

		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<b>Computer Science</b>	<b>Coding</b>	<ul style="list-style-type: none"> <li>• Knows the importance of instructions</li> <li>• Can follow and create simple instructions</li> <li>• Considers how the order of instructions affects the result</li> <li>• Can use directional keys and a unit of measure</li> <li>• Can create, extend and debug simple algorithms</li> <li>• Can use directional keys</li> <li>• Can read and use block codes</li> <li>• Can enable characters and objects to interact</li> <li>• Can add sound</li> <li>• Children can add a background to their work.</li> <li>• Children can move several steps at a time.</li> </ul>	<ul style="list-style-type: none"> <li>• Children can describe and explain an algorithm</li> <li>• Can use repeat and timer commands</li> <li>• Can test and debug a program repeatedly</li> <li>• Create a program using different objects</li> <li>• Create a program that tells a story</li> <li>• can code a program using a variety of objects, actions, events and outputs</li> </ul>	<ul style="list-style-type: none"> <li>• Children can create a sequential algorithm.</li> <li>• Children can use a flowchart design to create the code.</li> <li>• Children can explain how their program simulates a physical system,</li> <li>• Children can make use of the X and Y properties</li> <li>• Children can use a timer and if statement to introduce selection</li> <li>• Children can create and use variables within a program</li> <li>• Children can use the timer and repeat commands to repeat actions</li> <li>• Children can debug a program using repeated saves as part of the process.</li> <li>• Children can analyse and evaluate information relating to different situations</li> <li>• Children can present their findings as part of a discussion and give reasons for the choices Children understand the importance of simulations to replicate events that could occur in real and hypothetical situations</li> <li>• Children can effectively assess and evaluate their own and others' progress and achievements through a simulation.</li> </ul>	<ul style="list-style-type: none"> <li>• Children can use a sketch or storyboard to design a program</li> <li>• Can create and interpret the if/else command</li> <li>• Children can set and change variables</li> <li>• Children can make a character respond to keyboard commands.</li> <li>• Children can make timers and counting machines using variables</li> <li>• Children can use and create an algorithm when modelling a simulation</li> <li>• Children can use decomposition and abstraction</li> <li>• Children know the language of logo.</li> <li>• Children can 'read' Logo programs with several steps and predict the outcome accurately</li> <li>• Children can think about the Logo commands that they need two or more commands at a time before executing the code to check the result</li> <li>• Children begin to find the error in their code</li> <li>• Children understand the repeat command and can plan simple repeat structures before executing, creating complex patterns.</li> <li>• Children can manipulate instructions within Logo to create common shapes using repeat functions and edit instructions to produce shapes created in the most efficient way.</li> </ul>	<ul style="list-style-type: none"> <li>• Children can design and write a program that stimulates a physical system</li> <li>• Children can use text variables in coding</li> <li>• Children can combine the use of variables to achieve a desired effect.</li> <li>• Children can create loops.</li> <li>• Children can read code so that it can be adapted, personalised and improved.</li> <li>• Children can include buttons and objects that launch windows to websites and programs.</li> <li>• Children can code a program that informs others.</li> </ul>	<ul style="list-style-type: none"> <li>• Children can create and use a plan before coding to anticipate the variables required and debug when required.</li> <li>• Children can use functions and call functions</li> <li>• Children can code programs that take text input from the user and use this in the program.</li> <li>• Children can attribute variables to user input.</li> <li>• Children are aware of the need to code for all possibilities when using user input.</li> <li>• Children can use and create flow charts</li> <li>• Children can create a controlled simulation</li> <li>• Children can create a text based adventure</li> <li>• Children can turn a simple story with 2 or 3 levels of decision making into a logical</li> <li>• Children can create the pages for the component parts of the design and make good attempts to link these parts in a logical way.</li> <li>• Children can make a design map with a sequence of rooms including rooms in which the player needs to make a choice to complete the game and collect items.</li> <li>• Children can turn their own designs into code.</li> <li>• Children will debug as they code.</li> <li>• Children can use their design algorithm to debug their adventure story.</li> </ul>

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							<ul style="list-style-type: none"><li>• Children can identify errors in their code and specifically errors that could impact on the order of events and specific actions when buttons are pressed</li><li>• Children demonstrate how algorithms are useful for representing a solution to a problem.</li><li>• Children can identify the data and information they need to incorporate within their intended coded games.</li><li>• Children can extract and manipulate bits of data and strings of text for the purpose of their game functionality.</li><li>• Children can use their design to test whether their program has bugs and identify where in their code, their bugs occur.</li></ul>

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<b>Information Technology</b>	<b>Data Bases and Graphing</b>	<ul style="list-style-type: none"> <li>Knows data can be represented in picture format</li> <li>Can use a pictogram to record results.</li> </ul>	<ul style="list-style-type: none"> <li>Can construct and use a binary tree</li> <li>Can use a database to answer more complex questions</li> </ul>	<p>Children can create a branching database that accomplishes a given goal.</p> <p>Children can collect, analyse, evaluate and present their data and information</p> <p>Children can create a branching database and are able to successfully debug it to improve the quality of their digital content creation.</p> <p>Children will be able to create a branching database which includes suitable text, titles and gathering of appropriate images.</p> <p>Children analyse branching databases and can make further suggestions for improvement.</p> <p>Children enter data on a given number of fields and then present their data as a graph</p> <p>Children can select the most appropriate graph format to present their data.</p> <p>Children can set up a graph with a given number of fields, enter data and manipulate the presentation of it.</p> <p>Children can sort data using sort features for easier analysis</p>		<ul style="list-style-type: none"> <li>Children can search for information in a database</li> <li>Children can design and enter information accurately into a database and create questions.</li> <li>Children can add fields which are appropriate for the topic choice and present data using graphical tools, table views, and search for appropriate content to be displayed to answer a question</li> <li>Children can interrogate a database, including the different ways the data can be sorted and displayed –</li> <li>Children can use the 'statistics tool' to display multiple pieces of statistical information at the same time and produce reports on specific criterion</li> </ul>	
	<b>Spreadsheets</b>		<ul style="list-style-type: none"> <li>Can explain what rows and columns are</li> <li>Can enter data into a cell</li> <li>Can use the tools of open, save, edit, copy, paste, lock, move cell and speak in a spreadsheet</li> <li>Can add images to a spreadsheet and give them a value</li> </ul>	<ul style="list-style-type: none"> <li>Children can create a table of data on a spreadsheet.</li> <li>Children can use a spreadsheet program to automatically create charts and graphs from data.</li> <li>Children can use the 'more than', 'less than' and 'equals' tools to compare different numbers and help to</li> </ul>	<ul style="list-style-type: none"> <li>Children can design a graph to solve a mathematical problem</li> <li>Children will present, format and analyse their data and information in a variety of ways and use their spreadsheets to solve and check mathematical problems and concepts</li> <li>Children can use the number formatting tools</li> </ul>	<ul style="list-style-type: none"> <li>Children can program different variables to convert data from one format and present it in an alternative way</li> <li>Children can convert their data into a graphical format</li> <li>Children can use suitable layouts and content which achieve a specific goal.</li> </ul>	<ul style="list-style-type: none"> <li>Children can create a spreadsheet and collect data that answers a mathematical problem relating to probability</li> <li>Children can use a spreadsheet to model a real-life situation</li> <li>Children can create spreadsheets which contain visual elements such as suitable graphs which represent their data</li> </ul>

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			<ul style="list-style-type: none"> <li>• Can create a table and block graph</li> <li>• Can total rows and columns</li> <li>• Can use a spreadsheet to add amounts</li> </ul>	<p>work out solutions to calculations.</p> <ul style="list-style-type: none"> <li>• Children can use the 'spin' tool</li> <li>• Children can describe a cell location in a spreadsheet using the notation of a letter for the column followed by a number for the row. • Children can find specified locations in a spreadsheet.</li> </ul>	<ul style="list-style-type: none"> <li>• Children can add a formula to a cell to automatically make a calculation in that cell using the 'formula wizard'</li> <li>• Children can use spreadsheets to collate data and extract information from it to answer questions</li> </ul>	<ul style="list-style-type: none"> <li>• Children will use text variables to perform calculations, advanced mode and count tools will lead to the creation of purposeful spreadsheets.</li> <li>• Children can use formulae such as converting between measures and incorporating text variables to perform calculations. Children can use automatic graph creation from data sets, including appropriate labelling and graph type for data type</li> </ul>	<p>Children can select an appropriate graphical representation of their data from the available choice.</p> <ul style="list-style-type: none"> <li>• Children can create a computational model which successfully solves a given problem</li> <li>• Children can utilise advanced features such as the 'formula wizard' for efficiency and know the best layouts to use to support easier interrogations of data</li> </ul>
	<b>Writing and Presenting</b>	<ul style="list-style-type: none"> <li>• Can create pictures</li> <li>• Can add animation, text and sound to a picture</li> <li>• Can copy and paste</li> <li>• Can find the letter keys on the keyboard.</li> <li>• Can type their name using the keyboard, knowing how to add a capital letter.</li> <li>• Can write a simple sentence using a capital letter, full stop and spaces between words.</li> </ul>	<ul style="list-style-type: none"> <li>• children can create an image replicating an established style</li> <li>• Children can enhance a picture using tools, demonstrating their ability to manipulate a digital image</li> <li>• Children can combine and use multiple effects &amp; features to enhance their patterns, such as rotational effects, repeat style buttons and size slider</li> <li>• Children can combine more than one effect</li> <li>• Children can use a range of effects and functions to create their own work.</li> <li>• Children can present their work in different formats</li> <li>• Children can adapt their ideas for different audiences.</li> <li>• Children can add clip art, photos and tables to their work.</li> <li>• Know when and how to use the RETURN/ ENTER key. Use SHIFT &amp; CAPS LOCK to enter capital letters. Use DELETE &amp; BACKSPACE buttons to</li> </ul>	<p>Children have developed their touch-typing skills and understand how to touch type using the home, bottom and top row keys using both hands.</p>	<ul style="list-style-type: none"> <li>• children can alter font types, styles and sizes to suit an intended audience for digital content and incorporate, with ease, images from clipart banks and internet sources</li> <li>• children must make informed choices about the best way to present their information e.g. appropriate font and text formatting</li> <li>• Children understand animation frames.</li> <li>• Children can make a simple animation</li> <li>• Children can use the Onion Skin tool to create an animated image.</li> <li>• Children can use backgrounds and sounds to make more complex and imaginative animations.</li> <li>• Children can use stop/motion to create a site animation.</li> </ul>	<ul style="list-style-type: none"> <li>• Children can plan a Computer game using a template.</li> <li>• Children create games, children think about the component parts and design these as components in a theme rather than completely isolated parts.</li> <li>• Children can use aspects such as the movement of the characters and goal objects to increase playability.</li> <li>• Children can combine text, sound and graphic components within a game.</li> <li>• Children can apply animation features to objects to enhance their games</li> <li>• Children can use a given success criteria to review and analyse what makes a successful computer game Children can design appropriate settings and characters that maintain the user's</li> </ul>	<ul style="list-style-type: none"> <li>• Children can identify the key features of a blog page and a blog post</li> <li>• Children can create a blog for a specific purpose and can post comments on an existing class blog</li> <li>• Children recognise the approval process that their posts go through and demonstrate an awareness of the issues surrounding inappropriate posts and cyberbullying</li> <li>• Children plan, design and create a blog. Children can contribute to a blog, carefully considering their responses to blog posts</li> <li>• Children understand the implications of inappropriate use of the blog.</li> <li>• Children can plan, design and create various quizzes</li> <li>• children consider their audience, their ability and interests and make decisions based upon this.</li> <li>• Children choose appropriate software for</li> </ul>

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			correct text. Create sentences, SAVE & edit later.			<p>interest and engagement levels</p> <ul style="list-style-type: none"> <li>• Children will use the ready-made templates to make a model.</li> <li>• Children can evaluate, refine, edit and adapt models to suit a design brief .</li> <li>• Children can design a 3D model to fit certain criteria using a template. They can present their work using screenshots.</li> <li>• Children can evaluate their designs and make changes before printing.</li> <li>• Children can design and create concept maps that collect and present a range of linked ideas.</li> <li>• Children can create an online collaborative concept map, using features such as image and node layout choices appropriately.</li> <li>• Children can give constructive feedback sensitively and respond well to others' feedback.</li> </ul>	<p>the questions that they want to</p> <ul style="list-style-type: none"> <li>• Children give and respond to feedback; they edit and redesign their quizzes</li> <li>• Children can create purposeful online quizzes for an intended audience</li> <li>• Children combine text with images and audio to enhance their quizzes.</li> <li>• Children use features such as using the instruction window and time limit are applied aptly</li> </ul>

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<b>Digital Literacy</b>	<ul style="list-style-type: none"> <li>• Can use own login and password</li> <li>• Can log off safely</li> <li>• Can use the tools of save, new, print, open</li> <li>• Can add pictures to text.</li> <li>• Knows examples of technology outside of school.</li> </ul>	<ul style="list-style-type: none"> <li>• Can share work electronically</li> <li>• Can open and send simple online communications in the form of email.</li> <li>• Understand that information put online leaves a digital footprint or trail.</li> <li>• Can identify the steps taken to keep personal data and hardware secure.</li> <li>• Can perform a simple search online safely</li> </ul>	<ul style="list-style-type: none"> <li>• Children understand the importance of a secure password and not sharing this with anyone else and the negative implications of failure to keep passwords safe and secure.</li> <li>• Children can appraise the accuracy of the information on a website and make decisions on whether it is a trustworthy source of information</li> <li>• Children understand that it is not acceptable to use the work of others or post images of others without consent.</li> <li>• Children recognise the PEGI ratings and can give examples of why content is rated and how this protects them.</li> <li>• Children can express the need to tell a trusted adult if they are upset by anything online,</li> <li>• Children can use suitable keywords when trying to verify sources.</li> <li>• Children can list a range of ways the internet can be used to provide different methods of communication.</li> <li>• Children will be able to exchange email communications.</li> <li>• Children will be able to open and respond to an email, altering the size of the font, as well as the formatting of the text.</li> <li>• Children can select a person from their address book and</li> </ul>	<ul style="list-style-type: none"> <li>• Children can identify the most important online safety messages.</li> <li>• Children can explore key concepts relating to online safety using Children can create online safety resources.</li> <li>• Children can give some examples of things to look out for in an email to ensure that it from a valid source an is not a phishing scam email.</li> <li>• Children can explain what can be learnt by looking at the padlock details for a website Children can reflect upon positive and negative aspects of a digital footprint and can give examples of the care they would take when sharing online in relation to their and others' digital footprint</li> <li>• Children can give reasons for taking care when installing apps or software. They know what Malware is and the possible impact of computer viruses and can give recommendations for how best to ensure that they only install valid software</li> <li>• Children can give reasons for limiting screen time that include the effect on physical and mental health.</li> <li>• Children can explain how plagiarism is stealing, they are beginning to be able to identify the aspects of sharing that would be classed as plagiarism</li> <li>• Children know what actions for reporting cyberbullying or inappropriate content are.</li> <li>• Children know the difference between online</li> </ul>	<ul style="list-style-type: none"> <li>• Children demonstrate their responsibility to others as well as to themselves when communicating and sharing content online.</li> <li>• Children demonstrate a clear understanding of what the SMART rules are and how they should be applied to using technology safely and respectfully</li> <li>• , children know what sorts of inappropriate content should be reported.</li> <li>• Children can see both the positive and negative consequences of technological developments including altering images both in terms of impact upon themselves and impact upon others.</li> <li>• Children can explain why citations must be considered when using the work of others. They know that there is a convention for recording citations and can put this into practice.</li> <li>• Children will be able demonstrate that they understand what is meant by reliable and can build on their ability to identify reliable content.</li> <li>• Children recognise that it is not a good idea to rely upon only 1 source for information,</li> </ul>	<ul style="list-style-type: none"> <li>• Children know the benefits and risks to working collaboratively.</li> <li>• Children can navigating networks Children use the network to collaborate.</li> <li>• Children can use a variety of networked devices such as webcams, online tools, printers, and tablets in a connected way for their educational benefit.</li> <li>• Children can use search tools and routinely try to verify the validity and reliability of their sources.</li> <li>• Children use corroborating sources for information and enter keywords that help them to choose the best results.</li> <li>• Children demonstrate an understanding of their responsibility to others as well as to themselves when communicating and sharing content online.</li> <li>• Children can identify a variety of risks and benefits of technology Children have strategies to help them promote a positive online image of themselves in their digital footprint.</li> <li>• Children can identify location sharing as a risk to online and can relate this to work done on protecting their identifying private information.</li> <li>• Children can identify the padlock and https as aids to online safety.</li> <li>• Children have a clear understanding of terms such as Computer virus, Location sharing, phishing scams, spam email, Malware and Identity theft.</li> <li>• Children understand the impact of a positive and negative digital footprint and how to take control of</li> </ul>

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				<p>compose a suitable email to send them</p> <ul style="list-style-type: none"> <li>• Children can add attachments to an email they compose and use the CC functionality correctly Children will recognise obvious errors such as spelling due to the inbuilt wizard and will use their editing skills to address such errors.</li> <li>• Children understand the importance of staying safe when using email and have demonstrated knowledge of this.</li> <li>• Children can suggest why they need to seek permission before sharing photos.</li> </ul>	<p>saving and locally saving to a device.</p> <ul style="list-style-type: none"> <li>• Children can use search engines to provide helpful information to support their learning</li> <li>• Children can search for intended information with a degree of accuracy and thus know that key words can be more effective than sentences when searching.</li> <li>• Children understand online safety of spam email, malware and plagiarism .</li> <li>• Children understand their own active role in ensuring their own online safety and their screen time study and can reflect on their own activity.</li> <li>• Children can locate information from the internet via a search engine using effective techniques such as truncating a question into just key words or concise phrases.</li> <li>• Children can analyse the contents of a web page for obvious clues about the credibility of the information.</li> <li>• Children can name the different parts of a desktop computer and now their function.</li> <li>•</li> </ul>		<p>their own online virtual image.</p> <ul style="list-style-type: none"> <li>• Children can balance the positive impact of technology with the reasons for limiting screen time that include the effect on physical and mental health.</li> <li>• children include citations in their research work across subjects.</li> <li>• Children credit the artist when using images from the Internet and know how to explore the rights and permissions associated with an image online.</li> <li>• Children can explain the difference between copyright and privacy and are mindful of both aspects when working with images.</li> <li>• Children can discuss the use of instant messaging in social contexts, aware of the pros and cons of using such tools.</li> <li>• Children know the difference between the Internet and the World Wide Web and can show all the things they use the internet for.</li> <li>• Children know what a WAN and LAN are and can describe how they access the internet in school.</li> </ul>