

## Computing – Year 1/ 2 Cycle A

		Key Vocabulary
Autumn 1 Year 1 unit Technology around us	<p><b>Substantive Knowledge</b></p> <ul style="list-style-type: none"> <li>Technology is something that helps us.</li> <li>Computers have main parts such as a keyboard, mouse, and screen.</li> <li>A mouse and keyboard are used to control and input information into a computer.</li> <li>Computers can be used to create and save work.</li> </ul> <p><b>Disciplinary Skills</b></p> <ul style="list-style-type: none"> <li>Use a mouse to open programs, click, drag, and create.</li> <li>Type text using a keyboard (e.g. their name).</li> <li>Save work to a file.</li> <li>Switch on and log into a computer independently.</li> </ul>	<p><b>Core</b></p> <p>Technology Computer Mouse Keyboard Screen</p> <p><b>Essential</b></p> <p>Trackpad Typing Double-click</p> <p><b>Desirable</b></p> <p>Pointer Icon Cursor Login</p>
Autumn 2 Creating media – Digital painting (Year 1 unit)	<p><b>Substantive Knowledge</b></p> <ul style="list-style-type: none"> <li>Paint tools (freehand, shape, line) have different functions for creating digital images.</li> <li>Colours, shapes, and brush sizes can be adjusted to achieve different effects.</li> <li>Digital art can be created in the style of well-known artists and compared to traditional methods.</li> </ul> <p><b>Disciplinary Skills</b></p> <ul style="list-style-type: none"> <li>Use and name different tools to draw lines, shapes, and marks.</li> <li>Select appropriate tools and colours to match a desired style or effect.</li> <li>Create digital artwork independently and explain tool choices.</li> </ul>	<p><b>Core</b></p> <p>Paint program Tool Paintbrush Colour Pictures Computers</p> <p><b>Essential</b></p> <p>Erase Fill Shape tools Line tools Painting</p> <p><b>Desirable</b></p> <p>Fill tool Undo tool Brush style Brush size</p>
Spring 1	<p><b>Substantive Knowledge</b></p> <ul style="list-style-type: none"> <li>A command is an instruction a device can follow, such as <i>move</i> or <i>turn</i>.</li> <li>A program is a sequence of commands that controls a device.</li> </ul>	<p><b>Core</b></p> <p>Word processor Letters Type</p>

Programming A – Moving a robot (year 1 unit)	<ul style="list-style-type: none"> <li>Debugging means finding and fixing problems in a program, and there can be more than one solution to a problem.</li> </ul> <p><b>Disciplinary Skills</b></p> <ul style="list-style-type: none"> <li>Create and combine directional commands to build and test simple sequences.</li> <li>Predict, observe, and explain what a device will do when given specific commands.</li> <li>Plan, debug, and improve simple programs to achieve a goal.</li> </ul>	Space backspace <b>Essential</b> capital letters select undo redo <b>Desirable</b> toolbar bold italic underline font format compare
Spring 2 Grouping Data – year 1 unit	<p><b>Substantive Knowledge</b></p> <ul style="list-style-type: none"> <li>Objects can be grouped and labelled based on shared properties.</li> <li>Groups of objects can be <b>counted</b> and compared.</li> <li>Objects can be described using different features, such as colour, size, or shape.</li> </ul> <p><b>Disciplinary Skills</b></p> <ul style="list-style-type: none"> <li>Group and count objects based on shared properties.</li> <li>Compare and describe groups of objects using labels and numbers.</li> <li>Collect and record information to answer simple questions about objects.</li> </ul>	<b>Core</b> Object Label Group Colour Size Shape <b>Essential</b> Property Value Image Search Data set <b>Desirable</b> More Less Most Fewest Least The same
Summer 1	<p><b>Substantive Knowledge</b></p> <ul style="list-style-type: none"> <li>Commands control how sprites move and behave in a program.</li> <li>Sprites have their own instructions (algorithms) that tell them what to do.</li> </ul>	<b>Core</b> Bee-Bot Forwards Backwards Turn

<p>Programming B – Programming animations (Year 1 unit)</p>	<ul style="list-style-type: none"> <li>Changing values in commands can affect how sprites move or act.</li> </ul> <p><b>Disciplinary Skills</b></p> <ul style="list-style-type: none"> <li>Join commands (blocks) together to create a sequence and run a program.</li> <li>Design and plan how each sprite will move by creating an algorithm.</li> <li>Test and adjust programs by adding or changing commands for different sprites.</li> </ul>	<p>Go</p> <p><b>Essential</b></p> <p>Clear Commands Instructions Directions Left Right</p> <p><b>Desirable</b></p> <p>Route Plan Algorithm Program</p>
<p>Summer 2 - Creating media – Digital writing</p>	<p><b>Substantive Knowledge</b></p> <ul style="list-style-type: none"> <li>A word processor lets you write and edit text on a computer.</li> <li>Keyboards have different keys for letters, numbers, spaces, and deleting text.</li> <li>Text appearance can be changed using tools like bold, italic, underline, and font style.</li> </ul> <p><b>Disciplinary Skills</b></p> <ul style="list-style-type: none"> <li>Use a keyboard to enter and remove text accurately.</li> <li>Select and change text using tools in the toolbar.</li> <li>Explain and evaluate the choices made when editing text, including using Undo.</li> </ul>	<p><b>Core</b></p> <p>ScratchJr Command Sprite Program.</p> <p><b>Essential</b></p> <p>Block -. Joining Start Run Background Delete Reset</p> <p><b>Desirable</b></p> <p>Algorithm Predict Effect Instructions Design Compare Area</p>
<p>E-Safety 1 lesson a term Year 1 unit</p>	<p><b>Substantive knowledge</b></p> <ul style="list-style-type: none"> <li>To know that the internet is a network of devices connected to each other.</li> </ul>	<p><b>Core</b></p> <p>Internet Online safety Personal information Trusted adult</p>

<ul style="list-style-type: none"> <li>To know that people you do not know online are strangers and may not be who they say they are.</li> <li>To know how to stay safe online, including keeping personal information private and telling a trusted adult if you feel unsafe.</li> <li><b>Disciplinary Skills</b> To recognise devices that are connected to the internet and understand that using the internet connects us to other people.</li> <li>To know how to behave safely and respectfully online, including what to do if something worries or upsets them.</li> <li>To understand that the things we do online, including posting and sharing, can affect ourselves and others, and to begin thinking about balancing online and offline time.</li> </ul>	Stranger Website Sharing online
	<b>Essential</b> App Device Digital footprint Online activity Screen time technology
	<b>Desirable</b> Appropriate Responsible digital citizen Offline activity

### Computing Year 1/ 2 Cycle B

		Key Vocabulary
<b>Autumn 1</b> Information technology around us  Year 2 unit	<b>Substantive Knowledge</b> <ul style="list-style-type: none"> <li>Recognise what information technology (IT) is and where it is found</li> <li>Understand what IT is used for and why it helps us</li> <li>Know how to use IT safely and responsibly</li> </ul> <b>Disciplinary Skills</b> <ul style="list-style-type: none"> <li>Identify and sort examples of IT</li> <li>Describe and explain uses of IT</li> <li>Apply rules and make choices when using IT</li> </ul>	<b>Core</b> computer information technology (IT)
		<b>Essential</b> scanner/scan
		<b>Desirable</b> barcode
<b>Autumn 2</b> Digital photography  Year 2 unit	<b>Substantive Knowledge</b> <ul style="list-style-type: none"> <li>Know how digital devices capture photographs</li> <li>Know what makes a good photograph</li> <li>Know that digital photos can be changed</li> </ul> <b>Disciplinary Skills</b> <ul style="list-style-type: none"> <li>Capture and review digital photographs</li> <li>Experiment and improve photographs</li> <li>Edit and discuss digital images</li> </ul>	<b>Core</b> device camera photograph image digital
		<b>Essential</b> capture landscape portrait subject background

		light sources lighting focus format
<b>Spring 1</b>  Programming A – Robot algorithms Year 2 unit	<b>Substantive Knowledge</b> <ul style="list-style-type: none"> <li>• Know that instructions need to be in a sequence</li> <li>• Know that programs can include different elements</li> <li>• Know that programs can be tested and improved</li> </ul> <b>Disciplinary Skills</b> <ul style="list-style-type: none"> <li>• Create and follow sequences of instructions</li> <li>• Design and program algorithms</li> <li>• Test and debug programs</li> </ul>	<b>Desirable</b> compose framing flash editing filter
<b>Spring 2</b> Making music Year 2 unit	<b>Substantive Knowledge</b> <ul style="list-style-type: none"> <li>• Know that music can be represented digitally</li> <li>• Know that music can be created and changed using technology</li> <li>• Know that music can express ideas and feelings</li> </ul> <b>Disciplinary Skills</b> <ul style="list-style-type: none"> <li>• Experiment with sound using technology</li> <li>• Create and refine digital music</li> <li>• Review and respond to music</li> </ul>	<b>Core</b> instruction sequence clear program order prediction
		<b>Essential</b> algorithm design route mat artwork debugging
		<b>Desirable</b> unambiguous decomposition
		<b>Core</b> music beat rhythm pulse notes instrument quiet loud feelings / emotions
		<b>Essential</b> pattern

		pitch tempo create emotion edit open
<b>Summer 1</b> Programming quizzes Year 2 unit	<b>Substantive Knowledge</b> <ul style="list-style-type: none"> <li>• Know that programs are made of sequences of commands</li> <li>• Know that programs can be designed and adapted</li> <li>• Know that programs can be improved through testing</li> </ul> <b>Disciplinary Skills</b> <ul style="list-style-type: none"> <li>• Follow and predict sequences</li> <li>• Create programs from designs</li> <li>• Review, debug, and improve programs</li> </ul>	<b>Desirable</b> Rhythm Pattern
<b>Summer 2 –</b> Pictograms Year 2 unit	<b>Substantive Knowledge</b> Know that data can be collected and recorded Know that data can be represented in different formats Know that information should be shared carefully	<b>Core</b> sequence command program run start outcome predict blocks code
		<b>Essential</b> design actions sprite project modify change build match compare debug features evaluate
		<b>Desirable</b> algorithm decomposition
		<b>Core</b> tally chart count

<p>E-Safety 1 lesson a term Year 2 unit</p>	<p><b>Disciplinary Skills</b> Collect and record data Represent and interpret data Review and communicate findings</p>	<p>total more than / less than most / least attribute</p>
	<p><b>Substantive Knowledge</b></p> <ul style="list-style-type: none"> <li>To understand the difference between online and offline.</li> <li>To know what information is safe or unsafe to share online and how to create a strong password.</li> <li>To understand that not everything online is true and that we should ask permission before sharing information about others.</li> </ul>	<p><b>Essential</b> pictogram data compare organise represent collect answer questions</p>
	<p><b>Disciplinary Skills</b></p> <ul style="list-style-type: none"> <li>To know how to keep information safe online, including creating strong passwords and deciding what is safe to share.</li> <li>To know how to behave respectfully online and ask permission before sharing content about others.</li> <li>To know what to do if something online worries or upsets them, and how to check if information is true.</li> </ul>	<p><b>Desirable</b> computer program present information share safely draw conclusions</p>
		<p><b>Core</b> Online Offline Personal / private information Password Trusted adult Sharing online</p>
		<p><b>Essential</b> Consent / permission Pop-up Pressure Real / fake Reliable Source</p>
		<p><b>Desirable</b> accepting</p>