

Unit Overview 2024

Computing



	Autumn	Spring	Summer
1	<p style="text-align: center;"><u>Technology around us</u> Concepts: Digital Literacy, Information Technology Recognise technology in school and use it responsibly</p> <p style="text-align: center;"><u>Moving a robot</u> Concepts: Computer Science _Write short algorithms and programs for floor robots, and predict program outcomes.</p>	<p style="text-align: center;"><u>Digital writing</u> Concepts: Information Technology Digital literacy Use a computer to create and format text, before comparing to writing non-digitally.</p> <p style="text-align: center;"><u>Grouping data</u> Concepts: Information Technology Explore object labels, then use them to sort and group objects by properties.</p>	<p style="text-align: center;"><u>Digital painting</u> Concepts: Digital Literacy Choose appropriate tools in a program to create art, and make comparisons with working non-digitally.</p> <p style="text-align: center;"><u>Programming animations</u> Concepts: Computer Science Design and program the movement of a character on screen to tell stories.</p>
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2	<p style="text-align: center;"><u>Information technology around us</u> Concepts: Information Technology , Digital Literacy Identify IT and how its responsible use improves our world in school and beyond.</p> <p style="text-align: center;"><u>Robot algorithms</u> Concepts: Computer Science Create and debug programs, and use logical reasoning to make predictions.</p>	<p style="text-align: center;"><u>Digital photography</u> Concepts: Digital literacy, Information technology Capture and change digital photographs for different purposes.</p> <p style="text-align: center;"><u>Digital music</u> Concepts: Digital Literacy, Information technology Use a computer as a tool to explore rhythms and melodies, before creating a musical composition.</p>	<p style="text-align: center;"><u>Pictograms</u> Concepts: Information Technology Collect data in tally charts and use attributes to organise and present data on a computer.</p> <p style="text-align: center;"><u>Programming quizzes</u> Concepts: Computer Science Design algorithms and programs that use events to trigger sequences of code to make an interactive Quiz.</p>

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3	<p style="text-align: center;"><u>Connecting computers</u></p> <p>Concepts: Information Technology, Digital literacy Identify that digital devices have inputs, processes, and outputs, and know how devices can be connected to make networks.</p> <p style="text-align: center;"><u>Sequencing sounds</u></p> <p>Concepts: Computer Science Create sequences in a block-based programming language to make music.</p>	<p style="text-align: center;"><u>Stop-frame animation</u></p> <p>Concepts: Digital Literacy, Information Technology Capture and edit digital still images to produce a stop-frame animation that tells a story.</p> <p style="text-align: center;"><u>Desktop publishing</u></p> <p>Concepts: Digital Literacy, Information Technology Create documents by modifying text, images, and page layouts for a specified purpose.</p>	<p style="text-align: center;"><u>Branching databases</u></p> <p>Concepts: Information Technology Build and use branching databases to group objects using yes/no questions.</p> <p style="text-align: center;"><u>Events and actions in programs</u></p> <p>Concepts: Computer Science Write algorithms and programs that use a range of events to trigger sequences of actions.</p>
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4	<p style="text-align: center;"><u>The internet</u></p> <p>Concepts: Information Technology, Digital Literacy Recognising the internet as a network of networks including the WWW, and why we should evaluate online content.</p> <p style="text-align: center;"><u>Repetition in shapes</u></p> <p>Concepts: Computer Science Use a text-based programming language to explore count- controlled loops when drawing shapes.</p>	<p style="text-align: center;"><u>Audio production</u></p> <p>Concepts: Digital Literacy, Information Technology Capture and edit audio to produce a podcast, ensuring that copyright is considered.</p> <p style="text-align: center;"><u>Photo editing</u></p> <p>Concepts: Digital Literacy, Information Technology Manipulate digital images, and reflect on the impact of changes and whether the required purpose is fulfilled</p>	<p style="text-align: center;"><u>Repetition in games</u></p> <p>Concepts: Computer Science Use a block-based programming language to explore count- controlled and infinite loops when creating a game.</p> <p style="text-align: center;"><u>Data logging</u></p> <p>Concepts: Information Technology Recognise how and why data is collected over time, before using data loggers to carry out an investigation.</p>

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5	<p style="text-align: center;"><u>Systems and searching</u> Concepts: Information Technology Recognise IT systems in the world and how some can enable searching on the internet.</p> <p style="text-align: center;"><u>Selection in physical computing</u> Concepts: Digital Literacy, Computer Science Explore conditions and selection using a programmable microcontroller.</p>	<p style="text-align: center;"><u>Video production</u> Concepts: Information Technology, Digital Literacy Plan, capture, and edit video to produce a short film.</p> <p style="text-align: center;"><u>Introduction to vector graphics</u> Concepts: Computer Science, Information Technology, Digital Literacy Create images in a drawing program by using layers and groups of objects.</p>	<p style="text-align: center;"><u>Flat-file databases</u> Concepts: Computer Science, Information Technology, Digital Literacy Use a database to order data and create charts to answer questions.</p> <p style="text-align: center;"><u>Selection in quizzes</u> Concepts: Digital Literacy, Computer Science Explore selection in programming to design and code an interactive quiz.</p>
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6	<p style="text-align: center;"><u>Communication and collaboration</u> Concepts: Digital Literacy, Information Technology Explore how data is transferred by working collaboratively online.</p> <p style="text-align: center;"><u>Variables in games</u> Concepts: Computer Science, Information, Digital Literacy Explore variables when designing and coding a game.</p>	<p style="text-align: center;"><u>Webpage creation</u> Concepts: Computer Science, Information Technology, Digital Literacy Design and create webpages, considering copyright, aesthetics, and navigation.</p> <p style="text-align: center;"><u>Introduction to spreadsheets</u> Concepts: Digital Literacy, Information Technology Answer questions by using spreadsheets to organize and calculate data.</p>	<p style="text-align: center;"><u>3D modelling</u> Concepts: Computer Science, Information Technology, Digital Literacy Plan, develop, and evaluate 3D computer models of physical objects.</p> <p style="text-align: center;"><u>Sensing movement</u> Concepts: Computer Science, Information Technology, Digital Literacy Design and code a project that captures inputs from a physical device.</p>