

# Computing Progression of Skills

	PROGRAMME OF STUDY	SKILLS TAUGHT	
EYFS	<p>Area of EYFS curriculum:</p> <p>Understanding the World</p>	<p><b>Online Safety and Digital Literacy</b></p>	<ul style="list-style-type: none"> <li>Children recognise that a range of technologies are used in homes and in schools</li> <li>Know when something 'bad' could happen in an online safety child's book</li> <li>Identify who is using technology within stories</li> <li>Identify some technologies (computer, laptop, iPad, phone etc)</li> <li>Understand that the internet can be accessed all around the world</li> <li>Know different people that use the internet and that people rely on it more as time moves on</li> <li>Be able to find some letters on a keyboard</li> <li>Know that a 'mouse' moves a cursor on a screen</li> </ul>
		<p><b>Information Technology</b></p>	<ul style="list-style-type: none"> <li>Use walkie talkies to communicate with each other</li> <li>Use cameras to take photographs and then witness them on a large interactive whiteboard</li> <li>Are able to find the button to turn on a computer</li> <li>Understand what a username and password are</li> <li>Are able to listen to and remember simple steps/instructions in any task</li> <li>Are able to order instructions in a sequence that makes sense to the task</li> <li>Understand how the whiteboard is switched on (remote control) and explore some of its functions</li> <li>Link this knowledge to remote controls they might have at home (TV)</li> <li>Use tape recorders to record their voices (in line with any topic/focus) and be able to play them back.</li> </ul>
		<p><b>Computer Science</b></p>	<ul style="list-style-type: none"> <li>Know what an instruction is</li> <li>Understand that pushing a button will make a robot do something</li> <li>Identify examples of when they/people push a button to make 'something happen' e.g cashpoint machines, traffic lights and pelican crossings, electronic billboards electronic barriers (stations, etc) automated doors (shops and buildings) intercoms and entry phones on buildings.</li> <li>Understand the fundamental that it is a 'computer' making all of these things happen around us</li> </ul>
YEAR 1	<p>Key stage 1</p> <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions</li> <li>create and debug simple programs</li> <li>use logical reasoning to predict the behaviour of simple programs</li> <li>use technology purposefully to create, organise, store, manipulate and retrieve digital content</li> </ul>	<p><b>Online Safety and Digital Literacy</b></p>	<ul style="list-style-type: none"> <li>Know that the internet is accessed all over the World and know which devices are connected to the internet.</li> <li>Know that they should always ask a responsible adult if they want to use a device.</li> <li>Know that we must be kind to everyone, even when we can't see them (online)</li> </ul>
		<p><b>Information Technology</b></p>	<ul style="list-style-type: none"> <li>Know how to log onto a computer</li> <li>Know how to navigate around the screen with a mouse</li> <li>Know how to type single letters and short words using the space bar</li> <li>Know how to independently find and open an app from a home screen on a PC/laptop or Chrome Book</li> </ul>
		<p><b>Computer Science</b></p>	<ul style="list-style-type: none"> <li>Know which button on a BeeBot represents which action</li> <li>Know how to program a robot to follow simple sequence of instructions with 1-2 turns</li> <li>Know how to make simple predications about an algorithm and a program. <b>The Bee Bot will go....</b></li> <li>Identify at which point the route went 'wrong'</li> <li>With support, know how to change (debug) the program to improve the route</li> <li>Use the terms 'algorithm' and 'debug' with adult reminders and supported by more accessible synonyms (instructions, corrections etc.)</li> </ul>
YEAR 2	<ul style="list-style-type: none"> <li>recognise common uses of information technology beyond school</li> <li>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.</li> </ul>	<p><b>Online Safety and Digital Literacy</b></p>	<ul style="list-style-type: none"> <li>Know devices that enable direct communication between people through images and text.</li> <li>Know what personal information is and that they should never share this with anyone they don't know.</li> <li>Know that they should tell a trusted adult if they are upset or worried about anything on a device.</li> </ul>
		<p><b>Information Technology</b></p>	<ul style="list-style-type: none"> <li>With support (adult or whole class), know how to save and retrieve work</li> <li>Know how to type simple sentences and punctuate with full stops and capital letters</li> <li>Know how to use enter to start a new line</li> <li>Know how to copy and paste text into a document</li> <li>Know how to copy and paste images from a document</li> </ul>
		<p><b>Computer Science</b></p>	<ul style="list-style-type: none"> <li>Know how to program a robot to achieve set goal by sequencing up to 6 instructions.</li> <li>Begin to use block programming e.g. <b>Turtle, Logo and Scratch</b> to complete a simple program.</li> <li>Use the terms 'debug' and 'algorithm' without adult support</li> <li>Know how to debug more complex problems</li> </ul>

<b>YEAR 3</b>	<p><b>Key stage 2</b></p> <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>✓ design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts</li> <li>✓ use sequence, selection, and repetition in programs; work with variables and various forms of input and output</li> <li>✓ use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs</li> </ul>	<b>Online Safety and Digital Literacy</b>	<ul style="list-style-type: none"> <li>▪ Know that some people on the internet should not be trusted</li> <li>▪ Know that concerns about what they see on-line should be reported to a trusted adult</li> <li>▪ Use a simple password</li> <li>▪ Use a Search engine to find information given key words</li> <li>▪ Know which websites are useful and that we can't trust everything we read on the internet</li> <li>▪ Know how to log in and out of websites used at school</li> </ul>
		<b>Information Technology</b>	<ul style="list-style-type: none"> <li>▪ With adult support (modelling/help sheet), know how to save, retrieve and print work</li> <li>▪ Copy and paste images from the internet to a document</li> <li>▪ Know how to log in to computer system as themselves and find their documents (personal drive/Google Account)</li> <li>▪ Know how to open shared documents and pictures.</li> <li>▪ Know how to use software to create a simple brochure or poster. <a href="#">Publisher or Pages</a></li> <li>▪ Know how to sequence and add to slides to make a simple presentation <a href="#">Powerpoint, Pages, Keynote</a></li> <li>▪ Create a meaningful document that contains both pictures and text, exploring font sizes, colours and styles</li> </ul>
		<b>Computer Science</b>	<ul style="list-style-type: none"> <li>▪ Know how to use a block program to make a simple programme using sequencing and timing.</li> <li>▪ Use a program <a href="#">Logo or Scratch</a> to draw regular 2D shapes</li> <li>▪ Independently know how to debug basic mistakes</li> <li>▪ Begin to use conditionals – If I click here then this happens...</li> <li>▪ Identify their areas of strength and use these to help others</li> <li>▪ Identify their areas to develop and ask others for help</li> </ul>
<b>YEAR 4</b>	<ul style="list-style-type: none"> <li>✓ understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration</li> <li>✓ use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content</li> <li>✓ 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 and presenting data and information</li> <li>✓ use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.</li> </ul>	<b>Online Safety and Digital Literacy</b>	<ul style="list-style-type: none"> <li>▪ Know that pictures and text shared online can end up with strangers 'Digital Footprint'</li> <li>▪ Reliably know what to do if they are exposed to unpleasant materials on any device</li> <li>▪ Reliably uses a more complex password to access numerous websites/resources.</li> <li>▪ Know what the key words are to enter into a Search engine to find information they want and begin to refine and broaden searches accordingly.</li> </ul>
		<b>Information Technology</b>	<ul style="list-style-type: none"> <li>▪ With occasional adult support, know how to save a document in a shared folder and retrieve this to continue working on it.</li> <li>▪ Organise their documents effectively by creating 'new folders'.</li> <li>▪ Know how to change font size and style; include shapes and backgrounds</li> <li>▪ Use the Spellcheck function</li> <li>▪ Know how to use sequence to create an effective presentation or video <a href="#">Keynote, PowerPoint or iMovie</a>.</li> <li>▪ Know how to deliver a simple presentation to their peers</li> </ul>
		<b>Computer Science</b>	<ul style="list-style-type: none"> <li>▪ Know how to use a program to sequence, use conditionals and use a variety of inputs and outputs (<a href="#">Logo/Scratch</a>).</li> <li>▪ Be able to do all of the above independently</li> <li>▪ Know how to explain how their program works</li> <li>▪ Know how to modify their program</li> <li>▪ Know how to predict the effects of any changes</li> <li>▪ Know how to break sets of instructions into short steps to achieve goal. <a href="#">For instance drawing repeated squares to make a pattern,</a></li> </ul>
<b>YEAR 5</b>	<ul style="list-style-type: none"> <li>✓ use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.</li> </ul>	<b>Online Safety and Digital Literacy</b>	<ul style="list-style-type: none"> <li>▪ Know the risks posed to them by using Social Media, including understanding that people may not be who they say they are.</li> <li>▪ Know that it is irresponsible to share images of friends on-line without their permission.</li> <li>▪ Know how to report concerns on-line.</li> <li>▪ Effectively use a search engine to find multiple criteria using AND/OR to refine searches</li> <li>▪ Know how to compare information from different websites and know that some sites may show bias</li> </ul>
		<b>Information Technology</b>	<ul style="list-style-type: none"> <li>▪ Independently save, retrieve and print documents</li> <li>▪ Know how to share their work from their personal folder with peers in collaborative projects</li> <li>▪ Independently select the best program for any given task, justifying their choices</li> <li>▪ Using software know how to add data into a prepared spreadsheet to answer simple questions. <a href="#">Excel</a></li> <li>▪ Independently, prepare an effective presentation to show their learning to others which includes some elements of timing, sequence and interactivity with the audience. <a href="#">Keynote, PowerPoint, iMovie</a></li> </ul>
		<b>Computer Science</b>	<ul style="list-style-type: none"> <li>▪ Use customisation to change a working program, changing its effect e.g. <a href="#">backgrounds and sprite in Scratch</a></li> <li>▪ Uses loops to achieve goals (<a href="#">Scratch – shapes, letters</a>)</li> <li>▪ Uses variables, conditional sentences (when/then), external triggers and loops to achieve set goals (<a href="#">creating game in Scratch, an interactive slides in PowerPoint</a>)</li> <li>▪ Write written instructions for creating a program</li> <li>▪ Read and carry out a set of written instructions to create a program</li> </ul>
<b>YEAR 6</b>	<ul style="list-style-type: none"> <li>✓ use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.</li> </ul>	<b>Online Safety and Digital Literacy</b>	<ul style="list-style-type: none"> <li>▪ Know how to reduce the risks posed by using Social Media by managing their friends lists and privacy settings.</li> <li>▪ Know that it is illegal to post or view 'rude' images of children.</li> <li>▪ Know the permanency of their 'Digital Footprint'</li> <li>▪ Know that hacking or misusing someone else's account is illegal.</li> <li>▪ Know that search results can be manipulated by sponsorship and advertising.</li> <li>▪ Know how to validate information found through searches by checking more than one source.</li> <li>▪ Know that some news is 'fake news.'</li> </ul>
		<b>Information Technology</b>	<ul style="list-style-type: none"> <li>▪ Know how to use the main features of office software to produce suitable documents and presentations for different audiences. (<a href="#">Microsoft Office</a>)</li> <li>▪ Know how to edit a picture (positioning, size, borders, transparency, filters,).</li> <li>▪ Know how to create a simple formula in a spreadsheet to work out given mathematical tasks such as finding totals and the mean.</li> <li>▪ to create and sequence a video, add sound effects, transitions and title/subtitles.</li> </ul>

			<ul style="list-style-type: none"> <li>▪ Know how to use two or more programmes to create a final piece of work. (e.g., edit a picture before inserting into a document).</li> <li>▪ Know how to record their own audio to support presentations</li> </ul>
		<b>Computer Science</b>	<ul style="list-style-type: none"> <li>▪ Use conditional sentences (when/then) to program objects (<a href="#">Scratch</a>)</li> <li>▪ As above but use mathematical expressions when constructing conditionals e.g. trigger winning when (If loops &gt;5 then...)</li> <li>▪ Know how to explain what a program might do and accurately predict the effect of changes</li> </ul>