Western Australian Curriculum

Technologies | Digital Technologies

Scope and sequence of the mandated curriculum content

Pre-primary–Year 10 | Revised curriculum

For familiarisation in 2025

Acknowledgement of Country

Kaya. The School Curriculum and Standards Authority (the Authority) acknowledges that our offices are on Whadjuk Noongar boodjar and that we deliver our services on the country of many traditional custodians and language groups throughout Western Australia. The Authority acknowledges the traditional custodians throughout Western Australia and their continuing connection to land, waters and community. We offer our respect to Elders past and present.

Disclaimer

Any resources, such as texts, websites and so on that may be referred to in this document are provided as examples of resources that teachers can use to support their learning programs. Their inclusion does not imply that they are mandatory or that they are the only resources relevant to the course. Teachers must exercise their professional judgement as to the appropriateness of any they may wish to use.

Contents

Overview

The current Western Australian Curriculum: Technologies was adopted and adapted from the Australian Curriculum version 8.4.

The revised Western Australian Curriculum: Technologies is adopted and adapted from the Australian Curriculum version 9.

The Technologies learning area comprises two subjects: Design and Technologies and Digital Technologies. The Technologies curriculum is written on the basis that students will study both Technologies subjects from Pre-primary to the end of Year 8. In Years 9 and 10 the study of Technologies is optional.

Guide to reading this document

The Scope and sequence for Digital Technologies shows the **mandated** curriculum for teaching, written as **content descriptions** across year levels so that a sequence of content can be viewed across the years of schooling from Pre-primary to Year 10.

The **Digital Technologies** strands for **Pre-primary to Year 6** include: Digital systems; Data representation; Privacy and security; Digital implementation; and Design thinking skills.

The **Digital Technologies** strands for **Years 7–10** include: Digital systems; Data representation; Acquiring, managing and analysing data; Privacy and security; Digital implementation; and Design thinking skills.

The **Design thinking skills** strand for **Pre-primary to Year 10** includes the sub-strands: Project management; Investigating and defining; Designing; Producing and implementing; and Evaluating. This strand is shared with the Design and Technologies subject.

The tables below outline the subject organisation for the Pre-primary to Year 10 Digital Technologies curriculum.

Pre-primary to Year 6

Digital systems	Data representation	Privacy and security	Digital implementation

Design thinking skills				
Project management	Investigating and defining	Designing	Producing and implementing	Evaluating

Years 7–10

Digital systems	Data representation	Acquiring, managing and analysing data	Privacy and security	Digital implementation

Design thinking skills				
Project management	Investigating and defining	Designing	Producing and implementing	Evaluating

Pre-primary–Year 6

Strand: Digital systems

Pre-primary	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Digital systems have common features, including hardware devices and software, and are used at home, in school and in the community	Digital systems have hardware and software that are used together	Digital systems, including hardware devices and software, are used for an identified purpose	Digital systems and peripheral devices are connected and used together for various purposes	Digital systems, including peripheral devices, are used to transfer and store different types of data	Digital systems have main internal components that perform particular functions to achieve a purpose	Digital systems are connected in wired and wireless networks to transmit data for a variety of purposes

Strand: Data representation

Pre-primary	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Data can be represented as objects and images	Data can be represented as images, symbols, numbers and words	Data can have patterns and may be represented as diagrams, symbols, numbers and words	Data is of different types and can be represented in various ways	Data of the same type can be represented in different ways depending on the purpose	Data of all types, including text, numeric, sound and images, are represented using codes	Data can be represented by on and off states (zeros and ones in binary)

Strand: Privacy and security

Pre-primary	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Some data is personal and owned by them	Some data is personal, owned by them and can be shared with trusted people	Some personal data may be safely shared online with specific people using trusted platforms	Different types of personal data are shared and stored online	Personal data that is shared and stored online can pose risks	Personal data can be used to create a permanent digital footprint	Digital footprint and privacy considerations when collecting user data
Steps to take when encountering unexpected inappropriate content, pop-ups, or uninitiated contact	Access their school account, with assistance, using a recorded username and password	Independently access their school account with a recorded username and password, and log out	Access their school account, using a unique private memorised password, and logging out afterwards	Access their school account, using a memorised password. It should be easy to remember but difficult for others to guess. Risks of not logging out	Access multiple personal accounts using unique passphrases or biometrics. Risks of password reuse and not logging out	Access multiple personal accounts using unique passphrases or biometrics. Risks of password reuse and practices to reduce risk to their personal accounts

Strand: Digital implementation

Pre-primary	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
		Create an algorithm (sequence of steps) including decisions made by the user	Represent algorithms (sequence of steps), including decisions made by the user (branching) using flowcharts	Represent an algorithm (sequence of steps) involving decisions (branching) and repetition using flowcharts	Design algorithms in plain English and/or flowcharts that involve user input, variables and control structures (sequence, decisions and repetition)	Design algorithms in plain English and/or flowcharts that involve user input, variables and control structures (sequence, decisions and various types of iteration: For, Repeat, While)
Follow an algorithm (sequence of steps) to achieve an outcome	Follow a visual representation of an algorithm (sequence of steps)	Follow algorithms (sequence of steps) including decisions made by the user	Implement algorithms (sequence of steps) in a visual programming environment to include decisions made by the user (branching)	Implement algorithms (sequence of steps) in a visual programming environment to include decisions (branching) and repetition	Implement algorithms in a visual programming environment involving variables and control structures (sequence, decisions and repetition) with user input	Implement algorithms in a visual programming environment involving variables and control structures (sequence, decisions, input and various types of iteration)

Strand: Design thinking skills

Sub-strand: Project management

Pre-primary	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Share ideas to develop a solution	Share ideas and work with others to develop a solution	Plan, share ideas and work with others to develop a solution for a known user	Communicate ideas and follow a plan with consideration of time management, to develop a solution	Use agreed protocols and management roles to communicate ideas, plan and make decisions, to develop solutions	Use agreed protocols and management roles to communicate decisions, plan and manage time, to develop designed solutions	Use agreed protocols to set goals, manage competing factors, resources and time, to plan, develop and communicate decisions, when developing designed solutions for a given task

Sub-strand: Investigating and defining

Pre-primary	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Explore the purpose for design	Explore ideas and design opportunities for a personal need	Explore ideas and design opportunities for a known user	Define ideas and design opportunities for individual and/or local needs	Define the features of a design brief and the requirements of a design task for a community need	Break down a design brief to define the purpose and requirements for a given task	Break down a design brief to define the purpose, requirements and constraints for a given task
				Investigate and select resources based on properties for the given task	Investigate and select resources based on properties and functions for the given task	Investigate and select resources considering constraints, properties and functions appropriate for the given task

Sub-strand: Designing

Pre-primary	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Design solutions through discussion, drawing and/or modelling to meet a personal need	Design solutions through drawing, modelling and/or a sequence of steps	Design solutions generated and communicated through discussion, drawing, modelling and/or a sequence of steps	Design solutions created with labelled drawings, use of technical terms and/or a sequence of steps	Design solutions through use of labelled drawings, technical terms, decision-making and/or a sequence of steps	Design solutions considering competing factors, with annotated diagrams, storyboards and/or a sequence of steps, using technical terms and an iterative process	Design alternative solutions achieved through an iterative process, including critical thinking, graphical representations, use of a range of technologies, techniques, technical terms and/or a sequence of steps

Sub-strand: Producing and implementing

Pre-primary	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Use available technologies and materials to safely create a solution	Use available technologies and materials to safely create a preferred solution	Use given equipment and technologies to safely create a solution	Use appropriate technologies and components with given equipment and follow agreed protocols to produce a designed solution	Use appropriate technologies, components and/or equipment and follow agreed protocols to produce a designed solution	Use technologies, components and/or equipment to implement agreed protocols to produce a designed solution	Use a range of technologies, components and/or equipment to implement agreed protocols to produce a designed solution

Sub-strand: Evaluating

Pre-primary	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Use personal preferences to evaluate the solution	Use personal preferences to evaluate the solution for a personal need	Use personal preferences and the needs of the known user to evaluate the solution	Use given criteria to evaluate diagrams, technologies and the components used for the designed solution	Use given criteria to evaluate design features, selected resources, decision-making processes and the designed solution	Use given criteria to evaluate design features, consideration of competing factors, processes and the designed solution	Develop negotiated criteria to evaluate design features, graphics, selected technologies, processes and functionality, with consideration of constraints for the designed solution

Years 7–10

Strand: Digital systems

Year 7	Year 8	Year 9	Year 10
Methods of data transmission in different types of networks including wired, wireless and mobile networks	Methods of data transmission and security in wired, wireless and mobile networks	Role of hardware and software to manage, control and secure the movement of data in a digital system	Hardware and software are used to manage, control and secure access to data in networked digital systems
Hardware devices of networks and their purposes	The effect of hardware specifications on performance and the appropriateness of hardware for particular tasks		

Strand: Data representation

Year 7	Year 8	Year 9	Year 10
Digital systems use binary to represent data in text	Digital systems represent image and audio data using binary	Different methods of manipulation and storage of data	Represent documents online as content (text), structure (mark-up) and presentation (styling) and the purpose of these distinctions
		Data compression techniques for an intended purpose	

Strand: Acquiring, managing and analysing data

Year 7	Year 8	Year 9	Year 10
Acquire, store and visualise data from a range of sources using spreadsheets	Analyse and validate data using spreadsheets to draw conclusions and make predictions by identifying trends	Acquire, store and validate data from a range of sources using software, including spreadsheets and/or databases	Analyse and visualise data interactively using a range of software, including spreadsheets and/or relational databases, to draw conclusions and make predictions by identifying trends and outliers
	Evaluate the authenticity, accuracy and timeliness of acquired data	Single table (flat file) databases are created to store and manage data	Model and query entities and their relationships using structured data

Strand: Privacy and security

Year 7	Year 8	Year 9	Year 10
Issues relating to a user's digital footprint and the permanence of data	Ethical issues relating to the collection and ownership of data	Australian Privacy Principles (APP) regarding the collection and ownership of data	Australian Privacy Principles (APP) are used to critique systems and manage the digital footprint of individuals
Protecting accounts with multifactor authentication	Cybersecurity threats including phishing	Cybersecurity threat models	User or software supply chain vulnerabilities

Strand: Digital implementation

Year 7	Year 8	Year 9	Year 10
		Define and decompose real-world problems by surveying stakeholders to create the requirements of the user	Define and decompose real-world problems by using data gathering techniques to create the client needs
Break down the user experience (UX) of a digital system	Design the user experience (UX) of a digital system	Design and prototype the user experience (UX) of a digital system based on user requirements	Design and prototype the user experience and user interface (UX/UI) of a digital system based on client needs
Design algorithms involving control structures (selection, decision and iteration), and represent them using flowcharts and pseudocode	Design algorithms involving nested control structures and represent them using flowcharts and pseudocode	Design algorithms that use functions and represent them as flowcharts and/or pseudocode	Design modular algorithms involving functions and logical operators (AND, OR, NOT) and represent them as flowcharts and/or pseudocode
	Trace algorithms to predict output for a given input and to identify and fix errors	Predict the output of an algorithm using a given range of test cases and compare against actual output	Validate algorithms and programs by comparing output against a range of test cases
Implement, modify, and debug programs involving control structures	Implement, modify and debug programs involving control structures in a general-purpose programming language	Implement, modify and debug programs that use functions in a general-purpose programming language	Implement, modify and debug modular programs, applying algorithms and data structures in a general-purpose programming language

Stand: Design thinking skills

Sub-strand: Project management

Year 7	Year 8	Year 9	Year 10
Plan, develop and communicate, using project management processes, considering time and available resources to achieve solutions	Plan, develop and communicate, using project management processes, considering time, resources and costs to achieve solutions	Manage projects, using suitable technologies, with an agile and collaborative approach. Use project management processes to consider time, risk, economic and sustainable factors	Manage projects, using suitable technologies, with an agile and collaborative approach. Use project management processes to consider time, production processes, social, ethical, economic and sustainable factors, and legal responsibilities

Sub-strand: Investigating and defining

Year 7	Year 8	Year 9	Year 10
Investigate and define the problem and requirements of a given design brief	Investigate a problem for a given need or opportunity	Ideate a problem and define the needs of an end user, through interviews and/or surveys	Ideate a problem and define the needs of the client/stakeholder through anecdotal evidence and/or data gathering techniques
Break down a given design brief, identifying and defining the purpose and competing considerations	Develop a design brief for a given need or opportunity	Develop a design brief for a solution based on end user needs	Develop a design brief for a solution or to innovate an existing product, service or environment
Consider given technologies, resources and/or components to develop solutions	Consider technologies, resources and/or components to develop solutions, identifying constraints	Investigate a range of technologies, resources and/or components to develop ideas and solutions, with consideration of social, ethical and other constraints	Investigate a range of technologies, resources and/or components to develop ideas and solutions, with consideration of social and ethical factors, legal responsibilities and competing constraints

Sub-strand: Designing

Year 7	Year 8	Year 9	Year 10
Design processes and solutions with given technologies and techniques, using appropriate technical terms	Design processes and solutions considering a range of technologies and techniques, using appropriate technical terms	Design alternative solutions considering available technologies, usability and aesthetics, using appropriate technical terms	Design alternative solutions considering available technologies, functionality, accessibility, usability and aesthetics, using appropriate technical terms

Sub-strand: Producing and implementing

Year 7	Year 8	Year 9	Year 10
Implement agreed protocols and use a range of technologies, components and/or equipment to produce designed solutions	Implement agreed protocols, a range of technologies, techniques, components and processes to produce designed solutions	Select, implement and test a range of technologies, techniques and processes to produce designed solutions and/or prototypes	Select, justify, implement and test a range of technologies, techniques and processes to produce solutions and/or prototypes

Sub-strand: Evaluating

Year 7	Year 8	Year 9	Year 10
Use given contextual criteria to evaluate design processes and solutions	Use student-developed contextual criteria to evaluate design processes and solutions	Evaluate design processes and solutions against student-developed criteria	Evaluate design processes and solutions against student-developed criteria