

Comparison of AC v8.4 to v9.0

Year 4: 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 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 4 students identify the roles of organisms in a habitat and construct food chains. They identify key processes in the water cycle and describe how water cycles through the environment. They identify forces acting on objects and describe their effect. They relate the uses of materials to their properties. They explain the role of data in science inquiry. They identify solutions based on scientific explanations and describe the needs these meet.</p> <p>Students pose questions to identify patterns and relationships and make predictions based on observations. 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 construct representations to organise data and information and identify patterns and relationships. They compare their findings with those of others, assess the fairness of their investigation, identify further questions for investigation and draw conclusions. They communicate ideas and findings for an identified audience and purpose, including using scientific vocabulary when appropriate.</p>		
Strands	Sub-strands	Content descriptions	Content descriptions	Sub-strands	Strands
Science understanding	Biological sciences	living things have life cycles ACSSU072 Moved to Year 3 living things depend on each other and the environment to survive ACSSU073	explain the roles and interactions of consumers, producers and decomposers within a habitat and how food chains represent feeding relationships AC9S4U01 Moved from Year 7	Biological sciences	Science understanding
	Earth and space sciences	Earth's surface changes over time as a result of natural processes and human activity ACSSU075 Moved to Year 5	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 Moved from Year 7	Earth and space sciences	
	Physical sciences	forces can be exerted by one object on another through direct contact or from a distance ACSSU076	identify how forces can be exerted by one object on another and investigate the effect of frictional, gravitational and magnetic forces on the motion of objects AC9S4U03	Physical sciences	
	Chemical sciences	natural and processed materials have a range of physical properties that can influence their use ACSSU074	examine the properties of natural and made materials including fibres, metals, glass and plastics and consider how these properties influence their use AC9S4U04	Chemical sciences	
Science as a human endeavour		science involves making predictions and describing patterns and relationships ACSHE061 Moved to Years 1–2	examine how people use data to develop scientific explanations AC9S4H01 Moved from Years 5–6		Science as a human endeavour
		science knowledge helps people to understand the effect of their actions ACSHE062 Moved to Years 5–6	consider how people use scientific explanations to meet a need or solve a problem AC9S4H02 Moved from Years 5–6		
Science inquiry skills		with guidance, identify questions in familiar contexts that can be investigated scientifically and make predictions based on prior knowledge ACSIS064	pose questions to explore observed patterns and relationships and make predictions based on observations AC9S4I01		Science inquiry
		with guidance, plan and conduct scientific investigations to find answers to questions, considering the safe use of appropriate materials and equipment ACSIS065 consider the elements of fair tests and use formal measurements and digital technologies as appropriate, to make and record observations accurately ACSIS066 Moved to Years 1–2	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 follow procedures to make and record observations, including making formal measurements using familiar scaled instruments and using digital tools as appropriate AC9S4I03		
		use a range of methods including tables and simple column graphs to represent data and to identify patterns and trends ACSIS068 Moved to Years 5–6 compare results with predictions, suggesting possible reasons for findings ACSIS2216 Moved to Years 1–2	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 Moved from Years 5–6		
		reflect on investigations, including whether a test was fair or not ACSIS069	compare findings with those of others, consider if investigations were fair, identify questions for further investigation and draw conclusions AC9S4I05		
		represent and communicate observations, ideas and findings using formal and informal representations ACSIS071	write and create texts to communicate findings and ideas for identified purposes and audiences, using scientific vocabulary and digital tools as appropriate AC9S4I06		

Considerations for planning for Year 4, 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 3 content in v8.4	Year 4 content in v9.0	Considerations
Science understanding	Year 3 living things can be grouped on the basis of observable features and can be distinguished from non-living things ACSSU044	Year 4 explain the roles and interactions of consumers, producers and decomposers within a habitat and how food chains represent feeding relationships AC9S4U01	<ul style="list-style-type: none"> • During the first year of implementation, students in Year 4 will miss the following content that appears in Year 3 v9.0 <ul style="list-style-type: none"> – compare characteristics of living and non-living things and examine the differences between the life cycles of plants and animals AC9S3U01. <p>Therefore, consider looking at food chains that include eggs, seeds, caterpillars and tadpoles to build knowledge of life cycles.</p>
	Years 3–4 participate in guided investigations to explore and answer questions ACSIS038	Years 3–4 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	<ul style="list-style-type: none"> • During the first year of implementation, students in Year 4 will miss the following content that appears in Year 2 v9.0 <ul style="list-style-type: none"> – suggest and follow safe procedures to investigate questions and test predictions AC9S2I02. <p>Therefore, opportunities to test predictions need to be provided with a focus on suggesting and following safe procedures.</p>
Science inquiry	use a range of methods to sort information, including drawings and provided tables and through discussion, compare observations with predictions ACSIS040	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	<ul style="list-style-type: none"> • During the first year of implementation, students in Year 4 will miss the following content that appears in Year 2 v9.0 <ul style="list-style-type: none"> – sort and order data and information and represent patterns, including with provided tables and visual or physical models AC9S2I04. <p>Therefore, opportunities to represent patterns in a variety of ways in preparation for constructing and using representations need to be provided,</p>
	compare observations with those of others ACSIS041	compare findings with those of others, consider if investigations were fair, identify questions for further investigation and draw conclusions AC9S4I05	<ul style="list-style-type: none"> • During the first year of implementation, students in Year 4 will miss the following content that appears in Year 2 v9.0 <ul style="list-style-type: none"> – compare observations with predictions and others' observations, consider if investigations are fair and identify further questions with guidance AC9S2I05. <p>Therefore, opportunities to consider the fairness of investigations and to identify further questions need to be provided.</p>
	represent and communicate observations, ideas and findings using formal and informal representations ACSIS071	write and create texts to communicate findings and ideas for identified purposes and audiences, using scientific vocabulary and digital tools as appropriate AC9S4I06	<ul style="list-style-type: none"> • During the first year of implementation, students in Year 4 will miss the following content that appears in Year 2 v9.0 <ul style="list-style-type: none"> – write and create texts to communicate observations, findings and ideas, using everyday and scientific vocabulary AC9S2I06. <p>Therefore, opportunities to identify and use both everyday and scientific language need to be provided.</p>

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