

Year Group	Computer Science	Information Technology	Digital Literacy
EYFS	Robots (Beebots)	Mouse and Trackpad Skills. Keyboard Skills Sounds Photography.	Hardware Safety and Privacy.
Year 1	Unit 1.4 Lego Builders Unit 1.5 Maze Explorers Unit 1.7 Coding	Unit 1.3 Pictograms. (Covered through Science). Unit 1.6 Animated Story Books.	Unit 1.1 Online Safety
Year 2	Unit 2.1 Coding	Unit 2.4 Questioning Unit 2.6 Creating Pictures Unit 2.5 Effective Searching	Unit 2.2 Online Safety Unit 2.5 Effective Searching
Year 3	Unit 3.1 Coding Unit 4.8 Hardware Investigators	Unit 3.3 Spreadsheets Unit 3.9 Presenting	Unit 3.2 Online Safety
Year 4	Unit 4.1 Coding Unit 6.6 Networks	Unit 4.3 Spreadsheets Unit 4.6 Animation Unit 4.7 Effective Searching	Unit 4.2 Online Safety Unit 4.7 Effective Searching
Year 5	Unit 5.1 Coding	Unit 5.4 Databases Unit 5.8 Word Processing	Unit 5.2 Online Safety
Year 6	Unit 6.1 Coding	Unit 6.4 Blogging and Video Conferencing. Unit 6.9 Spreadsheets with Excel.	Unit 6.2 Online Safety

Predominant Area of Computing*		
	Computer Science	 Information Technology
		 Digital Literacy

*Most units will include aspects of all strands.

EYFS						
Robots	Mouse and Trackpad Skills	Keyboard Skills	Sounds	Photography	Hardware	Safety and Privacy
<p>To describe the route taken by a toy vehicle.</p> <p>To plan a route for a toy vehicle.</p> <p>To make a robot (BeeBot) move.</p>	<p>To hold a computer mouse with my finger on the correct button.</p> <p>To use the mouse to make the cursor move around the computer screen.</p> <p>To click the correct mouse button to play games on the computer.</p>	<p>To type numbers using a keyboard.</p> <p>To find some letters of the alphabet on a keyboard.</p> <p>To put a space between a digit or a letter in my typed work.</p>	<p>To make music using a computer.</p> <p>To use a device to record myself speaking and play back the sounds.</p>	<p>To talk about what photos show.</p> <p>To take photographs using a digital device.</p>	<p>To know why I need to take care with electronic devices and their plugs and wires.</p> <p>To use devices with care.</p> <p>To identify the parts of the computer and what they are for.</p>	<p>To explain how my work on the computer belongs to me and other peoples work belongs to them.</p> <p>To show that I understand how to be kind to others.</p> <p>To choose activities in my free time that help me to be healthy.</p>
Computer Science						
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	
<p>Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions.</p> <p>Create and debug simple programs.</p> <p>Use logical reasoning to predict the behaviour of simple programs.</p>		<p>Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.</p> <p>Use sequence, selection and repetition in programs; work with variables and various forms of input and output.</p> <p>Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.</p> <p>Understand computer networks including the internet; how they can provide multiple services, such as the World Wide Web.</p>				

Lego Builders, Maze Explorers and Coding,	Coding	Coding	Coding	Coding	Coding
<u>Substantive Knowledge</u>	<u>Substantive Knowledge</u>	<u>Substantive Knowledge</u>	<u>Substantive Knowledge</u>	<u>Substantive Knowledge</u>	<u>Substantive Knowledge</u>
<p>Know that algorithms are a series of steps or instructions to achieve a specific result.</p> <p>Know that devices respond to commands.</p> <p>Know the meaning of the term program.</p> <p>Know what debugging is.</p>	<p>Know that prediction, trial and error are important considerations when creating programs.</p> <p>To know what debugging is and know you can develop strategies to help find bugs.</p> <p>To know what logical reasoning is and how it can be used to predict what happens in simple programs.</p>	<p>To know the difference between an input and output.</p> <p>To know a range of input and output devices.</p> <p>To know what the terms sequence and repetition means in programs.</p> <p>To know what debugging is and how it can be used to achieve specific goals.</p>	<p>To know what the term selection means in computer programs.</p> <p>To know what a variable is in coding.</p> <p>To know how to control physical devices. (Makey Makey)</p> <p>To know planning and evaluation is a vital part of designing programs.</p>	<p>To know what simulation is.</p> <p>To know what decomposition and abstraction are in Computer Science.</p> <p>To begin to know what function is and how it works in code.</p> <p>To know what different variable types there are.</p>	<p>To know what a procedure is and why it is important in programs.</p> <p>To know that programming software can create simple and complex simulations.</p> <p>To know the meaning of logical reasoning.</p>
<u>Disciplinary Knowledge (Skills)</u>	<u>Disciplinary Knowledge (Skills)</u>	<u>Disciplinary Knowledge (Skills)</u>	<u>Disciplinary Knowledge (Skills)</u>	<u>Disciplinary Knowledge (Skills)</u>	<u>Disciplinary Knowledge (Skills)</u>
<p>To give and follow commands (one at a time).</p> <p>To plan, generate and follow a sequence of instructions (actual and on-screen) to make something happen.</p> <p>To make predictions and describe the effects when creating programs.</p>	<p>To complete a given task or problem to create a simple program.</p> <p>To identify errors in instructions.</p> <p>To use logical reasoning to predict what will happen in simple programs.</p>	<p>To work with various forms of input and output.</p> <p>To use logical reasoning to predict outputs.</p> <p>To write programs that accomplish specific goals.</p> <p>To use sequence and repetition in programs.</p> <p>To plan, test and evaluate programs that solve specific problems using a screen turtle.</p> <p>To design programs, showing skills need to plant</p>	<p>To create programs that implement algorithms to achieve specific goals.</p> <p>To use sequences of commands to control physical devices using outputs. (Makey Makey)</p> <p>To use logical reasoning to detect and correct errors in programs.</p> <p>To design programs showing appropriate planning and implementing skills.</p> <p>To use and debug programs to control physical devices.</p>	<p>To use repetition, selection and variables in programs.</p> <p>To use programming software (2Code) to create simulations.</p> <p>To design and create programs using decomposition.</p> <p>To design programs to complete specific tasks or goals.</p> <p>To use logical reasoning to develop systematic strategies that can be used</p>	<p>To plan and use selection, repetition and variables in programs.</p> <p>To follow their plans when creating programs.</p> <p>To use programming software (2Code) to create simulations.</p> <p>To use procedures in programs.</p> <p>To test and debug programs.</p>

		and implement a task that accomplish specific goals.	(Makey Makey)	to debug algorithms and programs.	
		Hardware Investigators.	Networks		
		<u>Substantive Knowledge</u>	<u>Substantive Knowledge</u>		
		<p>To know and name the different parts of a desktop computer.</p> <p>To know and name different parts of other devices i.e. laptops, ipads.</p>	<p>To know what LAN and WAN are.</p> <p>To know the difference between more than two network types such as LAN, WAN, WLAN, SAN.</p> <p>To know how we access the internet in school.</p> <p>To know the difference between the World Wide Web and the Internet.</p> <p>To know that the Internet provides many different services.</p>		
		<u>Disciplinary Knowledge (Skills)</u>	<u>Disciplinary Knowledge (Skills)</u>		
		To be able to recognise the functions of different parts of computers i.e. the LAN cable or HDMI cable that connects to the SMART board.	To be able to recognise parts of a Computer Network.		

Digital Literacy					
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<p>Recognise common uses of information technology beyond school.</p> <p>Use technology safely and respectfully, keeping personal information private, identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.</p>		<p>Use technology safely, respectfully and responsibly; recognise acceptable and unacceptable behaviour; identify a range of ways to report concerns about content and contact.</p> <p>Be discerning in evaluating digital content.</p> <p>Understand the opportunities networks offer for communication on collaboration.</p>			
Online Safety, Technology Outside of School	Online Safety	Online Safety	Online Safety	Online Safety	Online Safety
<u>Substantive Knowledge</u>	<u>Substantive Knowledge</u>	<u>Substantive Knowledge</u>	<u>Substantive Knowledge</u>	<u>Substantive Knowledge</u>	<u>Substantive Knowledge</u>
<p>To know what log in and log out means and why it is important.</p> <p>To know what usernames and passwords are.</p> <p>To know personal information should not be shared, either online or offline, without a trusted adult's permission.</p> <p>To know what technology means.</p> <p>To know different types of technology away from school i.e. traffic lights.</p>	<p>To know rules for keeping safe online.</p> <p>To know where to go for help when they have concerns about content they have seen on the internet or other technologies.</p> <p>To know where to go for help when they have concerns about contact on the internet or other technologies.</p> <p>To know what a digital footprint is.</p>	<p>To know that computer networks can be used for communication.</p> <p>To know the opportunities computer networks offer for communication.</p> <p>To know what makes a safe password and the consequence of giving them away.</p> <p>To know what a blog is and how it can be used to communicate with a wider audience.</p> <p>To know appropriate behaviour when participating or contributing to collaborative online projects for learning.</p>	<p>To know some of the ways children can protect themselves from online identity theft.</p> <p>To know that information put online by users could be used for identity theft.</p> <p>To know what malware and a computer virus is.</p> <p>To know that copying work of others and presenting it as their own is plagiarism.</p> <p>To know the consequences of plagiarism.</p> <p>To know some of the main positive and negative influences technology has on health and the Environment.</p>	<p>To know responsibilities they have for themselves and others regarding online behaviour.</p> <p>To know about image manipulation using software and the advantages or disadvantages of this when shared online.</p> <p>To know what is meant by appropriate and inappropriate text, photographs and videos.</p> <p>To know about the impact of sharing media such as photographs and videos online.</p>	<p>To know the benefits and risks of mobile devices broadcasting the location of the user/device, e.g., apps accessing location.</p> <p>To know what secure sites are.</p> <p>To know that secure sites will have industry standard seals of approval.</p> <p>To know the recommended daily screen time amount.</p> <p>To know that screen time can affect health.</p>

<u>Disciplinary Knowledge (Skills)</u>	<u>Disciplinary Knowledge (Skills)</u>	<u>Disciplinary Knowledge (Skills)</u>	<u>Disciplinary Knowledge (Skills)</u>	<u>Disciplinary Knowledge (Skills)</u>	<u>Disciplinary Knowledge (Skills)</u>
<p>To log in safely.</p> <p>To keep their password safe.</p> <p>To log out of a device.</p> <p>To recognise common uses of information technology beyond school.</p>	<p>To use technology respectfully.</p> <p>To use technology safely.</p> <p>To recognise situations involving content and contact that are not safe.</p> <p>To begin to think critically about what they would not want to be shared on the internet.</p>	<p>To create appropriate passwords.</p> <p>To keep passwords and personal data safe.</p> <p>To recognise acceptable and unacceptable behaviour.</p>	<p>To identify the main risks and benefits of installing software and applications.</p> <p>To begin to recognise a need to find a balance between on and off screen time.</p> <p>To be able to cite sources they have used.</p>	<p>To think critically about information they share online.</p> <p>To select keywords and search techniques to find relevant information to increase reliability.</p> <p>To maintain secure passwords.</p>	<p>To identify inappropriate and unacceptable behavior when analysing resources such as videos, text-based scenarios and electronic communications.</p> <p>To continue to develop the skills to identify risks involved with contact, content and their own conduct whilst online.</p> <p>To continue to use electronic communication and collaboration tools safely.</p>

Information Technology					
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Use technology purposefully to create, organise, store, manipulate and retrieve digital content.		Use search technologies effectively Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating data and information.			
To be taught throughout the year.		To be taught throughout the year.			
<u>Substantive Knowledge</u>	<u>Substantive Knowledge</u>	<u>Substantive Knowledge</u>	<u>Substantive Knowledge</u>	<u>Substantive Knowledge</u>	<u>Substantive Knowledge</u>
To know what save file means. To know what open file means	To know the importance of giving an appropriate name to files. To know files can be stored in folders. To know files can be retrieved and edited. To know the importance of organising and naming files appropriately.				
<u>Disciplinary Knowledge (Skills)</u>	<u>Disciplinary Knowledge (Skills)</u>	<u>Disciplinary Knowledge (Skills)</u>	<u>Disciplinary Knowledge (Skills)</u>	<u>Disciplinary Knowledge (Skills)</u>	<u>Disciplinary Knowledge (Skills)</u>
To develop correct use of a mouse, touch pad and the keyboard. To be able to save and retrieve work.	To continue develop correct use of a mouse, touch pad and the keyboard. To organise and name files appropriately and accurately.	To continue develop correct use of a mouse, touch pad and the keyboard. To organise and name files appropriately and accurately.	To continue develop correct use of a mouse, touch pad and the keyboard. To organise and name files appropriately and accurately.	To continue develop correct use of a mouse, touch pad and the keyboard. To organise and name files appropriately and accurately.	To continue develop correct use of a mouse, touch pad and the keyboard. To organise and name files appropriately and accurately.

Pictograms	Questioning,	Spreadsheets	Spreadsheets	Databases	Spreadsheets using Excel.
<u>Substantive Knowledge</u>	<u>Substantive Knowledge</u>	<u>Substantive Knowledge</u>	<u>Substantive Knowledge</u>	<u>Substantive Knowledge</u>	<u>Substantive Knowledge</u>
<p>To know that IT can be used to sort items.</p> <p>To know IT can be used to create graphs.</p>	<p>To begin to understand that data needs to be entered accurately to provide correct answers to questions.</p> <p>To know what a binary tree is and it requires a yes/no answer to a question.</p> <p>To know what databases are and they can provide answers to more complex questions.</p>	<p>To know the advantages of using IT to sort and classify data quickly.</p> <p>To know what a spreadsheet is.</p> <p>To know what columns and rows are.</p> <p>To know that spreadsheets can automatically create graphs and charts.</p> <p>To know that ICT can enable the creation of a variety of tables and graphs.</p>	<p>To know there are different types of data.</p> <p>To know that ICT can enable the creation of a variety of tables and graphs.</p>	<p>To know the need for accuracy when designing, entering and interrogating data and how this will affect the quality of information gained.</p> <p>To know what a database field is and can add field information correctly.</p> <p>To know how to word questions in a database so they can be effectively answered using a search of their database.</p>	<p>To know what Microsoft Excel is and how it links to spreadsheets.</p> <p>To understand how using formulae allows data to change and update automatically.</p> <p>To know what is meant by a delimiter.</p> <p>To know the ways to represent their data graphically and spreadsheets can make the process easier.</p> <p>To know how to interpret data from an excel spreadsheet.</p>
<u>Disciplinary Knowledge (Skills)</u>	<u>Disciplinary Knowledge (Skills)</u>	<u>Disciplinary Knowledge (Skills)</u>	<u>Disciplinary Knowledge (Skills)</u>	<u>Disciplinary Knowledge (Skills)</u>	<u>Disciplinary Knowledge (Skills)</u>
<p>To use simple graphing software (2Count) to produce pictograms.</p>	<p>To sort and classify a group of items by asking simple yes/no questions.</p> <p>To use a branching database program (2Question) to sort and identify items,</p> <p>To use base search tools in a prepared database to answer questions.</p>	<p>To begin to identify what data should be collected to answer a specific question, i.e. <i>What is the most popular subject?</i></p> <p>To create frequency diagrams (Bar, Pie charts) and graphs to answer questions.</p>	<p>To use data to answer straightforward questions.</p> <p>To be able to use the number formatting tools to format numbers.</p> <p>To add formulate to a cell to make an automatic calculation.</p> <p>To create a line graph to answer questions.</p>	<p>To use a database to answer straightforward questions by searching, matching and ordering the contents of a single field.</p> <p>To search a database in different ways to answer questions correctly.</p> <p>To enter data correctly into a database.</p> <p>To create their own database</p>	<p>To navigate around a Microsoft Excel spreadsheet.</p> <p>To use a excel spreadsheet to carry out basic calculations.</p> <p>To use excel to model a situation and solve problems.</p> <p>To know how to sort data in excel.</p> <p>To make a variety of charts using excel and sheets.</p>

Animated Story Books	Creating Pictures.	Presenting.	Animation.	Word Processing.	Blogging and Video Conferencing.
<u>Substantive Knowledge</u>	<u>Substantive Knowledge</u>	<u>Substantive Knowledge</u>	<u>Substantive Knowledge</u>	<u>Substantive Knowledge</u>	<u>Substantive Knowledge</u>
<p>To know text can be different colours, sizes, styles.</p> <p>To know that animation is a sequence of still images.</p> <p>To know sound can be recorded and stored on a computer.</p>	<p>To know the purpose and benefits of painting software tools such as 2Paint a Picture.</p> <p>To know what multimedia means.</p>	<p>To know what Microsoft Powerpoint is.</p> <p>To know what presentation is and how it can be used.</p> <p>To know how timings can help when presenting and know how to include them in presentations.</p>	<p>To know how animations are created by hand.</p> <p>To know how animations are created using computers.</p> <p>To know what onion skinning is when referring to animation.</p> <p>To know that animations can be enhanced using features in software such as background and sounds.</p>	<p>To know what a word processing tool is for.</p> <p>To understand that images, 3D representations, sounds and text can be subject to copyright and abide by copyright rules.</p> <p>To consider how design features meet the needs of the audience e.g. poster, news paper, menu, instructions.</p>	<p>To identify the purpose of writing a blog.</p> <p>To consider the effect upon an audience by changing the visual properties of the blog.</p> <p>To know the importance of commenting on blogs.</p> <p>To demonstrate an awareness of the issues surrounding inappropriate posts and cyberbullying.</p>
<u>Disciplinary Knowledge (Skills)</u>	<u>Disciplinary Knowledge (Skills)</u>	<u>Disciplinary Knowledge (Skills)</u>	<u>Disciplinary Knowledge (Skills)</u>	<u>Disciplinary Knowledge (Skills)</u>	<u>Disciplinary Knowledge (Skills)</u>
<p>To develop correct use of the keyboard.</p> <p>To add captions to graphics.</p> <p>To make simple changes to text.</p> <p>To listen to and select a sound from a bank of pre-recorded sounds.</p> <p>To use recorded sound files in software applications. (Purple Mash).</p>	<p>To refine the use of shape, line and colour to communicate an idea or artistic style/effect.</p> <p>To use various tools including brushes, pens, lines.</p>	<p>To add pages/slides, text and shapes to pages, and also format them.</p> <p>To add media such as images, audio and videos.</p> <p>To use effects and features such as animations and slide transitions.</p> <p>To use different font sizes, colours and effects to communicate meaning for a given audience.</p> <p>To use various layouts, formatting, graphics and illustrations.</p> <p>To use cut, copy and paste to</p>	<p>To use recorded sound files in other software applications (2Animate).</p> <p>To Storyboard, then use images to create a short animated sequence which communicates a specific idea.</p>	<p>To add and edit images to a word document.</p> <p>To change the look of text within a document.</p> <p>To add hyperlinks to an external website.</p> <p>To add a table to present information.</p> <p>To consider page layout include heading and columns.</p> <p>To develop consistency across a document - same style of font, colour, body text size, etc.</p>	<p>To create a blog or blog post with a specific purpose.</p> <p>To work collaboratively to plan a blog.</p> <p>To post comments and blog posts to an existing blog posts.</p>

		refine and re-order content.			
	Effective Searching		Effective Searching.		
	<u>Substantive Knowledge</u>		<u>Substantive Knowledge</u>		
	To know what the internet is.		To describe the process of finding specific information.		
	To know what internet searching is.		To know information found as a result of a search can vary in relevance.		
	To know the basic parts of a web search engine search page i.e. Google				
	To know where a web search result page is.				
	<u>Disciplinary Knowledge (Skills)</u>		<u>Disciplinary Knowledge (Skills)</u>		
	To locate specific, teacher defined, age appropriate websites through a favourites menu and /or by typing a website address (URL) into the address bar in a web browser. i.e. TT Rockstars.		To locate information on a search engine.		
	To talk about their use of technology and other ways of finding information, e.g. books, asking other people		To develop use of more advanced searching techniques, e.g., searching for a phrase using quotation marks to locate precise information.		
	To use key words to search a specific resource for information.		To choose the most appropriate search engine for a task, e.g., image search,		
			To use strategies to verify the accuracy and reliability of information, distinguishing between fact and opinion.		