of implementation

Key	assumed prior knowledge	duplicated content
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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 4 content in v8.4	Year 5 content in v9.0	Considerations
Science understanding	<b>Year 4</b> Earth's surface changes over time as a result of natural processes and human activity ACSSU075	<b>Year 5</b> describe how weathering, erosion, transportation, and deposition cause slow or rapid change to Earth's surface AC9S5U02	<ul style="list-style-type: none"> <li>• Students in Year 5 during the first year of 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"> <li>- 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.</li> </ul> </li> </ul> Therefore, consider including the water cycle as additional content related to: <ul style="list-style-type: none"> <li>- the role of water in erosion, transportation and deposition (ESS)</li> <li>- observable properties of solids, liquids and gases (CS).</li> </ul>
Science as a human endeavour	<b>Years 3–4</b> science involves making predictions and describing patterns and relationships ACSHE061	<b>Years 5–6</b> examine why advances in science are often the result of collaboration or build on the work of others AC9S5H01	<ul style="list-style-type: none"> <li>• 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"> <li>- examine how people use data to develop scientific explanations AC9S4H01.</li> </ul> </li> </ul> Therefore, opportunities to understand how data is used to develop scientific explanations need to be provided.
Science inquiry	<b>Years 3–4</b> with guidance, identify questions in familiar contexts that can be investigated scientifically and make predictions based on prior knowledge ACSIS064	<b>Years 5–6</b> pose investigable questions to identify patterns and test relationships and make reasoned predictions AC9S5I01	<ul style="list-style-type: none"> <li>• 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"> <li>- pose questions to explore observed patterns and relationships and make predictions based on observations AC9S4I0.</li> </ul> </li> </ul> 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 AC9S5I02	<ul style="list-style-type: none"> <li>• 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"> <li>- 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.</li> </ul> </li> </ul> 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 AC9S5I04	<ul style="list-style-type: none"> <li>• 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"> <li>- 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.</li> </ul> </li> </ul> 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 AC9S5I05	<ul style="list-style-type: none"> <li>• 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"> <li>- compare findings with those of others, consider if investigations were fair, identify questions for further investigation and draw conclusions AC9S4I05.</li> </ul> </li> </ul> 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 AC9S5I06	<ul style="list-style-type: none"> <li>• 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"> <li>- write and create texts to communicate findings and ideas for identified purposes and audiences, using scientific vocabulary and digital tools as appropriate AC9S4I06.</li> </ul> </li> </ul> Therefore, opportunities to write and create texts using scientific vocabulary need to be provided.

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