Government of Western Australia
School Curriculum and Standards Authority

Western Australian Curriculum

Technologies | Digital Technologies

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Draft for consultation | Not for implementation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.

Disclaimer

Any resources such as texts, websites and so on that may be referred to in this document are provided as examples of resources that teachers can use to support their learning programs. Their inclusion does not imply that they are mandatory or that they are the only resources relevant to the course. Teachers must exercise their professional judgement as to the appropriateness of any they may wish to use.

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Contents

Overview 1
Pre-primary 2
Year 1 3
Year 2 5
Year 3 7
Year 4 9
Year 5 11
Year 6 13
Year 7 15
Year 8 17
Year 9 19
Year 10 21

Overview

The current Western Australian Curriculum: Technologies was adopted and adapted 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
Learning in Digital Technologies builds on the dispositions developed in the early years. Learning focuses on developing foundational skills in computational thinking and an ability to engage in personal experiences using digital systems. In Pre-primary, students explore the uses of technologies in everyday life. They develop an understanding that symbols are a powerful means of communication and how they can represent ideas, thoughts and concepts. Students explore common patterns, pictures and symbols that exist within data they collect, and present this data in creative ways to make meaning. Students learn to experiment with expressing ideas and make meaning when defining problems. Students draw on their memory of a sequence of steps to complete a task (algorithm), such as packing away play equipment or completing a puzzle. Students explore how information systems meet recreational needs. They develop an awareness of the importance of online safety when engaging with digital technologies.	Learning in Digital Technologies builds on the Early Years Learning Framework and each student's prior learning and experiences. By the end of Foundation students should have had the opportunity to experience computational thinking by experimenting with different ways of representing an idea or action with a symbol, object or picture that is understood by others, such as a sun indicating fine conditions in a weather forecast. Through Digital Technologies and Mathematics (Statistics), students have opportunities to explore different ways that data can be acquired and recorded, for example using a tablet to take photographs of plants in the school garden. Students have opportunities to develop their confidence with using digital systems by creating content such as simple messages. They become familiar with the difference between data that is owned by them, such as a photo of themselves, and data that is publicly available, such as a photo of their school. Through guided play experiences and tasks, students develop systems thinking by exploring how digital systems, such as tablets, smartphones and laptops can be used for different purposes, at school and at home. In Digital Technologies, students should have frequent opportunities for authentic learning by making key connections with other learning areas.	In the early childhood phase of schooling, learning in Technologies builds on the *Early Years Learning Framework* and each child's funds of knowledge. Learning in the Digital Technologies curriculum provides opportunities for children to explore digital technology systems, digital technology use, developing an understanding of what the internet is, participating in digital contexts safely, and developing foundational skills in computational thinking. In Pre-primary, children explore the uses of digital technologies in everyday life. Children explore common objects and pictures that exist within data they encounter and use this data to make meaning. Opportunities to develop their understandings of digital safety and personal data, through a variety of ways such as teacher modelling or through role-play; for example, asking for a friend's permission to take their photo. Children discover steps to take when encountering unexpected inappropriate content, or pop-ups, or uninitiated contact. Children learn to experiment with identifying problems and designing solutions such as redesigning a network of pipes to facilitate better flow of a marble, or draw on their memory of a sequence of steps to complete a task (algorithm), such as packing away play equipment or completing a puzzle.

Year 1

Current WA Curriculum	Australian Curriculum v9	Proposed WA Curriculum
Learning in Digital Technologies builds on the dispositions developed in the early years. Learning focuses on expanding on foundational skills in computational thinking and, with developing confidence, students engage in personal experiences using digital systems. In Year 1, students have opportunities to create a range of solutions through guided learning. Students learn about common digital systems and patterns that exist within data they collect, and how they may include pictures, symbols and diagrams. They explore ways to organise and manipulate data, including numerical, text, image, audio and video data, to create meaning and present the data using simple digital systems. Students explore problems to identify the most important information. Students learn to explain algorithms as a sequence of steps for carrying out instructions. Students explore how information systems meet information and recreational needs. They develop an understanding of online environments and the need for safety considerations.	By the end of Year 2 students should have had the opportunity to apply computational thinking by describing algorithms that include sequences of instructions and decisions, and by using digital systems to produce simple solutions. Through practice and investigation, they become more familiar with and confident in representing data in different ways. Through Digital Technologies and Mathematics (Statistics), students begin to recognise patterns in the data they have acquired, such as identifying common and distinctive features after sorting it, and these generalisations help them make predictions, such as how a pattern might continue. Students develop systems thinking by exploring a range of purposes for using digital systems and their components. They have opportunities to experience and develop their skills in using different hardware components, such as a touchpad and keyboard. They use different software to create content such as writing a message that includes an image and sharing it with classmates. Students become aware of design thinking by discussing and observing how the needs of different people are met through using digital systems. They protect the security of their own data on their school account by using their own username	In the early childhood phase of schooling, learning in Technologies builds on concepts from Pre-primary and each child's funds of knowledge. Learning in the Digital Technologies curriculum provides opportunities for children to explore digital technology systems, digital technology use, developing an understanding of what the internet is, participating in digital contexts safely, and developing foundational skills in computational thinking. In Year 1, children have opportunities to create a range of solutions through guided learning focusing on the use of digital systems that have hardware and software and that are used together. Children learn that data can be represented as pictures, symbols, numbers and words and that some data is personal, owned by them and can be shared with trusted people. They use available technologies, materials and equipment given to them to safely create a preferred solution. They evaluate these solutions based on personal preferences. Children explore problems to identify important information from data. They learn to follow a visual representation of a sequence of steps. Children

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	and password and, through discussion, develop an awareness that some websites and apps store their personal data online. In Digital Technologies, students should have frequent opportunities for authentic learning by making key connections with other learning areas.	access their school account, with assistance, using a recorded username and password.

Year 2

Current WA Curriculum	Australian Curriculum v9	Proposed WA Curriculum
Learning in Digital Technologies builds on the dispositions developed in the early years. Learning focuses on broadening students prior skills in computational thinking and providing opportunities for engaging in personal and social experiences when using digital systems. In Year 2, students have opportunities to create a range of solutions through guided learning and collaboration with peers. Students explore common digital systems and patterns that exist within data they collect. They build their skills to organise, manipulate and present the data in creative ways, including numerical, categorical, text, image, audio and video data, to create meaning and communicate ideas. Students begin to develop their design skills by conceptualising algorithms as a sequence of steps for carrying out instructions, such as identifying steps in a process, or controlling robotic devices. Students explore how information systems meet information, communication and/or recreational needs. They build on their understanding of aspects of online safety when engaging with digital technologies.	By the end of Year 2 students should have had the opportunity to apply computational thinking by describing algorithms that include sequences of instructions and decisions, and by using digital systems to produce simple solutions. Through practice and investigation, they become more familiar with and confident in representing data in different ways. Through Digital Technologies and Mathematics (Statistics), students begin to recognise patterns in the data they have acquired, such as identifying common and distinctive features after sorting it, and these generalisations help them make predictions, such as how a pattern might continue. Students develop systems thinking by exploring a range of purposes for using digital systems and their components. They have opportunities to experience and develop their skills in using different hardware components, such as a touchpad and keyboard. They use different software to create content such as writing a message that includes an image and sharing it with classmates. Students become aware of design thinking by discussing and observing how the needs of different people are met through using digital systems. They protect the security of their own data on their school account by using their own username	In the early childhood phase of schooling, learning in Technologies builds on concepts from Year 1 and each child's funds of knowledge. Learning in the Digital Technologies curriculum provides opportunities for children to explore digital systems, digital technologies use, developing an understanding of what the internet is, participating in digital contexts safely, and developing foundational skills in computational thinking. In Year 2, children are provided opportunities to apply computational thinking by creating and following algorithms that include sequences of instructions and decisions, and by using digital systems to produce solutions. Through practice and investigation, they become more familiar with and confident in representing data in different ways. Children have opportunities to create a range of solutions through guided learning and in collaboration with peers. Children begin to develop their design skills by conceptualising algorithms as a sequence of steps for carrying out instructions, such as identifying steps in a process or controlling robotic devices. Children explore how information systems meet information, communication and/or recreational

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	and password and, through discussion, develop an awareness that some websites and apps store their personal data online. In Digital Technologies, students should have frequent opportunities for authentic learning by making key connections with other learning areas.	needs. They build on their understanding of aspects of online safety, when engaging with digital technologies, with a focus on solving problems with digital systems. Children explore the concept that personal data may be safely shared online with specific people using trusted platforms, whilst practising safely accessing their school account with a recorded username and password and logging out afterwards.

Year 3

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In Year 3, students further develop understanding and skills in computational thinking, such as categorising and outlining procedures. They have opportunities to create solutions, such as interactive adventures and simple guessing games that may involve user choice. Students explore digital systems in terms of their components, and peripheral devices, such as digital microscopes, cameras and interactive whiteboards. They collect and present data, developing an understanding of the characteristics of data and their representation. Students learn to define simple problems using techniques to deduce and explain simple conclusions. They learn to develop their design skills by following prepared algorithms to describe branching (choice of options). Students experiment with appropriate software, including visual programming environments that use graphical elements, such as symbols and pictures to implement their solutions. Students continue to develop an understanding of communicating ideas and information safely when using digital technologies.	By the end of Year 4 students should have had the opportunity to broaden their computational thinking by creating simple digital solutions, individually and in groups, that involve defining problems, and designing and implementing solutions as visual programs. Students practise defining problems using design criteria given to them, and user stories developed by the class. Through practice, students improve the precision of their algorithms and implement them as visual programs. Students expand their understanding of data representation by exploring how and why the same data can be represented in different ways to meet different purposes. Through Digital Technologies and Mathematics (Statistics), students use digital systems to acquire and process data for comparison and interpretation purposes. Students progress in their systems thinking by considering the connections between digital systems and peripherals to meet specific purposes, such as using a headset to participate in an online class discussion. They explore how digital systems interact by transmitting data, such as using a class laptop to stream videos from an online news service. Students apply design thinking techniques to generate multiple ideas for the design of their solutions. They compare their ideas with other ideas,	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. In Year 3, learning in the Digital Technologies curriculum builds on concepts from Year 2 and students continue to develop understanding and skills in computational thinking, such as categorising and outlining procedures. They have opportunities to create solutions such as interactive adventures and simple guessing games that involve user choice. Students explore digital systems in terms of their components and peripheral devices. They develop an understanding of the characteristics of data and their representation. Students apply design thinking techniques to generate multiple ideas for the design of their solutions. They learn 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

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	such as those of their classmates. They determine the success of their implemented solutions against given design criteria and co-created user stories. They also judge how well digital systems used by the public meet their needs, such as maps or transport apps to plan a trip. Through frequent practice when completing tasks and projects, students increase their confidence and fluency in using core features of common digital tools to create content individually, and when working in groups they apply agreed behaviours. Students secure their personal data by creating passwords that are hard to guess and begin to understand the risks associated with storing and sharing personal data online. They learn about the importance of protecting private data and consider the positive actions and behaviours they display when engaging with others online. In Digital Technologies, students should have frequent opportunities for authentic learning by making key connections with other learning areas.	for different situations. They learn to develop their design skills by following prepared algorithms to describe branching (choice of options). Students experiment with appropriate software, including visual programming environments that use graphical elements, such as symbols and pictures to implement their solutions. Students continue to develop an understanding of communicating ideas and information safely when using digital technologies.

Year 4

Current WA Curriculum	Australian Curriculum v9	Proposed WA Curriculum
In Year 4, students further develop understanding and skills in computational thinking, such as categorising and outlining procedures. They have opportunities to create a range of solutions, such as interactive adventures that involve user choice, modelling simplified real world systems. Students explore digital systems in terms of their components, and peripheral devices, such as digital microscopes, cameras and interactive whiteboards. They collect, manipulate and interpret data, developing a capacity to use data and their representations to communicate ideas. Students learn to define problems and to deduce and record conclusions through text and diagrams. They have opportunities to experiment with refining designing skills, describing their own algorithms that support branching (choice of options) and user input. Students implement solutions using appropriate software, including visual programming environments that use a variety of graphical elements. They define solutions to meet specific needs and consider society's use of digital systems that meet community requirements. Students explain the safety aspects of communicating ideas and information using digital technologies.	By the end of Year 4 students should have had the opportunity to broaden their computational thinking by creating simple digital solutions, individually and in groups, that involve defining problems, and designing and implementing solutions as visual programs. Students practise defining problems using design criteria given to them, and user stories developed by the class. Through practice, students improve the precision of their algorithms and implement them as visual programs. Students expand their understanding of data representation by exploring how and why the same data can be represented in different ways to meet different purposes. Through Digital Technologies and Mathematics (*Statistics*), students use digital systems to acquire and process data for comparison and interpretation purposes. Students progress in their systems thinking by considering the connections between digital systems and peripherals to meet specific purposes, such as using a headset to participate in an online class discussion. They explore how digital systems interact by transmitting data, such as using a class laptop to stream videos from an online news service. Students apply design thinking techniques to generate multiple ideas for the design of their solutions. They compare their ideas with other ideas,	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. In Year 4, learning in the Digital Technologies curriculum builds on concepts from Year 3 and students continue to develop understanding and skills in computational thinking, such as categorising and outlining procedures. They have opportunities to create a range of solutions, such as interactive adventures that involve user choice, modelling simplified real-world systems. Students explore digital systems in terms of peripheral devices. They have opportunities to experiment with refining designing skills, representing their own algorithms that support decisions (branching) and repetition using flowcharts. Students implement solutions using appropriate software, including visual programming environments that use a variety of graphical elements. They define solutions to meet

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	such as those of their classmates. They determine the success of their implemented solutions against given design criteria and co-created user stories. They also judge how well digital systems used by the public meet their needs, such as maps or transport apps to plan a trip. Through frequent practice when completing tasks and projects, students increase their confidence and fluency in using core features of common digital tools to create content individually, and when working in groups they apply agreed behaviours. Students secure their personal data by creating passwords that are hard to guess and begin to understand the risks associated with storing and sharing personal data online. They learn about the importance of protecting private data and consider the positive actions and behaviours they display when engaging with others online. In Digital Technologies, students should have frequent opportunities for authentic learning by making key connections with other learning areas.	specific needs and consider society's use of digital systems that meet community requirements. Students explain the risks of personal data that is shared and stored online. They experiment with digital systems to investigate the advantages of different representational forms and different technologies, their purposes and situations.

Year 5

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In Year 5, students further develop understanding and skills in computational thinking, such as identifying similarities in different problems and describing smaller components of complex systems. They have opportunities to create a range of solutions, such as games and interactive stories and animations that involve branching (choice of options). Students explore the role that individual components of digital systems play in the processing and representation of data. They learn to acquire, justify and track various types of data. Students are introduced to the concept of data states in digital systems and how data are transferred between systems. Students use abstractions by identifying common elements across similar problems and systems. They develop an understanding of the relationship between models and the real-world systems they represent. When creating solutions, students identify appropriate data and requirements. They develop skills to write clear algorithms by identifying repetition and incorporate repeat instructions or structures when implementing their solutions. They	By the end of Year 6 students should have had the opportunity to apply computational thinking by creating digital solutions that involve defining problems, designing and modifying algorithms, and implementing them as visual programs. Students practise different strategies to develop their abstract thinking, such as thinking out aloud to simplify problems, which is needed when defining them. They represent algorithms involving branching and iteration and implement them as visual programs that include variables and respond to input. Students think in a more abstract way, exploring how on and off states and whole numbers can be used to represent data. They use design thinking techniques to generate multiple ideas about the design of solutions and how people interact with them. Based on given or co-developed design criteria and student-generated user stories, they select, and where appropriate modify, their preferred design ideas for further development. They extend the use of design criteria by evaluating their own and existing solutions, considering the impact of these solutions on their community. Through Digital Technologies and Mathematics (*Statistics*), students develop confidence and competencies in using digital systems to create	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. In Year 5, learning in the Digital Technologies curriculum builds on concepts from Year 4 and students continue to develop understanding and skills in computational thinking and design thinking, such as identifying similarities in different problems and describing smaller components of complex systems. They have opportunities to create a range of solutions, such as games and interactive stories and animations that involve user input, variables, and control structures, such as sequencing, decisions and repetition. Students are exposed to a wider range of technologies and forms of communication and representation. They experiment with digital systems to investigate the advantages of different representational forms. Students explore the role that individual components of digital systems play in the processing and representation of data. They recognise that all digital

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make judgments about design solutions against the effectiveness in existing information systems. Students develop strategies to communicate information and ideas using agreed ethical protocols, taking into account the safety aspects of working in digital environments.	displays of data, such as visualisations, which assist in interpreting data sets. Students apply systems thinking when investigating the functions and purpose of each component in a digital system and their interactions with others. They examine how data is broken up and sent through networks. Through frequent practice when completing tasks and projects, students develop competence and confidence in creating content that applies agreed conventions, such as heading hierarchies and labelling of charts, and they use a consistent file-naming system. When working in groups, students explore different ways of working collaboratively, such as agreeing on how tasks should be allocated and content shared. Students protect data stored in their personal accounts by creating separate passphrases for each account and explain how their personal data forms their permanent digital footprint. In Digital Technologies, students should have frequent opportunities for authentic learning by making key connections with other learning areas.	systems represent data as numbers and focus on the main internal components of these systems. Students apply systems thinking when investigating the functions and purpose of each component in a digital system and their interactions with others. When creating solutions, students identify appropriate data and requirements. They develop skills to write clear algorithms by identifying repetition and incorporate repeat instructions or structures when implementing their solutions. They make judgements about design solutions against the effectiveness in existing information systems and reflect on the process. Students develop strategies to communicate information and ideas using agreed ethical protocols, considering the safety aspects of working in digital environments while identifying websites and apps that are trusted to store personal data online. They demonstrate an increased responsibility for managing and organising activities, individually and in groups of varying sizes.

Year 6

Current WA Curriculum	Australian Curriculum v9	Proposed WA Curriculum
In Year 6, students further develop understanding and skills in computational thinking such as identifying similarities in different problems and describing smaller components of complex systems. They will have opportunities to create a range of solutions, such as quizzes and interactive stories and animations that involves more than one branching solution (choice of options). Students consolidate their understanding of the role individual components of digital systems play in the processing and representation of data. They acquire, validate, interpret, track and manage various types of data, and begin to explain the concept of data states in digital systems and how data are transferred between systems. Students learn to further develop abstractions by identifying common elements across similar problems and systems and make connections between models and the real-world systems they represent. When creating solutions, students further refine their skills to identify and use appropriate data and requirements. They increase the sophistication of their algorithms by identifying repetition. They learn to incorporate repeat instructions or structures when implementing their solutions through visual	By the end of Year 6 students should have had the opportunity to apply computational thinking by creating digital solutions that involve defining problems, designing and modifying algorithms, and implementing them as visual programs. Students practise different strategies to develop their abstract thinking, such as thinking out aloud to simplify problems, which is needed when defining them. They represent algorithms involving branching and iteration and implement them as visual programs that include variables and respond to input. Students think in a more abstract way, exploring how on and off states and whole numbers can be used to represent data. They use design thinking techniques to generate multiple ideas about the design of solutions and how people interact with them. Based on given or co-developed design criteria and student-generated user stories, they select, and where appropriate modify, their preferred design ideas for further development. They extend the use of design criteria by evaluating their own and existing solutions, considering the impact of these solutions on their community. Through Digital Technologies and Mathematics (*Statistics*), students develop confidence and competencies in using digital systems to create	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. In Year 6, learning in the Digital Technologies curriculum builds on concepts from Year 5 and students continue to develop understanding and skills in computational thinking and design thinking, such as identifying similarities in different problems and describing smaller components of complex systems. They have opportunities to create a range of solutions, that involves more than one branching solution (choice of options) and various types of iteration. Students consolidate their understanding of the role individual components of digital systems play in the processing and representation of data. They are introduced to wired and wireless networks of digital systems that send data via binary. They begin to understand and appreciate different points of view,

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programming environments, such as reading user input until an answer is guessed correctly in a quiz. Students critique design solutions and examine the sustainability of their own, and existing, information systems. Students develop strategies to communicate information and ideas using agreed social, ethical and technical protocols, taking into account the safety aspects of working in digital environments.	displays of data, such as visualisations, which assist in interpreting data sets. Students apply systems thinking when investigating the functions and purpose of each component in a digital system and their interactions with others. They examine how data is broken up and sent through networks. Through frequent practice when completing tasks and projects, students develop competence and confidence in creating content that applies agreed conventions, such as heading hierarchies and labelling of charts, and they use a consistent file-naming system. When working in groups, students explore different ways of working collaboratively, such as agreeing on how tasks should be allocated and content shared. Students protect data stored in their personal accounts by creating separate passphrases for each account and explain how their personal data forms their permanent digital footprint. In Digital Technologies, students should have frequent opportunities for authentic learning by making key connections with other learning areas.	develop the ability to think in more abstract terms and undertake sustained activities for longer periods. Students learn to further develop abstractions by identifying common elements across similar problems and systems and make connections between models and the real-world systems they represent, while given increased responsibility for managing and organising activities, individually and in groups of varying sizes. Students apply systems thinking when investigating the functions and purpose of each component in a digital system and their interactions with others. When creating solutions, students further refine their skills to identify and use appropriate data and requirements. They increase the sophistication of their algorithms by identifying repetition. Students incorporate control structures when implementing their solutions through visual programming environments. They are introduced to the concept of digital footprints and consider privacy considerations when collecting user data.

Year 7

Current WA Curriculum	Australian Curriculum v9	Proposed WA Curriculum
In Year 7, learning in Digital Technologies focuses on further developing understanding and skills in computational thinking, such as decomposing problems and engaging students with a wider range of information systems as they broaden their experiences and involvement in national, regional and global activities. Students have opportunities to create a range of solutions, such as interactive web applications or simulations. Students explore the properties of networked systems. They acquire data from a range of digital systems. Students use data to model objects and events. They further develop their understanding of the vital role that data plays in their lives. Students are provided with further opportunities to develop abstractions, identifying common elements, while decomposing apparently different problems and systems to define requirements; and recognise that abstractions hide irrelevant details for particular purposes. When defining problems, students identify the key elements of the problems and the factors and constraints at play. They design increasingly complex algorithms that allow data to be manipulated automatically.	By the end of Year 8 students should have had the opportunity to apply computational thinking by defining and decomposing real-world problems, creating user experiences, designing and modifying algorithms, and implementing them in a general-purpose programming language. This involves students practising problem decomposition, using approaches such as divide and conquer to more clearly understand a problem by describing its component parts. Students represent and communicate their algorithmic solutions using flowcharts and pseudocode. Students check their solutions meet the specifications by testing and debugging their algorithms before and during implementation. They develop a deeper understanding of abstraction by explaining how and why digital systems represent data as whole numbers, which are then represented in binary. Students build on their skills from Mathematics (*Statistics*) in acquiring and interpreting data. In Digital Technologies, students continue to advance these skills and are also given opportunities to validate the data they acquire to ensure it is accurate and consistent. They collect and transform many types of data from a wide range of sources. Students model structured data in meaningful ways using spreadsheets and single-table databases, and analyse and visualise the data to extract meaning from it.	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. In Year 7, learning in the Digital Technologies curriculum focuses on further development of understanding and skills in computational and design thinking, such as decomposing problems and engaging students with a wider range of information systems. They begin to develop an interest in particular fields of knowledge, such as Digital Technologies. Students have opportunities to create a range of digital solutions. They explore the properties and hardware devices of networked systems. They acquire, store, and validate data from a range of sources using spreadsheets. Students further develop their understanding of the vital role that data plays in their lives. They are provided with further opportunities to develop abstractions, identifying common elements, while decomposing apparently different problems and systems to define requirements. When defining problems, students identify the key elements of the problems and the factors and constraints at play. They design

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Students predict and evaluate their developed and existing solutions, considering time, tasks, data and the safe and sustainable use of information systems. Students plan and manage individual and team projects with some autonomy. They consider ways of managing the exchange of ideas, tasks and files and feedback. When communicating and collaborating online, students develop an understanding of different social contexts; for example, acknowledging cultural practices and meeting legal obligations.	They apply design thinking by using divergent techniques, such as mind mapping, role-play and using graphic organisers, to generate design ideas for user experiences and solution designs. Students review these ideas against design criteria and created user stories throughout their implementation as general-purpose programming by assessing them against current and future needs. They extend the use of these design criteria and user stories to evaluate the future impact of existing solutions. Students apply systems thinking by exploring the connections between hardware capabilities and tasks users want to perform. They investigate how data is transmitted via wired and wireless networks and explain the need for encryption to protect and secure data. Students use an increasing range of the features of digital tools to improve their efficiency and the consistency of the content they create, locate and communicate. They plan and manage projects individually and collaboratively, improving their control over the quality of their content. Students investigate personal security controls, including multi-factor authentication, to protect their data if passwords are compromised, and they understand the impact of phishing and other cyber security threats on people and data. In Digital Technologies, students should have frequent opportunities for authentic learning by making key connections with other learning areas.	increasingly complex algorithms that allow data to be manipulated automatically. Students predict and evaluate their developed and existing solutions, considering time, tasks, data and the safe use of information systems. They plan and manage individual and team projects with some autonomy. Students consider ways of managing the exchange of ideas, tasks and files and feedback.

Year 8

Current WA Curriculum	Australian Curriculum v9	Proposed WA Curriculum
In Year 8, learning in Digital Technologies focuses on further developing understanding and skills in computational thinking, such as decomposing problems, and engaging students with a wider range of information systems as they broaden their experiences and involvement in national, regional and global activities. Students have opportunities to create a range of solutions, such as interactive web applications or simulations of relationships between objects in the real world. Students investigate the properties of networked systems and their suitability and use for the transmission of data types. They acquire, analyse, visualise and evaluate various types of data, and the complexities of storing and transmitting that data in digital systems. Students use structured data to model objects and events that shape the communities they actively engage with. They further develop their understanding of the vital role that data plays in their lives, and how the data and related systems define and are limited by technical, environmental, economic and social constraints. Students further develop abstractions, identifying common elements, while decomposing apparently different problems and systems to define requirements; and recognise that abstractions hide irrelevant details for particular purposes. When	By the end of Year 8 students should have had the opportunity to apply computational thinking by defining and decomposing real-world problems, creating user experiences, designing and modifying algorithms, and implementing them in a general-purpose programming language. This involves students practising problem decomposition, using approaches such as divide and conquer to more clearly understand a problem by describing its component parts. Students represent and communicate their algorithmic solutions using flowcharts and pseudocode. Students check their solutions meet the specifications by testing and debugging their algorithms before and during implementation. They develop a deeper understanding of abstraction by explaining how and why digital systems represent data as whole numbers, which are then represented in binary. Students build on their skills from Mathematics (*Statistics*) in acquiring and interpreting data. In Digital Technologies, students continue to advance these skills and are also given opportunities to validate the data they acquire to ensure it is accurate and consistent. They collect and transform many types of data from a wide range of sources. Students model structured data in meaningful ways using spreadsheets and single-table databases, and analyse and visualise the data to extract meaning from it.	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. In Year 8, learning in the Digital Technologies curriculum focuses on further development of understanding and skills in computational and design thinking, such as decomposing problems, and engaging students with a wider range of information systems as they broaden their experiences and involvement in local, regional, national and global activities. Students have opportunities to create a range of digital solutions, such as simulations of relationships between objects in the real world. Students investigate the properties of networked systems and their suitability, based on performance specifications. They consider methods of data transmission and security in wired, wireless and mobile networks, including cyber security threats. They analyse and validate data using a range of software, including spreadsheets and make predictions by identifying trends. Students' learning builds on earlier work in investigating patterns,

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defining problems, students identify the key elements of the problems and the factors and constraints at play. They design increasingly complex algorithms that allow data to be manipulated automatically, and explore different ways of showing the relationship between data elements to help computation. They progress from designing the user interface, to considering user experience factors, such as user expertise, accessibility and usability requirements. Students have opportunities to plan and manage individual and team projects. They consider ways of managing the exchange of ideas, tasks and files, and techniques for monitoring progress and feedback. When communicating and collaborating online, students develop an understanding of different social contexts; for example, acknowledging cultural practices and meeting legal obligations.	They apply design thinking by using divergent techniques, such as mind mapping, role-play and using graphic organisers, to generate design ideas for user experiences and solution designs. Students review these ideas against design criteria and created user stories throughout their implementation as general-purpose programming by assessing them against current and future needs. They extend the use of these design criteria and user stories to evaluate the future impact of existing solutions. Students apply systems thinking by exploring the connections between hardware capabilities and tasks users want to perform. They investigate how data is transmitted via wired and wireless networks and explain the need for encryption to protect and secure data. Students use an increasing range of the features of digital tools to improve their efficiency and the consistency of the content they create, locate and communicate. They plan and manage projects individually and collaboratively, improving their control over the quality of their content. Students investigate personal security controls, including multi-factor authentication, to protect their data if passwords are compromised, and they understand the impact of phishing and other cyber security threats on people and data. In Digital Technologies, students should have frequent opportunities for authentic learning by making key connections with other learning areas.	processes, phenomena, and exploring forms of representation and technology. Students further develop abstractions, identifying common elements, while decomposing apparently different problems and systems to define requirements; and they recognise that abstractions hide irrelevant details for purposes. When defining problems, students identify the key elements of the problems and the factors and constraints at play. They design increasingly complex algorithms that allow data to be manipulated automatically and explore different ways of showing the relationship between data elements to help computation. Students develop an understanding of ethical issues regarding the collection and ownership of data.

Year 9

Current WA Curriculum	Australian Curriculum v9	Proposed WA Curriculum
In Year 9, learning in Digital Technologies focuses on further developing understanding and skills in computational thinking such as precisely and accurately describing problems and the use of modular approaches to solutions. It also focuses on engaging students with specialised learning in preparation for vocational training or learning in the senior secondary years. Students have opportunities to analyse problems and design, implement and evaluate a range of solutions. Students consider how human interaction with networked systems introduces complexities surrounding access to data of various types. Students explore data collection methods and use structured data to analyse, visualise, model and evaluate objects and events. Students learn how to develop multilevel abstractions; identify standard elements, such as searching and sorting in algorithms; and explore the trade-offs between the simplicity of a model and the faithfulness of its representation. When defining problems students consider the functional and non-functional requirements of a solution through interacting with the users and reviewing processes. They consolidate their algorithmic design skills to incorporate testing. Students develop solutions to problems and evaluate their solutions and existing information systems	By the end of Year 10 students should have had the opportunity to apply computational thinking by defining and decomposing real-world problems, creating user experiences, designing and modifying algorithms, and implementing them, including in an object-oriented programming language. Students use techniques, including interviewing stakeholders to develop user stories, to increase the precision of their problem definitions and solution specifications. They verify their solutions solve the problem by validating their algorithms, represented as flowcharts and pseudocode, and using test cases to confirm the correctness of their solutions. Students develop their object-oriented programming skills, and apply them to develop, modify and debug programs. They explain the importance of abstraction by representing online documents in terms of content, structure and presentation, as well as exploring simple data compression techniques and comparing their effectiveness. Students consolidate their skills in data acquisition and interpretation, cleaning and validating data to ensure it is accurate, consistent and domain appropriate. They model multidimensional data in more complex spreadsheets and relational databases, filtering and querying it to give insights into its meaning, and to pose further questions or make conclusions. They visualise this data in customisable ways, allowing	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. In Year 9, learning in the Digital Technologies curriculum focuses on further development of understanding and skills in computational thinking, such as precisely and accurately describing problems, and the use of functions to solutions. It also focuses on engaging students with specialised learning 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 and/or producer values. Students have opportunities to analyse problems and design, implement and evaluate a range of solutions. They consider the role of hardware and software in securing the movement of data in a digital system. Students explore different methods of manipulation, storage, and transmission of data.

Current WA Curriculum	Australian Curriculum v9	Proposed WA Curriculum
based on a set of criteria. They consider the privacy and security implications of how data are used and controlled, and suggest how policies and practices can be improved to ensure the sustainability and safety of information systems. When creating solutions individually, collaboratively and interactively for sharing in online environments, students respect the ownership of information.	greater exploration of trends and outliers to support or challenge their analyses. Students apply design thinking by using divergent techniques to generate design ideas for user experiences and solutions. They filter and prototype these ideas, developing user stories and applying design criteria based on current and future needs and enterprising opportunities, as well as their created user stories, and revise and further develop their preferred ideas based on their analysis. Students extend on these design criteria and user stories to evaluate the enterprise opportunities and future impact of existing solutions. Students consolidate their systems thinking by exploring how the hardware and software components of digital systems interact to manage, control and secure access to data. They increasingly use advanced features of existing and emerging digital tools to create interactive content for a diverse audience. They explore simple tools that help plan tasks, timelines and responsibilities for individual and collaborative projects. Students extend their knowledge of the importance of security by developing cyber security threat models and exploring an example of a supply chain vulnerability. They critique the digital footprint created by existing systems and their own solutions by applying the Australian Privacy Principles. In Digital Technologies, students should have frequent opportunities for authentic learning by making key connections to other learning areas.	Students learn how to develop multilevel abstractions, identify standard elements and model entities and their relationships. They interrogate security practices and techniques used to compress data, and learn about the importance of separating content, presentation and behavioural elements for data integrity and maintenance purposes. When defining problems, students consider the functional and non-functional requirements of a solution through interacting with the users and reviewing processes. They consolidate their algorithmic design skills to incorporate testing. Students develop solutions to problems and evaluate their solutions and existing information systems based on a set of criteria. They consider the privacy and security implications of how data are used and controlled, and suggest how policies and practices can be improved to ensure the sustainability and safety of information systems.

Year 10

Current WA Curriculum	Australian Curriculum v9	Proposed WA Curriculum
In Year 10, learning in Digital Technologies focuses on further developing understanding and skills in computational thinking, such as precisely and accurately describing problems; and the use of modular approaches to solutions. It also focuses on engaging students with specialised learning in preparation for vocational training or learning in the senior secondary years. Students have opportunities to analyse problems and design, implement and evaluate a range of solutions, such as database-driven websites, artificial intelligence engines and simulations. Students consider how human interaction with networked systems introduces complexities surrounding access to, and the security and privacy of, data of various types. They interrogate security practices and techniques used to compress data, and learn about the importance of separating content, presentation and behavioural elements for data integrity and maintenance purposes. Students explore how bias can impact the results and value of data collection methods, and use structured data to analyse, visualise, model and evaluate objects and events.	By the end of Year 10 students should have had the opportunity to apply computational thinking by defining and decomposing real-world problems, creating user experiences, designing and modifying algorithms, and implementing them, including in an object-oriented programming language. Students use techniques, including interviewing stakeholders to develop user stories, to increase the precision of their problem definitions and solution specifications. They verify their solutions solve the problem by validating their algorithms, represented as flowcharts and pseudocode, and using test cases to confirm the correctness of their solutions. Students develop their object-oriented programming skills, and apply them to develop, modify and debug programs. They explain the importance of abstraction by representing online documents in terms of content, structure and presentation, as well as exploring simple data compression techniques and comparing their effectiveness. Students consolidate their skills in data acquisition and interpretation, cleaning and validating data to ensure it is accurate, consistent and domain appropriate. They model multidimensional data in more complex spreadsheets and relational databases, filtering and querying it to give insights into its	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. In Year 10, learning in the Digital Technologies curriculum focuses on further development of understanding and skills in computational thinking, such as precisely and accurately describing problems, and the use of modular approaches to solutions. It also focuses on engaging students with specialised learning 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 technology; an awareness of the potential and problems of increased knowledge and choice of technologies; and an understanding of the relationship between knowledge, technologies and consumer and/or producer values. Students have opportunities to analyse problems and design, implement and evaluate a range of solutions,

Current WA Curriculum	Australian Curriculum v9	Proposed WA Curriculum
Students learn how to develop multilevel abstractions; identify standard elements, such as searching and sorting in algorithms; and explore the trade-offs between the simplicity of a model and the faithfulness of its representation. When defining problems, students consider the functional and non-functional requirements of a solution through interacting with clients/stakeholders and regularly reviewing processes. They consolidate their algorithmic design skills to incorporate testing and review, and further develop their understanding of the user experience to incorporate a wider variety of user needs. Students develop solutions to complex problems and evaluate their solutions and existing information systems, based on a broad set of criteria, including connections to existing policies and their enterprise potential. They consider the privacy and security implications of how data are used and controlled, and suggest how policies and practices can be improved to ensure the sustainability and safety of information systems. Students have opportunities to become more skilled at identifying the steps involved in planning solutions and developing detailed plans that are mindful of risks and sustainability requirements. When creating solutions individually, collaboratively and interactively for sharing in online environments, students should	meaning, and to pose further questions or make conclusions. They visualise this data in customisable ways, allowing greater exploration of trends and outliers to support or challenge their analyses. Students apply design thinking by using divergent techniques to generate design ideas for user experiences and solutions. They filter and prototype these ideas, developing user stories and applying design criteria based on current and future needs and enterprising opportunities, as well as their created user stories, and revise and further develop their preferred ideas based on their analysis. Students extend on these design criteria and user stories to evaluate the enterprise opportunities and future impact of existing solutions. Students consolidate their systems thinking by exploring how the hardware and software components of digital systems interact to manage, control and secure access to data. They increasingly use advanced features of existing and emerging digital tools to create interactive content for a diverse audience. They explore simple tools that help plan tasks, timelines and responsibilities for individual and collaborative projects. Students extend their knowledge of the importance of security by developing cyber security threat models and exploring an example of a supply chain vulnerability. They	such as database driven websites, artificial intelligence engines and simulations. Students consider how human interaction with networked systems introduces complexities surrounding access to, and the security and privacy of, data of various types. They interrogate security practices and techniques used to compress data, and learn about the importance of separating content, presentation and behavioural elements for data integrity and maintenance purposes. Students design and implement algorithms involving functions, modules, and logical operators and/or represent them as flowcharts and in correct terminology. Students explore the role of hardware and software in managing, controlling and securing access to data, in networked digital systems focusing on cybersecurity threat models. They develop and represent documents online as content (text), structure (mark-up) and presentation (styling). Students continue to develop a critical analysis and open view of themselves as active participants in their society and the world. Students apply design thinking by using divergent techniques to generate design ideas for user experiences and solutions. They filter and prototype these ideas, developing user stories and applying design criteria based on current and future needs and

Current WA Curriculum	Australian Curriculum v9	Proposed WA Curriculum
comply with legal obligations, particularly with respect to the ownership of information.	critique the digital footprint created by existing systems and their own solutions by applying the Australian Privacy Principles. In Digital Technologies, students should have frequent opportunities for authentic learning by making key connections to other learning areas.	enterprising opportunities, as well as their created designs, and revise and further develop their preferred ideas based on their analysis. Students extend these design criteria to evaluate the enterprise opportunities and future impact of existing solutions. Students have opportunities to become more skilled at identifying the steps involved in planning solutions and developing detailed plans that are considerate of time, production processes, social, ethical, economic and sustainability factors, and legal responsibilities.