

## Computing Scheme of Work Knowledge and Skills curriculum

<b>Class One:</b> Reception – follow EYFS curriculum Year 1	
Understand the use of algorithms (CS)	Can I understand what algorithms are? Can I understand that algorithms follow precise and clear instructions?
Organise, store, retrieve & manipulate data (IT)	Can I locate, open, use and save a file? Can I locate, open, use and close a programme or app on a range of digital devices?
Recognise uses of IT outside the classroom (DL)	Can I describe how digital technology is used outside school; in the home, at work and the community?
<b>'Implicit Skills'</b> These should be taught across a range of subjects, embedded into learning and across a range of digital devices. <ul style="list-style-type: none"><li>• Use of touch-screen devices (swipe, drop and drag, pinch and enlarge etc)</li><li>• Use of mouse and keyboard</li><li>• Identification of key buttons (space, return, delete, number lock etc)</li><li>• Basic word and excel skills</li></ul>	

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<p><b>Class Two:</b> Year 2 Year 3</p>	
<p>Write and test simple programs (CS) Use and apply logical reasoning to real-life tasks. (CS)</p> <p>Use a range of digital and wireless devices to create, organise and retrieve digital content (IT) Collect and present data appropriately (IT)</p> <p>Communicate online safely and respectfully (DL) Use the internet, apps and access online resources safely and appropriately (DL)</p>	<p>Can I create algorithms with precise and unambiguous instructions? Can I explain how some simple algorithms work by decomposing them into smaller parts? Can I debug simple programs? Can I detect and correct errors in simple algorithms?</p> <p>Can I enter simple data into spread-sheet and produce a graph? Can I select and use a range of software to create and collate data? Can I upload photographs to an appropriate folder or file and can I insert and manipulate images in a range of presentation programs? Can I select and use a variety of software on a range of digital platforms and devices to present data and information?</p> <p>Can I use technology respectfully and safely, keeping personal information private? Can I discuss and describe the programs and apps I like to use? Can I identify where to seek help over concerns about content or contact on all platforms of digital media? Can I evaluate online and digital content in a discerning way?</p>
<p><b>'Implicit Skills'</b>. These should be taught across a range of subjects, embedded into learning and across a range of digital devices.</p> <ul style="list-style-type: none"> <li>• Use of touch-screen devices (swipe, drop and drag, pinch and enlarge etc)</li> <li>• Use of mouse and keyboard Full use of key board short-cuts (ie CTRL C to copy/ CTRL V to paste etc)</li> <li>• Identification of key buttons (space, return, delete, number lock etc)</li> <li>• Basic word and excel skills; Fluency in a range of programs (word, excel, power-point etc); Folder and profile management; Manipulate and alter a range of elements into desktop publishing programs(jpg. png. sounds, digital photographs etc)</li> </ul> <p>All forms of safety on digital media should be considered: Online/ Media sites/ Chat rooms &amp; forums/ Youtube and content/ Digital devices (ipads, tablets, smartphones, cameras)/ Reporting systems (CEOP, Child-line, Police etc)</p> <p>Should consider all forms of digital programs and apps for:</p> <ul style="list-style-type: none"> <li>• Intended use, demographic and audience</li> <li>• Provenience of online repositories (ie can Wikipedia and other community-based 'factual' sites be trusted?)</li> <li>• Using a range of information sources to confirm facts (avoiding lazy googling)</li> </ul>	

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<p><b>Class Three</b> Year 4 Year 5 Year 6 Y4/5/6</p>	
<p>Design and write programs to achieve specific goals, including solving problems. (CS) Detect and correct errors in programs. (CS) Confidently use sequences, repetition, inputs, variables and outputs in programs (CS)</p> <p>Continue to collect and present data appropriately across an increasing number of programs (IT)</p> <p>Understand the workings and benefits of computer networks (DL) Appreciate how online search results are selected and ranked (DL) Be discerning in evaluating digital content and identify a range of ways to report concerns about contact and content (DL)</p>	<p>Can I compose and write simple programs that accomplish specific goals? Can I test, detect and correct errors in computing programs? Can I use confidently sequences and repetition in creating computing programs? Can I include inputs, variables and outputs in computer programs? Can I create and develop increasing sophisticated presentations across a range of software?</p> <p>Can I edit, improve and asses my presentations? Can I analyse the data I collect? Can I present my analysis appropriately to an audience? Can I evaluate the impact of my data presentations? Can I select different presentation programs and styles for different audiences?</p> <p>Can I understand computer networks and describe examples like the world wide web? Can I describe how internet searches are selected and ranked? Can I describe how to keep my internet research safe and reliable? Can I describe the benefits computer networks offer? Can I understand how advertising affects search results? Can I describe the features of the programs I use and discuss their usefulness?</p>
<p><b>'Implicit Skills'</b>. These should be taught across a range of subjects, embedded into learning and across a range of digital devices; These should now be embedded across all digital platforms, devices and programs.</p> <ul style="list-style-type: none"> <li>• 'Netiquette' rules; 'Netiquette' rules covering appropriate and inappropriate ways to comment on a range of social media</li> <li>• Fluent use of email; Accessing internet, email, online resources (dictionary, weather apps etc) and different apps and programs</li> <li>• Understanding of storing digital content including solid state (hard drives), school network, USB devices, memory cards and online storage (the cloud); All digital storage saving, opening, closing and naming of a wide variety of files.</li> <li>• Word, excel, power-point, short-cut and command keys</li> </ul> <p>Children given lots of opportunities to explore and discover technological tools and limitations of programming apps through play; Children given opportunities to apply logical reasoning to a range of non-digital tasks and develop their ability to make predictions; Children recognise how limitations in sequences leads to errors in program outcomes. Introduction to the school's server, drives and areas; Focus on accessibility and collaborative working.</p> <p>Children begin to be increasing aware and critical about how data gathered from their internet activities influences and affects search results, recommendations and advertising.</p> <p>Links should be clearly made with PSHEE so all children can empathise with others they connect with through the internet. All children should know how to limit personal information, how it can be accessed and viewed and how set controls in account settings etc across a range of programs.</p>	

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