Government of Western Australia
School Curriculum and Standards Authority

Western Australian Curriculum

Technologies | Digital Technologies

Year level descriptions | Pre-primary–Year 10

For familiarisation in 2025

Acknowledgement of Country

Kaya. The School Curriculum and Standards Authority (the Authority) acknowledges that our offices are on Whadjuk Noongar boodjar and that we deliver our services on the country of many traditional custodians and language groups throughout Western Australia. The Authority acknowledges the traditional custodians throughout Western Australia and their continuing connection to land, waters and community. We offer our respect to Elders past and present.

Disclaimer

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

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Contents

Overview

Year level descriptions provide an overview of the content being studied at that year level. The year level descriptions include reference to the phases of schooling to provide guidance about the sort of learning experiences that children and students are likely to engage with.

Pre-primary

In the early childhood phase of schooling, learning, development and wellbeing are connected and learning builds on the *Early Years Learning Framework* and each child's funds of knowledge. A holistic curriculum that integrates knowledge, understandings, skills, values and attitudes across learning areas connects learning to children's lives and their natural curiosity about their world.

Digital Technologies provides opportunities for children to explore digital systems and digital technologies use, while developing an understanding of what the internet is, participating in digital contexts safely, and developing foundation skills in computational thinking.

In Pre-primary, children discover the uses of digital technologies in everyday life. They explore common objects and images that exist within data they encounter and use this data to make meaning. Children develop their understandings of digital safety and personal data through a variety of ways, such as teacher modelling or role-play. They learn the steps to take when encountering unexpected inappropriate content, pop-ups, or uninitiated contact. Children identify problems and design solutions, such as following a sequence of steps (algorithm) to achieve an outcome.

Year 1

In the early childhood phase of schooling, learning, development and wellbeing are connected and learning experiences are informed by the Principles and Practices of the *Early Years Learning Framework*. A holistic curriculum that integrates knowledge, understandings, skills, values and attitudes across learning areas connects learning to children's lives and their natural curiosity about their world.

Digital Technologies provides opportunities for children to explore digital systems and digital technologies use, while developing an understanding of what the internet is, participating in digital contexts safely, and developing foundation 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 comprised of hardware and software that are used together to achieve a common goal. Children explore ideas and design opportunities, and identify important information from data. They learn to follow a visual representation of a sequence of steps through flowcharting.

Children learn that data can be represented as images, symbols, numbers and words, and that some data is personal, owned by them and can be shared only with trusted people. They access their school account, with assistance. Children use available technologies to safely manage and create a preferred solution, and evaluate these solutions based on personal preferences.

Year 2

In the early childhood phase of schooling, learning, development and wellbeing are connected and learning experiences are informed by the Principles and Practices of the *Early Years Learning Framework*. A holistic curriculum that integrates knowledge, understandings, skills, values and attitudes across learning areas connects learning to children's lives and their natural curiosity about their world.

Digital Technologies provides opportunities for children to explore digital systems and digital technologies use, while 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 a sequence of instructions and decisions, and by using digital systems to produce solutions. Through investigation and practice, they develop confidence in representing data in different ways. Children discover how information systems meet information, communication and/or recreational needs. They explore the concept that personal data may be safely shared online with specific people using trusted platforms, while practising safely accessing their school account.

Children 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. They have the opportunity to create a range of solutions through guided learning and in collaboration with peers.

Year 3

In the middle to late childhood phase of schooling, students develop a sense of self, their world expands, and they begin to see themselves as members of larger communities. Learning experiences emphasise and lead to an appreciation of both the commonality and diversity of human experience and concerns.

Digital Technologies builds on concepts previously acquired and students continue to develop understanding and skills in computational thinking.

In Year 3, students explore digital systems in terms of their components and peripheral devices. They develop an understanding of the characteristics of data and its representation. Students have opportunities to create digital solutions, such as interactive adventures and simple guessing games that involve user choice.

Students apply design thinking skills to generate multiple ideas for the design of their solutions. They reflect on their learning and work practices and consider ways in which these might be improved, modified or adapted for different situations. Students develop their design skills by following prepared algorithms that include a choice of options through branching. They experiment with appropriate software, including visual programming environments to implement their solutions.

Year 4

In the middle to late childhood phase of schooling, students develop a sense of self, their world expands, and they begin to see themselves as members of larger communities. Learning experiences emphasise and lead to an appreciation of both the commonality and diversity of human experience and concerns.

Digital Technologies builds on concepts previously acquired 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, and modelling simplified real-world systems.

In Year 4, students explore digital systems in terms of peripheral devices. They experiment with refining their designing skills, representing algorithms that support decisions (branching) and repetition using flowcharts. 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.

Students implement solutions using appropriate software, including visual programming environments that use a variety of graphical elements. They design solutions to meet specific needs and consider how society uses digital systems to meet community requirements.

Year 5

In the middle to late childhood phase of schooling, students develop a sense of self, their world expands, and they begin to see themselves as members of larger communities. Learning experiences emphasise and lead to an appreciation of both the commonality and diversity of human experience and concerns.

Digital Technologies builds on concepts previously acquired where students continue to develop understanding and skills in computational and design thinking.

In Year 5, students explore the role that individual components of digital systems play in the processing and representation of data. They recognise that all digital systems represent data as numbers. Students create a range of digital solutions that involve user input, variables, and control structures.

When creating solutions, students identify appropriate data and requirements. They evaluate how well their design solutions work in current digital systems and reflect on their design process. Students develop strategies to communicate information and ideas using agreed 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 increased responsibility for managing and organising activities, individually and in groups.

Year 6

In the middle to late childhood phase of schooling, students develop a sense of self, their world expands, and they begin to see themselves as members of larger communities. Learning experiences emphasise and lead to an appreciation of both the commonality and diversity of human experience and concerns.

Digital Technologies builds on concepts previously acquired where students continue to develop understanding and skills in computational and design thinking.

In Year 6, 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 in binary form. Students are introduced to the concept of digital footprints and consider privacy considerations when collecting user data.

Students further develop abstractions by identifying common elements across similar problems and systems and make connections between models and the real-world systems they represent. They are given increased responsibility for managing and organising activities, individually and in groups. Students apply systems thinking when investigating the functions and purpose of each component in a digital system and in their interactions with others. When creating digital solutions, students further refine their skills to identify and use appropriate data and requirements. They incorporate control structures when implementing their solutions through visual programming environments.

Year 7

In the early adolescence phase of schooling, students align with their peer group and begin to question established conventions, practices and values. Learning and teaching programs assist students to develop a broader and more comprehensive understanding of the contexts of their lives and the world in which they live.

Digital Technologies further develops students understanding and skills in computational and design thinking, such as decomposing problems and engaging students with a wider range of information systems. Students begin to develop an interest in particular fields of knowledge.

In Year 7, students create a range of digital solutions. They explore the properties and hardware devices of networked systems. Students acquire, store and visualise data from a range of sources using spreadsheets. They further develop their understanding of the vital role that data plays in their lives.

When defining problems, students identify the key elements of the problems and the factors and constraints at play. They design and develop increasingly complex algorithms. 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, files and feedback.

Year 8

In the early adolescence phase of schooling, students align with their peer group and begin to question established conventions, practices and values. Learning and teaching programs assist students to develop a broader and more comprehensive understanding of the contexts of their lives and the world in which they live.

Digital Technologies further develops student understanding and skills in computational and design thinking, such as decomposing problems, and engage with a wider range of information systems as they broaden their experiences and involvement in local, regional, national and global activities.

In Year 8, 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. They analyse and validate data using spreadsheets and make predictions by identifying trends. Students continue to investigate patterns, processes, phenomena, and explore forms of representation and technology.

When defining problems, students identify the key elements of the problems and the factors and constraints at play. They design increasingly complex algorithms. Students develop an understanding of ethical issues regarding the collection and ownership of data.

Year 9

In the middle adolescence phase of schooling, teaching and learning programs encourage students to develop an open and questioning view of themselves as active participants in their society and the world.

Digital Technologies further develops student understanding and skills in computational thinking, such as precisely and accurately describing problems, and the use of functions to make solutions. It also focuses on engaging students with specialised learning to further develop their critical and design thinking skills.

In Year 9, students 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. Students develop 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 is used and controlled, and suggest how policies and practices can be improved to ensure the sustainability and safety of information systems.

Year 10

In the middle adolescence phase of schooling, teaching and learning programs encourage students to develop an open and questioning view of themselves as active participants in their society and the world.

Digital Technologies further develops student understanding and skills in computational thinking, such as precisely and accurately describing problems, and the use of modular approaches to solutions. Students increase their understanding of the complexity of the natural environment, society and technology. They investigate 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.

In Year 10, 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. Students explore the role of hardware and software in managing, controlling and securing access to data, in networked digital systems focusing on user or software supply chain vulnerabilities.

Students apply design thinking by using divergent techniques to generate design ideas for user experiences and solutions. They develop and represent documents online as content (text), structure (mark-up) and presentation (styling). Students analyse problems and design, implement and evaluate a range of solutions, such as database-driven websites, artificial intelligence engines and simulations. They design and implement algorithms involving functions and logical operators and, where appropriate, represent them as flowcharts. Students further develop project management skills through developing detailed plans that are considerate of time, production processes, social, ethical, economic and sustainability factors, and legal responsibilities.