



# Western Australian Curriculum

## Technologies | Design and Technologies

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Proposed Year Level Descriptions | 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Draft for consultation | Not for implementation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.

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## 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 Year Level Descriptions in the first column, the comparable Australian Curriculum version 9 Year Level Descriptions in the centre column, and the proposed revised Year Level Descriptions for the Western Australian Curriculum in the third column.

## Pre-primary

Current WA Curriculum	Australian Curriculum v9	Proposed WA Curriculum
<p>Learning in Design and Technologies builds on the dispositions developed in the early years. Learning focuses on practical and applied knowledge and understanding of process and production skills.</p> <p>In Pre-primary, students have hands on opportunities to explore designs and solutions in at least one of the following technologies contexts: Engineering principles and systems; Food and fibre production (includes Food specialisations in this year); and Materials and technologies specialisations. Students explore the design of products and begin to develop an understanding about products.</p> <p>Students have opportunities to explore technologies taking particular note of the components and equipment used to make products. They begin to develop an understanding that products have a purpose for their own personal needs and that of their family. Students reflect on designed solutions using questions such as ‘How does it work?’, ‘What purpose does it meet?’, ‘Who will use it?’, ‘What do I like about it?’ or ‘How can it be improved?’</p> <p>Pre-primary students begin to explore the needs for design of products that impact on people’s everyday lives. Using a range of techniques, students will communicate their design ideas.</p>	<p>Learning in Design and Technologies builds on the Early Years Learning Framework, and each student’s prior learning and experiences.</p> <p>By the end of Foundation students should have had the opportunity to create at least one type of designed solution for one of the technologies contexts or one identified by the school. There are rich connections to Digital Technologies, and other learning areas, including Science and Humanities and Social Sciences.</p> <p>Students should have opportunities to experience designing and producing a product, service or environment. They explore technologies – materials and equipment – through play experiences in a context and generate ideas to design a solution for a purpose. Students develop an awareness of how people design products, services and environments. They evaluate design ideas and choose the most suitable idea. Students use a range of methods to communicate design ideas, including drawings or models, for example changing perspectives from front view to plan view. They explore working with materials such as cardboard, fabric and other common household items and using equipment such as</p>	<p>In the early childhood phase of schooling, learning in Technologies builds on the <i>Early Years Learning Framework</i> and each child’s funds of knowledge.</p> <p>Learning in the Design and Technologies curriculum provides opportunities for children to explore ways familiar technologies meet personal needs and the need for design. Children develop an understanding of the technologies, components and processes involved, the need to generate and record design ideas through discussion and drawing. They share ideas to create solutions and use personal preferences to evaluate products.</p> <p>In Pre-primary, children have hands-on opportunities to explore uses of familiar technologies in everyday life in at least one of the following technologies contexts: Engineering principles and systems, Food and fibre production, Food specialisations, and Materials and technologies specialisations. Children explore the purpose and design features of products and begin to develop an understanding of designing solutions to solve a problem. They learn ways to use technologies safely by observing teacher modelling or through role-play to participate in elementary engineering, plant production and using materials for clothing needs.</p>

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	scissors, glues, trowels or kitchen utensils. Students learn techniques to safely make a designed solution.	Children learn to experiment with identifying problems and designing solutions such as redesigning a product or system to facilitate the improved use of an everyday product, they draw on their memory of a sequence of steps to complete a task, such as packing away play equipment or completing a puzzle.

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## Year 1

Current WA Curriculum	Australian Curriculum v9	Proposed WA Curriculum
<p>Learning in Design and Technologies builds on the dispositions developed in the early years. Learning focuses on practical and applied knowledge and understanding of process and production skills.</p> <p>In Year 1, students have opportunities to create solutions in one of the following technologies contexts: Engineering principles and systems; Food and fibre production (includes Food specialisations in this year); and Materials and technologies specialisations. Students investigate the process of designing and producing products and services.</p> <p>Students have opportunities to explore and question the use of technologies including components and equipment, their purpose and how they meet personal and social needs within known settings. They develop an understanding of how communities and local circumstances influence design and technologies decisions. Students appraise designed solutions using questions such as ‘How does it work?’, ‘What purpose does it meet?’, ‘Who will use it?’, ‘What do I like about it?’ or ‘How can it be improved?’</p> <p>Students begin to consider the impact of design decisions and the use of technologies on others in their local community. They have opportunities to reflect on their participation in a design process. With</p>	<p>By the end of Year 2 students should have had the opportunity to create 3 types of designed solutions, and addressed each of these 2 technologies contexts:</p> <ul style="list-style-type: none"> <li>• Engineering principles and systems; Materials and technologies specialisations</li> <li>• Food and fibre production; Food specialisations.</li> </ul> <p>Students should have opportunities to experience designing and producing products, services and environments. There are rich connections to Digital Technologies, and other learning areas, including Science and Humanities and Social Sciences.</p> <p>Students explore and investigate technologies – tools, equipment, processes, materials, systems and components – including their purposes and how they meet personal and social needs within local settings. Students learn about how society and environmental sustainability factors influence design and technologies decisions. They begin to consider the impact of their decisions and of technologies on others and the environment.</p> <p>They evaluate designed solutions using questions such as: How does it work? What purpose does it meet? Who will use it? What do I like about it? How can it be improved? They reflect on their participation in a design process. This involves students developing new</p>	<p>In the early childhood phase of schooling, learning in Technologies builds on concepts from Pre-primary and each child’s funds of knowledge.</p> <p>Learning in the Design and Technologies curriculum provides opportunities for children to explore fundamental engineering systems, forces, essential needs for animals and plants, properties of selected materials and develop skills through the process of creating solutions.</p> <p>In Year 1, children have opportunities to explore and create solutions in one of the following technologies contexts: Engineering principles and systems, Food and fibre production, Food specialisations, and Materials and technologies specialisations. They investigate the process of designing and producing products for personal needs.</p> <p>Children have a natural curiosity about their physical, social and technological world and learn through play and experimentation. They observe, manipulate and explore objects and ideas, materials and technologies. Children explore technologies taking particular note of the materials, equipment and ways to work safely to make products. They begin to develop an understanding that products have a purpose for their own personal needs and that of others.</p>

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<p>support, students develop new strategies, and engage in different ways of evaluating and judging products and services based on personal preferences. Students are encouraged to make informed choices and to accept challenges, take risks and manage change when unexpected outcomes occur.</p> <p>Using a range of techniques, including a variety of graphical representations to communicate, students draw, model and explain design ideas; label drawings; draw products and simple environments; and verbalise design ideas.</p>	<p>perspectives and engaging in different forms of evaluating products, services and environments based on their personal preferences.</p> <p>Students use a range of technologies to communicate and explain design ideas, including drawings and models. They label drawings and draw objects as 2-dimensional images from different views.</p> <p>They plan steps, follow directions and manage their own role to complete their own or group design projects. Students are aware of the need to work safely and cooperatively when making designed solutions.</p>	<p>Children have opportunities to create solutions through guided learning focusing on ideas and design for a personal need. They use available technologies and materials to safely create a preferred solution. Children evaluate these solutions based on personal preferences.</p>



## Year 2

Current WA Curriculum	Australian Curriculum v9	Proposed WA Curriculum
<p>Learning in Design and Technologies builds on the dispositions developed in the early years. Learning focuses on practical and applied knowledge and understanding of process and production skills.</p> <p>In Year 2, students have opportunities to create solutions in at least one of the following technologies contexts: Engineering principles and systems; Food and fibre production (includes Food specialisations in this year); and Materials and technologies specialisations. Students experience designing and producing products, services and environments.</p> <p>Students have opportunities to investigate technologies: materials, systems, components, tools and equipment, including their purpose and how they meet personal and social needs within local settings. They develop an understanding of how society and environmental sustainability factors influence design and technologies decisions. Students evaluate and judge designed solutions using questions such as ‘How does it work?’, ‘What purpose does it meet?’, ‘Who will use it?’, ‘What do I like about it?’ or ‘How can it be improved?’ They are encouraged to make judgments about the design solutions in order to solve problems in their own design ideas.</p>	<p>By the end of Year 2 students should have had the opportunity to create 3 types of designed solutions, and addressed each of these 2 technologies contexts:</p> <ul style="list-style-type: none"> <li>• Engineering principles and systems; Materials and technologies specialisations</li> <li>• Food and fibre production; Food specialisations.</li> </ul> <p>Students should have opportunities to experience designing and producing products, services and environments. There are rich connections to Digital Technologies, and other learning areas, including Science and Humanities and Social Sciences.</p> <p>Students explore and investigate technologies – tools, equipment, processes, materials, systems and components – including their purposes and how they meet personal and social needs within local settings. Students learn about how society and environmental sustainability factors influence design and technologies decisions. They begin to consider the impact of their decisions and of technologies on others and the environment.</p> <p>They evaluate designed solutions using questions such as: How does it work? What purpose does it meet? Who will use it? What do I like about it? How can it be improved? They reflect on their participation in a design process. This involves students developing new</p>	<p>In the early childhood phase of schooling, learning in Technologies builds on concepts from Year 1 and each child’s funds of knowledge.</p> <p>Learning in the Design and Technologies curriculum provides opportunities for children to explore ways people use selected technologies to create familiar products and environments to meet local needs and develop an understanding of the importance of design in creating products, systems or environments.</p> <p>In Year 2, children are provided opportunities to create solutions in at least one of the following technologies contexts: Engineering principles and systems, Food and fibre production, Food specialisations, and Materials and technologies specialisations. Children explore ideas for design opportunities for a known user, such as a family member, and produce products using given equipment and technologies to safely create the designed solution.</p> <p>Children have opportunities to create a range of solutions through guided learning and in collaboration with peers.</p> <p>Children begin to develop their design skills by conceptualising possible solutions as a drawing, model or sequence of steps for carrying out instructions,</p>

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<p>Students begin to consider the impact of their decisions, and of technologies, on others and the environment, including in relation to preferred futures. They have opportunities to reflect on their participation in a design process. With support, students develop new strategies and engage in different ways of evaluating and judging products, services and environments based on personal preferences.</p> <p>Using a range of techniques, including a variety of graphical representations to communicate, students draw, model and explain design ideas; label drawings; draw products and simple environments; and verbalise design ideas.</p>	<p>perspectives and engaging in different forms of evaluating products, services and environments based on their personal preferences.</p> <p>Students use a range of technologies to communicate and explain design ideas, including drawings and models. They label drawings and draw objects as 2-dimensional images from different views.</p> <p>They plan steps, follow directions and manage their own role to complete their own or group design projects. Students are aware of the need to work safely and cooperatively when making designed solutions.</p>	<p>such as identifying steps in a process or controlling selected technologies. They explore ways to solve problems through discussion, planning, sharing of ideas and working with others to develop designed solutions and create products, systems or environments.</p>

## Year 3

Current WA Curriculum	Australian Curriculum v9	Proposed WA Curriculum
<p>Learning in Design and Technologies builds on the range of concepts, skills and processes developed in previous years.</p> <p>In Year 3, students have opportunities to learn about technologies in society as they create solutions in at least one of the following technologies contexts: Engineering principles and systems; Food and fibre production (includes Food specialisations in this year); and Materials and technologies specialisations. Students are provided with opportunities to produce products and develop an understanding that designs for services and environments meet community needs.</p> <p>Students have opportunities to develop self-ownership of their ideas. They explore creative, innovative and imaginative ideas and approaches to achieve solutions. Students begin thinking about their peers, their communities and themselves as consumers, and explore the need for services and environments within both the local and broader community.</p> <p>Students plan with an awareness of the characteristics and properties of materials, and the use of tools and equipment. They have opportunities to reflect on their actions, and develop decision-making skills. Students</p>	<p>By the end of Year 4 students should have had the opportunity to create 3 types of designed solutions, and addressed each of these 2 technologies contexts:</p> <ul style="list-style-type: none"> <li>• Engineering principles and systems; Materials and technologies specialisations</li> <li>• Food and fibre production; Food specialisations.</li> </ul> <p>Students should have opportunities to experience designing and producing products, services and environments. There are rich connections to Digital Technologies and other learning areas, including Science and Health and Physical Education.</p> <p>Students investigate technologies – tools, equipment, processes, materials, systems and components – developing a sense of self and ownership of their ideas and thinking about their peers and communities and as consumers. They consider the purpose of technologies and how they meet needs. Students explore and learn to harness their creative, innovative and imaginative ideas and approaches to achieve designed products, services and environments. They do this through planning and awareness of the characteristics and properties of materials and the use of tools and equipment.</p> <p>They learn to reflect on their actions to refine their processes, develop their decision-making skills and</p>	<p>In the middle to late childhood phase of schooling, the ability of students to work collaboratively and to develop their skills in designing and creating solutions should be fostered through the Technologies curriculum. Through such experiences, students assume increased responsibilities, develop decision-making skills and further refine their social and collaborative work skills.</p> <p>In Year 3, learning in the Design and Technologies curriculum builds on concepts from Year 2 and students continue to develop understanding and skills in design thinking, such as products for use by children or the elderly, to assist people with limited mobility, hearing or sight and outlining procedures to achieve solutions.</p> <p>Students have opportunities to learn about technologies in society and to create solutions in at least one of the following technologies contexts: Engineering principles and systems, Food and fibre production, Food specialisations, and Materials and technologies specialisations. Students are provided with opportunities to develop ideas, design and make products for individual and/or local community needs.</p> <p>Students apply design thinking techniques to generate multiple ideas for design of their solutions. They learn</p>

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<p>explore aspects of the social implications of existing products and processes to develop an understanding of their place in the world.</p> <p>Students communicate using a range of techniques for documenting design and production ideas.</p>	<p>improve their solutions. Students examine social and environmental sustainability implications of existing products and processes. They become aware of the role of those working in design and technologies occupations and how these people think about the way a product might change in the future.</p> <p>Students clarify and present ideas, using a range of technologies and graphical representation techniques, for example drawing annotated diagrams and modelling objects as 3-dimensional images from different views. Students use symbols, flow diagrams and charts for documenting design and production ideas.</p> <p>Students become aware of appropriate ways to manage their time and co-develop and use design criteria. They list the major steps needed to complete a design task. They show an understanding of the importance of planning when designing solutions, in particular when collaborating. Students identify safety issues and learn to follow safety rules when producing designed solutions.</p>	<p>to define problems using techniques to deduce and explain conclusions. Students reflect on their learning and work practices and consider ways in which these might be improved, modified or adapted for different situations. They use given criteria to evaluate diagrams, technologies and the components used for the designed solution.</p>

## Year 4

Current WA Curriculum	Australian Curriculum v9	Proposed WA Curriculum
<p>Learning in Design and Technologies builds on the range of concepts, skills and processes developed in previous years.</p> <p>In Year 4, students have opportunities to learn about technologies in society as they create solutions in at least one of the following technologies contexts: Engineering principles and systems; Food and fibre production (includes Food specialisations in this year); and Materials and technologies specialisations. Students are provided with opportunities to design and produce products, services and sustainable environments.</p> <p>Students' sense of ownership of their ideas is further developed and expanded, with a greater focus on community needs when making decisions about designs. They have opportunities to develop a broader understanding of the concept of themselves as consumers. Students begin to explore and learn to harness their creative, innovative and imaginative ideas.</p> <p>Students become aware of the design characteristics and properties of materials, and the use of components and equipment when planning solutions. They have opportunities to reflect on actions to refine design solutions through the use of decision-making</p>	<p>By the end of Year 4 students should have had the opportunity to create 3 types of designed solutions, and addressed each of these 2 technologies contexts:</p> <ul style="list-style-type: none"> <li>• Engineering principles and systems; Materials and technologies specialisations</li> <li>• Food and fibre production; Food specialisations.</li> </ul> <p>Students should have opportunities to experience designing and producing products, services and environments. There are rich connections to Digital Technologies and other learning areas, including Science and Health and Physical Education.</p> <p>Students investigate technologies – tools, equipment, processes, materials, systems and components – developing a sense of self and ownership of their ideas and thinking about their peers and communities and as consumers. They consider the purpose of technologies and how they meet needs. Students explore and learn to harness their creative, innovative and imaginative ideas and approaches to achieve designed products, services and environments. They do this through planning and awareness of the characteristics and properties of materials and the use of tools and equipment.</p> <p>They learn to reflect on their actions to refine their processes, develop their decision-making skills and</p>	<p>In the middle to late childhood phase of schooling, the ability of students to work collaboratively and to develop their skills in designing and creating solutions should be fostered through the Technologies curriculum. Through such experiences students assume increased responsibilities, develop decision-making skills and further refine their social and collaborative work skills.</p> <p>In Year 4, learning in the Design and Technologies curriculum builds on concepts from Year 3 and students further develop understanding and skills in design thinking, such as properties of materials and outlining step-by-step procedures. They have opportunities to create a range of solutions, such as the ability to reuse, repurpose, recycle materials, and select materials from regenerated sources.</p> <p>Students have opportunities to learn about technologies in society and the diverse roles for people in design and technologies occupations as they create solutions in at least one of the following technologies contexts: Engineering principles and systems, Food and fibre production, Food specialisations, and Materials and technologies specialisations. Students consider the way products, services and environments are designed to meet</p>

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<p>skills. Students engage in learning to explore the social and environmental sustainability implications of existing products and processes to raise awareness of their place in the world. Students explore the role of those working in design and technologies occupations, and how they think about the way a product might change in the future.</p> <p>Students broaden the techniques they use to clarify and present ideas, such as drawing annotated diagrams for documenting design and production ideas.</p>	<p>improve their solutions. Students examine social and environmental sustainability implications of existing products and processes. They become aware of the role of those working in design and technologies occupations and how these people think about the way a product might change in the future.</p> <p>Students clarify and present ideas, using a range of technologies and graphical representation techniques, for example drawing annotated diagrams and modelling objects as 3-dimensional images from different views. Students use symbols, flow diagrams and charts for documenting design and production ideas.</p> <p>Students become aware of appropriate ways to manage their time and co-develop and use design criteria. They list the major steps needed to complete a design task. They show an understanding of the importance of planning when designing solutions, in particular when collaborating. Students identify safety issues and learn to follow safety rules when producing designed solutions.</p>	<p>community needs, including consideration of sustainable factors.</p> <p>Students define solutions to meet specific needs and consider society’s use of technologies that meet community requirements and implement protocols, appropriate technologies, components and equipment to produce designed solutions. They use agreed conventions and management roles to communicate ideas, plan and make decisions to develop solutions to achieve a purpose. Students use given criteria to evaluate design features, selection of resources, and decision-making processes.</p>

## Year 5

Current WA Curriculum	Australian Curriculum v9	Proposed WA Curriculum
<p>Learning in Design and Technologies builds on the range of concepts, skills and processes developed in previous years.</p> <p>In Year 5, students have opportunities to learn about technologies in society through different technology contexts as they create solutions in at least one of the following technologies contexts: Engineering principles and systems; Food and fibre production; Food specialisations; and Materials and technologies specialisations. Students are provided with opportunities to produce products and develop an understanding that designs for services and environments meet community needs.</p> <p>Students have opportunities to explore technologies that incorporate materials, components, and equipment used in the home and wider community. They continue to consider society, cultural needs and environmental factors, paying attention to sustainable practices. Students question why and for whom technologies are developed.</p> <p>Students begin to engage with ideas beyond the familiar, exploring how the people working in a range of technologies contexts contribute to society. They are provided with opportunities to explore innovative</p>	<p>By the end of Year 6 students should have had the opportunity to create 3 types of designed solutions, and addressed each of these 3 technologies contexts:</p> <ul style="list-style-type: none"> <li>• Engineering principles and systems</li> <li>• Food and fibre production; Food specialisations</li> <li>• Materials and technologies specialisations.</li> </ul> <p>Students should have opportunities to experience designing and producing products, services and environments. There are rich connections to Digital Technologies and other learning areas, including Science and Health and Physical Education.</p> <p>Students investigate technologies – tools, equipment, processes, materials, systems and components – that are used in the home and in local, national, regional or global communities, with consideration of society, ethics, and social and environmental sustainability factors. Students consider why and for whom technologies were developed. They engage with ideas beyond the familiar, exploring how design and technologies and the people working in technologies occupations contribute to society. They seek to explore innovation and establish their own design capabilities for designing products, services and environments. Students are given new opportunities for clarifying their thinking, creativity, analysis, problem-solving and decision-making. They explore</p>	<p>In the middle to late childhood phase of schooling, the ability of students to work collaboratively and to develop their skills in designing and creating solutions should be fostered through the Technologies curriculum. Through such experiences, students assume increased responsibilities, develop decision-making skills and further refine their social and collaborative work skills.</p> <p>In Year 5, learning in the Design and Technologies curriculum builds on concepts from Year 4 and students continue to develop understanding and skills fostered by activities that require group planning and decision-making, and interaction with others. Students demonstrate an increased responsibility for managing and organising activities, individually and in groups of varying sizes.</p> <p>Students have opportunities to learn about technologies in society, ways people in design and technologies occupations consider competing factors in the design of products, through different technologies, as they create solutions in at least one of the following technologies contexts: Engineering principles and systems, Food and fibre production, Food specialisations, and Materials and technologies specialisations. Students are provided with opportunities to produce products, services or</p>

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<p>design solutions that build on their own design capabilities.</p> <p>Using a range of techniques, students explore how to represent objects and ideas in a variety of forms, such as thumbnail sketches, models, drawings, diagrams and storyboards to communicate the development of designed solutions.</p>	<p>trends and data to imagine what the future could be like and suggest design decisions that contribute positively to preferred futures.</p> <p>Using a range of technologies including a variety of graphical representation techniques to communicate, students represent objects and ideas in a variety of forms such as thumbnail sketches, models, drawings, diagrams and storyboards to illustrate the development of designed solutions. They use a range of techniques such as labelling and annotating sequenced sketches and diagrams to illustrate how products function; and recognise and use a range of drawing symbols in context to give meaning and direction.</p> <p>Students work individually and collaboratively to identify and sequence steps needed for a design task, including negotiating criteria for success. They develop and follow plans to complete design tasks safely, adjusting when necessary. Students identify and maintain safety standards and practices when making designed solutions.</p>	<p>environments and develop an understanding of designing solutions considering features, such as the repurposing of components, sustainable factors and regenerative practices.</p> <p>Students develop strategies to communicate information and ideas using agreed ethical protocols, considering the safety aspects of working with others. They break down design briefs to define the purpose and requirements for a given task and design solutions, considering competing factors with annotated diagrams and a sequence of steps, using technical terms and an iterative process. Students use management roles to communicate decisions, plan and manage time to develop designed solutions.</p>



## Year 6

Current WA Curriculum	Australian Curriculum v9	Proposed WA Curriculum
<p>Learning in Design and Technologies builds on the range of concepts, skills and processes developed in previous years.</p> <p>In Year 6, students have opportunities to learn about technologies in society through different technology contexts as they create solutions in at least one of the following technologies contexts: Engineering principles and systems; Food and fibre production; Food specialisations; and Materials and technologies specialisations. Students are provided with opportunities to produce products and develop an understanding that designs for services and environments meet community needs.</p> <p>Students have the opportunity to begin to critically examine technologies, including materials, systems, components, tools and equipment that are used regularly in the home and wider community. They explore and begin to consider ethical points of view, social impact and environmentally sustainable factors when developing design solutions. Students examine why and for whom technologies are developed.</p> <p>Students have opportunities to engage with ideas beyond the familiar, exploring how people working in a range of technologies contexts contribute to society. They continue to build on design capabilities through</p>	<p>By the end of Year 6 students should have had the opportunity to create 3 types of designed solutions, and addressed each of these 3 technologies contexts:</p> <ul style="list-style-type: none"> <li>• Engineering principles and systems</li> <li>• Food and fibre production; Food specialisations</li> <li>• Materials and technologies specialisations.</li> </ul> <p>Students should have opportunities to experience designing and producing products, services and environments. There are rich connections to Digital Technologies and other learning areas, including Science and Health and Physical Education.</p> <p>Students investigate technologies – tools, equipment, processes, materials, systems and components – that are used in the home and in local, national, regional or global communities, with consideration of society, ethics, and social and environmental sustainability factors. Students consider why and for whom technologies were developed. They engage with ideas beyond the familiar, exploring how design and technologies and the people working in technologies occupations contribute to society. They seek to explore innovation and establish their own design capabilities for designing products, services and environments. Students are given new opportunities for clarifying their thinking, creativity, analysis, problem-solving and decision-making. They explore</p>	<p>In the middle to late childhood phase of schooling, the ability of students to work collaboratively and to develop their skills in designing and creating solutions should be fostered through the Technologies curriculum. Through such experiences, students assume increased responsibilities, develop decision-making skills and further refine their social and collaborative work skills.</p> <p>In Year 6, learning in the Design and Technologies curriculum builds on concepts from Year 5 and students continue to develop understanding and skills in design thinking. Students experiment with a variety of materials to investigate the advantages of different representational forms for different purposes and situations, such as for engineering systems, food and fibre production, food preparation systems, and suitability and functionality in a product.</p> <p>Students have opportunities to learn about technologies in society and ways people in design and technologies occupations address competing considerations, including sustainable factors, as they create solutions in at least one of the following technologies contexts: Engineering principles and systems, Food and fibre production, Food specialisations, and Materials and technologies specialisations. Students consider ways competing</p>

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<p>broadening their own design ideas used in solutions. Students have opportunities to explore trends and data to predict what the future will be like, and suggest design decisions that contribute positively to preferred futures.</p> <p>Using technologies to suit the purpose, students explore how to represent objects and ideas in a variety of forms to communicate the development of designed solutions. They use a range of preferred techniques to illustrate how products function.</p>	<p>trends and data to imagine what the future could be like and suggest design decisions that contribute positively to preferred futures.</p> <p>Using a range of technologies including a variety of graphical representation techniques to communicate, students represent objects and ideas in a variety of forms such as thumbnail sketches, models, drawings, diagrams and storyboards to illustrate the development of designed solutions. They use a range of techniques such as labelling and annotating sequenced sketches and diagrams to illustrate how products function; and recognise and use a range of drawing symbols in context to give meaning and direction.</p> <p>Students work individually and collaboratively to identify and sequence steps needed for a design task, including negotiating criteria for success. They develop and follow plans to complete design tasks safely, adjusting when necessary. Students identify and maintain safety standards and practices when making designed solutions.</p>	<p>technologies are used in the production of products and develop an understanding of designs for services and environments for community needs.</p> <p>Students begin to understand and appreciate different points of view, develop the ability to think in more abstract terms and undertake sustained activities for longer periods. They work with others and communicate decisions to develop agreed conventions, set goals, manage competing factors, resources and time to develop solutions for a given task. Students design alternative solutions, achieved through an iterative process, including critical thinking, graphical representations, use of a range of technologies, techniques, technical terms and a sequence of steps. They develop negotiated criteria to evaluate design features, functionality and consideration of constraints of the designed solution to achieve a purpose.</p>

## Year 7

Current WA Curriculum	Australian Curriculum v9	Proposed WA Curriculum
<p>Learning in Design and Technologies builds on concepts, skills and processes developed in earlier years, and teachers will revisit, strengthen and extend these as needed.</p> <p>In Year 7, students have opportunities to learn about technologies in society at least once in the following technologies contexts: Engineering principles and systems; Food and fibre production; Food specialisations; and Materials and technologies specialisations. Students are provided with opportunities to design and produce products, services and environments.</p> <p>Students have opportunities to select from a range of technologies, materials, components, tools and equipment. They consider the ways characteristics and properties of technologies can be combined to design and produce sustainable solutions. They develop strategies which enable them to consider society and ethics; social, ethical and sustainability factors. Students' use of creativity, innovation and enterprise skills is encouraged to increase independence and collaboration.</p> <p>Students are given opportunities to respond to feedback from others and evaluate their design processes and solutions. They investigate design and</p>	<p>By the end of Year 8 students should have had the opportunity to create at least 3 types of designed solutions, and addressed each of the 4 technologies contexts:</p> <ul style="list-style-type: none"> <li>• Engineering principles and systems</li> <li>• Food and fibre production</li> <li>• Food specialisations</li> <li>• Materials and technologies specialisations.</li> </ul> <p>Students should have opportunities to design and produce products, services and environments. There are rich connections to other learning areas and subjects, for example Science, Geography and Health and Physical Education.</p> <p>Students investigate and select from a range of technologies – tools, equipment, processes, materials, systems and components. They consider how the characteristics and properties of technologies can be combined to design and produce sustainable designed solutions to problems for individuals and the community, considering ethical, economic, environmental and social sustainability factors.</p> <p>Students use innovation and enterprise skills with increasing independence and collaboration. They respond to feedback from others and evaluate design processes and designed solutions for preferred</p>	<p>In the early adolescence phase of schooling, students' interests extend well beyond their own communities, and they begin to develop concerns about wider issues. Students' interest in the natural, social, cultural and technological world is often related to the impact on them personally and its application can help them in their current and future lives.</p> <p>In Year 7, learning in the Design and Technologies curriculum focuses on further development of understanding and skills in ways products evolve locally to achieve designed solutions. Students begin to develop an interest in particular fields of knowledge, such as engineering, food and fibre production, food systems and various materials and their use.</p> <p>Students have opportunities to learn about technologies in society and ways people in design and technologies occupations consider competing factors, social and ethical influences and existing technologies at least once in the following technologies contexts: Engineering principles and systems, Food and fibre production, Food specialisations, and Materials and technologies specialisations. Students are provided with opportunities to investigate ways products,</p>

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<p>technology solutions and the implications for each on society, locally, regionally and globally. Students develop their techniques for evaluating the advantages and disadvantages of design ideas.</p> <p>Students have opportunities to engage with a range of technologies, including a variety of graphical representation techniques to communicate ideas. Students generate and clarify ideas through sketching, modelling and perspective drawings.</p> <p>Students identify the increasingly complex sequences and steps involved in design tasks. They develop plans to manage design tasks, including safe and responsible use of materials and tools to successfully complete design tasks.</p>	<p>futures. Students investigate design and technologies professions and the contributions that each makes to society locally, regionally and globally through innovation and enterprise. They critique the advantages and disadvantages of design ideas and technologies.</p> <p>Using a range of technologies including a variety of graphical representation techniques to communicate, students generate and clarify ideas through sketching, modelling and technical drawing techniques (for example, perspective and orthogonal drawings). They use a range of symbols and technical terms in a variety of contexts to produce patterns; annotate concept sketches and drawings; and use scale, pictorial and aerial views to communicate design ideas and designed solutions.</p> <p>With greater autonomy, students identify the sequences and steps involved in design tasks. They develop plans to manage design tasks, including safe and responsible use of materials and tools, and apply their plans to successfully complete these tasks. Students establish safety procedures that minimise risk and manage a project with safety and efficiency when making designed solutions.</p>	<p>service and environments evolve locally with the use of various technologies.</p> <p>Students are provided with opportunities to create a range of designed solutions to achieve a specific purpose. They further develop their understanding of the vital role design and technologies are incorporated into their lives. When defining problems, students identify the key elements of the problem, the intended purpose and ways competing factors and constraints are at play. They design increasingly complex processes and solutions with given technologies and techniques, considering social and ethical influences. Students collaborate and implement agreed protocols when using a range of technologies, components and equipment to produce design solutions. They plan and manage individual and team projects with some autonomy. Students consider ways of managing the exchange of ideas, tasks and feedback, and use given contextual criteria to evaluate design processes and solutions.</p>

## Year 8

Current WA Curriculum	Australian Curriculum v9	Proposed WA Curriculum
<p>Learning in Design and Technologies builds on concepts, skills and processes developed in earlier years, and teachers will revisit, strengthen and extend them as needed.</p> <p>In Year 8, students have opportunities to learn about technologies in society at least once in the following technologies contexts: Engineering principles and systems; Food and fibre production; Food specialisations; and Materials and technologies specialisations. Students are provided with opportunities to design and produce products, services and environments.</p> <p>Students have opportunities to investigate and select from a range of technologies, materials, systems, components, tools and equipment. They consider the ways characteristics and properties of technologies can be combined to produce sustainable solutions. Considering society and ethics; and economic, environmental and social sustainability factors is of increasing importance in this year. Students use creativity, innovation and enterprise skills with increasing independence and collaboration.</p> <p>Students have the opportunity to respond to feedback from others and evaluate their design processes and solutions. They investigate design and technology</p>	<p>By the end of Year 8 students should have had the opportunity to create at least 3 types of designed solutions, and addressed each of the 4 technologies contexts:</p> <ul style="list-style-type: none"> <li>• Engineering principles and systems</li> <li>• Food and fibre production</li> <li>• Food specialisations</li> <li>• Materials and technologies specialisations.</li> </ul> <p>Students should have opportunities to design and produce products, services and environments. There are rich connections to other learning areas and subjects, for example Science, Geography and Health and Physical Education.</p> <p>Students investigate and select from a range of technologies – tools, equipment, processes, materials, systems and components. They consider how the characteristics and properties of technologies can be combined to design and produce sustainable designed solutions to problems for individuals and the community, considering ethical, economic, environmental and social sustainability factors.</p> <p>Students use innovation and enterprise skills with increasing independence and collaboration. They respond to feedback from others and evaluate design processes and designed solutions for preferred futures. Students investigate design and technologies</p>	<p>In the early adolescence phase of schooling, students' interests extend well beyond their own communities, and they begin to develop concerns about wider issues. Students' interest in the natural, social, cultural and technological world is often related to the impact on them personally and its application can help them in their current and future lives.</p> <p>In Year 8, learning in the Design and Technologies curriculum focuses on further development of understanding and skills in design thinking to achieve solutions, such as engaging students with a wider range of technologies, materials, and systems as they broaden their experiences and involvement in local, regional and national activities.</p> <p>Students have opportunities to learn about technologies in society and ways people design for change considering ethical and sustainable factors, available technologies and systems for designed solutions at least once in the following technologies contexts: Engineering principles and systems, Food and fibre production, Food specialisations, and Materials and technologies specialisations. Students consider ways products, services and environments are designed and developed with creative and innovative application of technologies.</p>

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<p>professions and the contributions that each makes to society through creativity, innovation and enterprise. Students are expected to evaluate the advantages and disadvantages of design ideas and technologies.</p> <p>Students have the opportunity to engage with a range of technologies, including a variety of graphical representation techniques, to generate and clarify ideas through annotated sketches, modelling and scaled drawings.</p> <p>Students identify the sequences and steps involved in design tasks. They have opportunities to develop plans to manage design tasks, including safe and responsible use of materials and tools, and apply management plans to successfully complete design tasks. Students establish safety procedures that minimise risk and manage a project with consideration to safety and efficiency, when making solutions. They plan, develop and communicate, using project management processes, considering time, resources and costs to achieve solutions.</p>	<p>professions and the contributions that each makes to society locally, regionally and globally through innovation and enterprise. They critique the advantages and disadvantages of design ideas and technologies.</p> <p>Using a range of technologies including a variety of graphical representation techniques to communicate, students generate and clarify ideas through sketching, modelling and technical drawing techniques (for example, perspective and orthogonal drawings). They use a range of symbols and technical terms in a variety of contexts to produce patterns; annotate concept sketches and drawings; and use scale, pictorial and aerial views to communicate design ideas and designed solutions.</p> <p>With greater autonomy, students identify the sequences and steps involved in design tasks. They develop plans to manage design tasks, including safe and responsible use of materials and tools, and apply their plans to successfully complete these tasks. Students establish safety procedures that minimise risk and manage a project with safety and efficiency when making designed solutions.</p>	<p>Students have opportunities to investigate a problem for a given need or opportunity, considering ethical and sustainable factors for the design and development of products and systems, including economic and sustainable factors, use of locally or regionally sourced materials based on reliable supply chains to achieve designed solutions. They establish procedures that minimise risk and manage a project with consideration to safety and efficiency, using materials, components and systems in combination with specialised technologies for the design, development and production of products, systems and environments. Students collaborate to plan, develop ideas and communicate, using project management processes, considering time, resources and costs, incorporating student developed contextual criteria to assess design processes to achieve the desired solution.</p>

## Year 9

Current WA Curriculum	Australian Curriculum v9	Proposed WA Curriculum
<p>Learning in Design and Technologies builds on concepts, skills and processes developed in earlier years, and teachers will revisit, strengthen and extend them as needed.</p> <p>In Year 9, students have opportunities to learn about technologies in society at least once in the following technologies contexts: Engineering principles and systems; Food and fibre production; Food specialisations; and Materials and technologies specialisations. Students are provided with opportunities to design and produce products, services and environments.</p> <p>Students have opportunities to use design and technologies knowledge and understanding, processes and production skills, and design thinking to produce solutions to identified needs or opportunities. They work independently and collaboratively. Students specifically focus on solutions, taking into account social values; economic, environmental and social sustainability factors. They have the opportunity to use creativity, innovation and enterprise skills with increasing confidence, independence and collaboration.</p> <p>Using a range of increasingly sophisticated technologies, including a variety of graphical representation techniques, students have opportunities to generate and represent original ideas</p>	<p>By the end of Year 10 students should have had the opportunity to design and produce at least 4 designed solutions focused on one or more of the 4 technologies contexts:</p> <ul style="list-style-type: none"> <li>• Engineering principles and systems</li> <li>• Food and fibre production</li> <li>• Food specialisations</li> <li>• Materials and technologies specialisations.</li> </ul> <p>Students should have opportunities to experience creating designed solutions for products, services and environments.</p> <p>Students use design and technologies knowledge and understanding, processes and production skills and design thinking to produce designed solutions for identified needs or opportunities of relevance to individuals and local, regional or global communities. They work independently and collaboratively. Problem-solving activities acknowledge the complexities of contemporary life and make connections to related specialised occupations and further study. Increasingly, study has a global perspective, with opportunities to understand the complex interdependencies involved in the development of technologies and enterprises.</p> <p>Students specifically focus on preferred futures, taking into account ethics; legal issues; social values; and economic, environmental and social sustainability</p>	<p>In the middle adolescence phase of schooling, while enabling students to see themselves as the recipients of particular social, intellectual, linguistic, artistic and technological heritages, teaching and learning programs should encourage students to develop an open and questioning view of themselves as active participants in their society and the world.</p> <p>In Year 9, learning in the Design and Technologies curriculum focuses on further development of understanding and skills in design thinking such as precisely and accurately describing problems, and the use of functions to solutions. It also focuses on engaging students with specialised learning, considering enterprising behaviours in preparation for vocational training or learning in the senior secondary years. Students increase their understanding of the complexity of the natural environment, society and technologies, and an awareness of the potential and problems of increased knowledge and choice of technologies, in the understanding of the relationship between knowledge, technologies and consumer values.</p> <p>Students have opportunities to learn about technologies in society and ways people consider social, ethical and sustainable factors, and use of specialised technologies at least once in the following technologies contexts: Engineering principles and systems, Food and fibre production, Food</p>

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<p>and production plans in two-dimensional and three-dimensional representations.</p> <p>Students identify and establish safety procedures that minimise risk and manage projects. They learn to transfer theoretical knowledge to practical activities.</p>	<p>factors; and use strategies such as life cycle thinking. They use critical thinking, creativity, innovation and enterprise skills with increasing confidence, independence and collaboration. Students analyse data, evaluate design ideas and technologies, respond to feedback, and evaluate design processes used to inform designed solutions for preferred futures.</p> <p>Using a range of technologies including a variety of graphical representation techniques to communicate, students generate and represent original ideas and production plans in 2-dimensional and 3-dimensional representations. These techniques will be specific to the technologies context and may include scale, perspective, orthogonal and production drawings with sectional and exploded views. Students produce rendered, illustrated views for marketing and use graphic visualisation software to produce dynamic views of design ideas and designed solutions.</p> <p>Students identify the steps involved in planning the production of designed solutions. They develop detailed project management plans, incorporating elements such as sequenced time, cost and action plans, to manage design tasks safely. Students apply management plans, making adjustments when necessary, to successfully complete design tasks. They identify and establish safety procedures that minimise risk and manage projects with safety and efficiency in mind, maintaining safety standards and management procedures to ensure success.</p>	<p>specialisations, and Materials and technologies specialisations. Students explore ways products, services and environments are designed and developed considering economic factors and alternative technologies to achieve designed solutions for a specified community need.</p> <p>Students investigate and analyse problems to define a range of technologies, resources and components required to develop ideas and solutions to design alternative solutions. They consider available technologies, usability, aesthetics and application of appropriate technical terms. Students develop a strong awareness of social, ethical and sustainable considerations for the design and development of engineered products, specialised food and fibre products, food production systems or materials-based products and systems, including consumer values and management of resources to achieve designed solutions for a specified community need. They manage projects, using suitable technologies, with an agile and collaborative approach and use management processes considering time, risk, economic and sustainable factors. Students evaluate design processes and solutions against student developed criteria including social, ethical and sustainable considerations.</p>



## Year 10

Current WA Curriculum	Australian Curriculum v9	Proposed WA Curriculum
<p>Learning in Design and Technologies builds on concepts, skills and processes developed in earlier years, and teachers will revisit, strengthen and extend them as needed.</p> <p>In Year 10, students have opportunities to learn about technologies in society at least once in the following technologies contexts: Engineering principles and systems; Food and fibre production; Food specialisations; and Materials and technologies specialisations. Students are provided with opportunities to design and produce products, services and environments.</p> <p>Students have opportunities to use design and technologies knowledge and understanding, processes and production skills, and design thinking, to produce solutions to identified needs or opportunities. Students work independently and collaboratively. They have opportunities to understand the complex interdependencies involved in the development of technologies and enterprises. The focus is on students designing solutions, taking into account ethics; legal issues; social values; economic, environmental and social sustainability factors; and using more sophisticated strategies. They use creativity, innovation and enterprise skills with confidence, independence and collaboration.</p>	<p>By the end of Year 10 students should have had the opportunity to design and produce at least 4 designed solutions focused on one or more of the 4 technologies contexts:</p> <ul style="list-style-type: none"> <li>• Engineering principles and systems</li> <li>• Food and fibre production</li> <li>• Food specialisations</li> <li>• Materials and technologies specialisations.</li> </ul> <p>Students should have opportunities to experience creating designed solutions for products, services and environments.</p> <p>Students use design and technologies knowledge and understanding, processes and production skills and design thinking to produce designed solutions for identified needs or opportunities of relevance to individuals and local, regional or global communities. They work independently and collaboratively. Problem-solving activities acknowledge the complexities of contemporary life and make connections to related specialised occupations and further study. Increasingly, study has a global perspective, with opportunities to understand the complex interdependencies involved in the development of technologies and enterprises.</p> <p>Students specifically focus on preferred futures, taking into account ethics; legal issues; social values; and economic, environmental and social sustainability</p>	<p>In the middle adolescence phase of schooling, while enabling students to see themselves as the recipients of particular social, intellectual, linguistic, artistic and technological heritages, teaching and learning programs should encourage students to develop an open and questioning view of themselves as active participants in their society and the world.</p> <p>In Year 10, learning in the Design and Technologies curriculum builds on the earlier work students have experienced in investigating patterns, processes and phenomena, and exploring forms of representation and use of a range of technologies. They understand that particular ways of working and thinking have developed over time for particular reasons but may still be subject to debate, revision and change. Learning experiences should enable students to draw on increasingly diverse and complex sources of information that facilitate comparing, contrasting, synthesising, questioning and critiquing information and enhance working collaboratively.</p> <p>Students have opportunities to learn about technologies in society and ways people consider social, ethical, sustainable and security factors to adapt and improve design and production systems using specialised technologies to achieve designed solutions at least once in the following technologies contexts: Engineering principles and systems, Food and fibre production, Food specialisations, and</p>

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<p>Using a range of technologies, including a variety of graphical representation techniques, students have opportunities to generate and represent original ideas and production plans in two-dimensional and three-dimensional representations using a range of technical drawings, including perspective, scale, orthogonal and production drawings with sectional and exploded views, appropriate to their designs.</p> <p>Students identify the steps involved in planning the production of designed solutions. They develop detailed project management plans incorporating elements, such as sequenced time, cost and action plans to manage a range of design tasks safely. Students apply management plans, changing direction when necessary, to successfully complete design tasks. They continue to identify and establish safety procedures that minimise risk and manage projects maintaining safety standards and management procedures to ensure success. Learning experiences require students to transfer theoretical knowledge to practical activities across a range of projects.</p>	<p>factors; and use strategies such as life cycle thinking. They use critical thinking, creativity, innovation and enterprise skills with increasing confidence, independence and collaboration. Students analyse data, evaluate design ideas and technologies, respond to feedback, and evaluate design processes used to inform designed solutions for preferred futures.</p> <p>Using a range of technologies including a variety of graphical representation techniques to communicate, students generate and represent original ideas and production plans in 2-dimensional and 3-dimensional representations. These techniques will be specific to the technologies context and may include scale, perspective, orthogonal and production drawings with sectional and exploded views. Students produce rendered, illustrated views for marketing and use graphic visualisation software to produce dynamic views of design ideas and designed solutions.</p> <p>Students identify the steps involved in planning the production of designed solutions. They develop detailed project management plans, incorporating elements such as sequenced time, cost and action plans, to manage design tasks safely. Students apply management plans, making adjustments when necessary, to successfully complete design tasks. They identify and establish safety procedures that minimise risk and manage projects with safety and efficiency in mind, maintaining safety standards and management procedures to ensure success.</p>	<p>Materials and technologies specialisations. Students understand ways products, services and environments are designed and developed considering specialised occupations and economic factors to identify market opportunities, innovate, create and develop entrepreneurial behaviours.</p> <p>Students apply design thinking skills by using divergent techniques to generate design ideas for user experiences and a range of solutions. They filter and prototype these ideas, developing user stories and applying design criteria based on current and future needs. Students critique possible enterprising opportunities as well as their created designs, and revise and further develop their preferred ideas based on analysis of investigations. They extend on these design criteria to accommodate social, ethical, sustainable and consumer and/or producer considerations in the development of entrepreneurial and marketing strategies for specialised products, systems and environments. Students evaluate enterprise opportunities and future impact of existing and new solutions. They have opportunities to become more skilled at identifying the steps involved in planning solutions and the development of detailed plans that are considerate of time, production processes, social, ethical, economic and sustainable factors, and legal responsibilities for optimum quality and performance to achieve designed solutions.</p>