Government of **Western Australia**
School Curriculum and Standards Authority

Western Australian Curriculum

Technologies | Digital Technologies

Scope and sequence| 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.

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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 **examples** illustrate the content and are **not mandated**. Teachers should use examples relevant to the context of the school and the needs of their students.

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 For example: • digital systems can include mobile devices, tablets and desktop personal computers (PCs) • different digital systems are used to capture or transfer data (taking a photograph, voice or video)	Digital systems have hardware and software that are used together For example: • digital systems include mobile phones, tablets and desktop personal computers (PCs) • digital systems are a collection of hardware and software • hardware is physical and software is non-physical • software includes applications,	Digital systems, including hardware devices and software, are used for an identified purpose For example: • digital systems, such as mobile phones, tablets and desktop personal computers (PCs) are used/selected for a purpose • digital systems are a collection of hardware and software • hardware is physical and	Digital systems and peripheral devices are connected and used together for various purposes For example: • input peripheral devices include keyboard, mouse, camera and microphone • output peripheral devices include monitor, printer, 3D printer, speaker and remotes • peripherals that have the ability to be both input and output	Digital systems, including peripheral devices, are used to transfer and store different types of data For example: • peripheral devices, such as a keyboard, touch screen, mouse, camera and microphone, monitor, printer, 3D printer, speaker, storage, gaming controllers and headset devices can be categorised as input, output	Digital systems have main internal components that perform particular functions to achieve a purpose For example: • common internal hardware components, such as a central processing unit (CPU), random access memory (RAM), motherboard, solid state drive (SDD) and hard disk drive (HDD), are interconnected and work	Digital systems are connected in wired and wireless networks to transmit data for a variety of purposes For example: • familiar networks can be found in the school, home or local community and can be connected through the internet • wired and wireless networks have differences, such as speed, device mobility and

Pre-primary	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
• common features of digital systems include screens, camera, speakers and buttons that are usually integrated • digital technologies are frequently networked or connected, enabling people to share, communicate, or store data	games, operating systems, etc. • digital systems can be used for downloading and storing information, or for a purpose, such as retelling a story	software is non-physical • software includes applications, games, operating systems, etc. • different software applications have different uses	devices include touch screen, headsets and controllers	and storage functions • peripheral devices can be wired or wirelessly connected	together to form a digital system • data is transmitted between digital systems in different ways such as wires, cables, radio waves	ease of installation • separate systems can be connected in different ways to exchange data • data is transmitted through a network, broken up into packets (small pieces) and passed from the source, through multiple devices, to the destination

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 For example: • icons are images that represent programs or applications (apps) • street signs are images that represent data • objects and events can be sorted based on easily identified characteristics and can be represented using digital systems, such as birthdates and categories	Data can be represented as images, symbols, numbers and words For example: • the equivalence of different representations of numbers, such as words, digits, numbers and dice dots • representing categorical data in a variety of ways, such as drawings, lists and tally marks • the relationship between simple representations, such as arrows or appropriate emoji, and the	Data can have patterns and may be represented as diagrams, symbols, numbers and words For example: • data can be represented using a variety of visualisation techniques, such as picture graphs • data patterns can be exemplified by the repetition of pictures and symbols • number patterns can be represented as pairs or in multiples of two	Data is of different types and can be represented in various ways For example: • data is of different types including sound, images, numeric and text • symbols and icons are used to represent data • symbolic representations such as flowcharts • infographics that combine images, symbols, and diagrams tell a compelling data story and	Data of the same type can be represented in different ways depending on the purpose For example: • data can be of the same type including sound, images, numeric and text • different types of data can be used depending on the purpose or needs, such as numbers, letters, symbols, pictures or sounds • identifying circumstances when the same data can be	Data of all types, including text, numeric, sound and images, are represented using codes For example: • data can be represented using whole numbers in a digital system, such as converting letters in a message to numbers using position in the alphabet • the encoding and transmitting of data over a distance, such as Morse Code,	Data can be represented by on and off states (zeros and ones in binary) For example: • on and off states in a circuit can represent the digits one and zero, and is how digital systems represent data • converting binary to decimal and vice versa • images are represented in digital systems using binary

Pre-primary	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
• a sun picture could represent 'hot' weather, an arrow image could represent movement in a particular direction	concept or emotion they represent • cultural symbols can represent people, objects and movement		provide information	represented in different ways and why some representations are better than others in certain contexts, such as four vs 4 vs IV vs |||| vs quatre, and that numbers are preferred for calculation than words	semaphore, fire signals, drumming and radio • digital systems represent data, such as Unicode or ASCII	

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 For example: • personal data, such as photographs of themselves with their families • public data, such as photographs of local community sites • photographs of students may become public, such as their username in a game or photographs of them on a parent's social media account	Some data is personal, owned by them and can be shared with trusted people For example: • importance of asking permission from a parent or carer before entering personal details online, such as address, phone number and date of birth • websites and apps used at home and school collect personal data, such as usernames and email addresses	Some personal data may be safely shared online with specific people using trusted platforms For example: • using a school learning app to share photographs or videos with a parent • personal data is visible on some websites and apps, such as usernames or avatars on online games	Different types of personal data are shared and stored online For example: • personal data stored in accounts at school and at home and who has access, such as documents in their school cloud storage that are accessible by the teacher, or a nickname in their online gaming accounts is visible to all players	Personal data that is shared and stored online can pose risks For example: • personal data stored in online accounts forms a person's digital identity and reveals detailed information about people, such as photographs reveal details about a person's location, habits or home • personal data, when shared online, cannot be removed	Personal data can be used to create a permanent digital footprint For example: • the ability of websites and apps to safely store data and the level of trustworthiness can vary • importance of protecting someone's privacy and only collecting data when required, such as choosing not to collect information about someone's birthdate when it is not	Digital footprint and privacy considerations when collecting user data For example: • data, images or both that have been posted online can lead to information resurfacing at a later date, such as a comment made on a social media post or video associating a person with their comment and the content • individuals leave digital footprints, such as social media, online

Pre-primary	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
• ask a friend for permission before taking their photograph • personal data can be obtained and used by nefarious strangers	• ask a friend before sharing a photograph of them			• age restrictions identified in terms and conditions of websites and apps	necessary, ensures that private data cannot be stolen in a cyber attack	searches, and communication platforms • when providing data to websites it is important to know how that data may be stored or used in the future and if this poses a risk • sharing personal information increases the likelihood it will be revealed in the future
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 For example: • wireless and wired connectivity has advantages and disadvantages • mobile networks transfer data and transmission rates differ between mobile, wired and wireless (wi-fi) networks • benefits of cloud storage include scalability, accessibility, security and can be cost-effective	Methods of data transmission and security in wired, wireless and mobile networks For example: • data is structured and transmitted through a network, such as broken up into data packets (small pieces) and passed from the source, through multiple devices, in order, to the destination • strategies are necessary to mitigate common security threats, such as phishing • common security strategies including VPNs, antivirus software, encryption, multifactor authentication, etc.	Role of hardware and software to manage, control and secure the movement of data in a digital system For example: • simple network configurations using real or simulated hardware allows for the observation of packets moving around the network, such as monitoring packets on simulated switches and networked devices • domain names and IP addresses allow data to be transmitted to specific networked devices, such as DNS and routing tables	Hardware and software are used to manage, control and secure access to data in networked digital systems For example: • public key cryptography, such as TLS, and hashing • secure storage and transmission of data, such as SHA-1 • private information moves through a system and can be identified as the most likely target of a cyber attack. Data packets can be mapped when moving between the user and server in a web application. Sending data in plain text becomes susceptible to a ‘man-in-the-middle’ attack

Year 7	Year 8	Year 9	Year 10
Hardware devices of networks and their purposes For example: • common hardware devices in networks include router (home and corporate), switch and servers • networks including their devices and transmission media can be illustrated through the use of simple network diagrams • IoT (Internet of Things) devices include sensors, actuators, etc. to connect and exchange data typically wirelessly with other devices, such as fridges, to increase usability and functionality	The effect of hardware specifications on performance and the appropriateness of hardware for particular tasks For example: • appropriate hardware is selected for particular tasks, such as choosing a powerful graphics card for computer gaming or large external storage for video editing • network properties, such as the bandwidth, latency and reliability of wired, wireless and mobile networks can be compared	• the IoT (Internet of Things) is used as part of a networked digital system, such as using sensors and digital systems to collect and share data over the internet with identified security risks • common network security mitigation strategies include firewalls, intrusion detection software, etc • ping and/or traceroute commands show network connectivity	• networks can be configured by using real or simulated hardware where data packets move around the network, with various levels of network efficiency • data moves through a network based on layers of the TCP/IP model • cybersecurity threat models are essential tools to identify and understand potential threats to a system, enabling the design and implementation of appropriate security measures • a cybersecurity threat model should consider assets, threats, attack vectors, vulnerabilities, risk, security controls and the environment

Strand: Data representation

Year 7	Year 8	Year 9	Year 10
Digital systems use binary to represent data in text For example: • binary is used to represent electrical signals inside a computer circuit or system • whole numbers can be represented in binary, recognising one byte = 8 bits, which can represent from 0 to 255 • digital systems represent text as a sequence of individual characters numbered using the Unicode character set, such as upper-case and lower-case letters, punctuation and emojis • digital systems represent data in binary, such as by converting a character to its Unicode or ASCII value, then converting that value into binary	Digital systems represent image and audio data using binary For example: • digital systems represent bitmap images, such as PNG and JPEG, as the colour of each pixel in separate red, green and blue (RGB) channels ranging from 0 to 255, and represent vector graphics, such as scalable vector graphics (SVG) using the geometry of lines and shapes • digital systems represent audio using whole numbers for the amplitude of soundwaves	Different methods of manipulation and storage of data For example: • video and sound manipulation software can affect file storage • different image manipulation techniques (compression, cropping, exporting, etc.) have effects on file sizes • file sizes are larger for augmented reality (AR) and virtual reality (VR) and can affect the amount of storage required • manipulation of images/videos can occur through the use of artificial intelligence, such as ‘deepfakes’	Represent documents online as content (text), structure (mark-up) and presentation (styling) and the purpose of these distinctions For example: • documents are represented by separating content (the text in the document), structure (the document structure, such as headings and paragraphs) and presentation (document layout and style) in digital publications • correct HTML tags to allow for accessibility, such as screen readers • maintenance and updating of content and/or style is easier with correct document structure • HTML (content data) and CSS (presentation data) are used in conjunction to create websites

Year 7	Year 8	Year 9	Year 10
		Data compression techniques for an intended purpose For example: • algorithms can be used to identify patterns in data and represent them in a compressed way, such as repeated pixels in an image with run length encoding • explore the difference between 'lossy and lossless' compression and the consequences of each, by exploring audiovisual compression and the impact of different formats, such as MP3, MP4, JPEG, WAV or RAW on file size and quality • virtual reality (VR) file types include FBX, OBJ, GLTF and VRML/X3D	

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 For example: • datasets can be visualised by choosing appropriate graphs using spreadsheets, such as a scatter plot of food prices and sales coloured by each food's sugar content, or diagrams, like a social network diagram, or mapping census data by location	Analyse and validate data using spreadsheets to draw conclusions and make predictions by identifying trends For example: • data based on its attributes can be used to identify trends and to make predictions, such as the use of a spreadsheet to filter and sort crime data by type of offence, to predict future trends • spreadsheets can also be used for functions such as MIN, MAX, COUNT, COUNTIF, MEAN, MODE, MEDIAN, etc.	Acquire, store and validate data from a range of sources using software, including spreadsheets and/or databases For example: • different methods of data collection such as surveys, face-to-face interviews, phone interviews, observation, comments in response to a social media posting, phone logs, browser history and online webcam systems have strengths and weaknesses • accessing, storing and manipulating data from the Australian Bureau of Statistics in a format that is useful for analysis, such as using a spreadsheet to acquire, filter, group and sort data on population growth across age groups in Australia	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 For example: • interactive visualisations are used for exploring complex data, such as population, life expectancy and fertility rate in motion charts • explore machine learning, a form of artificial intelligence (AI), where an algorithm is trained using a dataset, such as to classify images into categories

Year 7	Year 8	Year 9	Year 10
		• systems can be developed that check data is correct and meaningful using automated techniques and manual analysis, such as validating movie review data using validation rules and input forms, and detecting bias and fake reviews through simple statistical analysis	
	Evaluate the authenticity, accuracy and timeliness of acquired data For example: • critical thinking and scepticism should be employed when encountering data from unfamiliar or dubious sources, such as 'deepfakes'	Single table (flat file) databases are created to store and manage data For example: • single table (flat file) databases are used to store data in a structured manner with tables, records, fields and primary keys	Model and query entities and their relationships using structured data For example: • modelling entities and processes, their attributes, and the relationships between them • creating database tables for a movie, a user and their movie review, where a movie has a title, genre and release date, and a review has a movie, a user and their rating and comments • interpreting and querying multi-table databases using SQL queries with SELECT, WHERE and simple JOIN/GROUP BY clauses

Year 7	Year 8	Year 9	Year 10
			and counting, such as checking that each teacher is only allocated to one class at a time

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 For example: • data and images, or both, posted online can lead to information resurfacing at a later date, such as a social media post or a video associating a person with both their comment and the content • a Google search can reveal what data is stored about oneself through searching by name, specific details, email address or social media profile names	Ethical issues relating to the collection and ownership of data For example: • the importance of verifying the source and origin of data, in conducting research to assess the credibility and trustworthiness of data providers. Encourage critical thinking and scepticism when encountering data from unfamiliar or dubious sources • fact-checking methodologies and tools to cross-reference sources and evaluate the authenticity of data collected	Australian Privacy Principles (APP) regarding the collection and ownership of data For example: • online services allow control access to user data in line with the APPs, such as assessing whether users' social media accounts allow for them to update their contact information and who can see that information on the platform • APPs can be used to reference and evaluate the steps users take to protect information, such as how companies store user information so a data breach	Australian Privacy Principles (APP) are used to critique systems and manage the digital footprint of individuals For example: • the APPs are a set of 13 guidelines that form the foundation of Australia's privacy law, specifically the *Privacy Act 1988*. These principles govern how organisations handle personal information, ensuring it is collected, used, and managed in a way to protect individuals' privacy • when using the APPs to critique systems, such as websites, apps, or online services, individuals or

Year 7	Year 8	Year 9	Year 10
		does not expose users to security vulnerabilities • websites contain individual privacy policies that differ and can be investigated	regulators assess whether these systems comply with privacy laws. This involves examining how personal data is collected, stored, used, and shared; for example, a system can be critiqued based on transparency, data minimisation and security
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

Strand: 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