Western Australian Curriculum

Technologies | Design and 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 Design and 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 document is organised by two Design and Technologies strands: Technologies and society and Design thinking skills.

The **Design and Technologies** subject includes four contexts: Engineering principles and systems; Food and fibre production; Food specialisations; and Materials and technologies specialisations. Within the Design and Technologies subject, students have the opportunity to study at least one of the contexts each year; it is desirable that schools provide students with the opportunity to engage with all contexts across Pre-primary to Year 10.

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 Digital Technologies subject.

The table below outlines the subject organisation for the Pre-primary to Year 10 Design and Technologies curriculum. The Design and Technologies subject includes four contexts.

Technologies and society		Design thinking skills
Engineering principles and systems	Food and fibre production	• Project management • Investigating and defining • Designing • Producing and implementing • Evaluating
Food specialisations	Materials and technologies specialisations	

Key

The four Design and Technologies contexts and the abbreviations used in this document are listed below:

EP&S   Engineering principles and systems

F&FP   Food and fibre production

FS   Food specialisations

M&TS   Materials and technologies specialisations

Pre-primary–Year 6

Strand: Technologies and society

Pre-primary	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Explore familiar technologies to meet personal needs	People use technologies to create products for personal needs	People use selected technologies to make familiar products and environments to meet local needs	Role of people in design and technologies occupations in the local community	Diverse roles for people in design and technologies occupations	People in design and technologies occupations consider competing factors in the design of products, services and/or environments	People in design and technologies occupations address competing considerations, including sustainable factors in the design of products, services and environments
			Technologies are designed and used in products, services or environments to meet individual needs	Products, services and/or environments are designed to meet community (society) needs, including consideration of sustainable factors	Technologies are used in the design of products, and implementation of services and environments	Competing technologies are used for the design of products, services and environments for community needs

Engineering principles and systems

Pre-primary	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Objects can be moved when force is applied	Force generates movement in objects and can be affected by materials	Force can move objects within a system	Forces, and the properties of materials affect the behaviour of objects	Forces, and the properties of materials affect the behaviour of an object or system	Forces can control motion, sound or light in a product or system	Forces and electrical energy can control motion, sound or light in a product and/or system

Food and fibre production

Pre-primary	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Animals and plants have essential needs, including food, water, space and shelter	Living things are used in everyday life for food and clothing	Food and fibre are produced in different seasons and environments	Food and fibre produced to meet food and clothing needs	Food and fibre produced in different time periods or cultures, including the technologies and equipment used	Food and fibre production in environments for sustainable and regenerative practices	Food and fibre production systems for products, considering design features, consumer demand and managed environments

Food specialisations

Pre-primary	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Foods come in different colour/s, texture/s, flavour/s and shapes Appropriate hygiene practices are necessary for safe food handling	Familiar foods are sourced from various places Foods are prepared in a range of ways for consumption	Staple foods from local sources are used to create a range of food products	Food selected to nourish the body, for energy to move and support growth	Physical properties of food influence selection and preparation	Systems for food preparation and food safety affect selection of food for meals/products	Food choices, consumer demands and preparation systems affect the use of a food in a meal/product

Materials and technologies specialisations

Pre-primary	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Everyday objects are made using different materials	Properties of a material determine their selection for a specified purpose	Materials can be combined to produce a product for a specified purpose	Properties of materials, suitability and safe practice using given technologies to create a product to achieve a purpose	Properties of materials and components for a range of purposes affect suitability and function in a system	Properties for a range of materials, related components and use of given technologies to achieve a purpose	Properties of selected materials, technologies, and production systems affect suitability and functionality in a product

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	Design solutions through drawing, modelling and/or a sequence of steps	Design solutions generated and communicated through discussion,	Design solutions created with labelled drawings, use of technical	Design solutions through use of labelled drawings, technical terms,	Design solutions considering competing factors, with annotated	Design alternative solutions achieved through an iterative process,

Pre-primary	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
modelling to meet a personal need		drawing, modelling and/or a sequence of steps	terms and/or a sequence of steps	decision-making and/or a sequence of steps	diagrams, storyboards and/or a sequence of steps, using technical terms and 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: Technologies and society

Year 7	Year 8	Year 9	Year 10
People in design and technologies occupations consider competing factors, social and ethical influences and existing technologies for designed solutions	People design for change considering ethical and sustainable factors, available technologies and systems for designed solutions, locally and regionally	People consider social, ethical and sustainable factors, and use specialised technologies for designed solutions to address community needs	People consider social, ethical, sustainable and security factors to improve design and production systems using specialised technologies to achieve designed solutions
Products, services and/or environments evolve locally through the application of technologies	Products, services and/or environments are designed and developed with creative and innovative application of technologies	Products, services and environments are designed and developed with consideration of economic factors and alternative technologies	Products, services and environments are designed and developed with consideration of specialised occupations, economic and environmental factors to identify market opportunities, innovate, create and develop entrepreneurial behaviours

Engineering principles and systems

Year 7	Year 8	Year 9	Year 10
Force, motion and energy, including light and/or sound and/or heat and/or wind are used to control engineered systems Social and ethical considerations for the design and development of engineered products and systems, including ways products evolve locally to achieve designed solutions	Force, motion and energy are used to control and manipulate engineered systems Ethical and sustainable considerations for the design and development of engineered products and systems, including economic factors, use of locally or regionally sourced materials and reliable supply chains to achieve designed solutions	Properties of materials, combined with force, motion and energy influence the design of engineered products and systems Social, ethical and sustainable considerations for the design and development of engineered products and systems, including consumer and/or producer values and management of resources to achieve designed solutions for a specified community need	Effect of materials when combined with force, energy and/or motion in the design of ethical and sustainable engineered products and systems Social, ethical, sustainable, consumer and producer considerations in the design and development of entrepreneurial and marketing strategies for an engineering enterprise, including management of risks, security measures and for optimum quality and performance to achieve designed solutions

Technologies | Design and Technologies | Scope and sequence of the mandated curriculum content | Pre-primary–Year 10 | For familiarisation in 2025

11

Food and fibre production

Year 7	Year 8	Year 9	Year 10
Features of production systems, including managed environments, regulatory requirements for quality and safely produced food and/or fibre products Social and ethical considerations for the design and development of food products and/or fibre products or a combination, including ways products evolve locally to achieve designed solutions	Process for selection of food and fibres, components, and systems, including for managed environments, to produce food and/or fibre products Ethical and sustainable considerations for the design and development of food products and/or fibre products or a combination, including economic factors, use of locally or regionally sourced food and fibre products, and reliable supply chains to achieve designed solutions	Competing factors (social, environmental, economic) influence the design and function of specialised food and fibre products and systems Social, environmental, economic and sustainable considerations for the design and development of specialised food and/or fibre products and systems, including consumer and/or producer values and management of resources to achieve designed solutions for a specified community need	Role of technological innovations in ways food and fibre products are grown, processed and marketed, in the design of ethical and sustainable food/fibre products and systems Social, ethical, sustainable, consumer and producer considerations in the design and development of entrepreneurial and marketing strategies for a food- and/or fibre-based enterprise, including management of risks, security measures and regulatory responsibilities for optimum quality and performance to achieve designed solutions

Food specialisations

Year 7	Year 8	Year 9	Year 10
Sensory properties and nutritional value of foods determine preparation, production and presentation techniques Social and ethical considerations for the design and development of meals and specialised food products, including ways products evolve locally to achieve designed solutions	Nutritious and sustainable diets, and physical properties of food determine processing techniques Ethical and sustainable considerations for the design and development of specialised food products and systems, including economic factors, locally or regionally sourced produce and reliable supply chains to achieve designed solutions	Wet and dry processing techniques and effect on nutrition, considering demographic groups, food safety including regulatory responsibilities for packaging and labelling; storage and transport of food; food enhanced for nutrition and sensory properties, global tastes and perceptions Social, ethical and sustainable considerations for the design and development of specialised food products and systems, including consumer and/or producer values and management of resources to achieve designed solutions for a specified community need	Processing techniques and the preservation of food products, considering application of nutrition principles; ways sensory and physical-properties of food influence the design, preparation and development of specialised food products Social, ethical, sustainable, consumer and producer considerations in the design and development of entrepreneurial and marketing strategies for a specialised food enterprise, including management of risks, security measures and regulatory responsibilities for optimum quality and performance to achieve designed solutions

Materials and technologies specialisations

Year 7	Year 8	Year 9	Year 10
Properties of combined materials, features of production systems, given components, tools and equipment for quality, safely produced products Social and ethical considerations for the design and development of products using specialised technologies, including ways products evolve locally to achieve designed solutions	Materials, components and systems, in combination with specialised technologies for the design, development and safe production of products Ethical and sustainable considerations for the development of specialised products and systems, including economic factors, locally or regionally sourced materials and reliable supply chains to achieve designed solutions	Properties of materials, components, specialised tools, equipment and technologies used in the design and development of production systems to produce materials-based products Social, ethical and sustainable considerations for the design and development of specialised materials-based products and systems, including consumer and/or producer values and management of resources to achieve designed solutions for a specified community need	Functional properties of materials, combined with components and application of specialised technologies and systems in the design and development of designed solutions Social, ethical, sustainable, consumer and producer considerations in the design and development of entrepreneurial and marketing strategies for specialised materials-based enterprise, including management of risks, security measures and regulatory responsibilities for optimum quality and performance to achieve designed solutions

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

Technologies | Design and Technologies | Scope and sequence of the mandated curriculum content | Pre-primary–Year 10 | For familiarisation in 2025

15

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 designed 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