



Western Australian Curriculum

Technologies | Design and Technologies

Proposed Comparison of Curriculum | Years 7–10

Draft for consultation | Not for implementation

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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.

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Overview

The current Western Australian Curriculum: Technologies was adopted from the Australian Curriculum version 8.1.

Western Australia provided feedback to the Australian Curriculum, Assessment and Reporting Authority (ACARA) during the consultation for the Australian Curriculum.

The proposed revisions to the Western Australian Curriculum: Technologies are adopted and adapted from the Australian Curriculum version 9.

Guide to reading this document

This document shows the proposed content across year levels so that a sequence of content can be viewed across the years of schooling from Years 7–10.

In each year, students will have opportunities to create designed solutions in at least one of the technologies contexts: Engineering principles and systems; Food and fibre production; Food specialisations; and Materials and technologies specialisations.

In the Australian Curriculum where two contexts have been combined, this is shown in **bold**.

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Knowledge and understanding

Technologies and society				
	Year 7	Year 8	Year 9	Year 10
Current WA Curriculum	<p>Competing factors, including social, ethical and sustainability considerations, in the development of technologies</p> <p>Ways in which products, services and environments evolve locally, regionally and globally</p>	<p>Social, ethical and sustainability considerations, in the development of technologies and designed solutions, to meet community needs for economic, environmental and social sustainability</p> <p>Development of products, services and environments through the creativity, innovation and enterprise of individuals and groups</p>	<p>Social, ethical and sustainability considerations that impact on designed solutions</p> <p>Development of products, services and environments, with consideration of economic, environmental and social sustainability</p>	<p>Social, ethical and sustainability considerations that impact on designed solutions, complexity of design, and production processes involved</p> <p>Impact of emerging technologies on design decisions, and/or economic, environmental and social sustainability</p>
Australian Curriculum v9	analyse how people in design and technologies occupations consider ethical and sustainability factors to design and produce products, services and environments		analyse how people in design and technologies occupations consider ethical, security and sustainability factors to innovate and improve products, services and environments	
Proposed WA Curriculum	<p>Ways people in design and technologies occupations consider competing factors, social and ethical influence and existing technologies for designed solutions</p> <p>For example:</p> <ul style="list-style-type: none"> choose an inventor/designer; (local, national, international, old and/or new), such as Leonardo De Vinci, Thomas Edison or Prue Acton and review the design techniques and technologies used to create and invent products and systems apply decision-making processes to select existing technologies, considering social and ethical factors consider sustainable elements and competing factors at the designing phase of creating a solution 	<p>Ways people design for change considering ethical and sustainable factors, available technologies and systems for designed solutions, locally and regionally</p> <p>For example:</p> <ul style="list-style-type: none"> consider ways sustainable factors can be incorporated at the designing phase, including preferred technologies and select components for reuse, longevity, circular economy, risk assessment, impact on known users consider ways social issues and social cohesion supports positive change in society and is achieved through working together, allocating roles in the development and production phases, sharing common goals and responsibilities 	<p>Ways people consider social, ethical and sustainable factors, and use specialised technologies for designed solutions to address community needs</p> <p>For example:</p> <ul style="list-style-type: none"> explore and design alternative sustainable methods of transport, storage, source replacement resources, innovate production systems and a creative approach to meet community needs ways obsolescence within products, services and systems impact society, materials, sustainable factors and the environment consider factors to reduce, recycle, reuse, repurpose and remove obsolescence in designing sustainable products, services or environments for the community apply conflict resolution skills and work collaboratively to achieve a common goal 	<p>Ways people consider social, ethical, sustainable and security factors to improve design and production systems using specialised technologies to achieve designed solutions</p> <p>For example:</p> <ul style="list-style-type: none"> strategies for sustainable production systems are subject to competing demands (social, environmental, economic) and how these factors influence functionality and process layout entrepreneurial activity, enterprising behaviours, including problem-solving strategies and critical thinking, encourage the introduction of something new, useful and is usually innovative to capture a specific market or to achieve a purpose
	<p>Ways products, services and environments evolve locally through the application of technologies</p> <p>For example:</p> <ul style="list-style-type: none"> timeline to show the evolution of a technology and/or product, such as telescopes, agricultural machinery (plough), 	<p>Ways products, services and environments are designed and developed with creative and innovative application of technologies</p> <p>For example:</p> <ul style="list-style-type: none"> ways an existing invention (product, service or environment) for an individual, community or organisation has evolved over time, reflecting on changed technologies, 	<p>Ways products, services, and environments are designed and developed with consideration of economic factors and alternative technologies</p> <p>For example:</p> <ul style="list-style-type: none"> methods of product, system and technologies design, with consideration of 	<p>Ways 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</p>

	Year 7	Year 8	Year 9	Year 10
	<p>processed foods, sewing machines or woodworking equipment</p> <ul style="list-style-type: none"> the value of local knowledge considering culture, skills and resources in the evolution of technologies 	<p>such as the advancement of lighting from filament to LED, from harvesting crops with hand tools to mechanisation, increased 'seasonal' produce availability with the evolution of processing and transport options, progress of engines and tools with the evolution of sources of energy</p> <ul style="list-style-type: none"> consider ways cultural diversity influences design of products, services and environments through creativity, innovation and individual enterprise, collaborative efforts and relationships 	<p>markets, materials, sustainable factors, the environment and built-in obsolescence</p> <ul style="list-style-type: none"> influences and ways to appeal to consumers' desires when marketing products, services and environment in the local and regional community 	<p>For example:</p> <ul style="list-style-type: none"> impact of computer-controlled production systems and technologies, such as artificial intelligence (AI), design for disassembly, and sustainable features of 3D printed products innovation of new fibres, composite materials, material combinations and ways technologies influence product design, such as synthetics replacing natural fibres, traditional materials and use of 'intelligent' textiles for personal clothes self-management skills, such as goal setting, time management, resource management, budgeting, collaboration and continuous evaluation contribute to success

Note: for further examples, see selected context for suggested ways to apply content.

Technologies contexts

Engineering principles and systems

	Year 7	Year 8	Year 9	Year 10
Current WA Curriculum	The use of motion, force and energy to manipulate and control electromechanical and mechanical systems	The design of simple solutions using motion, force and energy, to manipulate and control electromechanical and mechanical systems	The characteristics and properties of materials, combined with force, motion and energy, to create solutions	The process of materials being combined with force, motion and energy to create solutions
Australian Curriculum v9	analyse how force, motion and energy are used to manipulate and control engineered systems		analyse and make judgements on how the characteristics and properties of materials are combined with force, motion and energy to control engineered systems	
Proposed WA Curriculum	<p>Ways force, motion, and energy, including light, sound, heat and/or wind are used to control engineered systems</p> <p>Social and ethical considerations for the design and development of engineered products and systems, including ways products evolve locally to achieve designed solutions</p> <p>For example:</p> <ul style="list-style-type: none"> control of loads with lifting devices using simple or compound pulleys or gearing elements involved in changing speed of a vehicle over a distance energy audit of family home, considering time of day, appliances in use to determine energy consumption and ways to conserve energy considerations, such as <ul style="list-style-type: none"> social – develop engineered products to assist in everyday activities, such as ways to open canned food, put shoes and socks on to assist the infirm, family and community members, and consideration of regulatory responsibilities ethical – use engineered systems to develop ideas to assist others considering sustainable factors, use of limited resources and cultural values 	<p>Ways force, motion and energy are used to control and manipulate engineered systems</p> <p>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</p> <p>For example:</p> <ul style="list-style-type: none"> manipulation of forces, energy and motion for the re-modelling of a local skate park manipulation of wind force on a model wind power generator affects energy generation balanced and unbalanced forces for motion, such as spring balance, and amusement park rides, including the roller coaster control sensing for light, heat, or mechanical signals results in varied output/s in systems sustainable sources of force and energy; management of excess production of energy, including storage sequence of steps (energy supply chains) for utilising locally sourced energy for electricity production considerations, such as <ul style="list-style-type: none"> ethical – system for sharing power/water during disruptions and shortage for all community members sustainable factors <ul style="list-style-type: none"> individual responsibility, such as conserving energy/water in the household collective endeavours, such as local community plans to generate and conserve energy/water 	<p>Ways properties of materials, combined with force, motion and energy influence the design of engineered products and systems</p> <p>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</p> <p>For example:</p> <ul style="list-style-type: none"> forces involved in bridge and tunnel construction for road and rail infrastructure management of engineered systems to control combined forces and materials in the construction of train haulage systems, and multistorey buildings engineered road systems to construct safe and efficient traffic flow, including fuel, time and resource efficiencies social responsibility in the design of engineered systems for specific needs, such as old age, to develop products like prostheses, mobility aids, modified kitchen utensils to aid grip, movement, hearing and sight autonomous guided vehicles (AGVs) – black line follower or bump car radio-controlled limited range drone 	<p>Effect of materials when combined with force, energy and/or motion in the design of ethical and sustainable engineered products and systems</p> <p>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</p> <p>For example:</p> <ul style="list-style-type: none"> management of the development, production and evaluation of a programmable device using kits or from scratch for an ‘engineered futures’ exhibition engineered audio systems to develop individualised hearing aids, live music streaming online and reliable communications management of ethical factors and the use of automation and artificial intelligence (AI) in the design of engineered systems, considering employment opportunities in vehicle manufacturing, food processing and clothing construction automata, powered automatons either stationary or mobile devices that have multiple, simple actions perpetual motion machines

Food and fibre production

	Year 7	Year 8	Year 9	Year 10
Current WA Curriculum	Production systems for food and fibre or their products, including key features of their design	Sustainable production systems are subject to competing demands (social, environmental, economic) and how these factors influence their design	Food and fibre production and/or marketing, and the generation of sustainable solutions	The role of emerging research and technology in the design of ethical and sustainable products
Australian Curriculum v9	analyse how food and fibre are produced in managed environments and how these can become sustainable		analyse and make judgements on the ethical, secure and sustainable production and marketing of food and fibre enterprises	
Proposed WA Curriculum	<p>Features of production systems, including managed environments, regulatory requirements for quality and safely produced food and/or fibre products</p> <p>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</p> <p>For example:</p> <ul style="list-style-type: none"> • milk production from farm to fridge • cotton/linen production from seed to fabric • wool production processes compared with synthetic fibre production • considerations, such as <ul style="list-style-type: none"> ▪ social – shared food, eating with others, mindful eating, eating for nourishment of the body ▪ ethical – <ul style="list-style-type: none"> ○ food from different cultures; communities and celebrations ○ managed environments to produce plant fibres, such as cotton production; and food, such as egg and meat production 	<p>Process for selection of food and fibres, components, and systems, including for managed environments, to produce food and/or fibre products</p> <p>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</p> <p>For example:</p> <ul style="list-style-type: none"> • sustainable production processes; source local produce, resources; management of waste materials • ways to design and process selected food and fibre for a specified purpose • considerations, such as <ul style="list-style-type: none"> ▪ ethical – production of food and fibre in managed environments; demand for land use, such as primary production, forest regeneration, housing ▪ sustainable factors <ul style="list-style-type: none"> ○ individual responsibility; be involved in or develop ways to use resources efficiently, such as monitor water systems for optimum plant and animal growth ○ collective endeavours; community insistence for circular and regenerative, sustainable fibre-based products; community gardens for food and fibre products 	<p>Ways competing factors (social, environmental, economic) influence the design and function of specialised food and fibre products and systems</p> <p>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</p> <p>For example:</p> <ul style="list-style-type: none"> • Social <ul style="list-style-type: none"> ▪ clothing, textile and food regulatory responsibilities to protect consumers, such as pasteurisation of milk, safe colour dyes for fabric production to create garments ▪ change in consumer and/or producer values, such as varieties of milk, natural fibre preferences, production of eggs, milk and meat in managed environments • Environmental <ul style="list-style-type: none"> ▪ nature-positive systems to support biodiversity, such as heirloom ▪ varieties of plants; forestry production ▪ carbon zero food and/or fibre production ▪ role of fertiliser to increase yield • Economic <ul style="list-style-type: none"> ▪ source of raw materials and impact on cost of production and final product in the market 	<p>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</p> <p>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</p> <p>For example:</p> <ul style="list-style-type: none"> • Social <ul style="list-style-type: none"> ▪ laboratory-developed protein sources, feed-lots for production, such as meat, eggs, wheat, cotton ▪ robotics capable of picking, sorting, inspecting, packaging and transporting food and/or fibre products • Ethical <ul style="list-style-type: none"> ▪ fair employment in developing countries ▪ greenwashing – when an organisation spends more time and money on marketing itself as environmentally friendly than on actually minimising its environmental impact ▪ primary source of food/fibre composition and true labelling of food and fibre products ▪ ethical role of herbicide/chemicals and alternatives, to increase yield as a component of an enterprising system

	Year 7	Year 8	Year 9	Year 10
			<ul style="list-style-type: none"> ▪ food security at all times, for all people <ul style="list-style-type: none"> ○ economic access to sufficient nutritious food to meet dietary needs, at all times ○ sourcing of adequate safe and nutritious food 	<ul style="list-style-type: none"> • Sustainable <ul style="list-style-type: none"> ▪ quarantine to prevent pests, diseases and weeds affecting production ▪ genetically modified food/fibre production ▪ regenerative – restore and revitalise natural food and plant systems ▪ United Nations Sustainable Development Goals, such as responsible consumption and production of food and fibre products (food waste, ‘fast fashion’) ▪ the design, development, production of a food and/or fibre product for a ‘living in the future’ exhibition

Food specialisations

	Year 7	Year 8	Year 9	Year 10
Current WA Curriculum	Nutritional value and physical properties of food determine preparation techniques and presentation	Sensory properties of food to create healthy eating solutions	Principles of food including safety, nutrition, preservation, preparation, presentation, physical and sensory properties and perceptions	Healthy eating through the skills and knowledge of nutrients and the application of the principles of food safety, preservation, preparation, presentation and sensory perceptions
Australian Curriculum v9	analyse how properties of foods determine preparation and presentation techniques when designing solutions for healthy eating		analyse and make judgements on how the sensory and functional properties of food influence the design and preparation of sustainable food solutions for healthy eating	
Proposed WA Curriculum	<p>Sensory properties and nutritional value of foods determine preparation, production and presentation techniques</p> <p>Social and ethical considerations for the design and development of meals and specialised food products, including ways products evolve locally to achieve designed solutions</p> <p>For example:</p> <ul style="list-style-type: none"> • familiar food sources with macro nutrients • menu plans based on the <i>Australian Dietary Guidelines</i> • considerations, such as <ul style="list-style-type: none"> ▪ social – shared food, eating with others, mindful eating, eating for nourishment of the body; consider the roles and 	<p>Nutritious and sustainable diets, and physical properties of food determine processing techniques</p> <p>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</p> <p>For example:</p> <ul style="list-style-type: none"> • nutritious diets; influences on the choices consumers make about food and impact on their wellbeing 	<p>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</p> <p>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</p> <p>For example:</p>	<p>Processing techniques and the preservation of food products, considering application of nutrition principles; ways sensory and functional properties of food influence the design, preparation and development of specialised food products</p> <p>Social, ethical, sustainable, consumer and producer considerations in the design and development of entrepreneurial and marketing strategies for specialised food enterprise, including management of risks, security measures and regulatory responsibilities for optimum quality and performance to achieve designed solutions</p> <p>For example:</p>

	Year 7	Year 8	Year 9	Year 10
	<p>occupations of people who produce, prepare and provide food</p> <ul style="list-style-type: none"> ▪ ethical – food in society; food waste; food security, that is food for all people, have physical and economic access to sufficient safe and nutritious food • preference for locally produced food products; such as the <i>Buy West Eat Best</i> promotional campaign 	<ul style="list-style-type: none"> • sustainable diets; management of food waste, such as utilising leftover food; source local, fresh, seasonal food • food supply chains and processing systems for a food produced locally or regionally • considerations, such as <ul style="list-style-type: none"> ▪ ethical – food in society, preferred food preparation techniques; where food is sourced and processed; inexpensive and inventive recipes for food that is nutritious and nourishing ▪ sustainable factors including <ul style="list-style-type: none"> o individual responsibility; ways to utilise leftover foods, implement appropriate storage and serving sizes to reduce food waste; packaging designs for disassembly and reuse o collective endeavours; community systems to reduce food waste, recycle packaging materials; role of community gardens 	<ul style="list-style-type: none"> • food enhanced for flavour, appearance, nutritive value, and impact on allergies/intolerances • ways processing techniques effect the nutritive value of a meal, such as protein content for older people • food safety could be compromised if food substitution occurs during times of shortage, including food fraud (deliberate and accidental) and impact on food allergies and intolerances • food security; influence of ethical considerations to integrate secure, equitable access to healthy, safe food and sustainable diets at all times, for all people and communities • circular sustainable supply chains, or ‘close the loop’, to recycle more and waste less particularly for food solutions and packaging 	<ul style="list-style-type: none"> • identified functional properties that influence the design of sustainable food products and considers nature positive, carbon zero and regenerative elements, particularly for animal- or plant-sourced products • product tampering; tamper-proof packaging, truth in labelling and product substitution in the preservation of food • consumer and producer values, including ways food security, media role in food messaging, labelling and convenience influence food solutions • management of the development, production and evaluation of a food product for a ‘food futures’ exhibition, considering social and ethical factors • national supply chain security with a preference for local production and employment; and ‘buy local’, ‘food miles’ marketing for food new enterprises • integration of sustainable solutions could include <ul style="list-style-type: none"> ▪ circular – products, such as packaging, and systems designed to be reused, repurposed, repaired, remanufactured/ reassembled ▪ regenerative – restore and revitalise natural food systems

Materials and technologies specialisations

	Year 7	Year 8	Year 9	Year 10
Current WA Curriculum	Material and technology decisions and processes influence the selection and combination of materials, systems, components, tools and equipment	The process for the selection and combination of materials, systems, components, tools and equipment	Characteristics and properties of materials, systems, components, tools and equipment used to create designed solutions Technologies can be combined and used to create designed solutions	The combination of a range of characteristics and properties of materials, systems, components, tools and equipment to create designed solutions Designed solutions within a range of technologies specialisations, using combined technologies
Australian Curriculum v9	analyse how characteristics and properties of materials, systems, components, tools and equipment can be combined to create designed solutions		analyse and make judgements on how characteristics and properties of materials, systems, components, tools and equipment can be combined to create designed solutions	
Proposed WA Curriculum	<p>Properties of combined materials, features of production systems, given components, tools and equipment for quality, safely produced products</p> <p>Social and ethical considerations for the design and development of products using specialised technologies, including ways products evolve locally to achieve designed solutions</p> <p>For example:</p> <ul style="list-style-type: none"> embellishment and decorative process, using technologies, such as an electronic cutting machine, laser cutting for street numbers, sewing machine for indoor/outdoor cushions, lathe for wooden serving tray/bowl tote bag for a specific purpose, such as carrying toys embossed name tag for a pet collar, produced using either metal, textile or wood material and technologies (specific tools and equipment) for embossing label or decorate items, such as a metal plate using an engraving tool, a tote bag using an assortment of fibres and free-form machining, a wooden box using a wood burning tool or other alternative, suitable technologies considerations, such as 	<p>Materials, components and systems, in combination with specialised technologies for the design, development and safe production of products</p> <p>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</p> <p>For example:</p> <ul style="list-style-type: none"> the use of a range of specialised technologies, such as tools and equipment for the production of a selected design solution sustainable production processes, such as management of waste materials, including a 'measure twice, cut once' approach land yacht – incorporate different materials for different purposes, such as metal frame (strength), fabric sails (flexibility), and wooden wheels (decorative) photo/picture frames – metal, timber, acrylic or combination of materials and technologies items to achieve specific purposes <ul style="list-style-type: none"> lighting, such as a safe, lightweight candle holder/lantern leisure wear and comfort, such as drawstring shorts, T-shirt 	<p>Properties of materials, components, specialised tools, equipment and technologies used in the design and development of production systems to produce materials-based products</p> <p>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</p> <p>For example:</p> <ul style="list-style-type: none"> features required for accurate product labelling and 'how to use' the product for storage, safety and optimum performance accurate list management of materials and components used to produce an item of jewellery, a soft toy, wooden box or scooter, from recycled items technologies used to develop items for specified markets, school, community, artisan events and/or displays, such as gardening tools, hanging baskets (weaving, macramé), pot stands, racks, boxes, jewellery, baby/toddler clothes 	<p>Functional characteristics of materials, combined with components and application of specialised technologies and systems in the design and development of designed solutions</p> <p>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</p> <p>For example:</p> <ul style="list-style-type: none"> management of the development, production and evaluation of a product designed to achieve a specific purpose for inclusion at the 'living in the future' exhibition integration of materials and specialised technologies in the design and production of jewellery for personal use or a specific market use of composite materials, such as plywood, reinforced plastics or a combination of two or more materials, fibres/fabrics and specialised technologies (tools and equipment) in the design and production of products for personal, community use or a specific market, such as

	Year 7	Year 8	Year 9	Year 10
	<ul style="list-style-type: none"> ▪ social – objects, items or clothing produced for individuals and/or community celebrations ▪ ethical – cultural respect for choice of embellishment designs; incorporate sustainable factors at the design phase, such as design to assemble, disassemble and reuse components 	<ul style="list-style-type: none"> ▪ puzzles for children, such as wooden, decorated jigsaw puzzles ▪ considerations, such as <ul style="list-style-type: none"> ○ ethical – use of materials in society ○ sustainable factors – individual responsibility; collective endeavours 		<p>swimwear or activewear, baby/toddler sleepwear or for day-to-day activity</p> <ul style="list-style-type: none"> • sustainable solutions <ul style="list-style-type: none"> ▪ circular – products, systems and components designed to be reused, repurposed, repaired, remanufactured or reassembled ▪ regenerative – restore and revitalise natural materials systems

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Creating solutions

Investigating and defining

	Year 7	Year 8	Year 9	Year 10
Current WA Curriculum	Define and break down a given task, identifying the purpose	Investigate a given need or opportunity for a specific purpose	Identify and define the needs of a stakeholder, to create a design brief, for a solution	Identify the needs of the client/stakeholder to determine the basis for a solution
	Consider components/resources to develop solutions, identifying constraints	Evaluate and apply a given design brief Consider components/resources to develop solutions, identifying constraints	Investigate a selection of components/resources to develop solution ideas, identifying and considering constraints	Create and critique design briefs to solutions Investigate components/resources to develop increasingly sophisticated solutions, identifying and considering associated constraints
Australian Curriculum v9	analyse needs or opportunities for designing, and investigate and select materials, components, tools, equipment and processes to create designed solutions		analyse needs or opportunities for designing; develop design briefs; and investigate, analyse and select materials, systems, components, tools and equipment to create designed solutions	
Proposed WA Curriculum	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 constraints	Investigate a range of technologies, resources and/or components to develop ideas and solutions, with consideration of competing constraints

Designing

	Year 7	Year 8	Year 9	Year 10
Current WA Curriculum	Design, develop, review and communicate design ideas, plans and processes within a given context, using a range of techniques, appropriate technical terms and technology	Design, develop, evaluate and communicate alternative solutions, using appropriate technical terms and technology	Apply design thinking, creativity and enterprise skills	Apply design thinking, creativity, enterprise skills and innovation to develop, modify and communicate design ideas of increasing sophistication
	Follow a plan designed to solve a problem, using a sequence of steps	Produce a plan designed to solve a problem, using a sequence of steps	Design solutions assessing alternative designs against given criteria, including usability and aesthetics using appropriate technical terms and technology	Design possible solutions, analysing designs against criteria, including functionality, accessibility, usability and aesthetics, using appropriate technical terms and technology

	Year 7	Year 8	Year 9	Year 10
Australian Curriculum v9	generate, test, iterate and communicate design ideas, processes and solutions using technical terms and graphical representation techniques, including using digital tools		apply innovation and enterprise skills to generate, test, iterate and communicate design ideas, processes and solutions, including using digital tools	
Proposed WA Curriculum	Design processes and solutions with given technologies and techniques, using appropriate technical terms	Design processes and solutions using a range of technologies, techniques, and appropriate technical terms	Design alternative solutions with consideration of available technologies, usability, aesthetics and appropriate technical terms	Design alternative solutions with consideration of available technologies, functionality, accessibility, usability, aesthetics and appropriate technical terms

Producing and implementing

	Year 7	Year 8	Year 9	Year 10
Current WA Curriculum	Safely make designed solutions using a range of components, equipment and techniques	Safely apply appropriate techniques to make designed solutions using a range of components and equipment	Select, and safely implement and test appropriate technologies and processes, to make solutions	Select, justify, and safely implement and test appropriate technologies and processes, to make solutions
Australian Curriculum v9	select, justify and use suitable materials, components, tools, equipment, skills and processes to safely make designed solutions		select, justify, test and use suitable technologies, skills and processes, and apply safety procedures to safely make designed solutions	
Proposed WA Curriculum	Implement agreed protocols when using 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

Evaluating

	Year 7	Year 8	Year 9	Year 10
Current WA Curriculum	Independently apply given contextual criteria to evaluate design processes and solutions	Develop contextual criteria independently to assess design processes and solutions	Evaluate design processes and solutions against student-developed criteria	Analyse design processes and solutions against student-developed criteria
Australian Curriculum v9	develop design criteria collaboratively including sustainability to evaluate design ideas, processes and solutions		develop design criteria independently including sustainability to evaluate design ideas, processes and solutions	
Proposed WA Curriculum	Use a given contextual criteria to evaluate design processes and solutions	Use student-developed contextual criteria to assess design processes and solutions	Evaluate design processes and solutions against student-developed criteria including social and ethical considerations	Evaluate design processes and solutions against student-developed criteria including social and ethical factors, and legal responsibilities

Collaborating and managing

	Year 7	Year 8	Year 9	Year 10
Current WA Curriculum	Work independently, and collaboratively when required, to plan, develop and communicate ideas and information, using management processes	Work independently, and collaboratively when required, to plan, develop and communicate ideas and information when managing projects	Work independently, and collaboratively to manage projects, using digital technology and an iterative and collaborative approach. Considers time, cost, risk and safety	Work independently, and collaboratively to manage projects, using digital technology and an iterative and collaborative approach. Considers time, cost, risk, safety, production processes, sustainability and legal responsibilities
Australian Curriculum v9	develop project plans to individually and collaboratively manage time, cost and production of designed solutions		develop project plans for intended purposes and audiences to individually and collaboratively manage projects, taking into consideration time, cost, risk, processes and production of designed solutions	
Proposed WA Curriculum	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