



## Computing Knowledge, Skills & Vocabulary

	Reception	Y1	Y2	Y3	Y4	Y5	Y6
<b>Computer skills</b>		<ul style="list-style-type: none"> <li>• Begin to switch a computer on</li> <li>• Begin to shut down a computer</li> <li>• Begin to use a mouse to move the cursor</li> <li>• Begin to launch applications</li> <li>• Begin to type text into a Microsoft Word document</li> <li>• Begin to open files and folders</li> <li>• Begin to save work</li> <li>• Begin to drag objects using a mouse</li> <li>• Begin to use the shift key</li> <li>• Begin to use the space bar</li> <li>• Begin to use the enter key</li> <li>• Begin to use the arrow keys</li> <li>• Begin to use the backspace</li> <li>• Begin to use the delete key</li> <li>• Begin to use the arrow keys</li> <li>• Begin to use redo</li> <li>• Begin to use undo</li> <li>• Begin to select text in a Microsoft Word document by clicking and dragging</li> <li>• Begin to change font</li> <li>• Begin to change size of text</li> </ul>	<ul style="list-style-type: none"> <li>• Switch a computer on</li> <li>• Shut down a computer</li> <li>• Use a mouse to move the cursor</li> <li>• Launch applications</li> <li>• Type text into a Microsoft Word document</li> <li>• Open files and folders</li> <li>• Save work</li> <li>• Drag objects using a mouse</li> <li>• Use the shift key</li> <li>• Use the space bar</li> <li>• Use the enter key</li> <li>• Use the arrow keys</li> <li>• Use the backspace</li> <li>• Use the delete key</li> <li>• Use the arrow keys</li> <li>• Use redo</li> <li>• Use undo</li> <li>• Select text in a Microsoft Word document by clicking and dragging</li> <li>• Change font</li> <li>• Change size of text</li> <li>• Change colour of text</li> </ul>	<ul style="list-style-type: none"> <li>• Use the snipping tool in Microsoft Word</li> <li>• Search for files using File Explorer</li> <li>• Take screenshots whilst using Microsoft Word.</li> <li>• Use the Change Case button.</li> <li>• Align text whilst using Microsoft Word.</li> <li>• Use the Show All Characters button in Microsoft Word</li> <li>• Insert bullets or numbering into a Microsoft Word document.</li> <li>• Add a text box to a Microsoft Word document.</li> <li>• Be able to wrap text in a Microsoft Word document</li> </ul>	<ul style="list-style-type: none"> <li>• Underline text in a Microsoft Word document</li> <li>• Change text to bold in a Microsoft Word document</li> <li>• Change text to italics Microsoft Word document</li> <li>• Insert an image into a Microsoft Word document</li> <li>• Format an image in a Microsoft Word document.</li> <li>• Use the spellcheck tool in a Microsoft Word document.</li> <li>• Insert a table into a Microsoft Word document.</li> <li>• Insert a hyperlink in a Microsoft Word document to an external website</li> </ul>		<ul style="list-style-type: none"> <li>• Explain the purpose and use of an Excel spreadsheet</li> <li>• Enter text and numbers into an Excel spreadsheet</li> <li>• Enter Formulae into an Excel Spreadsheet</li> <li>• Use the SUM function in an Excel spreadsheet</li> <li>• Use the AVERAGE function in an Excel Spreadsheet</li> <li>• Create graphs using data they have entered into an Excel spreadsheet</li> <li>• Create a spreadsheet in Excel for a specific purpose,</li> </ul>



## Computing Knowledge, Skills & Vocabulary

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		<ul style="list-style-type: none"> <li>Begin to change colour of text</li> </ul>					
<b>Computer art/DT</b>		<ul style="list-style-type: none"> <li>Select and use different brushes in Microsoft Paint.</li> <li>Select and use different colours in Microsoft Paint.</li> <li>Create shapes using Microsoft Paint.</li> <li>Use the Fill tool in Microsoft Paint</li> <li>Use undo in Microsoft Paint</li> <li>Use redo in Microsoft Paint</li> <li>Add text to a design in Microsoft Paint</li> </ul>	<ul style="list-style-type: none"> <li>Insert lines and shapes using Microsoft Paint</li> <li>Create paintings in the style of Mondrian and Picasso using Microsoft Paint</li> <li>Create darker and lighter shades of colour using Microsoft Paint</li> <li>Choose and use appropriate tools to create a final piece using Microsoft Paint</li> </ul>	<ul style="list-style-type: none"> <li>Draw objects to make a picture using Microsoft Paint</li> <li>Order objects to make a picture using Microsoft Paint</li> <li>Group objects to make a picture using Microsoft Paint</li> <li>Insert images into a Microsoft Publisher document</li> <li>Insert text boxes into a Microsoft Publisher document</li> <li>Resize text boxes in a Microsoft Publisher document</li> <li>Move text and images within a Microsoft Publisher document</li> </ul>	<ul style="list-style-type: none"> <li>Using Microsoft Publisher, children will learn how to create text boxes.</li> <li>Using Microsoft Publisher, children will learn how to insert photos off the internet and clipart.</li> <li>Resize and position objects in a Microsoft Publisher document</li> <li>Use the crop feature in a Microsoft Publisher document</li> <li>Edit text in a Microsoft Publisher document</li> <li>Layer text and images in a Microsoft Publisher document</li> </ul>	<ul style="list-style-type: none"> <li>Draw a 3D model of a building using SketchUp,</li> <li>Use inference points to draw lines and shapes whilst using SketchUp</li> <li>Use basic SketchUp tools: shape, push, pull, orbit, pan, zoom, erase and fill.</li> <li>Use the offset tool in Sketchup</li> </ul>	
<b>Programming and animation</b>		<ul style="list-style-type: none"> <li>Create simple algorithms In Scratch Junior</li> <li>Debug simple algorithms in Scratch Junior</li> <li>Use logical reasoning to predict how a program will behave in Scratch Junior.</li> <li>Direct a Bee-Bot to a toy using</li> </ul>	<ul style="list-style-type: none"> <li>Use Turtle Logo to create, test and debug algorithms.</li> <li>Using Turtle Logo to move forward and make quarter turns.</li> <li>Use command abbreviations for moving forwards, right and left in Turtle Logo</li> <li>Use the 'repeat' command in Turtle Logo</li> </ul>	<ul style="list-style-type: none"> <li>Create and debug algorithms to draw regular polygons using the repeat command in Turtle Logo</li> <li>Draw shapes with spaces between using penup and pendown in Turtle Logo</li> <li>Create and debug algorithms to draw shapes using Scratch</li> <li>Create and debug</li> </ul>	<ul style="list-style-type: none"> <li>Create and debug algorithms to create a quiz In Scratch.</li> <li>Switch the costume of a Sprite in Scratch.</li> <li>Switch backdrop in Scratch</li> <li>Change size and colour of a Sprite when answering a question in Scratch</li> <li>Use operator blocks to compare variables and values in Scratch</li> </ul>	<ul style="list-style-type: none"> <li>Create and debug algorithms to create a maze game in Scratch</li> <li>Draw and rename a backdrop using Scratch.</li> <li>Draw a Sprite in Scratch</li> <li>Create an algorithm to switch backdrops in Scratch</li> <li>Create a flowchart to show how to play a simple game (Snakes and Ladders)</li> <li>Insert symbols into a</li> </ul>	<ul style="list-style-type: none"> <li>Create and debug algorithms to create an animated story in Scratch</li> <li>Select appropriate sprites to fit within a scene and use costume changes for motion effect in Scratch</li> <li>Use the broadcast message and receive block to structure and control the timing of</li> </ul>



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		Scratch Junior <ul style="list-style-type: none"> <li>Program a Bee-Bot, one instruction at a time, using the arrow buttons.</li> </ul>	<ul style="list-style-type: none"> <li>Write a basic algorithm to make a Sprite move using Scratch</li> <li>Use the 'repeat' command in Scratch.</li> <li>Add sound using Scratch</li> </ul>	algorithms to draw regular polygons using Scratch	<ul style="list-style-type: none"> <li>Change the colour of the pen in Turtle Logo</li> <li>Include text using the label command in Turtle Logo</li> <li>Set the position of the turtle using coordinates in Turtle Logo (setpos setxy)</li> <li>Fill shapes in different colours using Turtle Logo</li> <li>Draw arcs of different sizes using Turtle Logo</li> </ul>	flowchart using Flowol <ul style="list-style-type: none"> <li>Identify conventional symbols, understanding the process of each stage in Flowol</li> <li>Modify symbols in a flowchart for effect using Flowol</li> <li>Create flowcharts for multiple inputs and outputs in Flowol</li> <li>Use decisions and subroutines in Flowol</li> <li>Program inputs and outputs in Flowol</li> </ul>	events in Scratch <ul style="list-style-type: none"> <li>Insert the show and hide block into an algorithm and locate the correct place to make a sprite appear visible in Scratch</li> <li>Open Kodu and navigate the programming environment using keyboard or mouse</li> <li>Add objects to a world in Kodu</li> <li>Program objects in Kodu using When and Do</li> <li>Plan and design the features of an original virtual environment.</li> <li>Describe the actions of a sequence of Kodu commands</li> <li>Use tools to change the size of the ground and raise or lower the landscape in Kodu</li> <li>Program a character to follow a path in Kodu</li> </ul>
<b>Internet research and communication</b>			<ul style="list-style-type: none"> <li>Use the internet safely and purposefully</li> <li>Search the internet using one word and make sense of the results</li> <li>Use "for kids" to return suitable results</li> <li>Follow links and</li> </ul>	<ul style="list-style-type: none"> <li>Identify what the Internet is and how it works, including how packets of data move along routes and the different connections that can be used.</li> <li>Use a search engine to find information and implement strategies to improve</li> </ul>	<ul style="list-style-type: none"> <li>Recognise different methods of online communication</li> <li>Identify features of email and demonstrate an understanding of spam emails and phishing</li> <li>Send emails using the CC feature</li> <li>Understand what an attachment is</li> </ul>	<ul style="list-style-type: none"> <li>Search for information using appropriate search engines and refine search terms using keywords.</li> <li>Refine searches using Boolean operators with some guidance.</li> <li>Check the reliability of information on web pages</li> </ul>	<ul style="list-style-type: none"> <li>Comment on the features of a good website</li> <li>Using Google Sites, create a sitemap and multi-page website.</li> <li>Using Google Sites, create homepages, pages and subpages</li> <li>Using Google Sites, link pages internally</li> </ul>



## Computing Knowledge, Skills & Vocabulary

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		<p>then return to the search results</p> <ul style="list-style-type: none"><li>• Use a range of search engines</li></ul>	<p>results when searching online, including using keywords.</p> <ul style="list-style-type: none"><li>• Know how to cross-reference using tabs and identify reliable links through looking for a secured padlock in the URL address bar.</li><li>• Know how to bookmark or favourite an appropriate web page.</li><li>• Use a search engine to copy and paste images across to a blank document</li></ul>	<ul style="list-style-type: none"><li>• Understand what a cloud storage service is and explain how the tools available are used to collaborate online</li><li>• Explain how to open and edit a shared document using online collaborative tools</li></ul>	<ul style="list-style-type: none"><li>• Explain how search engines work using key vocabulary, such as web indexing and web crawlers</li><li>• Understand that search results are ranked and explain how page ranking works</li><li>• Explain what search engine optimisation (SEO) is and suggest some SEO improvements for a web page.</li><li>• Comment on the features and layout of a webpage.</li><li>• Create a new webpage with a chosen layout using Google Sites</li><li>• Independently search for copyright free images to use in documents</li><li>• Add copyright free images to a Goole Sites webpage</li><li>• Using Google Sites, add hyperlinks across different webpages and to external websites.</li><li>• Using Google Sites. share a webpage to be viewed by anyone.</li></ul>	<p>and externally.</p> <ul style="list-style-type: none"><li>• Using Google Sites, preview a webpage before publishing.</li><li>• Publish a website using Google Sites</li></ul>



## Computing Knowledge, Skills & Vocabulary

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<b>Sound and recording</b>					<ul style="list-style-type: none"> <li>• Explain what is meant by animation.</li> <li>• Create a series of linked frames that can be played as a short animation in MovieSoup</li> <li>• Insert images to create a simple stop-motion animation short film clip in MovieSoup</li> <li>• Make slight changes to an image using onion skinning in MovieSoup</li> <li>• Use a time slider to find a specific point in a film clip to insert or edit an object.</li> </ul>	<ul style="list-style-type: none"> <li>• Record and play own voices using Audacity</li> <li>• Import an existing sound file into Audacity</li> <li>• Plan and record a radio jingle by combining a music file and voice recording in Audacity</li> <li>• Enhance sound recordings using software effects (echo) in Audacity</li> <li>• Listen to and improve a recording in Audacity by re-recording</li> <li>• Locate and download existing sound files to be imported into recording software</li> <li>• Combine two or more tracks to make a new, original recording</li> <li>• Plan and record appropriate audio content for a podcast</li> </ul>	<ul style="list-style-type: none"> <li>• Plan and write a script for an interview</li> <li>• Use an iPad to record digital video footage</li> <li>• Import video files into video editing software e.g. iMovie, Capcut</li> <li>• Speak clearly into the camera when being recorded</li> <li>• Frame an appropriate filming shot when interviewing</li> <li>• Arrange video files to form a complete film</li> <li>• Add titles and end credits using video editing software e.g. iMovie, Capcut</li> </ul>
<b>Presentation skills</b>			<ul style="list-style-type: none"> <li>• Using Microsoft PowerPoint, create a simple presentation.</li> <li>• Add new slides to PowerPoint presentation</li> <li>• Edit the slide layout using PowerPoint</li> <li>• Add images to a PowerPoint slide</li> <li>• Format images on a PowerPoint slide</li> <li>• Add text boxes and text to a PowerPoint</li> </ul>	<ul style="list-style-type: none"> <li>• Use a theme/design layout to create a PowerPoint presentation</li> <li>• Create slide transitions between slides in a PowerPoint presentation</li> <li>• Animate text/images in a PowerPoint presentation</li> <li>• Create a hyperlink to another slide in a PowerPoint</li> </ul>			



## Computing Knowledge, Skills & Vocabulary

	Reception	Y1	Y2	Y3	Y4	Y5	Y6
			slide <ul style="list-style-type: none"> <li>• Format text on a PowerPoint slide</li> <li>• Reorder slides in a PowerPoint presentation</li> <li>• Save work into a specified folder</li> <li>• Open previously saved work from a specified folder</li> </ul>	presentation <ul style="list-style-type: none"> <li>• Insert an audio files onto a slide in a PowerPoint presentation</li> <li>• Insert a video files into a PowerPoint presentation</li> </ul>			
<b>Technology and Networks</b>		<ul style="list-style-type: none"> <li>• Explain what a computer network is and how it works.</li> <li>• Identify devices that connect to a computer network.</li> </ul>	<ul style="list-style-type: none"> <li>• Identify examples of technology in different settings</li> <li>• Describe how they use technology and the benefits</li> <li>• Identify some ways in which technology has changed over time</li> <li>• Name at least one person who has made a significant contribution to technology: Bill Gates, Tim Berners Lee, Ada Lovelace, Alan Turing</li> </ul>		<ul style="list-style-type: none"> <li>• Identify different methods of online communication</li> <li>• Identify positives and negatives of communicating online.</li> <li>• Recognise features of email</li> <li>• Show understanding of spam emails and phishing.</li> <li>• Send emails using the CC feature.</li> <li>• Explain what an attachment is.</li> <li>• Understand what a cloud storage service is</li> <li>• Explain how to open and editing a shared document using online collaborative tools</li> </ul>		<ul style="list-style-type: none"> <li>• Describe what a computer network is and identify what devices connect to a network.</li> <li>• Identify three types of networks (LAN, MAN, WAN)</li> <li>• List protocols and explain what they are used for</li> <li>• Give an example IP address.</li> <li>• Explain the difference between the Internet and World Wide Web</li> <li>• Explain what cloud computing is and provide examples of what cloud computing is used for. Explain what streaming is. • Identify different types of malware and explain how these can affect a computer network.</li> </ul>



## Computing Knowledge, Skills & Vocabulary

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<b>E-safety</b>		<ul style="list-style-type: none"> <li>Describe rules to follow to keep safe online</li> <li>Search safely for images online</li> <li>Begin to explain how to keep personal information private</li> <li>Name and date own digital work</li> <li>Have an awareness of email</li> </ul>	<ul style="list-style-type: none"> <li>Know whether a website is appropriate for children</li> <li>Understand that information put online leaves a digital footprint</li> <li>Identify kind and unkind behaviour online</li> </ul>	<ul style="list-style-type: none"> <li>Know what cyberbullying is and how to deal with it</li> <li>Understand how websites use ads to promote products</li> <li>Understand the importance of secure passwords</li> <li>Know different ways in which children communicate online.</li> </ul>	<ul style="list-style-type: none"> <li>Explain how to be a responsible digital citizen</li> <li>Identify how a message can hurt someone's feelings</li> <li>Know how to respond to a hurtful message online</li> <li>Know how to create a safe online profile</li> <li>Understand the word plagiarism and how to avoid it</li> </ul>	<ul style="list-style-type: none"> <li>Able to create strong passwords</li> <li>How to build a strong digital citizenship community</li> <li>Identify spam emails and what to do with them</li> <li>Know how to cite a website</li> <li>Recognise photo alternations and how they can be altered digitally</li> <li>Apply online safety rules to real life scenarios</li> </ul>	<ul style="list-style-type: none"> <li>Identify similarities and differences between in-person and cyberbullying</li> <li>Identify the advantages and disadvantages of online relationships</li> <li>Identify secure websites by looking for privacy seals of approval</li> <li>Explain how online stereotypes can be influential</li> <li>Identify information which should never be shared online</li> </ul>
<b>Vocabulary</b>		<b>Computer</b> Typing <b>Shift</b> <b>Space</b> <b>Enter</b> <b>Editing</b> Backspace <b>Delete</b> <b>Arrow keys</b> <b>Undo</b> <b>Redo</b> <b>Text</b> <b>Mouse</b> Applications <b>Windows</b> <b>Open</b> <b>Save</b>  <b>Paint</b> Colours <b>Brushes</b> <b>Shapes</b> <b>Autofill</b>	<b>Microsoft Paint</b>  Coding Programming <b>Animation</b> <b>Algorithm</b> Debug <b>Repeat</b> <b>Command</b>  <b>Internet</b> Safety E-safety  <b>Presentation</b> <b>Folders</b> Search <b>Files</b> <b>Print</b> <b>Slide layout</b> Reordering <b>Slideshow</b>  <b>Artificial Intelligence</b> <b>Augmented Reality</b>	<b>Word processing</b> <b>Screenshots</b> <b>Change case</b> <b>Menu</b> <b>Align</b> Text <b>Bullets</b> <b>Numbering</b> <b>Text boxes</b> <b>Wrap text</b>  <b>Manipulate</b>  Programming Coding <b>Algorithm</b> Repeat command  Website <b>Reliable</b> <b>Unreliable</b> <b>Webpages</b> <b>Browser</b> Folder Communication	<b>Select</b> <b>Edit</b> <b>Insert</b> Image <b>Format</b> <b>Spellcheck</b> <b>Table</b>  <b>Test</b> Debug <b>Algorithms</b> Edit  <b>Publisher</b> <b>Text box</b> <b>Resize</b> <b>Crop</b> Edit text  <b>Stop-start animation</b> <b>Sequence</b> <b>Timing</b> <b>Frames</b> <b>Movie animation</b>	<b>3D modelling</b> <b>Design</b> Colour Building Tools  <b>Algorithm</b> Edit Debug Sound Manipulate Movement  <b>Flowol</b> <b>Flowcharts</b> <b>Input</b> <b>Output</b> <b>Reasoning loop</b>  <b>Google Site</b> Webpage <b>Hyperlink</b> <b>Search features</b> <b>Homepage</b>	<b>Spreadsheet</b> <b>Formula</b> <b>Calculations</b> <b>SUM</b> <b>AVERAGE</b>  <b>Algorithm</b> Code Scenes Animations  Debugging Keyboard control  <b>Sitemap</b> <b>Multi-page website</b> <b>Internal</b> <b>External</b>  Filming Editing Transitions Ordering Sound



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		Programming Bee-Bots Scratch Junior Algorithms Debug Coding  E-safety Online safety Search Reliable Personal information Email Communication Safe	Digital device Virtual Reality World Wide Web  Digital footprint Cyberbullying Keyword Source	Safe  Snipping tool PowerPoint Theme Slide transitions Hyperlinks Audio Videos  Secure Passwords Communicate Websites Email	Digital citizen Theft Cyberbullying Plagiarism	Recording Pitch Tone Voice control Editing  Passwords Digital citizenship Spam Photo alterations Digital enhancement	