Digital Technologies – 3 and 4_ Overview

Strand			Knowledge and understanding						Processes and production skills							
			Digital systems		Representation of data		Collecting, managing and analysing data		Creating digital solutions by:							
									Investigating and defining		Producing and implementing		Evaluating		Collaborating and managing	
Content Description			Identify and explore a range of digital systems with peripheral devices for different purposes, and transmit different types of data (ACTDIK007)		Recognise different types of data and explore how the same data can be represented in different ways (ACTDIK008)		Collect, access and present different types of data using simple software to create information and solve problems (ACTDIP009)		Define simple problems, and describe and follow a sequence of steps and decisions (algorithms) needed to solve them (ACTDIP010)		Implement simple digital solutions as visual programs with algorithms involving branching (decisions) and user input (ACTDIP011)		Explain how student solutions and existing information systems meet common personal, school or community needs (ACTDIP012)		Plan, create and communicate ideas and information independently and with others, applying agreed ethical and social protocols (ACTDIP013)	
Sequence of Lessons / Unit	**Approx. time rq'd**	**Year**	CD	Achievement standard #	CD	Achievement standard #	CD	Achievement standard #	CD	Achievement standard #	CD	Achievement standard #	CD	Achievement standard #	CD	Achievement standard #
Peripheral devices	5	3	☑	1	☐		☐		☐		☐		☐		☐	
Exploring input and output	7	4	☑	1	☐		☐		☑	3	☑	3	☐		☐	
Secret messages and codes	5	3	☐		☑	2	☐		☑	3	☑	3	☐		☐	
Use data to solve problems	7	4	☐		☐		☑	5	☐		☐		☑		☐	
Intro to programming	8	3	☐		☐		☐		☑	3	☑	3	☐		☐	
Programing project	12	4	☐		☐		☐		☑	3	☑	3	☑	4	☐	
Communicate ideas and information	5-7	3	☑	1	☑	2	☐		☐		☐		☑	6	☑	6
Apply protocols	7-8	4	☐		☐		☐		☐		☐		☐		☑	6

Years F-2 Achievement Standard	Years 3 and 4 Achievement Standard	Years 5 and 6 Achievement Standard
By the end of Year 2 • Students identify how common digital systems (hardware and software) are used to meet specific purposes. (1) • They use digital systems to represent simple patterns in data in different ways. (2) • Students design solutions to simple problems using a sequence of steps and decisions. (3) • They collect familiar data and display them to convey meaning. (4) • They create and organise ideas and information using information systems, and share information in safe online environments. (5)	By the end of Year 4 • Students describe how a range of digital systems (hardware and software) and their peripheral devices can be used for different purposes. (1) • They explain how the same data sets can be represented in different ways. (2) • Students define simple problems, design and implement digital solutions using algorithms that involve decision-making and user input. (3) • They explain how the solutions meet their purposes. (4) • They collect and manipulate different data when creating information and digital solutions. (5) • They safely use and manage information systems for identified needs using agreed protocols and describe how information systems are used. (6)	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. (1) • They explain how digital systems use whole numbers as a basis for representing a variety of data types. (2) • Students define problems in terms of data and functional requirements and design solutions by developing algorithms to address the problems. (3) • They incorporate decision-making, repetition and user interface design into their designs and implement their digital solutions, including a visual program. (4) • They explain how information systems and their solutions meet needs and consider sustainability. (5) • Students manage the creation and communication of ideas and information in collaborative digital projects using validated data and agreed protocols. (6)