

Curriculum planning for Digital Technologies 7–10

How to plan for delivering the
Digital Technologies Curriculum

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Background to the Digital Technologies Curriculum 7–10

Rationale – Why Digital Technologies?

- We want students to become confident and creative developers and to be problem-solvers.
- Students acquire a deep knowledge and understanding so they can take up an active role in meeting current and future needs.
- The curriculum has been designed to provide practical opportunities for students.
- The curriculum also encourages students to be discerning decision-makers.

Aims of the Digital Technologies Curriculum

To ensure that students can:

- design, create, manage and evaluate innovative digital solutions
- use computational thinking to create digital solutions
- apply systems thinking to monitor, analyse, predict and shape the interactions within and between information systems
- confidently use digital systems
- apply protocols and legal practices.

Structure – strands

Strands	Digital Systems	Data and Information	Creating Digital Solutions
	<p>Focuses on the hardware, software and network components of digital systems. Students initially learn about a range of hardware and software, and progress to an understanding of how data are transmitted between components within a system, and how the hardware and software interact to form networks.</p>	<p>Focuses on the properties of data, how it is collected and represented, and how it is interpreted in context to produce information. Students learn how data is represented and structured symbolically for use by digital systems, as well as techniques for collecting, managing and organising data that is used to solve problems and create and communicate ideas and information.</p>	<p>Explores the interrelated processes and associated skills by which students create digital solutions. Students engage in the four processes of analysing, designing, developing and evaluating. Creating Digital Solutions requires skills in using digital systems and computational, design and systems thinking, and interacting safely by using appropriate technical and social protocols.</p>

Key concepts

- Key concepts are:
 - Abstraction
 - Data collection, representation and interpretation
 - Specification, algorithms and development
 - Digital systems
 - Interactions and impacts.
- They can be explored in digital (plugged) or non-digital (unplugged) contexts.

Scope and sequence

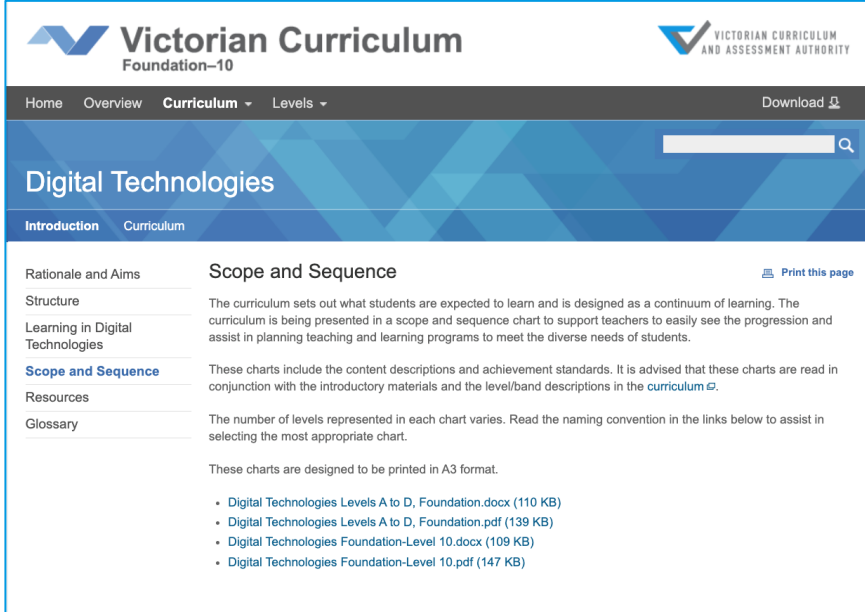
The curriculum sets out what students are expected to learn and is designed as a continuum of learning.

The curriculum is presented in a scope and sequence chart to support teachers to easily see the progression and assist in planning teaching and learning programs to meet the diverse needs of students.

Scope and sequence

The Scope and Sequence charts can be accessed via the Digital Technologies curriculum page on the VCAA website.

They can be downloaded as Word and PDF documents.



The screenshot displays the Victorian Curriculum and Assessment Authority (VCAA) website. The header includes the VCAA logo and the text "Victorian Curriculum Foundation-10" and "VICTORIAN CURRICULUM AND ASSESSMENT AUTHORITY". The navigation menu contains "Home", "Overview", "Curriculum", and "Levels". A search bar is located in the top right corner. The main content area is titled "Digital Technologies" and includes a sub-menu with "Introduction" and "Curriculum". The "Scope and Sequence" section is highlighted, and a "Print this page" link is visible. The page content describes the curriculum's purpose and provides a list of downloadable documents.

Victorian Curriculum
Foundation-10

VICTORIAN CURRICULUM AND ASSESSMENT AUTHORITY

Home Overview **Curriculum** Levels Download

Digital Technologies

Introduction Curriculum

Rationale and Aims **Scope and Sequence** Print this page

Structure

Learning in Digital Technologies

Scope and Sequence

Resources

Glossary

The curriculum sets out what students are expected to learn and is designed as a continuum of learning. The curriculum is being presented in a scope and sequence chart to support teachers to easily see the progression and assist in planning teaching and learning programs to meet the diverse needs of students.

These charts include the content descriptions and achievement standards. It is advised that these charts are read in conjunction with the introductory materials and the level/band descriptions in the [curriculum](#).

The number of levels represented in each chart varies. Read the naming convention in the links below to assist in selecting the most appropriate chart.

These charts are designed to be printed in A3 format.

- Digital Technologies Levels A to D, Foundation.docx (110 KB)
- Digital Technologies Levels A to D, Foundation.pdf (139 KB)
- Digital Technologies Foundation-Level 10.docx (109 KB)
- Digital Technologies Foundation-Level 10.pdf (147 KB)

Scope and sequence – Levels 7–10

Foundation – Level 2	Levels 3 and 4	Levels 5 and 6	Levels 7 and 8	Levels 9 and 10
<p>Digital Systems</p> <p>Identify and explore digital systems (hardware and software components) for a purpose</p> <p>Data and Information</p> <p>Recognise and explore patterns in data and represent data as pictures, symbols and diagrams</p> <p>Collect, explore and sort data, and use digital systems to present the data creatively</p> <p>Independently and with others create and organise ideas and information using information systems, and share these with known people in safe online environments</p>	<p>Explore a range of digital systems with predefined devices for different purposes, and represent different types of data</p> <p>Recognise different types of data and explore how the same data can be represented in different ways</p> <p>Collect, access and present different types of data using simple software to create information and solve problems</p> <p>Individually and with others, plan, create and communicate ideas and information safely, applying agreed ethical and social protocols</p>	<p>Examine the main components of common digital systems, and how such digital systems may connect together to form networks to transmit data</p> <p>Examine how whole numbers are used as the basis for representing all types of data in digital systems</p> <p>Acquire, store and validate different types of data and use a range of software to interpret and visualise data to create information</p> <p>Plan, create and communicate ideas, information and online collaborative projects, applying agreed ethical, social and technical protocols</p>	<p>Investigate how data are transmitted and secured in wired, wireless and mobile networks</p> <p>Investigate how digital systems represent text, image and sound data in binary</p> <p>Acquire data from a range of sources and evaluate their authenticity, accuracy and timeliness</p> <p>Analyse and visualise data using a range of software to create information, and use structured data to model objects or events</p> <p>Manage, create and communicate interactive ideas, information and projects collaboratively online, taking safety and social contexts into account</p>	<p>Investigate the role of hardware and software in managing, controlling and securing the movement of and access to data in networked digital systems</p> <p>Analyse simple compression of data and how content data are separated from presentation</p> <p>Develop techniques for acquiring, storing and validating quantitative and qualitative data from a range of sources, considering privacy and security requirements</p> <p>Analyse and visualise data to create information and address complex problems, and model processes, entities and their relationships using structured data</p> <p>Manage and collaboratively create interactive solutions for sharing ideas and information online, taking into account social contexts and legal responsibilities</p>
<p>Creating Digital Solutions</p> <p>Follow, describe and represent a sequence of steps and decisions (algorithms) needed to solve simple problems</p>	<p>Define simple problems, and describe and follow a sequence of steps and decisions involving branching and user input (algorithms) needed to solve them</p>	<p>Define problems in terms of data and functional requirements, drawing on previously solved problems to identify similarities</p>	<p>Define and decompose real-world problems taking into account functional requirements and sustainability (economic, environmental, social), technical and usability constraints</p>	<p>Define and decompose real-world problems precisely, taking into account functional and non-functional requirements and including interviewing stakeholders to identify needs</p>
		<p>Design a user interface for a digital system, generating and considering alternative design ideas</p>	<p>Design the user experience of a digital system, generating, evaluating and communicating alternative designs</p>	<p>Design the user experience of a digital system, evaluating alternative designs against criteria including functionality, accessibility, usability and aesthetics</p>
		<p>Design, modify and follow simple algorithms represented diagrammatically and in English, involving sequences of steps, branching, and iteration</p>	<p>Design algorithms represented diagrammatically and in English, and trace algorithms to predict output for a given input and to identify errors</p>	<p>Design algorithms represented diagrammatically and in structured English and validate algorithms and programs through tracing and test cases</p>
	<p>Develop simple solutions as visual programs</p>	<p>Develop digital solutions as simple visual programs</p>	<p>Develop and modify programs with user interfaces involving branching, iteration and functions using a non-procedural programming language</p>	<p>Develop modular programs, applying selected algorithms and data structures including using an object-oriented programming language</p>
<p>Explore how people safely use common information systems to meet information, communication and recreation needs</p>	<p>Explain how student-developed solutions and existing information systems meet common personal, school or community needs</p>	<p>Explain how student-developed solutions and existing information systems meet current and future community and sustainability needs</p>	<p>Evaluate how well student-developed solutions and existing information systems meet needs, are innovative and take account of future risks and sustainability</p>	<p>Evaluate critically how well student-developed solutions and existing information systems and policies take account of future risks and sustainability and provide opportunities for innovation</p>
<p>Achievement Standard</p> <p>By the end of Level 2, students identify how common digital systems are used to meet specific purposes. Students use digital systems to represent simple patterns in data in different ways and collect familiar data and display them to convey meaning. Students design solutions to simple problems using a sequence of steps and decisions. They create and organise ideas and information using information systems and share these in safe online environments.</p>	<p>By the end of Level 4, students describe how a range of digital systems and their peripheral devices can be used for different purposes. Students explain how the same data sets can be represented in different ways. They collect and manipulate different data when creating information and digital solutions. They plan and safely use information systems when creating and communicating ideas and information, applying agreed protocols. Students define simple problems, and design and develop digital solutions using algorithms that involve decision-making and user input. They explain how their developed solutions and existing information systems meet their purposes.</p>	<p>By the end of Level 6, students explain the functions of digital systems components and how digital systems are connected to form networks that transmit data. Students explain how digital systems use whole numbers as a basis for representing a variety of data types. They manage the creation and communication of ideas, information and digital projects collaboratively using validated data and agreed protocols. Students define problems in terms of data and functional requirements and design solutions by developing algorithms to address the problems. They incorporate decision-making, repetition and user interface design into their designs and explain their digital solutions, including a iterations, and develop, test, and modify digital solutions. Students explain how information systems and their developed solutions meet current and future needs taking sustainability into account.</p>	<p>By the end of Level 8, students distinguish between different types of networks and their suitability in meeting defined purposes. Students explain how text, image and sound data can be represented and secured in digital systems and presented using digital systems. They analyse and evaluate data from a range of sources to model solutions and create information. They manage the collaborative creation of interactive ideas, information and projects and use appropriate codes of conduct when communicating online. Students define and decompose problems in terms of functional requirements and constraints. They design user experiences and algorithms incorporating branching and iterations, and develop, test, and modify digital solutions. Students evaluate information systems and their solutions in terms of meeting needs, innovation and sustainability.</p>	<p>By the end of Level 10, students explain the control and management of networked digital systems and the data security implications of the interaction between hardware and software. Students explain simple data compression, and why content data are separated from presentation. They take account of privacy and security requirements when selecting and validating data and use digital systems to analyse, visualise and model salient aspects of data. Students show and conduct when communicating online, establishing protocols for the legal and safe use, transmission and maintenance of data and projects. Students define and decompose complex problems in terms of functional and non-functional requirements. They design and evaluate user experiences and algorithms, and develop and test modular programs, including an object-oriented program. Students evaluate their solutions and information systems in terms of risk, sustainability and potential for innovation.</p>

Content description

Achievement standard

Content descriptions

- The content that should be taught to students
- Can be taught individually
- Can be taught as part of a wider unit with other content descriptions

[Show more](#)

Levels 7 and 8 Content Descriptions

Digital Systems

Investigate how data is transmitted and secured in wired, wireless and mobile networks (VCDTDS035)

Achievement standards

- What the student should be able to demonstrate
- The level of achievement
- Linked to but not the same as content descriptions
- An indication of where the students are on the continuum of learning

Evaluate how well student-developed solutions and existing information systems meet needs, are innovative and take account of future risks and sustainability (VCDTCD044)

Levels 7 and 8 Achievement Standard

By the end of Level 8, students distinguish between different types of networks and their suitability in meeting defined purposes.

Students explain how text, image and sound data can be represented and secured in digital systems and presented using digital systems. They analyse and evaluate data from a range of sources to model solutions and create information. They manage the collaborative creation of interactive ideas, information and projects and use appropriate codes of conduct when communicating online.

Students define and decompose problems in terms of functional requirements and constraints. They design user experiences and algorithms incorporating branching and iterations, and develop, test, and modify digital solutions. Students evaluate information systems and their solutions in terms of meeting needs, innovation and sustainability.

Content description

Achievement standard

Achievement standards – Levels 7–10

Levels 7 and 8

By the end of Level 8, students distinguish between different types of networks and their suitability in meeting defined purposes.

Students explain how text, image and sound data can be represented and secured in digital systems and presented using digital systems. They analyse and evaluate data from a range of sources to model solutions and create information. They manage the collaborative creation of interactive ideas, information and projects and use appropriate codes of conduct when communicating online.

Students define and decompose problems in terms of functional requirements and constraints. They design user experiences and algorithms incorporating branching and iterations, and develop, test, and modify digital solutions. Students evaluate information systems and their solutions in terms of meeting needs, innovation and sustainability.

Levels 9 and 10

By the end of Level 10, students explain the control and management of networked digital systems and the data security implications of the interaction between hardware, software and users.

Students explain simple data compression, and why content data are separated from presentation. They take account of privacy and security requirements when selecting and validating data and use digital systems to analyse, visualise and model salient aspects of data. Students share and collaborate online, establishing protocols for the legal and safe use, transmission and maintenance of data and projects.

Students define and decompose complex problems in terms of functional and non-functional requirements. They design and evaluate user experiences and algorithms, and develop and test modular programs, including an object-oriented program. Students evaluate their solutions and information systems in terms of risk, sustainability and potential for innovation.

Elaborations

Show more

Levels 7 and 8 Content Descriptions

Digital Systems

Investigate how data is transmitted and secured in wired, wireless and mobile networks (VCDTDS035)

Digital Technologies / Levels 7 and 8 / Digital Systems

Content description

Investigate how data is transmitted and secured in wired, wireless and mobile networks

Elaborations

- explaining that networks have components that control the movement of data, for example routers, hubs, switches and bridges manage data traffic and that the characteristics of these components impact on the operation (speed and security) of networks
- explaining how cellular radio towers (transceivers) and mobile phones work together to create mobile networks
- comparing the reliability and speed of transmitting data through wireless, wired and mobile networks
- recognising that there are different communications protocols for transmitting data in networks, for example hypertext transfer protocol (HTTP) is used for transferring web page files in a browser, file transfer protocol (FTP) is used for sending and receiving any files over a network and transmission control protocol/internet protocol (TCP/IP) is used for controlling file transfers over the internet

Code

VCDTDS035

Curriculum resources and support





- Elaborations can be used a guide to teaching content.
- They are not meant to be prescriptive.

Planning for delivering the Digital Technologies Curriculum 7–10

Digital Technologies Curriculum

	Foundation – Level 2	Levels 3 and 4	Levels 5 and 6	Levels 7 and 8	Levels 9 and 10
Digital Systems	Identify and explore digital systems (hardware and software components) for a purpose	Explore a range of digital systems with predefined devices for different purposes, and represent different types of data	Examine the main components of common digital systems, and how such digital systems may connect together to form networks to transmit data	Investigate how data are transmitted and secured in wired, wireless and mobile networks	Investigate the role of hardware and software in managing, controlling and securing the movement of and access to data in networked digital systems
Data and Information	Recognise and explore patterns in data and represent data as pictures, symbols and diagrams Collect, explore and sort data, and use digital systems to present the data creatively Independently and with others create and organise ideas and information using information systems, and share these with known people in safe online environments	Recognise different types of data and explore how the same data can be represented in different ways Collect, access and present different types of data using simple software to create information and solve problems Individually and with others, plan, create and communicate ideas and information safely, applying agreed ethical and social protocols	Examine how whole numbers are used as the basis for representing all types of data in digital systems Acquire, store and validate different types of data and use a range of software to interpret and visualise data to create information Plan, create and communicate ideas, information and online collaborative projects, applying agreed ethical, social and technical protocols	Investigate how digital systems represent text, image and sound data in binary Acquire data from a range of sources and evaluate their authenticity, accuracy and timeliness Analyse and visualise data using a range of software to create information, and use structured data to model objects or events Manage, create and communicate interactive ideas, information and projects collaboratively online, taking safety and social contexts into account	Analyse simple compression of data and how content data are separated from presentation Develop techniques for acquiring, storing and validating quantitative and qualitative data from a range of sources, considering privacy and security requirements Analyse and visualise data to create information and address complex problems, and model processes, entities and their relationships using structured data Manage and collaboratively create interactive solutions for sharing ideas and information online, taking into account social contexts and legal responsibilities
Creating Digital Solutions	Follow, describe and represent a sequence of steps and decisions (algorithms) needed to solve simple problems	Define simple problems, and describe and follow a sequence of steps and decisions involving branching and user input (algorithms) needed to solve them Design a user interface for a digital system, generating and considering alternative design ideas Design, modify and follow simple algorithms represented diagrammatically and in English, involving sequences of steps, branching, and iteration	Define problems in terms of data and functional requirements, drawing on previously solved problems to identify similarities Design the user experience of a digital system, generating and communicating alternative designs Design algorithms represented diagrammatically and in English, and trace algorithms to predict output for a given input and to identify errors Develop and modify programs with user interfaces involving branching, iteration and functions using a general-purpose programming language	Define and decompose real-world problems taking into account functional requirements and sustainability (economic, environmental, social), technical and usability constraints Design the user experience of a digital system, generating, evaluating and communicating alternative designs Design algorithms represented diagrammatically and in English, and trace algorithms to predict output for a given input and to identify errors Develop modular programs, applying selected algorithms and data structures including using an object-oriented programming language	Define and decompose real-world problems precisely, taking into account functional and non-functional requirements and including interviewing stakeholders to identify needs Design the user experience of a digital system, evaluating alternative designs against criteria including functionality, accessibility, usability and aesthetics Design algorithms represented diagrammatically and in structured English and validate algorithms and programs through tracing and test cases Develop modular programs, applying selected algorithms and data structures including using an object-oriented programming language
Explore how people safely use common information systems to meet information, communication and recreation needs	Explain how student-developed solutions and existing information systems meet common personal, school or community needs	Develop simple solutions as visual programs Explain how student-developed solutions and existing information systems meet current and future community and sustainability needs	Develop digital solutions as simple visual programs Explain how well student-developed solutions and existing information systems meet needs, are innovative and take account of future risks and sustainability	Evaluate how well student-developed solutions and existing information systems meet needs, are innovative and take account of future risks and sustainability	Evaluate critically how well student-developed solutions and existing information systems and policies take account of future risks and sustainability and provide opportunities for innovation
Achievement Standard	By the end of Level 2, students identify how common digital systems are used to meet specific purposes. Students use digital systems to represent simple patterns in data in different ways and collect similar data and display them to convey meaning. Students design solutions to simple problems using a sequence of steps and decisions. They create and organise ideas and information using information systems and share these in safe online environments.	By the end of Level 4, students describe how a range of digital systems and their peripheral devices can be used for different purposes. Students explain how the same data sets can be represented in different ways. They collect and manipulate different data when creating information and digital solutions. They plan and safely use information systems when creating and communicating ideas and information, applying agreed protocols. Students define simple problems, and design and develop digital solutions using algorithms that involve decision-making and user input. They explain how their developed solutions and existing information systems meet their purposes.	By the end of Level 6, students explain the functions of digital systems components and how digital systems are connected to form networks that transmit data. Students explain how digital systems use whole numbers as a basis for representing a variety of data types. They manage the creation and communication of ideas, information and digital projects collaboratively using validated data and agreed protocols. Students define problems in terms of data and functional requirements and design solutions by developing algorithms to address the problems. They incorporate decision-making, repetition and user interface design into their designs and explain their digital solutions, including a visual program. Students explain how information systems and their developed solutions meet current and future needs taking sustainability into account.	By the end of Level 8, students distinguish between different types of networks and their suitability in meeting defined purposes. Students explain how text, image and sound data can be represented and secured in digital systems and presented using digital systems. They analyse and evaluate data from a range of sources to model solutions and create information. They manage the collaborative creation of interactive ideas, information and projects and use appropriate codes of conduct when communicating online. Students define and decompose problems in terms of functional requirements and constraints. They design user experiences and algorithms incorporating branching and iterations, and develop, test, and modify digital solutions. Students evaluate information systems and their solutions in terms of meeting needs, innovation and sustainability.	By the end of Level 10, students explain the control and management of networked digital systems and the data security implications of the interaction between hardware, software and users. Students explain simple data compression, and why content data are separated from presentation. They take account of privacy and security requirements when selecting and validating data and use digital systems to analyse, visualise and model salient aspects of data. Students discuss and collaborate online, establishing protocols for the legal and safe use, transmission and maintenance of data and projects. Students define and decompose complex problems in terms of functional and non-functional requirements. They design and evaluate user experiences and algorithms, and develop and test modular programs, including an object-oriented program. Students evaluate their solutions and information systems in terms of risk, sustainability and potential for innovation.

Planning resources

Year/Level	Program Planning Template	Curriculum Area Plan
7-8	 DigiTech CPT 7-8	 DigiTech 7-8 Curriculum Area Plan
9-10	 DigiTech CPT 9-10	 DigiTech 9-10 Curriculum Area Plan

Program Planning Templates

Strand		Curriculum Planning Template: Digital Technologies 7-8 (Sample Program 1)																										
Content Description		Data and Information									Creating Digital Solutions																	
Investigate how data are transmitted and secured in wired, wireless and mobile networks VOC12C01		Investigate how digital systems represent text, image and sound and store binary VOC12C02			Acquire data from a range of sources and evaluate the data for authenticity, accuracy and timeliness VOC12C03			Analyse and describe data using a range of software to create information and use structured data to model objects or events VOC12C04			Manage, create and communicate interactive ideas, information and project collaboratively and sustainably (economic, environmental, social, technical and usability concerns) VOC12C05			Define and document real-world problems taking into account functional requirements and sustainability (economic, environmental, social, technical and usability concerns) VOC12C06			Design the user experience of a digital system, generating, modelling and communicating appropriate designs VOC12C07			Design algorithms (mathematically and in English) and test algorithms to predict output for a given input and to identify errors VOC12C08			Direct and modify programs with user interfaces involving branching, selection and loops using a general-purpose programming language VOC12C09			Evaluate how well student-developed solutions are solving information systems' real needs, and in context and take account of future risks and sustainability VOC12C10		
Sequence of Lessons/Unit	Semester/Year	CO	Achievement Standard	CO	Achievement Standard	CO	Achievement Standard	CO	Achievement Standard	CO	Achievement Standard	CO	Achievement Standard	CO	Achievement Standard	CO	Achievement Standard	CO	Achievement Standard	CO	Achievement Standard							
Computer networks	Semester 1/Year 7	EW	1	EW	1	EW	1	EW	1	EW	1	EW	1	EW	1	EW	1	EW	1	EW	1	EW						
Data storage	Semester 1/Year 7	EW	2	EW	2	EW	2	EW	2	EW	2	EW	2	EW	2	EW	2	EW	2	EW	2	EW						
Data visualisations	Semester 1/Year 7	EW	3	EW	3	EW	3	EW	3	EW	3	EW	3	EW	3	EW	3	EW	3	EW	3	EW						
Requirements and user experiences	Semester 2/Year 7	EW	4	EW	4	EW	4	EW	4	EW	4	EW	4	EW	4	EW	4	EW	4	EW	4	EW						
Algorithms	Semester 2/Year 7	EW	5	EW	5	EW	5	EW	5	EW	5	EW	5	EW	5	EW	5	EW	5	EW	5	EW						
Programming	Semester 2/Year 7	EW	6	EW	6	EW	6	EW	6	EW	6	EW	6	EW	6	EW	6	EW	6	EW	6	EW						
Product evaluation	Semester 2/Year 7	EW	7	EW	7	EW	7	EW	7	EW	7	EW	7	EW	7	EW	7	EW	7	EW	7	EW						

Levels 5 and 6 Achievement Standard	Levels 7 and 8 Achievement Standard	Levels 9 and 10 Achievement Standard
<p>By the end of Level 6:</p> <ul style="list-style-type: none"> Students explain the functions of digital system components and how digital systems are connected to form networks that transmit data. Students explain how digital systems use whole numbers as a basis for representing a variety of data types. They manage the creation and communication of ideas, information and digital projects collaboratively using embedded data and agreed protocols. Students define problems in terms of data and functional requirements and design solutions to developing algorithms to address the problems. They incorporate decision-making, repetition and user interface design into their designs and develop their digital solutions, including a visual program. Students explain how information systems and their developed solutions meet current and future needs taking sustainability into account. 	<p>Separated by the Number in brackets, e.g. (3), can be used as an identifier in various parts of the template.</p> <p>By the end of Level 8:</p> <ul style="list-style-type: none"> Students distinguish between different types of networks and their suitability in meeting defined purposes. (1) Students explain how text, image and sound data can be represented and secured in digital systems and presented using digital systems. (2) They analyse and evaluate data from a range of sources to model solutions and create information. (3) They manage the collaborative creation of interactive ideas, information and projects and use appropriate codes of conduct when communicating online. (4) Students define and decompose problems in terms of functional requirements and constraints. (5) They design user experiences and algorithms incorporating branching and iterations, and develop, test, and modify digital solutions. (6) Students evaluate information systems and their solutions in terms of meeting needs, innovation and sustainability. (7) 	<p>By the end of Level 10:</p> <ul style="list-style-type: none"> Students explain the control and management of networked digital systems and the data security implications of the interaction between hardware, software and users. Students explain simple data compression, and why content data are separated from presentation. They take account of privacy and security requirements when selecting and validating data and use digital systems to analyse, visualise and model selected aspects of data. Students share and collaborate online, establishing protocols for the legal and safe use, transmission and maintenance of data and projects. Students define and decompose complex problems in terms of functional and non-functional requirements. They design and evaluate user experiences and algorithms, and develop and test modular programs, including an object-oriented program. Students evaluate their solutions and information systems in terms of risk, sustainability and potential for innovation.

Level 7 Assessments			Level 8 Assessments		
Unit (Title)	Assessment	Achievement Standard/s	Unit (Title)	Assessment	Achievement Standard/s
Computer networks	Report: Comparison of network types and purposes.	1	Requirements and user experiences	Folio: Requirements and user experiences.	3, 6
Data storage	Exercises and a test.	2	Algorithms	Folio: Flowcharts and pseudocode.	6
Data visualisations	Research task and report.	3, 4	Programming	Folio: Submission of programs and evidence of working robot tasks.	6
			Product evaluation	Web report: Evaluation of programming solution and working robot task.	7

Templates ensure:

- the curriculum is effectively covered
- there is a link between units of work and the curriculum
- there is a link between assessment tasks and the achievement standards

Important considerations:

- no gaps or excessive overlaps in teaching programs
- teaching concepts with depth, not breadth
- EAL and low literacy students

Curriculum Area Plans

Digital Technologies Curriculum Area Plan

Curriculum Area Plan: Digital Technologies - Years 7 and 8 (Sample Program 1)

Week		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
Year 7	Semester 1	Data transmission – 7.1.1					Digital systems investigation – 7.1.2				Acquiring data – 7.1.3		Analyse and visualise data – 7.1.4			Manage, create and communicate ideas – 7.1.5				
		Computer networks					Data storage				Data visualisations									
	Semester 2	Decompose problems – 7.2.1	Design user experience – 7.2.2		Design algorithms – 7.2.3				Develop and modify programs – 7.2.4							Evaluate solutions – 7.2.5				
		Requirements and user experience			Algorithms				Programming							Product evaluation				
Year 8	Semester 1																			
	Semester 2																			
Week		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	

* Based on 2 x 45 minutes teaching time per week

Key

Digital Systems

Data and Information

Creating Digital Solutions

Topic, level, semester, sequence

Integrating with other curriculum areas

The Digital Technologies curriculum provides contexts within which Mathematics understanding, fluency, logical reasoning, analytical thought and problem-solving skills can be applied and developed.

In particular, computational thinking draws on mathematical understanding and skills. An understanding of data and data analysis skills will enhance students' abilities to analyse patterns and trends, and logical reasoning will support the design of algorithms.

Integrating with other curriculum areas

Other learning areas:

- Science
 - Collecting, organising, storing, presenting and drawing conclusions from data
- Geography
 - Sorting, manipulating and recognising patterns in datasets
 - Developing spatial awareness
- The Arts
 - Design thinking and creation and selection of visual designs

Review

Background to the curriculum

- Rationale
- Aims
- Structure – strands
- Scope and sequence
- Content descriptions
- Elaborations
- Achievement standards

Planning for delivering the curriculum

- Program Planning Templates
- Curriculum Area Plans
- Integrating with other curriculum areas

Thank you

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