Years 7–8 band Technologies

ACiQ v9.0

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 Years 7–8 band. A similar resource is available for Prep/other bands.

The Australian Curriculum (AC) v9.0 code for each content description includes an element indicating the strand it is organised by, e.g. AC9TDI8K01 indicates Knowledge and understanding strand.

Key to content description codes: Technologies	
e.g. **AC9TDI8K01** Australian Curriculum (**AC**) Version 9 (**9**) Technologies (**T**) Design and Technologies (**DE**) Digital Technologies (**DI**) Years 7–8 band (**8**) Strand (**K**, **P**) Content description number (**##**)	Strands: • K — Knowledge and understanding • P — Processes and production skills

Years 7–8 band Australian Curriculum: Technologies achievement standard

By the end of Year 8 students explain how people design, innovate and produce products, services and environments for preferred futures. For each of the 4 prescribed technologies contexts students explain how the features of technologies impact on design decisions, and create designed solutions based on analysis of needs or opportunities. They acquire, interpret and model with spreadsheets and represent data with integers and binary. Students design and trace algorithms; and implement them in a general-purpose programming language. Students create and adapt design ideas, processes and solutions, and justify their decisions against developed design criteria that include sustainability. They communicate design ideas and solutions to audiences using technical terms and graphical representation techniques, including using digital tools. They select appropriate hardware for particular tasks, explain how data is transmitted and secured in networks, and identify cyber security threats. They use a range of digital tools to individually and collaboratively document and manage production processes to safely and responsibly produce designed or digital solutions for the intended purpose. Students manage their digital footprint.

Achievement standard aspect	Relevant content description/s	AC v9.0 code
By the end of Year 8	**Students learn to:**	
Students explain how people design, innovate and produce products, services and environments for preferred futures.	• analyse how people in design and technologies occupations consider ethical and sustainability factors to design and produce products, services and environments	AC9TDE8K01
	• analyse the impact of innovation and the development of technologies on designed solutions for global preferred futures	AC9TDE8K02
For each of the 4 prescribed technologies contexts students explain how the features of technologies impact on design decisions, and create designed solutions based on analysis of needs or opportunities.	• analyse how force, motion and energy are used to manipulate and control engineered systems	AC9TDE8K03
	• analyse how food and fibre are produced in managed environments and how these can become sustainable	AC9TDE8K04
	• analyse how properties of foods determine preparation and presentation techniques when designing solutions for healthy eating	AC9TDE8K05
	• analyse how characteristics and properties of materials, systems, components, tools and equipment can be combined to create designed solutions	AC9TDE8K06
	• analyse needs or opportunities for designing, and investigate and select materials, components, tools, equipment and processes to create designed solutions	AC9TDE8P01
They acquire, interpret and model with spreadsheets and represent data with integers and binary.	• investigate how digital systems represent text, image and audio data using integers	AC9TDI8K03
	• explain how and why digital systems represent integers in binary	AC9TDI8K04
	• acquire, store and validate data from a range of sources using software, including spreadsheets and databases	AC9TDI8P01
	• analyse and visualise data using a range of software, including spreadsheets and databases, to draw conclusions and make predictions by identifying trends	AC9TDI8P02
	• model and query the attributes of objects and events using structured data	AC9TDI8P03
Students design and trace algorithms; and implement them in a general-purpose programming language.	• design algorithms involving nested control structures and represent them using flowcharts and pseudocode	AC9TDI8P05
	• trace algorithms to predict output for a given input and to identify errors	AC9TDI8P06
	• implement, modify and debug programs involving control structures and functions in a general-purpose programming language	AC9TDI8P09

Achievement standard aspect	Relevant content description/s	AC v9.0 code
Students create and adapt design ideas, processes and solutions, and justify their decisions against developed design criteria that include sustainability.	• generate, test, iterate and communicate design ideas, processes and solutions using technical terms and graphical representation techniques, including using digital tools	AC9TDE8P02
	• develop design criteria collaboratively including sustainability to evaluate design ideas, processes and solutions	AC9TDE8P04
	• define and decompose real-world problems with design criteria and by creating user stories	AC9TDI8P04
	• design the user experience of a digital system	AC9TDI8P07
	• evaluate existing and student solutions against the design criteria, user stories and possible future impact	AC9TDI8P10
They communicate design ideas and solutions to audiences using technical terms and graphical representation techniques, including using digital tools.	• generate, test, iterate and communicate design ideas, processes and solutions using technical terms and graphical representation techniques, including using digital tools	AC9TDE8P02
	• generate, modify, communicate and evaluate alternative designs	AC9TDI8P08
They select appropriate hardware for particular tasks, explain how data is transmitted and secured in networks, and identify cyber security threats.	• explain how hardware specifications affect performance and select appropriate hardware for particular tasks and workloads	AC9TDI8K01
	• investigate how data is transmitted and secured in wired and wireless networks including the internet	AC9TDI8K02
	• explain how multi-factor authentication protects an account when the password is compromised and identify phishing and other cyber security threats	AC9TDI8P13
They use a range of digital tools to individually and collaboratively document and manage production processes to safely and responsibly produce designed or digital solutions for the intended purpose.	• select, justify and use suitable materials, components, tools, equipment, skills and processes to safely make designed solutions	AC9TDE8P03
	• develop project plans to individually and collaboratively manage time, cost and production of designed solutions.	AC9TDE8P05
	• select and use a range of digital tools efficiently, including unfamiliar features, to create, locate and communicate content, consistently applying common conventions	AC9TDI8P11
	• select and use a range of digital tools efficiently and responsibly to share content online, and plan and manage individual and collaborative agile projects	AC9TDI8P12
Students manage their digital footprint.	• investigate and manage the digital footprint existing systems and student solutions collect and assess if the data is essential to their purpose.	AC9TDI8P14

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.