



Computing Skills progressions

St Philip’s Catholic Primary School		
Intent	Implementation	Impact
<p>At St Philip’s, our children will develop a deep understanding of technology and acquire key knowledge about what underpin it. This understanding will be applied to solve real-world problems and demonstrate critical thinking and creativity.</p> <p>The children at St Philip’s will understand how technology can be used effectively to communicate and collaborate with others which will support them to become informed digital citizens in society.</p>	<p>Children will develop fundamental knowledge of important aspects of computing, building on prior knowledge of key ideas and developing mastery by applying their learning in practical contexts to solve problems.</p> <p>The children will learn how different hardware and software can help them to learn and express their ideas, applying their knowledge to other areas of the curriculum.</p> <p>The children will design, create and test programs and physical systems to solve problems and express their creativity.</p> <p>They will collaborate and share their learning online, demonstrating an understanding of positive, safe and respectful behaviour online.</p>	<p>The children will become confident users of technology, understanding how digital tools can empower them to work more effectively. They will demonstrate confidence to select and combine applications to reach positive outcomes.</p> <p>Children will solve real life problems logically to find solutions using technology.</p> <p>They will be able to navigate confidently online, knowing the importance of finding and questioning information, share and collaborate using software and know how to protect themselves and others when using technology</p>

<p>Our curriculum drivers</p> <p>To be evidenced throughout the</p>	<p>An understanding of how to develop into global citizens in the modern world</p> <p>Develop effective learning relationships by working collaboratively with others and presenting ideas clearly</p> <p>Strong communication within and beyond our school community towards a common goal</p> <p>Demonstrate creativity within our work</p>
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Main strands of learning – National Curriculum

	Computer Science	Digital Literacy	Information Technology
Key Stage 1	<ul style="list-style-type: none"> Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions Create and debug simple programs Use logical reasoning to predict 	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> Use technology purposefully to create, organise, manipulate and retrieve digital content Recognise common uses of information technology beyond school
Key Stage 2	<ul style="list-style-type: none"> Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts Use sequence, selection, and repetition in programs; work with variables and various forms of input and output Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs 	<ul style="list-style-type: none"> Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact 	<ul style="list-style-type: none"> 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 Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content 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

Knowledge progressions per year group

Skills	At EYFS	At Y1	At Y2	At Y3	At Y4	At Y5	At Y6
	Computer Science						
<p>Know how to follow simple instructions</p> <p>Put pictorial instructions into sequential order</p> <p>Use Beebots and talk about their discoveries</p> <p>Use Beebots to estimate and test distances</p>	<p>Know that an algorithm is a sequence of steps for solving a problem</p> <p>Know that Robots and computers can be programmed</p> <p>Knowledge of Beebots' functions</p> <p>A computer or robot will follow instructions exactly</p> <p>Problems are called bugs</p> <p>Finding and fixing bugs is called debugging</p> <p>There may be different algorithms that solve the same problem</p>	<p>Know that in scratch, a stage is a background</p> <p>Know that in scratch, a sprite is something that can move or act</p> <p>Know that blocks are individual instructions and can be sequenced into scripts to program a sprite</p> <p>Know how to create and edit a sprite/background and create new costumes</p> <p>Know how to use control blocks, including when using the correct buttons to run a program and wait block</p>	<p>Know that a computer will run a program in sequence (step by step in order)</p> <p>Know that repetition can make algorithms more efficient</p> <p>That a chunk of code can be repeated a set number of times or forever</p> <p>Know how to use control blocks for repeat and forever in Scratch</p> <p>Know how to use motion blocks in Scratch</p> <p>Know how to create algorithms as visual plans</p>	<p>Know that selection allows an algorithm/program to run differently under different conditions</p> <p>Know that variables are data that can be held and altered in a program</p> <p>Know how to design an algorithm including selection</p> <p>Know how to use control blocks if, then else</p> <p>Know how to use variable blocks for assigning and changing variables in Scratch</p>	<p>Know that inputs are data going into the computer system</p> <p>Know how to use sensing blocks to read key presses</p> <p>e sensing blocks to register collision</p> <p>Know how to read Cartesian (x,y) coordinates and use x, y motion blocks</p>	<p>Recognise different kinds of input</p> <p>a microbit with Scratch</p> <p>Know how to add different extension blocks to Scratch</p> <p>Use Microbit blocks in Scratch</p> <p>Know how to work with Scratch's timer</p> <p>Use operator blocks to perform simple calculations with variables</p> <p>Know how to control and interact with physical systems</p> <p>Know how to Step through code and describe what is happening at each stage</p>	

			<p>Know how to use looks blocks, including <i>say</i> and <i>switch costume</i></p> <p>Know how to step through a script to look for bugs</p> <p>Can differentiate between an algorithm, code/program and running code</p> <p>Know that they can plan and create their own programs</p>	<p>Know how to step through code, checking working parts, to find where errors occur</p>	<p>Know how to use operator blocks for calculating and evaluating in Scratch</p> <p>Know how to read through code to self or peer to identify errors</p>	<p>of ways technology solves real life problems</p>
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Knowledge progressions per year group

Skills	At EYFS	At Y1	At Y2	At Y3	At Y4	At Y5	At Y6
Digital Literacy							
<p>Recognise that I can say 'no' to things that make me sad, upset or embarrassed</p> <p>I can recognise some ways in which the internet can be used to communicate and give examples of how I (might) use it</p> <p>I can describe ways that some people can be unkind online and give examples of how this can make others feel</p> <p>I can talk about how I can use the internet to find things out.</p> <p>I can identify devices I could use to access information on the internet.</p> <p>I can identify some simple examples of my personal information</p> <p>I can describe the people I can trust and can share this with; I can explain why I can trust them.</p>	<p>I Know what personal information is and what I should not reveal online</p> <p>Explain the importance of being kind online</p> <p>Know that there may be things online that make me sad, worried or uncomfortable</p> <p>Name different trusted adults and know when and how to speak to them</p> <p>I can give examples of rules to keep me safe with technology</p>	<p>I Know that we should respect people online in the same way we do in real life</p> <p>Know what constitutes positive and negative online communication</p> <p>I know how to get help if someone is being bullied on or offline</p> <p>I can explain how people's identity online can be different to their identity in real life</p> <p>I can give examples of how to get help if I feel uncomfortable online</p> <p>I can recognise that work created by me belongs to me and other people's work belongs to them</p> <p>I can recognise that content I find online may belong to other people</p>	<p>I can explain the term 'identity'.</p> <p>I can explain how I represent myself in different ways on line depending on what I'm doing</p> <p>I can describe ways people with similar interests can get together online</p> <p>I can explain the risks of communicating with others I don't know well online</p> <p>I can explain how feelings can be hurt by what is written online</p> <p>I can explain what it means to 'know' someone online and differences with real life</p> <p>I can explain how 'trusting' and 'knowing' people online is different</p> <p>I can give reasons why I should only share information with people I trust. I can explain that if I feel pressured I can ask an adult.</p> <p>I can explain why copying someone else's</p>	<p>I Recognise images may have been digitally altered</p> <p>I can describe methods of making people buy things online and recognise them.</p> <p>Know that information online may not be reliable</p> <p>I can analyse and differentiate between fact and opinion. I understand criteria that makes something fact.</p> <p>I can explain that some people online are 'bots'</p> <p>I can explain why lots of people sharing the same opinion does not make those opinions true</p> <p>Describe some of the communities in which I am involved and describe how I collaborate with others positively</p> <p>Identify online technologies were bullying might take place</p> <p>Describe ways people might be bullied</p>	<p>Understand the importance of strong passwords</p> <p>Know how to make an effective password</p> <p>I can explain how many free apps or services may read and share my private information</p> <p>I can explain how and why some apps have in-app purchases and explain why I should seek adult permission</p> <p>I understand the difference between misinformation and disinformation</p> <p>I can explain what is meant by being sceptical</p> <p>I can explain what is meant by a hoax</p> <p>I can explain why some information online may not be accurate, honest or legal</p>	<p>I can explain how I am developing an online reputation which will allow others to form an opinion of me</p> <p>I can describe some simple ways that help build a positive online reputation</p> <p>I can describe how to capture bullying content as evidence to share with others who can help me</p> <p>I can identify a range of ways to report concerns both in school and at home about online bullying</p> <p>Describe ways in which media shapes ideas about gender and explain why it's important to reject inappropriate messages</p> <p>I can describe issues online that might make me feel uncomfortable and give examples of how to get help</p> <p>I can explain why I should keep asking until I get the help I need</p>	

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Knowledge progressions per year group

Skills	At EYFS	At Y1	At Y2	At Y3	At Y4	At Y5	At Y6
Information Technology							
<p>Recognise computers at home and at school</p> <p>Type their name on a computer keyboard</p> <p>Interact with computers using touchscreens, mice and keyboards</p>	<p>I Explain what a computer is and common uses for computers</p> <p>Know computers can't think, but do follow instructions</p> <p>Know different hardware components of a computer (e.g. mouse, keyboard, monitor, webcam)</p> <p>Use a mouse, trackpad (including left click, right click, double click and drag) and keyboard (including use of shift, space, enter, cursor and delete keys)</p> <p>Log on to the school network and open programs</p> <p>Shutdown computer safely</p> <p>Know that a word processor can produce documents with text</p>	<p>I Know the layout of the keyboard</p> <p>Know how to change font, font size and colour in a word-processed document</p> <p>Know how to use bold, italics and underlining</p> <p>Know how to use columns in a document</p> <p>Know how to use the undo function</p> <p>Know how to save as, save and load files from a menu</p> <p>Know how to conduct an image search of the web</p> <p>Know how to download an image</p> <p>Know how to insert an image into a document</p> <p>Know how to highlight using the mouse</p> <p>I can Print a document</p>	<p>Know how to add text to a presentation</p> <p>Know how to change and manipulate fonts</p> <p>Know how to add text boxes</p> <p>Know how to add animation to images and text</p> <p>Know how to search for information and images</p> <p>Know how to copy and paste images from the web into a presentation</p>	<p>I Know that computers store and process data as 1s and 0s (binary)</p> <p>Know that digital data can be manipulated</p> <p>Use graphics software to edit images</p> <p>Transfer files between tablet and computer</p>	<p>Use spreadsheets:</p> <p>Understand the terms column, row and cell</p> <p>Know that cells can contain different kinds of data</p> <p>Know that spreadsheets can process lots of data quickly</p> <p>Know how to create and edit graphs</p> <p>Present data and use graphs</p> <p>Combine with word processor document/ presentation</p>	<p>Know that data can be processed to create meaningful information</p> <p>Know how to sort data</p> <p>Know how to filter data</p> <p>Know that cells can contain formulas</p> <p>Use formulas to manipulate data (e.g. +ing or xing data)</p> <p>Present data and information clearly for an audience (using e.g. presentation software)</p>	

Knowledge progressions per year group

Skills	At EYFS	At Y1	At Y2	At Y3	At Y4	At Y5	At Y6
Networks and Communication							
	<p>Recognise and talk about familiar apps websites and online services</p>	<p>Know that the internet connects computers all over the world</p> <p>Use the internet to communicate with people I know</p> <p>Know that the World Wide Web is made of many different pages</p> <p>Know how to access information using QR codes</p> <p>Know how to navigate with a browser using forward and back</p>	<p>Use keywords in search engines.</p> <p>Know how the internet allows people all over the world to communicate</p> <p>Recognise the different places they might interact with others online</p> <p>Know how to post to school blog or similar</p> <p>Know how to leave comments</p>	<p>Use search engines to find information online</p> <p>Know how to save files locally and onto a network and the differences between these</p>	<p>Understand how web results are ranked</p> <p>Recognise how networks enable efficient collaboration</p> <p>Know how to access Padlet</p> <p>Know how to combine images, video, text and hyperlinks in Padlet</p>	<p>Use video conferencing software to communicate</p>	<p>Recognise different forms of social media</p> <p>Use social media to promote projects or conduct appeals or initiatives</p> <p>Know how to use internet communications to promote a cause</p>

