

Australian Curriculum Version 9.0: Achievement standard aligned to content descriptions

This resource shows alignment between aspects of the achievement standard and relevant content descriptions for Year 8. A similar resource is available for other year levels.

The Australian Curriculum (AC) v9.0 code for each content description includes an element indicating the strand it is organised by, e.g. AC9S8U01 indicates Science understanding strand.

Key to content description codes: Science	
e.g. AC9SFU01	Strands:
Australian Curriculum (AC)	• SU — Science understanding
Version 9 (9)	• SHE — Science as a human endeavour
Science (S)	• SI — Science inquiry
Year (8)	
Strand (U, H, I)	
Content description number (##)	

Year 8 Australian Curriculum: Science achievement standard

By the end of Year 8 students explain the role of specialised cell structures and organelles in cellular function and analyse the relationship between structure and function at organ and body system levels. They apply an understanding of the theory of plate tectonics to explain patterns of change in the geosphere. They explain how the properties of rocks relate to their formation and influence their use. They compare different forms of energy and represent transfer and transformation of energy in simple systems. They classify and represent different types of matter and distinguish between physical and chemical change. Students analyse how different factors influence development of and lead to changes in scientific knowledge. They analyse the key considerations that inform scientific responses and how these responses impact society. They analyse the importance of science communication in shaping viewpoints, policies and regulations.

Students plan and conduct safe, reproducible investigations to test relationships and explore models. They describe potential ethical issues and intercultural considerations needed for specific field locations or use of secondary data. They select and use equipment to generate and record data with precision. They select and construct appropriate representations to organise and process data and information. They analyse data and information to describe patterns, trends and relationships and identify anomalies. They identify assumptions and sources of error in methods and analyse conclusions and claims with reference to conflicting evidence and unanswered questions. They construct evidence-based arguments to support conclusions and evaluate claims. They select and use language and text features appropriately for their purpose when communicating their ideas, findings and arguments to specific audiences.

Achievement standard aspect	Relevant content description/s	AC v9.0 code
By the end of Year 8	Students learn to:	
Students explain the role of specialised cell structures and organelles in cellular function and analyse the relationship between structure and function at organ and body system levels.	• recognise cells as the basic units of living things, compare plant and animal cells, and describe the functions of specialised cell structures and organelles	AC9S8U01
	• analyse the relationship between structure and function of cells, tissues and organs in a plant and an animal organ system and explain how these systems enable survival of the individual	AC9S8U02
They apply an understanding of the theory of plate tectonics to explain patterns of change in the geosphere.	• investigate tectonic activity including the formation of geological features at divergent, convergent and transform plate boundaries and describe the scientific evidence for the theory of plate tectonics	AC9S8U03
They explain how the properties of rocks relate to their formation and influence their use.	• describe the key processes of the rock cycle, including the timescales over which they occur, and examine how the properties of sedimentary, igneous and metamorphic rocks reflect their formation and influence their use	AC9S8U04
They compare different forms of energy and represent transfer and transformation of energy in simple systems.	• classify different types of energy as kinetic or potential and investigate energy transfer and transformations in simple systems	AC9S8U05
They classify and represent different types of matter and distinguish between physical and chemical change.	• classify matter as elements, compounds or mixtures and compare different representations of these, including 2-dimensional and 3-dimensional models, symbols for elements and formulas for molecules and compounds	AC9S8U06
	• compare physical and chemical changes and identify indicators of energy change in chemical reactions	AC9S8U07
Students analyse how different factors influence development of and lead to changes in scientific knowledge.	• explain how new evidence or different perspectives can lead to changes in scientific knowledge	AC9S8H01
	• investigate how cultural perspectives and world views influence the development of scientific knowledge	AC9S8H02
They analyse the key considerations that inform scientific responses and how these responses impact society.	• examine how proposed scientific responses to contemporary issues may impact on society and explore ethical, environmental, social and economic considerations	AC9S8H03
They analyse the importance of science communication in shaping viewpoints, policies and regulations.	• explore the role of science communication in informing individual viewpoints and community policies and regulations	AC9S8H04
Students plan and conduct safe, reproducible investigations to test relationships and explore models.	• develop investigable questions, reasoned predictions and hypotheses to explore scientific models, identify patterns and test relationships	AC9S8I01
	• plan and conduct reproducible investigations to answer questions and test hypotheses, including identifying variables and assumptions and, as appropriate, recognising and managing risks, considering ethical issues and recognising key considerations regarding heritage sites and artefacts on Country/Place	AC9S8I02
They describe potential ethical issues and intercultural considerations needed for specific field locations or use of secondary data.	• plan and conduct reproducible investigations to answer questions and test hypotheses, including identifying variables and assumptions and, as appropriate, recognising and managing risks, considering ethical issues and recognising key considerations regarding heritage sites and artefacts on Country/Place	AC9S8I02

Achievement standard aspect	Relevant content description/s	AC v9.0 code
They select and use equipment to generate and record data with precision.	<ul style="list-style-type: none"> select and use equipment to generate and record data with precision, using digital tools as appropriate 	AC9S8I03
They select and construct appropriate representations to organise and process data and information.	<ul style="list-style-type: none"> select and construct appropriate representations, including tables, graphs, models and mathematical relationships, to organise and process data and information 	AC9S8I04
They analyse data and information to describe patterns, trends and relationships and identify anomalies.	<ul style="list-style-type: none"> analyse data and information to describe patterns, trends and relationships and identify anomalies 	AC9S8I05
They identify assumptions and sources of error in methods and analyse conclusions and claims with reference to conflicting evidence and unanswered questions.	<ul style="list-style-type: none"> analyse methods, conclusions and claims for assumptions, possible sources of error, conflicting evidence and unanswered questions 	AC9S8I06
They construct evidence-based arguments to support conclusions and evaluate claims.	<ul style="list-style-type: none"> construct evidence-based arguments to support conclusions or evaluate claims and consider any ethical issues and cultural protocols associated with using or citing secondary data or information 	AC9S8I07
They select and use language and text features appropriately for their purpose when communicating their ideas, findings and arguments to specific audiences.	<ul style="list-style-type: none"> write and create texts to communicate ideas, findings and arguments for specific purposes and audiences, including selection of appropriate language and text features, using digital tools as appropriate. 	AC9S8I08

More information

If you would like more information, please visit the QCAA website www.qcaa.qld.edu.au. Alternatively, email the K–10 Curriculum and Assessment branch at australiancurriculum@qcaa.qld.edu.au.

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