Years 5–6 standard elaborations — Australian Curriculum v9.0: Technologies

Purpose

The standards elaborations (SEs) support teachers to connect curriculum to evidence in assessment so that students are assessed on what they have had the opportunity to learn. The SEs can be used to:

- make consistent and comparable judgments, on a five-point scale, about the evidence of learning in a folio of student work across a year/band
- develop task-specific standards (or marking guides) for individual assessment tasks
- quality assure planning documents to ensure coverage of the achievement standard across a year/band.

Structure

The SEs have been developed using the Australian Curriculum achievement standard. The achievement standard for Technologies describes what students are expected to know and be able to do at the end of each year. Teachers use the SEs during and at the end of a teaching period to make on-balance judgments about the qualities in student work that demonstrate the depth and breadth of their learning.

In Queensland, the achievement standard represents the C standard — a sound level of knowledge and understanding of the content, and application of skills. The SEs are presented in a matrix where the discernible differences and/or degrees of quality between each performance level are highlighted. Teachers match these discernible differences and/or degrees of quality to characteristics of student work to make judgments across a five-point scale.

In Years 5–6 the Learning area achievement standard may be used to assess within and across the Technologies subjects.

![ACiQ|v9.0]

Years 5–6 Australian Curriculum: Technologies achievement standard
By the end of Year 6 students explain how people design products, services and environments to meet the needs of communities, including sustainability. For each of the 3 prescribed technologies contexts students explain how the features of technologies impact on design decisions and they create designed solutions. They process data and show how digital systems represent data, design algorithms involving complex branching and iteration, and implement them as visual programs including variables. They select and justify design ideas and solutions against design criteria. Students share and communicate ideas or content to an audience using technical terms, graphical representation techniques and appropriate digital tools. They develop project plans, including production processes, and select technologies and techniques to safely produce designed or digital solutions. Students securely access and use multiple digital systems and describe their components and how they interact to process and transmit data. They identify their digital footprint and recognise its permanence.
Source: Australian Curriculum, Assessment and Reporting Authority (ACARA), *Australian Curriculum Version 9.0 Technologies for Foundation–10* https://v9.australiancurriculum.edu.au/f-10-curriculum/learning-areas/design-and-technologies_digital-technologies/year-5?view=quick&detailed-content-descriptions=0&hide-ccp=0&hide-gc=0&side-by-side=1&strands-start-index=0&subjects-start-index=0

Years 5–6 Technologies standard elaborations

		A	B	C	D	E
		The folio of student work contains evidence of the following:				
Knowledge and understanding	**Technologies and society**	discerning explanation of how people design products, services and environments to meet the needs of communities, including sustainability	detailed explanation of how people design products, services and environments to meet the needs of communities, including sustainability	explanation of how people design products, services and environments to meet the needs of communities, including sustainability	description of how people design products, services and environments to meet the needs of communities, including sustainability	statement/s about how people design products, services and environments

		A	B	C	D	E
Technologies contexts		**discerning** explanation of how the features of technologies impact on design decisions for each of the 3 prescribed technologies contexts: • Engineering principles and systems • Food and fibre production; Food specialisations • Materials and technologies specialisations	**detailed** explanation of how the features of technologies impact on design decisions for each of the 3 prescribed technologies contexts: • Engineering principles and systems • Food and fibre production; Food specialisations • Materials and technologies specialisations	explanation of how the features of technologies impact on design decisions for each of the 3 prescribed technologies contexts: • Engineering principles and systems • Food and fibre production; Food specialisations • Materials and technologies specialisations	**description** of the features of technologies that impact on design decisions for each of the 3 prescribed technologies contexts: • Engineering principles and systems • Food and fibre production; Food specialisations • Materials and technologies specialisations	**statement/s about** the features of technologies for **one or more** of the 3 prescribed technologies contexts: • Engineering principles and systems • Food and fibre production; Food specialisations • Materials and technologies specialisations
Digital systems		secure access and **proficient** use of multiple digital systems	secure access and **effective** use of multiple digital systems	secure access and use of multiple digital systems	secure access and **guided** use of multiple digital systems	secure access and **directed** use of multiple digital systems
		comprehensive description of components of digital systems and how they interact to process and transmit data	**detailed** description of components of digital systems and how they interact to process and transmit data	description of components of digital systems and how they interact to process and transmit data	**identification** of components of digital systems **and/or** how they interact to process and transmit data	**statement/s about** components of digital systems
Data representation		**proficient**: • data processing • demonstration of how digital systems represent data	**effective**: • data processing • demonstration of how digital systems represent data	• data processing • demonstration of how digital systems represent data	• **guided** data processing • **partial** demonstration of how digital systems represent data	• **directed** data processing • **variable** demonstration of how digital systems represent data

		A	B	C	D	E
Processes and production skills	**Investigating and defining***					
	Generating and designing	<u>reasoned</u> design of algorithms involving complex branching and iteration	<u>logical</u> design of algorithms involving complex branching and iteration	design of algorithms involving complex branching and iteration	<u>guided</u> design of algorithms involving complex branching <u>and/or</u> iteration	<u>directed</u> design of algorithms
		sharing and communication of <u>considered</u> ideas or content to an audience through the: • use of technical terms • <u>comprehensive</u> use of graphical representation techniques • <u>proficient</u> use of appropriate digital tools	sharing and communication of <u>effective</u> ideas or content to an audience through the: • use of technical terms • <u>detailed</u> use of graphical representation techniques • <u>effective</u> use of appropriate digital tools	sharing and communication of ideas or content to an audience through the use of: • technical terms • graphical representation techniques • appropriate digital tools	sharing and communication of <u>superficial</u> ideas or content to an audience through the: • use of technical terms • <u>simple</u> use of graphical representation techniques • <u>simple</u> use of appropriate digital tools	<u>statement/s about</u> design ideas or content to an audience through the: • <u>basic</u> use of graphical representation techniques <u>and/or</u> • <u>sporadic</u> use of appropriate digital tools
	Producing and implementing	creation of <u>proficient</u> designed solutions for each of the 3 prescribed technologies contexts: • Engineering principles and systems • Food and fibre production; Food specialisations • Materials and technologies specialisations	creation of <u>effective</u> designed solutions for each of the 3 prescribed technologies contexts: • Engineering principles and systems • Food and fibre production; Food specialisations • Materials and technologies specialisations	creation of designed solutions for each of the 3 prescribed technologies contexts: • Engineering principles and systems • Food and fibre production; Food specialisations • Materials and technologies specialisations	creation of <u>aspects of</u> designed solutions for each of the 3 prescribed technologies contexts: • Engineering principles and systems • Food and fibre production; Food specialisations • Materials and technologies specialisations	creation of <u>fragmented</u> designed solutions for <u>one or more</u> of the 3 prescribed technologies contexts: • Engineering principles and systems • Food and fibre production; Food specialisations • Materials and technologies specialisations

		A	B	C	D	E
		purposeful selection of technologies and techniques to proficiently and safely produce designed or digital solutions	effective selection of technologies and techniques to effectively and safely produce designed or digital solutions	selection of technologies and techniques to safely produce designed or digital solutions	guided selection of technologies and techniques to safely produce simple designed or digital solutions	directed selection of technologies and techniques to safely produce basic designed or digital solutions
		proficient implementation of algorithms involving branching and iteration as visual programs including variables	effective implementation of algorithms involving branching and iteration as visual programs including variables	implementation of algorithms involving branching and iteration as visual programs including variables	guided implementation of algorithms involving branching and/or iteration as visual programs including variables	directed implementation of algorithms
	Evaluating	selection and discerning justification of design ideas and solutions against design criteria	selection and detailed justification of design ideas and solutions against design criteria	selection and justification of design ideas and solutions against design criteria	selection and description of design ideas and solutions	selection and statement/s about design ideas and solutions
	Collaborating and managing	development of comprehensive project plans including production processes	development of detailed project plans including production processes	development of project plans including production processes	guided development of simple project plans including production processes	directed development of basic project plans
	Privacy and security	identification of their digital footprint and discerning recognition of its permanence.	identification of their digital footprint and logical recognition of its permanence.	identification of their digital footprint and recognition of its permanence.	partial identification of their digital footprint and guided recognition of its permanence.	statement/s about their digital footprint.

*sub-strand assessed within Technologies contexts for this level

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Key	shading emphasises the qualities that discriminate between the A–E descriptors