5-6 Australian Digital Technologies Curriculum Mapping Tool

Content Descriptions and Outcomes

Knowledge and Understanding Digital Systems			Science and Technology	Digital Systems
Australian	**Western Australian Level 5**	**Western Australian Level 6**	**New South Wales Stage 3**	**Victorian**
Examine the main components of common digital systems and how they may connect together to form networks to transmit data (ACTDIK014)	Digital systems have components with basic functions that may connect together to form networks which transmit data (ACTDIK014)	Digital systems have components with basic functions and interactions that may be connected together to form networks which transmit different types of data (ACTDIK014)	Explains how digital systems represent data, connect together to form networks and transmit data (ST3-11DI-T)	Examine the main components of common digital systems, and how such digital systems may connect together to form networks to transmit data (VCDTDS026)

Representation of Data				Data and Information
Australian	**Western Australian Level 5**	**Western Australian Level 6**	**New South Wales Stage 3**	**Victorian**
Examine how whole numbers are used to represent all data in digital systems (ACTDIK015)	Data is represented using (ACTDIK015)	Whole numbers are used to represent data in a digital system (ACTDIK015)		Examine how whole numbers are used as the basis for representing all types of data in digital systems (VCDTDI027)

Process of Production Skills Collecting, managing and analysing data			Producing and Implementing	Data and Information
Australian	**Western Australian Level 5**	**Western Australian Level 6**	**New South Wales Stage 3**	**Victorian**
Acquire, store and validate different types of data, and use a range of software to interpret and visualise data to create information (ACTDIP016)	Collect, store and present different types of data for a specific purpose using software (ACTDIP016)	Collect, sort, interpret and visually present different types of data using software to manipulate data for a range of purposes (ACTDIP016)	acquire, store, access and validate different types of data, and use a range of software to present, interpret and visualise data (ACTDIP016)	Acquire, store and validate different types of data and use a range of software to interpret and visualise data to create information (VCDTDI028)

Creating Digital Solutions by…

Investigating and defining			**Design and Production Skills Identifying and defining**	**Creating Digital Solutions**
Australian	**Western Australian Level 5**	**Western Australian Level 6**	**New South Wales Stage 3**	**Victorian**
Define problems in terms of data and functional requirements drawing on previously solved problems (ACTDIP017)	Define a problem, and set of sequenced steps, with users making a decision to create a solution for a given task (WATPPS27) Identify available resources (WATPPS28)	Define a problem, and a set of sequenced steps, with users making decisions to create a solution for a given task (WATPPS33) Identify available resources (WATPPS34)	Examine and critique needs, opportunities or modification using a range of criteria to define a project Define a need or opportunity according to functional and aesthetic criteria Consider availability and sustainability of resources when defining design needs and opportunities Investigate materials, components, tools, techniques and processes required to achieve intended design solutions (ACTDEP024) Examine and determine functional requirements to define a problem Identify data required to formulate algorithms to improve a process (ACTDIP017)	Define problems in terms of data and functional requirements, drawing on previously solved problems to identify similarities (VCDTCD030)

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Generating and Designing	Designing		Research and Planning	Creating Digital Solutions
Australian	**Western Australian Level 5**	**Western Australian Level 6**	**New South Wales Stage 3**	**Victorian**
Design a user interface for a digital system (ACTDIP018) Design, modify and follow simple algorithms involving sequences of steps, branching, and iteration (repetition) ACTDIP019	Develop and communicate alternative solutions, and follow design ideas, using annotated diagrams, storyboards and appropriate technical terms (WATPPS29)	Design, modify, follow and represent both diagrammatically, and in written text, alternative solutions using a range of techniques, appropriate technical terms and technology (WATPPS35)	defines problems, and designs, modifies and follows algorithms to develop solutions (ST3-3DP-T) Design, modify and follow simple algorithms Extend sequences of steps to provide a series of possibilities through branching Develop solutions through trialling and refining using iterations (ACTDIP019)	Design a user interface for a digital system, generating and considering alternative design ideas (VCDTCD031) Design, modify and follow simple algorithms represented diagrammatically and in English, involving sequences of steps, branching, and iteration (VCDTCD032)
	Digital Implementation			
	Design solutions to a user interface for a digital system (ACTDIP018) Design, follow and represent diagrammatically, a simple sequence of steps (algorithm), involving branching (decisions) and iteration (repetition) (ACTDIP019)	Design, modify, follow and represent both diagrammatically, and in written text, simple algorithms (sequence of steps) involving branching (decisions) and iteration (repetition) (ACTDIP019)		

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Producing and Implementing			Producing and Implementing	Creating Digital Solutions
Australian	**Western Australian Level 5**	**Western Australian Level 6**	**New South Wales Stage 3**	**Victorian**
Implement digital solutions as simple visual programs involving branching, iteration (repetition), and user input (ACTDIP020)	Select, and apply, safe procedures when using components and equipment to make solutions (WATPPS30)	Select, and apply, safe procedures when using a variety of components and equipment to make (WATPPS36)	Implement digital solutions as visual programs involving branching, iteration and user input (ACTDIP020) Identify, organise and perform strategic roles within a group to solve a problem	Develop digital solutions as simple visual programs (VCDTCD033)
	Digital Implementation			
	Implement and use simple programming environments that include branching (decisions) and iteration (repetition) (ACTDIP020)	Implement and use simple visual programming environments that include branching (decisions), iteration (repetition) and user input (ACTDIP020)		

Evaluating			Testing and evaluating	Creating Digital Solutions
Australian	**Western Australian Level 5**	**Western Australian Level 6**	**New South Wales Stage 3**	**Victorian**
Explain how student solutions and existing information systems are sustainable and meet current and future local community needs (ACTDIP021)	Develop negotiated criteria to evaluate and justify design processes and solutions (WATPPS31)	Develop collaborative criteria to evaluate and justify design processes and solutions (WATPPS37)	Plans and uses materials, tools and equipment to develop solutions for a need or opportunity (ST3-2DP-T) Negotiate criteria for success, based on defined needs, sustainability and aesthetics Develop appropriate and fair processes to test a designed solution according to criteria Evaluate design ideas, processes and solutions according to criteria for success (ACTDEP027)	Explain how student-developed solutions and existing information systems meet current and future community and sustainability needs (VCDTC034)

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Evaluating			Testing and evaluating	Creating Digital Solutions
Australian	**Western Australian Level 5**	**Western Australian Level 6**	**New South Wales Stage 3**	**Victorian**
			Explain how students' solutions and existing information systems meet current and future local community needs (ACTDIP021)	

Collaborating and managing				Data and Information
Australian	**Western Australian Level 5**	**Western Australian Level 6**	**New South Wales Stage 3**	**Victorian**
Plan, create and communicate ideas and information, including collaboratively online, applying agreed ethical, social (ACTDIP022)	Work independently, or collaboratively when required, to plan, develop and communicate ideas and information for solutions (WATPPS32)	Work independently, or collaboratively when required, considering resources, to plan, develop and communicate ideas and information for solutions (WATPPS38)	work collaboratively to share, appraise and improve ideas to achieve design purposes	Plan, create and communicate ideas, information and online collaborative projects, applying agreed ethical, social and technical protocols (VCDTDI029)
	Digital Implementation			
	Create and communicate information, including online collaborative projects, using agreed social, ethical and technical protocols (codes of conduct) (ACTDIP022)	Manage the creation and communication of information, including online collaborative projects, using agreed social, ethical and technical protocols (ACTDIP022)		

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Achievement Standards

Australian	Western Australian Level 5	Western Australian Level 6	New South Wales Stage 3	Victorian
By the end of Year 6, students explain the fundamentals of digital system components (hardware, software and networks) and how digital systems are connected to form networks. They explain how digital systems use whole numbers as a basis for representing a variety of data types. 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 implement their digital solutions, including a visual program. They explain how information systems and their solutions meet needs and consider sustainability. Students manage the creation and communication of ideas and information in collaborative digital projects using validated data and agreed protocols.	At Standard, students identify components of digital systems and their basic functions that connect to form networks which transmit data. They represent data using code, as well as using software to collect, store and present data for a specific purpose. Students create design solutions for a user interface and design, follow and represent diagrammatically, a simple sequence of steps (algorithms), involving branching (decisions) and iteration (repetition), implementing and using simple programming. They create and communicate information for online collaborative projects, using agreed social, ethical and technical protocols (codes of conduct). In Digital Technologies, students define problem, identify available resources and create algorithms (sequenced steps) to assist in decision making for a given digital task. They develop and communicate alternative solutions, and use annotated diagrams, storyboards and appropriate technical terms when following design ideas. Students select and apply safe procedures when using components and equipment. They develop negotiated criteria to evaluate and justify design processes and solutions. Students work independently, or collaboratively, to plan, safely develop and communicate ideas and information.	At Standard, students outline interactions between components and basic functions within digital systems and how they transmit different types of data to form networks. They make a connection between whole numbers being used to represent data within a digital system. They use software to collect, sort, interpret, visually present and manipulate data for a range of purposes. Students use simple visual programming environments to design, modify, follow and represent both diagrammatically, and in written text, algorithms (sequence of steps), involving branching (decisions), iteration (repetition) and consider user input. Students manage, create and communicate information for online collaborative projects, using agreed social, ethical and technical protocols. In Digital Technologies, students identify available resources to design a solution for a given digital task, outlining problem-solving decisions, using algorithms (sequenced steps). Students develop alternative solutions by designing, modifying and following both diagrammatically and in written text, using a range of appropriate technical terms, technologies and techniques. They select and apply safe procedures when using a variety of components and equipment to make solutions. Students develop criteria collaboratively to evaluate and justify design processes and solutions. They work independently, or	By the end of Stage 3, students have developed an appreciation of the role of Science and Technology in local, national and global issues relevant to their lives and a sustainable future. They pose questions for investigation, predict likely outcomes, and demonstrate accuracy and honesty when collecting, recording and analysing data and information. They construct tables and graphs to organise data and are able to identify patterns, using evidence to compare with predictions, draw conclusions and develop explanations. Students develop criteria to evaluate success based on their intended outcome. They examine needs and opportunities for design projects, using research and existing solutions to inform their ideas. Students are able to reflect on their processes to identify risks and improve their design ideas, methods and findings. They communicate their ideas in tables, graphs, diagrams and multimodal texts, using digital technologies where applicable. Students collect, store and interpret different types of data and explain how digital systems connect to form networks that transmit data. They define problems, and design, modify and follow simple algorithms that involve branching, iteration and user input.	By the end of Level 6, 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 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 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.

Australian	Western Australian Level 5	Western Australian Level 6	New South Wales Stage 3	Victorian
		collaboratively, considering resources and safety to plan, develop and communicate ideas and information for solutions.	***Any achievement standards that does not relate directly to Digital Technology has been removed**	