**DIGITAL TECHNOLOGIES:**

**UNPACKING THE CONTENT DESCRIPTIONS**

PLEASE NOTE:
This pack does not contain all content descriptions for Level 3-4, but can be used as a guide to develop your own lesson plans

**Digital Technologies: Unpacking the Content Descriptions**

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| **Strand** | Digital Systems |  | **Sample activities** |
| **Content Description** | Explore a range of digital systems with peripheral devices for different purposes, and transmit different types of data | * introduce and discuss the term peripheral devices, identifying the difference between input and output devices
* creating a table of known peripheral devices, their uses and what data each transmits or receives through input and output
* discussing and identifying how different users have different needs and require different peripheral devices
* creating a table of how and where different types of data are stored, for example computer memory (hard drive), USB, server and cloud
* identifying different types of data (text, images, video, sounds) that can be transmitted by different peripheral devices
* selecting and using an appropriate peripheral device to perform a task and explaining the reasoning for selecting that device, for example a student explaining why they chose a digital camera to take a photo rather than using the camera on a tablet
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| **Related extract from Achievement Standard** | Students describe how a range of digital systems and their peripheral devices can be used for different purposes. |
| **Suggested focus** | Lessons may focus on:* purpose of a peripheral device, for example a digital camera or a printer
* peripheral devices performing input and output functions
* storing data on digital system components and peripheral devices
* transmitting different types of data to and from peripheral devices
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| **Strand** | **Creating Digital Solutions** |  | **Sample activities** |
| **Content Description** | Define simple problems, and describe and follow a sequence of steps and decisions involving branching and user input (algorithms) needed to solve them | * exploring examples of algorithms and step-by-step sequences
* creating a sequence of steps used to solve a problem using text, images or symbols
* giving another student a set of instructions involving some decisions (yes or no conditions) to follow
* defining algorithms in terms of input, processing and output
* describing decisions involving branching in an algorithm based on a condition (user input) and explain what happens if the condition is met or if the condition is not met
* writing algorithms and testing them to ensure they function as anticipated
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| **Related extract from Achievement Standard** | Students define simple problems, and design and develop digital solutions using algorithms that involve decision-making and user input. |
| **Suggested focus** | Lessons may focus on:* identifying simple problems and describing steps
* user interaction with algorithms
* creating simple algorithms as text
* creating simple algorithms representing them diagrammatically
* making decisions involving branching
* testing algorithms for accuracy
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| **Strand** | **Creating Digital Solutions** |  | **Sample activities** |
| **Content Description** | Develop simple solutions as visual programs | * introducing the class to Scratch (available on eduSTAR) or another visual programming language
* comparing similar blocks of code from different visual programming languages
* creating a program to move an object around the screen in response to user input
* creating a simple program to accept user input and display it as output to the user
* creating a simple program to create a response of true or false to a question
* creating a simple arcade game incorporating keyboard controls by using ‘if’ blocks
* creating a simple program to respond to a user clicking on sprites
* programming a robotic device to move around the classroom and respond appropriately to different situations, such as detecting an object
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| **Related extract from Achievement Standard** | Students define simple problems, and design and develop digital solutions using algorithms that involve decision-making and user input. |
| **Suggested focus** | Lessons may focus on:* introduction to visual programming languages and what they are
* creating blocks of instructions
* investigating user interfaces and why they are important
* explaining how programs make decisions following different paths based on decisions
* using a simple algorithm to create a program in a visual programming language
* using a visual programming language to program a simple robotic device that could respond to collisions or obstacles
* investigating decision making and user input in a visual programming language
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**Digital Technologies: Unpacking the Content Descriptions**

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| **Strand** | **Data and Information** |  | **Sample activities** |
| **Content Description** | Collect, access and present different types of data using simple software to create information and solve problems | * collecting and recording student data, for example student favourite colour, student eye colour, local car traffic, getting to school and rubbish free lunches
* sorting data, for example birthdays, game scores, spelling results
* conducting a class survey and recording results by converting numbers to fractions or decimals
* performing calculations with data involving adding, subtracting and multiplying
* using a calculator or a spreadsheet to convert a numeric result to a decimal or a percentage
* formatting tables to make data sets easier to read and interpret
* using different charts or graphs to present data in different ways
* using sensors to collect environmental data, for example temperature, light levels, noise in the classroom
* using a spreadsheet to create charts or graphs using data in tables
* analysing data to draw conclusions, for example the most common method for students in a class to get to school
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| **Related extract from Achievement Standard** | They collect and manipulate different data when creating information and digital solutions. |
| **Suggested focus** | Lessons may focus on:* looking at different data types and sources of data
* considering how information is presented for different audiences
* formatting data
* collecting, calculating and sorting data (including tables and lists)
* presenting data by creating charts or graphs

interpreting data and drawing conclusions to solve problems |