



# Westfield Primary School

A high-quality computing education equips pupils to use computational thinking and creativity to understand and change the world. Computing has deep links with mathematics, science, and design and technology, and provides insights into both natural and artificial systems. The core of computing is computer science, in which pupils are taught the principles of information and computation, how digital systems work, and how to put this knowledge to use through programming. Building on this knowledge and understanding, pupils are equipped to use information technology to create programs, systems and a range of content. Computing also ensures that pupils become digitally literate - able to use, and express themselves and develop their ideas through, information and communication technology - at a level suitable for the future workplace and as active participants in a digital world.

	KS1	KS2
CS	<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> <p>Appreciate how [search] results are selected and ranked</p>
IT	<p>Use technology purposefully to create, organise, store, manipulate and retrieve digital content</p>	<p>Use search technologies effectively</p> <p>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</p>
DL	<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>Understand the opportunities [networks] offer for communication and collaboration</p> <p>Be discerning in evaluating digital content</p> <p>Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact</p>



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Programs Used	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	Paint Scratch Jr Bee Bots Scratch Microsoft Word Microsoft Excel			Scratch Microsoft Word Microsoft Excel Splice		Scratch Microsoft Word Microsoft Excel Splice Pivot Animator Kodu	
<b>Computer Science</b>	<ul style="list-style-type: none"> <li>Understand what an algorithm does.</li> <li>Consider how these are implemented on digital devices.</li> <li>Carry out simple programs using physical devices (Bee Bots) and debug them.</li> <li>Create sprites on Scratch, ensuring they are unique in appearance and movement.</li> <li>Understand that programs operate by responding to specific, unambiguous instructions.</li> <li>Use their reasoning skills to predict behaviour of simple programs.</li> <li>Have an understanding of the role of ICT in the wider world.</li> </ul>			<ul style="list-style-type: none"> <li>Design and write simple programs for purpose.</li> <li>Consider programming carefully and come up with simple debugging solutions.</li> <li>Explain simple errors in programs.</li> <li>Use sequencing effectively when creating algorithms.</li> <li>Add selection, simple variables and repetition to programs.</li> <li>Start to consider the implications of the internet and a 'network' of computers.</li> </ul>		<ul style="list-style-type: none"> <li>Effectively design, write and debug simple programs for a clear purpose.</li> <li>Use logical reasoning to locate and explain errors in programs.</li> <li>Control and simulate physical systems for purpose.</li> <li>Use sequence, selection and repetition within their programs.</li> <li>Work with variables effectively.</li> <li>Have a clear understanding of a computer 'network' and the implications of this.</li> </ul>	
<b>Digital Literacy</b>	<ul style="list-style-type: none"> <li>Understand there are different uses for the internet beyond school (social media, online games, in business) and use it to gain simple information.</li> <li>Know where to go for help and support online.</li> </ul>			<ul style="list-style-type: none"> <li>Understand the impact that the internet can have, both in a positive and negative way. Be confident to discuss this with others.</li> <li>Be able to explain the implications of content that</li> </ul>		<ul style="list-style-type: none"> <li>Be able to compare and contrast the positive and negative impact of the internet.</li> <li>Understand the difference between social contact online and offline. Be able to</li> </ul>	



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	<ul style="list-style-type: none"><li>• Understand the difference between a friendly and unfriendly interaction. Be able to apply this effectively to online interactions.</li><li>• Confidently discuss how to behave online, and the implications of not doing so.</li><li>• Understand the SMART rules of online safety.</li></ul>	<p>they share online, and where they can go for support with this. Know what procedures are in place to protect this content.</p> <ul style="list-style-type: none"><li>• Understand their roles as digital citizens in an online community, where they reflect on how they are responsible not only for themselves but for others, in order to create a safe and comfortable environment.</li><li>• Introduced to the concept of unfriendly content online and 'cyber bullying'.</li><li>• Understand the basics of online searching, including how to use effective keywords.</li><li>• Be aware of how to distinguish between different websites.</li><li>• Learn to conduct searches that provide them with the most helpful, reliable and relevant information.</li></ul>	<p>explain the differences in behaviours that may be displayed and the consequences of this.</p> <ul style="list-style-type: none"><li>• Be able to explain the implications of content that they share online and their digital footprint, and where they can go for support with this. Know what procedures are in place to protect this content. Be clear on the permanency of this.</li><li>• Understand their roles as digital citizens in an online community, where they reflect on how they are responsible not only for themselves but for others, in order to create a safe and comfortable environment.</li><li>• Understand what it means to be a good digital citizen as they interact with others online by understanding how to prevent and respond to cyberbullying.</li><li>• Learn the 'do's and don'ts' of copying and pasting information to avoid plagiarism.</li><li>• Learn how to avoid plagiarism by putting information in their own words, putting excerpted</li></ul>
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			information into quotes, and providing citations.
	<p><b>Digital Publishing:</b> Begin using technology to share information through typing. Know how to use paint with different colours and brushes to create an image.</p> <p><b>Presentations:</b> Be able to alter font, change colour and insert images to present information in a document. Be able to explain why they have made these choices. Type using two hands with increasing accuracy.</p> <p><b>Graphics:</b> Understand how to select and insert an appropriate image into a document.</p> <p><b>Animations:</b> Begin to use simple programs to create animations.</p> <p><b>Sound and video:</b> Understand how to take and record simple images and audio recordings.</p> <p><b>Working with data:</b> Be able to use technology effectively to support working with data.</p> <p><b>Computer Literacy:</b> Manage to start up and shut down a laptop, computer or iPad.</p>	<p><b>Digital Publishing:</b> Learn how to use software to create a poster, article or brochure.</p> <p><b>Presentations:</b> Be able to write and deliver a presentation using relevant information.</p> <p><b>Graphics:</b> Learn how to take, adapt or create images to enhance or further develop their work.</p> <p><b>Animations:</b> Learn how to develop a storyboard and then create a simple animation.</p> <p><b>Sound and video:</b> Record and edit media to create a short sequence.</p> <p><b>Working with data:</b> Learn to search, sort and graph information.</p>	<p><b>Digital Publishing:</b> Learn how to use software to create an e-book, brochure or poster on a given subject, incorporating a range of media.</p> <p><b>Presentations:</b> Learn to write and deliver a presentation, incorporating a range of media.</p> <p><b>Graphics:</b> Learn how to take, adapt or create images to enhance or further develop their work and incorporate it in a wider project.</p> <p><b>Animations:</b> Learn how to develop a storyboard and then create a simple animation, extending the process by editing the final product using video editing software.</p> <p><b>Sound and video:</b> Record and edit media to create a short sequence, extending the process by editing the final product using video editing software.</p> <p><b>Working with data:</b> Learn to search, sort and graph information.</p>