Western Australian Curriculum

Technologies | Design and Technologies

Proposed Achievement Standards | Pre-primary–Year 10

Draft for consultation | Not for implementation

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.

Contents

Overview

The current Western Australian Curriculum: Technologies was adopted from the Australian Curriculum Version 8.4.

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 current Western Australian Curriculum: Technologies curriculum Achievement Standards in the first column, the comparable Australian Curriculum version 9 Achievement Standards in the centre column, and the proposed revised Achievement Standards for the Western Australian Curriculum in the third column.

Pre-primary

Current WA Curriculum	Australian Curriculum v9	Proposed WA Curriculum
At Standard, students identify people that produce familiar objects within the community and some simple stages of the production process. In Engineering principles and systems, students move objects in a range of ways and observe their reactions. In Food and fibre production, students connect plant and animal products to their use as food, clothing and/or shelter. In Materials and technologies specialisations, students explore and select materials to use for construction, considering the materials' characteristics. With all Design and Technology contexts, students explore needs for designing simple solutions. They generate and record design ideas through describing, drawing, modelling and/or a sequence of written or spoken steps. Students safely use given components and equipment, to make simple solutions and evaluate their success using personal preferences.	By the end of Foundation students identify familiar products, services and environments and develop familiarity with digital systems, using them for a purpose. They create, communicate and choose design ideas. Students follow steps and use materials and equipment to safely make a designed solution for a school-selected context. They show how to represent data using objects, pictures and symbols and identify examples of data that is owned by them. **Subject achievement standards** By the end of Foundation students identify familiar products, services and environments. They create a designed solution for a school-selected context. Students create, communicate and choose design ideas. They follow steps and use materials and equipment to safely make a designed solution.	By the end of year, children explore ways people produce familiar objects within the community and recognise elementary stages of the technologies process. In Engineering principles and systems, children move objects in a range of ways and observe reactions. In Food and fibre production, children connect animal and plant products for everyday use as food and/or clothing. In Food specialisations, children explore food for colour, texture, flavour and shape, and use hygiene practices. In Materials and technologies specialisations, children explore and identify materials to use for creation and/or construction of a variety of products, including for personal needs, considering the materials' properties. In the Design and Technologies contexts, children explore the purpose for designed solutions. They generate, record and share design ideas through discussion and drawing. Children safely use given technologies (tools and equipment), to create solutions and evaluate these using personal preferences.

Year 1

Current WA Curriculum	Australian Curriculum v9	Proposed WA Curriculum
At Standard, students identify people that produce familiar products and services and recall some simple stages of the production process. In Engineering principles and systems, students use technology to move objects and observe the reactions. In Food and fibre production, students identify plants and animals used for production and their basic needs. In Materials and technologies specialisations, students observe, explore and select materials to use for construction based on materials' characteristics and behaviours. With all Design and Technology contexts, students explore opportunities when designing products or solutions. They develop and communicate design ideas through describing, drawing, modelling and/or a sequence of written or spoken steps. Students use given components and equipment and work safely to make solutions. They develop personal preferences to evaluate the success of design processes. Students work independently, or with others, to safely create and share sequenced steps for solutions.	By the end of Year 2 students describe the purpose of familiar products, services and environments, including digital systems. They represent and process data in different ways and follow and describe basic algorithms involving a sequence of steps and branching to show how simple digital solutions meet a need for known users. For each of the 2 prescribed technologies contexts they identify the features and uses of technologies and create designed solutions. Students select design ideas based on their personal preferences. They access and use the basic features of common digital tools to create, locate and share content, and collaborate and communicate design ideas using models and drawings. Students safely produce designed or digital solutions and recognise that digital tools may store their personal data online. **Subject achievement standards** By the end of Year 2 students describe the purpose of familiar products, services and environments. For each of the 2 prescribed technologies contexts they describe the features and uses of technologies and create designed solutions. Students select design ideas based on their personal preferences. They communicate design ideas using models and drawings and follow sequenced steps to safely produce designed solutions.	By the end of year, children explore ways people design and produce familiar products and recall elementary stages of the technologies process. In Engineering principles and systems, children use forces to generate movement in objects and explore ideas for the reactions observed. In Food and fibre production, children identify the essential needs of plants and animals used for production. In Food specialisations, children investigate various sources of food and ways to prepare for eating. In Materials and technologies specialisations, children observe, explore and select materials to use for construction of various products based on the materials' properties. In the Design and Technologies contexts, children explore opportunities when designing solutions. They communicate and develop design ideas through discussion, drawing, modelling and/or a sequence of steps. Children use given technologies (tools and equipment) and work safely to create products for preferred solutions. They use personal preferences to evaluate processes and designed solutions. Children work with others, guided by a sequence of steps, to create products for a personal need.

Year 2

Current WA Curriculum	Australian Curriculum v9	Proposed WA Curriculum
At Standard, students identify and exemplify roles of people that design and produce products, services and environments within the community. In Engineering principles and systems, students use a range of forces to move objects and observe the reactions. In Food and fibre production, students make simple connections between healthy living, food and fibre choices. In Materials and technologies specialisations, students develop ideas and make design decisions, considering both the characteristics and properties of materials. With all Design and Technology contexts, students explore design to meet needs or opportunities. They develop, communicate and discuss design ideas through describing, drawing, modelling and/or sequenced steps. Students use components and given equipment to safely make solutions. They use simple criteria to evaluate the success of design processes and solutions. Students work independently, or collaboratively, to organise information and ideas to safely create and share sequenced steps for solutions.	By the end of Year 2 students describe the purpose of familiar products, services and environments, including digital systems. They represent and process data in different ways and follow and describe basic algorithms involving a sequence of steps and branching to show how simple digital solutions meet a need for known users. For each of the 2 prescribed technologies contexts they identify the features and uses of technologies and create designed solutions. Students select design ideas based on their personal preferences. They access and use the basic features of common digital tools to create, locate and share content, and collaborate and communicate design ideas using models and drawings. Students safely produce designed or digital solutions and recognise that digital tools may store their personal data online. **Subject achievement standards** By the end of Year 2 students describe the purpose of familiar products, services and environments. For each of the 2 prescribed technologies contexts they describe the features and uses of technologies and create designed solutions. Students select design ideas based on their personal preferences. They communicate design ideas using models and drawings and follow sequenced steps to safely produce designed solutions.	By the end of the year, children explore and exemplify roles of people in designing solutions for familiar products and environments. In Engineering principles and systems, children use a range of forces to move objects within a system and observe reactions. In Food and fibre production, children make connections between different seasons and environments. In Food specialisations, children select food to create a food product from local sources. In Materials and technologies specialisations, children create products for a specified purpose, considering the properties of the materials available. In the Design and Technologies contexts, children explore design solutions to meet local needs or design opportunities for a known user. They generate, communicate and explore ideas for designed solutions through discussion, drawing, modelling and/or sequenced steps. Children use given technologies and components to safely create products. They use personal preferences and the needs of known users to evaluate the designed solution and the process used. Children plan, share ideas and work with others to produce a designed solution for a local need or known user.

Year 3

Current WA Curriculum	Australian Curriculum v9	Proposed WA Curriculum
At Standard, students identify roles people in design and technology have in the community and explore design development processes of products, services and environments. In Engineering principles and systems, students observe and recognise ways applied forces and properties of materials affect the behaviour of objects. In Food and fibre production, students identify equipment and simple processes used in food and fibre production from a range of environments, cultures or time periods. In Materials and technologies specialisations, students select and safely use suitable materials, tools and equipment to create design solutions.

With all Design and Technology contexts, students create a sequence of steps to solve a given task. They develop and communicate ideas using labelled drawings and appropriate technical terms. Students select and safely use appropriate components with given equipment to make a solution. They use criteria to evaluate design processes and solutions developed. Students work independently, or collaboratively to plan, safely create and communicate sequenced steps. | By the end of Year 4 students describe how people design products, services and environments to meet the needs of people, including sustainability. They process and represent data for different purposes, follow and describe simple algorithms involving branching and iteration, and implement them as visual programs. For each of the 2 prescribed technologies contexts they describe the features and uses of technologies and create designed solutions. Students select design ideas against design criteria. Students securely access and use digital systems and their peripherals for a range of purposes, including transmitting data. They communicate design ideas using models and drawings including annotations and symbols. Students plan and sequence steps and use technologies and techniques to safely produce designed solutions. They use the core features of common digital tools to plan, create, locate and share content, and to collaborate, following agreed behaviours. Students identify their personal data stored online and its risks.

Subject achievement standard
By the end of Year 4 students describe how people design products, services and environments to meet the needs of people, including sustainability. For each of the 2 prescribed technologies contexts they | By the end of the year, students identify roles people in Design and Technologies occupations have in the local community. They explore ways technologies are designed for solutions and used to create products, services or environments to meet individual or local community needs. In Engineering principles and systems, students observe and recognise ways applied forces and the properties of materials affect the behaviour of objects. In Food and fibre production, students identify equipment and recognise ways processes affect food and fibre production. In Food specialisations, students select food to nourish the body, for energy to move and support growth. In Materials and technologies specialisations, students select and safely use suitable materials, appropriate technologies and components to create a product to achieve a designed solution.

In the Design and Technologies contexts, students develop a sequence of steps to achieve a designed solution. They define features of a design brief and communicate ideas using labelled drawings and technical terms. Students select and safely use appropriate technologies and components to create a solution. They use given criteria to evaluate diagrams, technologies and components used for the designed solution. Students follow a plan, communicate |

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	describe the features and uses of technologies and create designed solutions. Students select design ideas against design criteria. They communicate design ideas using models and drawings including annotations and symbols. Students plan and sequence steps and use technologies and techniques to safely produce designed solutions.	sequenced steps to create a product, service or environment for an individual or local community need.

Year 4

Current WA Curriculum	Australian Curriculum v9	Proposed WA Curriculum
At Standard, students identify roles people in design and technologies occupations have in the community and ways that products, services and environments are designed and produced to meet community needs, considering sustainability. In Engineering principles and systems, students recognise ways forces and properties of materials, affect the behaviour of a product or system. In Food and fibre production, students identify consumer needs and how technology is used in food and natural fibre production or processing. In Materials and technologies specialisations, students implement safe practices and select suitable materials, systems and components for a range of purposes. With all Design and Technology contexts, students use sequenced steps to design a solution for a given task. They identify and choose the appropriate resources from a given set. Students develop and communicate design ideas and decisions, using annotated drawings and appropriate technical terms. They select and safely use appropriate components and equipment to make solutions. Students use criteria to evaluate and justify simple design processes and solutions for a given task. They work independently, or collaboratively, to plan, safely create and communicate ideas and information for solutions.	By the end of Year 4 students describe how people design products, services and environments to meet the needs of people, including sustainability. They process and represent data for different purposes, follow and describe simple algorithms involving branching and iteration, and implement them as visual programs. For each of the 2 prescribed technologies contexts they describe the features and uses of technologies and create designed solutions. Students select design ideas against design criteria. Students securely access and use digital systems and their peripherals for a range of purposes, including transmitting data. They communicate design ideas using models and drawings including annotations and symbols. Students plan and sequence steps and use technologies and techniques to safely produce designed solutions. They use the core features of common digital tools to plan, create, locate and share content, and to collaborate, following agreed behaviours. Students identify their personal data stored online and its risks. **Subject achievement standard** By the end of Year 4 students describe how people design products, services and environments to meet the needs of people, including sustainability. For each of the 2 prescribed technologies contexts they	By the end of the year, students identify diverse roles people in Design and Technologies occupations have in the community. They consider ways products, services and environments are designed to achieve planned solutions that meet community needs, considering sustainable factors. In Engineering principles and systems, students recognise ways forces and properties of materials affect the behaviour of an object or system. In Food and fibre production, students explore ways technologies are used in a range of environments, cultures and/time periods for food and natural fibre production. In Food specialisations, students select and prepare food considering a range of physical properties. In Materials and technologies specialisations, students select materials and components for preferred properties, suitability and function for a range of purposes. In the Design and Technologies contexts, students investigate and select resources suitable for a designed solution to achieve a given task. Students communicate and define ideas using annotated drawings, appropriate technical terms, decision-making and/or a sequence of steps. They implement agreed protocols, appropriate technologies and components to produce designed solutions. Students use given criteria to evaluate design features,

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	describe the features and uses of technologies and create designed solutions. Students select design ideas against design criteria. They communicate design ideas using models and drawings including annotations and symbols. Students plan and sequence steps and use technologies and techniques to safely produce designed solutions.	selected resources and solutions for a given task. They use management roles to plan, communicate ideas and make decisions to safely achieve designed solutions.

Year 5

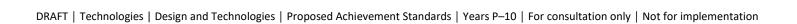| Current WA Curriculum	Australian Curriculum v9	Proposed WA Curriculum
At Standard, students identify ways people address and overcome competing considerations when designing products, services and environments. In Engineering principles and systems, students distinguish various ways forces control movement, sound or light in a product or system. In Food and fibre production, students identify ways people in design and technology occupations aim to increase the efficiency of production systems or consumer satisfaction of food and natural fibre products. In Food specialisations, students identify and implement a variety of food and hygiene practices. In Materials and technologies specialisations, students outline and apply suitable and safe practices and are able to classify the characteristics and properties of a range of materials and components. With all Design and Technology contexts, students define a problem, identify available resources and create sequenced steps to assist in decision making for a given task. They develop and communicate alternative solutions, and use annotated diagrams, storyboards and appropriate technical terms when following design ideas. Students select and apply safe procedures when using components and equipment. They develop negotiated criteria to evaluate and justify design processes and solutions. Students work	By the end of Year 6 students explain how people design products, services and environments to meet the needs of communities, including sustainability. For each of the 3 prescribed technologies contexts students explain how the features of technologies impact on design decisions and they create designed solutions. They process data and show how digital systems represent data, design algorithms involving complex branching and iteration, and implement them as visual programs including variables. They select and justify design ideas and solutions against design criteria. Students share and communicate ideas or content to an audience using technical terms, graphical representation techniques and appropriate digital tools. They develop project plans, including production processes, and select technologies and techniques to safely produce designed or digital solutions. Students securely access and use multiple digital systems and describe their components and how they interact to process and transmit data. They identify their digital footprint and recognise its permanence. **Subject achievement standard** By the end of Year 6 students explain how people design products, services and environments to meet the needs of communities, including sustainability. For	By the end of the year, students identify ways people in Design and Technologies occupations consider competing factors in the design of products, services and environments. In Engineering principles and systems, students distinguish various ways forces control movement, sound or light in a product or system. In Food and fibre production, students identify ways to improve efficiency of production systems, considering sustainable factors for food and natural fibre products. In Food specialisations, students implement food preparation systems considering ways food safety affect selection of food for designed solutions. In Materials and technologies specialisations, students consider the properties for a range of materials, suitable components and use of appropriate technologies to achieve designed solutions. In the Design and Technologies contexts, students break down a design brief to define the purpose for a given task, including required resources, technologies and components. They communicate alternative ideas using annotated diagrams, storyboards and appropriate technical terms for designed solutions. Students implement agreed protocols when using technologies and components to produce a designed solution. They use given criteria to evaluate design

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independently, or collaboratively, to plan, safely develop and communicate ideas and information.	each of the 3 prescribed technologies contexts they explain how the features of technologies impact on design decisions and they create designed solutions. Students select and justify design ideas and solutions against design criteria that include sustainability. They communicate design ideas to an audience using technical terms and graphical representation techniques. Students develop project plans, including production processes, and select technologies and techniques to safely produce designed solutions.	features, competing factors, and the sequence of steps used. Students use management roles to plan, manage time and communicate decisions to safely produce designed solutions.

Year 6

Current WA Curriculum	Australian Curriculum v9	Proposed WA Curriculum
At Standard, students identify how people address and overcome competing considerations, including sustainability, when designing products, services and environments for current and future use. In Engineering principles and systems, students connect ways electrical energy and forces can control movement, sound or light in a product or system. In Food and fibre production, students investigate and determine what past, current and future needs are to be considered when designing sustainable food and natural fibre systems for products. In Food specialisations, students identify and consider principles of food preparation and benefits of healthy eating. In Materials and technologies specialisations, students consider suitability of use when defining characteristics, properties and safe handling practices of a range of materials, systems, tools and equipment.	By the end of Year 6 students explain how people design products, services and environments to meet the needs of communities, including sustainability. For each of the 3 prescribed technologies contexts students explain how the features of technologies impact on design decisions and they create designed solutions. They process data and show how digital systems represent data, design algorithms involving complex branching and iteration, and implement them as visual programs including variables. They select and justify design ideas and solutions against design criteria. Students share and communicate ideas or content to an audience using technical terms, graphical representation techniques and appropriate digital tools. They develop project plans, including production processes, and select technologies and techniques to safely produce designed or digital solutions. Students securely access and use multiple digital systems and describe their components and how they interact to process and transmit data. They identify their digital footprint and recognise its permanence.	By the end of the year, students identify ways people address competing considerations, including sustainable factors in the design of products, services and environments. In Engineering principles and systems, students connect ways electrical energy and forces can control motion, sound or light in a product or system. In Food and fibre production, students consider design features, consumer demand and managed environments for food and natural fibre systems. In Food specialisations, students consider food choices, consumer demands, and preparation systems in the design of a solution for an identified purpose. In Materials and technologies specialisations, students consider the properties of selected materials, technologies and production systems, to plan and develop a designed solution for an identified purpose.
With all Design and Technology contexts, students identify available resources to design a solution for a given task, outlining problem-solving decisions, using sequenced steps. Students develop alternative solutions by designing, modifying and following both diagrammatically and in written text, using a range of appropriate technical terms, technologies and techniques. They select and apply safe procedures when using a variety of components and equipment	**Subject achievement standard** By the end of Year 6 students explain how people design products, services and environments to meet the needs of communities, including sustainability. For	In the Design and Technologies contexts, students define ways competing considerations affect decisions on the selection of technologies, resources, techniques and sustainable factors in the design of a solution. Students consider alternative solutions through discussion, critical thinking, modifying processes and initial design ideas using a range of appropriate technical terms, technologies and techniques. They implement production plans and safe procedures when using a variety of technologies,

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to make solutions. Students develop criteria collaboratively to evaluate and justify design processes and solutions. They work independently, or collaboratively, considering resources and safety to plan, develop and communicate ideas and information for solutions.	each of the 3 prescribed technologies contexts they explain how the features of technologies impact on design decisions and they create designed solutions. Students select and justify design ideas and solutions against design criteria that include sustainability. They communicate design ideas to an audience using technical terms and graphical representation techniques. Students develop project plans, including production processes, and select technologies and techniques to safely produce designed solutions.	and components to produce solutions. Students develop negotiated criteria to evaluate design features, graphics, selected technologies, processes and functionality of the designed solution. They use agreed conventions to set goals, manage competing factors, resources and time, and communicate decisions and solutions for a given task.

Year 7

Current WA Curriculum	Australian Curriculum v9	Proposed WA Curriculum
At Standard, students outline ways in which products, services and environments evolve locally, regionally and globally and recognise competing factors, including social, ethical and sustainability in the development of technologies. In Engineering principles and systems, students identify the use of motion, force and energy to manipulate and to control electromechanical and mechanical systems. In Food and fibre production, students identify components of food and fibre production systems including key features of their design. In Food specialisations, students identify nutritional values and physical properties of food to determine preparation techniques and presentation. In Materials and technologies specialisations, students identify how the selection of material and technology process is influenced by the combination of materials, systems, components, tools and equipment.

With all Design and Technology contexts, students develop solutions and identify the purpose for a given task by considering constraints and components/resources. Students use a range of techniques, appropriate technical terms and technologies to design, develop, review and communicate design ideas, plans and processes. They follow sequenced steps to a problem-solving plan. | By the end of Year 8 students explain how people design, innovate and produce products, services and environments for preferred futures. For each of the 4 prescribed technologies contexts students explain how the features of technologies impact on design decisions, and create designed solutions based on analysis of needs or opportunities. They acquire, interpret and model with spreadsheets and represent data with integers and binary. Students design and trace algorithms; and implement them in a general-purpose programming language. Students create and adapt design ideas, processes and solutions, and justify their decisions against developed design criteria that include sustainability. They communicate design ideas and solutions to audiences using technical terms and graphical representation techniques, including using digital tools. They select appropriate hardware for particular tasks, explain how data is transmitted and secured in networks, and identify cyber security threats. They use a range of digital tools to individually and collaboratively document and manage production processes to safely and responsibly produce designed or digital solutions for the intended purpose. Students manage their digital footprint. | By the end of the year, students consider ways products, services and/or environments evolve locally. They recognise competing factors, including social and ethical influences and existing technologies for designed solutions. In Engineering principles and systems, students use motion, force and energy to manipulate and control engineered systems. In Food and fibre production, students identify features of production systems including managed environments to produce local products and achieve designed solutions. In Food specialisations, students recognise ways nutritional values and physical properties of food determine preparation techniques and presentation of a designed solution. In Materials and technologies specialisations, students identify ways the properties of materials, specialised technologies and production processes influence designed solutions to achieve quality and safely produced products.

In the Design and Technologies contexts, students investigate and define the purpose for a given task and design solutions by considering constraints, social and ethical factors, available specialised technologies and ways products evolve locally. Students implement agreed protocols using a range of techniques, technologies, components and processes to produce designed solutions. They apply given contextual |

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Students apply safe procedures to make solutions, using a range of components, equipment and techniques. They apply given contextual criteria to independently evaluate design processes and solutions. Students work independently, and collaboratively, to plan, develop and communicate ideas and information, when using management processes.	**Subject achievement standard** By the end of Year 8 students explain how people design, innovate and produce products, services and environments for preferred futures. For each of the 4 prescribed technologies contexts they explain how the features of technologies impact on design decisions, and create designed solutions based on analysis of needs or opportunities. Students create and adapt design ideas, processes and solutions, and justify their decisions against developed design criteria that include sustainability. They communicate design ideas and solutions to audiences using technical terms and graphical representation techniques, including using digital tools. They independently and collaboratively document and manage production processes to safely produce designed solutions.	criteria to evaluate design processes and solutions. Students plan, develop and communicate ideas using project management processes, considering time and available resources to achieve solutions.

Year 8

Current WA Curriculum	Australian Curriculum v9	Proposed WA Curriculum
At Standard, students outline the creativity, innovation and enterprise of individuals and groups that develop products, services and environments. They consider social, ethical and sustainability factors in the design and development of technologies. In Engineering principles and systems, students identify and use the design of simple solutions using motion, force and energy, to manipulate and control electromechanical and mechanical systems. In Food and fibre production, students provide information on how competing social, environmental and economic demands influence the design of sustainable food and fibre production systems. In Food specialisations, students explore and identify sensory properties of foods used in creating healthy eating solutions. In Materials and technologies specialisations, students identify decision making demands of selecting and combining materials, systems, components, tools and equipment. With all Design and Technology contexts, students investigate a given need or opportunity for a specific purpose. They evaluate and apply a given design brief, using some examples. Students consider and select components/resources to develop solutions, identifying constraints. They use appropriate technical terms and technology to design, develop, evaluate and communicate alternative design solutions.	By the end of Year 8 students explain how people design, innovate and produce products, services and environments for preferred futures. For each of the 4 prescribed technologies contexts students explain how the features of technologies impact on design decisions, and create designed solutions based on analysis of needs or opportunities. They acquire, interpret and model with spreadsheets and represent data with integers and binary. Students design and trace algorithms; and implement them in a general-purpose programming language. Students create and adapt design ideas, processes and solutions, and justify their decisions against developed design criteria that include sustainability. They communicate design ideas and solutions to audiences using technical terms and graphical representation techniques, including using digital tools. They select appropriate hardware for particular tasks, explain how data is transmitted and secured in networks, and identify cyber security threats. They use a range of digital tools to individually and collaboratively document and manage production processes to safely and responsibly produce designed or digital solutions for the intended purpose. Students manage their digital footprint.	By the end of the year, students recognise ways products, services and/or environments are designed and developed with creative and innovative use of technologies. They consider ethical and sustainable factors to design solutions for a local or regional need, or opportunity. Designed solutions consider economic factors, locally or regionally sourced materials and reliable supply chains. In Engineering principles and systems, students use force, motion, and energy, to control and manipulate engineered systems, and produce products. In Food and fibre production, students consider ways competing factors influence the design of food and fibre production systems. In Food specialisations, students recognise ways nutritious, sustainable diets and the properties of food determine processing techniques for designed solutions. In Materials and technologies specialisations, students recognise how the selection of materials, components, systems and specialised technologies influence processes to achieve designed solutions for an identified need. In the Design and Technologies contexts, students investigate and develop a design brief for a given need or opportunity to achieve a specific purpose. They consider a range of technologies, techniques, resources, use appropriate technical terms and

Current WA Curriculum	Australian Curriculum v9	Proposed WA Curriculum
Students develop sequenced steps to produce a simple, problem-solving plan. They apply safe and appropriate techniques to make solutions, using a range of components and equipment. Students independently develop contextual criteria to assess design processes and solutions. They work independently, and collaboratively, to plan, develop and communicate ideas and information when managing projects.	**Subject achievement standard** By the end of Year 8 students explain how people design, innovate and produce products, services and environments for preferred futures. For each of the 4 prescribed technologies contexts they explain how the features of technologies impact on design decisions, and create designed solutions based on analysis of needs or opportunities. Students create and adapt design ideas, processes and solutions, and justify their decisions against developed design criteria that include sustainability. They communicate design ideas and solutions to audiences using technical terms and graphical representation techniques, including using digital tools. They independently and collaboratively document and manage production processes to safely produce designed solutions.	communicate alternative ideas to develop designed solutions. Students implement agreed protocols, using a range of components and processes to produce designed solutions. They develop contextual criteria to assess design processes and solutions. Students plan, develop and communicate using project management processes to achieve solutions.

Year 9

Current WA Curriculum	Australian Curriculum v9	Proposed WA Curriculum
At Standard, students identify social, ethical and sustainability factors and consider economic, environmental and social sustainability in the development of designed solutions for products, services and environments. In Engineering principles and systems, students create solutions through identifying characteristics and properties of materials and the influencing factors of force, motion and energy. In Food and fibre production, students consider the effect of food and fibre production and/or marketing influences, and considers the generation of sustainable solutions. In Food specialisations, students describe the principles of food safety, nutrition, preparation, presentation, preservation, physical and sensory properties and perceptions. In Materials and technologies specialisations, students identify characteristics and properties of materials, systems, components, tools and equipment and outline how technologies can be combined and used to create designed solutions. With all Design and Technology contexts, students identify and define the needs of a stakeholder to create a design brief for a solution. They investigate a selection of components/resources to develop ideas, identifying and considering constraints. Students apply design thinking, creativity and enterprise skills.	By the end of Year 10 students explain how people consider factors that impact on design decisions and the technologies used to design and produce products, services and environments for sustainable living. They explain the contribution of innovation, enterprise skills and emerging technologies to global preferred futures. For one or more of the technologies contexts, students explain the features of technologies and their appropriateness for purpose, and create designed solutions based on an analysis of needs or opportunities. Students create, adapt and refine design ideas, processes and solutions and justify their decisions against developed design criteria that include sustainability. They communicate design ideas, processes and solutions to a range of audiences, including using digital tools. Students independently and collaboratively develop and apply production and project management plans, adjusting processes when necessary. They select and use technologies skilfully and safely to produce designed solutions.	By the end of the year, students consider ways social, ethical and sustainable factors affect development of designed solutions for products, services and environments to meet community needs. In Engineering principles and systems, students design solutions considering properties of materials and the influencing factors of force, motion and energy. In Food and fibre production, students consider ways competing factors, including social, environmental and economic, influence design features and function of specialised food and fibre for designed solutions. In Food specialisations, students consider ways nutrition, sensory properties, global tastes, packaging and labelling responsibilities influence development of specialised products to achieve designed solutions. In Materials and technologies specialisations, students identify ways the properties of materials, components, systems, and specialised technologies are used to develop designed solutions. In the Design and Technologies contexts, students ideate a problem and define the needs of an end user to develop a design brief for a solution. They investigate a range of technologies, resources and components required to develop ideas and solutions, with consideration of constraints. Students select, implement and test a range of technologies,

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They provide design solutions assessing alternative designs against given criteria, using appropriate technical terms and technology. Students select, test and safely implement appropriate technologies and processes to make solutions. They evaluate design processes and solutions against student-developed criteria. Students work independently and collaboratively to manage projects, using digital technology and an iterative and collaborative approach. They consider time, cost, risk and safety.		techniques and processes to produce designed solutions and/or prototypes. They evaluate design processes and solutions against student developed criteria including social and ethical factors. Students manage projects, using suitable technologies, an iterative and collaborative approach, and consider time, risk, economic and sustainable factors.

Year 10

Current WA Curriculum	Australian Curriculum v9	Proposed WA Curriculum
At Standard, students consider social, ethical and sustainability factors that impact on designed solutions, complexity of design, and production processes. They outline how design decisions, and/or economic, environmental and social sustainability is influenced by emerging technologies. In Engineering principles and systems, students identify the process of combining of materials with force, motion and energy to create solutions. In Food and fibre production, students outline the role emerging research and technology has on the design of ethical and sustainable food and fibre products. In Food specialisations, students identify ways to prepare and present foods for healthy eating using processing skills and techniques, applying knowledge of nutrients, principles of food safety, preparation, presentation, preservation, physical and sensory properties and perceptions. In Materials and technologies specialisations, students combine a range of characteristics and properties of materials, systems, components, tools, technologies and equipment to create designed solutions.

With all Design and Technology contexts, students identify the needs of the client/stakeholder to determine the basis for a solution. They create and critique design briefs. Students investigate components/resources to develop increasingly | By the end of Year 10 students explain how people consider factors that impact on design decisions and the technologies used to design and produce products, services and environments for sustainable living. They explain the contribution of innovation, enterprise skills and emerging technologies to global preferred futures. For one or more of the technologies contexts, students explain the features of technologies and their appropriateness for purpose, and create designed solutions based on an analysis of needs or opportunities. Students create, adapt and refine design ideas, processes and solutions and justify their decisions against developed design criteria that include sustainability. They communicate design ideas, processes and solutions to a range of audiences, including using digital tools. Students independently and collaboratively develop and apply production and project management plans, adjusting processes when necessary. They select and use technologies skilfully and safely to produce designed solutions. | By the end of the year, students consider ways social, ethical, sustainable and security factors affect designed solutions, complexity of design, and production processes. They adapt and improve design and production systems to achieve designed solutions. In Engineering principles and systems, students identify the process of combining materials with force, motion and energy to design solutions. In Food and fibre production, students consider the role of technological innovations in ways food and fibre products are grown, processed and marketed in the design of sustainable products and systems. In Food specialisations, students select processing techniques for the preservation of food products, considering nutrition principles, consumer and/or producer values and ways functional properties influence design, preparation and development of specialised food products. In Materials and technologies specialisations, students consider the functional properties of materials and the application of specialised technologies and systems in the design and development of designed solutions.

In the Design and Technologies contexts, students ideate a problem and define the needs of the client/stakeholder to develop a design brief and determine the basis for a designed solution. They determine required resources and availability to |

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sophisticated solutions, identifying and considering associated constraints. They apply design thinking, creativity, enterprise skills and innovation to develop, modify and communicate design ideas of increasing sophistication. Students design possible solutions, analysing designs against criteria, including functionality, accessibility, usability and aesthetics, using appropriate technical terms and technology. They select, justify and safely implement and test appropriate technologies and processes to make solutions. Students provide relevant analysis of design processes and solutions against student-developed criteria. They work independently, and collaboratively to manage projects, using digital technology and an iterative and collaborative approach. Students consider time, cost, risk, safety, production processes, sustainability and legal responsibilities.		develop designed solutions, considering associated constraints. Students consider specialised occupations and economic factors to identify market opportunities, innovate, create and develop entrepreneurial behaviours to design and develop products, services and environments for clients/stakeholders. Students provide relevant analysis to evaluate design processes and solutions against student developed criteria. They manage projects, using suitable technologies, with an agile and collaborative approach. Students use project management processes, consider time, production, social, ethical, economic and sustainable factors, and legal responsibilities.