

**Westfield Primary School**

**Progression of Knowledge and Skills for Computing**

**KNOWLEDGE**

	EYFS	KS1		KS2			
		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<b>Digital Literacy</b>	The children learn:	The children learn:	The children learn:	The children learn:	The children learn:	The children learn:	The children learn:
Online Safety	<p>the Internet can be used to communicate with others.</p> <p>simple online safety rules.</p> <p>people create online content such as video and websites</p>	<p>how to access and search the web.</p> <p>to identify people they can trust and who they can ask for help when using the internet.</p> <p>to send a digital message.</p> <p>how they should behave and interact with others in the online world.</p> <p>why it is very important not to over share, share things that are personal or may</p>	<p>about safe and unsuitable sites/apps. e.g. PEGI rating.</p> <p>to talk to a trusted adult before sharing personal information online and using strong passwords.</p> <p>that the characters and people they interact with may be computer generated / including games.</p> <p>the differences between the Internet and the</p>	<p>the SMART rules about using the internet safely and responsibly.</p> <p>what personal information is and what they shouldn't be sharing.</p> <p>they should pause before posting and consider the potential consequences.</p> <p>who they should seek help from about online concerns.</p> <p>the correct and sensible choice</p>	<p>the potential risks and ways they can protect themselves and friends from harm online.</p> <p>the safety features of websites and apps. e.g. block or report.</p> <p>they should report concerns to a trusted adult.</p> <p>the Internet is a great place to develop rewarding relationships.</p> <p>not to reveal private</p>	<p>to demonstrate and explain the importance of communicating kindly and respectfully.</p> <p>about the negative online behaviours such as bullying, trolling, grieving and harassment.</p> <p>about empathy and the effects of online bullying.</p> <p>anything they post online can be seen, re-shared, re-used and may have a negative effect on others. about</p>	<p>the advice they should/would give friends about making good choices online.</p> <p>the consequences of making poor online choices. E.g. Online bullying, inappropriate comments (racially or sexually orientated), uploading inappropriate material (adult / illegal / antisocial ), accessing inappropriate sites (anti-social or illegal</p>

		<p>hurt other people.</p> <p>the ways that some people can be unkind online.</p> <p>about following sensible online rules.</p> <p>safe behaviours in their day to day world such as not talking to or meeting strangers and how this applies in the online world.</p> <p>what a username and password is and that they must keep them private.</p> <p>that online content such as video, images, websites and games are</p>	<p>physical world.</p> <p>sending a message and why it is important to communicate in a polite manner.</p> <p>that login details and passwords should only be shared with trusted adults.</p> <p>that copyright is something that prevents people stealing other people's work (content).</p> <p>what personal information is and that they need to talk to a trusted adult before sharing online.</p> <p>how some information may be inaccurate or untrue.</p>	<p>when presented with hypothetical scenarios.</p> <p>how to send and reply to online messages, such as email, respectfully and understand the difference between online and face-to-face.</p> <p>how to use the safety features of websites as well as reporting concerns to an adult they trust.</p> <p>what online bullying/ cyberbullying is and some of the forms it can take.</p> <p>how to report any concerns and who they consider a trusted adult.</p>	<p>information to a person they know only online. that friends/followers profiles may not reflect the truth about their real lives.</p> <p>the term 'digital footprint' and that the information they put online leaves a digital footprint or "trail" which can be positive and negative.</p> <p>to search for their own name and usernames in Google to test their digital footprint.</p> <p>how they should act appropriately &amp; respectfully online.</p> <p>how to deal with</p>	<p>the 'Digital 5 a Day' plan and that they need to have a balanced approach to their use of technology.</p> <p>what makes a secure username and password.</p> <p>why people set up fake accounts or copy others identities.</p> <p>what an online identity or internet persona is, e.g. social identity in online communities and websites (Facebook, Instagram, YouTube etc) including photos and posts.</p> <p>how to avoid being tricked by</p>	<p>behaviour / adult content) and breaching copyright laws.</p> <p>the way men and women can be stereotyped in movies and TV.</p> <p>when to seek help from a trusted adult and not to try and deal with online situations on their own.</p> <p>how to block and report inappropriate comments or behaviour online.</p> <p>how to maintain healthy positive relationships with others while online.</p> <p>behaviours and strategies to</p>
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		<p>created and shared by people. that to use other peoples work without asking or giving credit is wrong</p>	<p>to independently use a search engine, navigate a website, use favourites, bookmarks or typing the URL.</p> <p>that you can be connected to many people in your life (real life and online).</p> <p>to ensure a trusted adult is aware of who they are interacting with online.</p> <p>to explain some of the potential risks when posting something to the internet.</p> <p>that once something is posted others can</p>	<p>they need to have a balanced approach to their use of technology. to make good choices about how long they spend online.</p> <p>to recognise websites and games appropriate for their age. E.g. PEGI rating.</p> <p>online accounts need to be signed in to and why passwords should never be shared.</p> <p>what makes a secure password and why they are important.</p> <p>how to use a password security checking tool.</p>	<p>online bullying.</p> <p>how photos can be altered digitally and the creative upsides of photo alteration, as well as its power to distort perceptions of beauty and health.</p> <p>why copyright laws exist and presenting others work as one's own is called plagiarism.</p> <p>to use a copyright free image gallery, or they can change the search criteria.</p> <p>the positive and negative effects technology may have on their health.</p>	<p>scammers online. E.g. Phishing emails.</p> <p>The child can explain why an app may be free but have in-app purchasing and what that is.</p>	<p>prevent and stop online bullying.</p> <p>The child knows and can list the websites and agencies they can contact in case they need help.</p> <p>what steps they can take to create a 'positive online image' including defining acceptable and unacceptable online behaviour and the benefits this will have to them now and in the future.</p>
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			read the post and share it.	what represents an online identity E.g. images, username, information shared and digital footprint.	why they need to ask a trusted adult before downloading files and games from the Internet. E.g. virus.		
				to post positive comments online	to choose secure passwords.		
					why using an avatar and online name is advisable		
<b>Digital Literacy</b>	The children learn:	The children learn:	The children learn:	The children learn:	The children learn:	The children learn:	The children learn:
Media and Content	that there are many different types of media content including; sound, images, books, podcasts/ audiobooks and video via the web.	to access different types of media content on their device. Including; sound, images, books, podcasts/ audiobooks and video via the web.	where different types of media content can be found online, including; sound, images, books, podcasts/ audiobooks and video via the web.	how to make judgements about the usefulness and accuracy of information. about the term 'fake news'. about what copyright is and why we have copyright laws.  to recognise	more about what Fake News is, it's purpose and that Fake News can be found on all media. how to identify Fake News.  that data can be manipulated to make Fake News appear to be true.	about how and why information found on some sites will be biased. how to source copyright free materials to use in their digital projects.  how to credit the use of websites in	to explore in more depth the legal and moral reasons not to plagiarise or infringe copyright and the impact it can have on the creator of the content.

				copyright material.		their work and why this should be done.	
<b>Digital Literacy</b>  Technology in the outside world	The children learn:  to recognise and discuss common uses of information technology in school and outside of school.	The children learn:  about the uses and purpose of technology in the classroom, at home, work and the world around them.  about some of the common ways in which technology at home can be used.	The children learn:  about the numerous methods of online communication and how it is used in the world around them.  to explore their own use of the internet and why it is important to stick to the rules.	The children learn:  that the internet is a computer network. that the internet can provide multiple services, such as the world wide web, streaming music/ video and email.  explore a web sites journey from first request to appearing on the screen. to learn advanced web terminology e.g. URL.	The children learn:  to differentiate between apps that use the Internet, the school network or that are self contained on a device.  to use computing to communicate and collaborate.  about documents and methods of collaboration over the internet e.g. blog.	The children learn:  about different online communication tools/apps and how they could be used for different purposes e.g. work and social.  about working in a group using collaborative tools.	The children learn:  about digital crimes and threats that might exist online. E.g. worms, trojans, viruses, spyware, ransomware and malware.  about anti-virus software and how they can help protect devices from infection.  advanced web terminology e.g. firewall, security updates, pop up

							blocker, scams, phishing, HTTPs, location based settings, in app purchasing, trolling, filtering etc.
<b>Information Technology</b>							
<b>Computer Science</b>  Computational Thinking	<p>The children learn:</p> <p>that an algorithm is a list of instructions that solves a problem.</p> <p>to sequence a series of events and explain the importance of sequencing</p>	<p>The children learn:</p> <p>to explore algorithms and sequencing of instructions. to read, follow and create a simple sequence algorithm.</p> <p>to give these instructions so that they can be executed by a robot with the</p>	<p>The children learn:</p> <p>about writing algorithms that can be turned into programs.</p> <p>to implement their algorithm as a program on a digital device or programmable toy/ robot.</p>	<p>The children learn:</p> <p>to create a detailed flow diagram using the correct symbols. to turn an algorithm into a simple program on a digital device.</p> <p>about testing the program and recognising when it needs to be</p>	<p>The children learn:</p> <p>to design a simple algorithm to show a real-life situation.</p> <p>about the valuable skills of abstraction and decomposition when tackling more complex problems.</p>	<p>The children learn:</p> <p>to explore problem solving and decomposition.</p> <p>to independently plan, write and test their algorithms and create more complex programs, debugging as needed.</p>	<p>The children learn:</p> <p>to create complex algorithms and turn their designs into a program (incorporating variables, procedures and different forms of input and output).</p>

		aim of successfully reaching a destination		debugged.		about controlling / simulating physical systems and using sensors with multiple outcomes.	
<b>Computer Science</b>  Coding	The children learn:  to experiment controlling a range of 'toys' using remote controls and do this with purpose and direction.	The children learn:  to create a simple program and correct mistakes (debug).	The children learn:  to independently identify and fix a 'bug' in multiple programs.  to create a simple program that includes a repeat x times loop.  the difference between inputs and outputs.	The children learn:  to create their own sprite in Scratch/ Scratch Jr.  about sequencing commands and adding a repeat command in a program.  how to refine/ improve a program by using the repeat command. how to create a variable. to create a program that contains selection, inputs and outputs	The children learn:  about the structure of a program and learn to plan in logical, achievable steps.  to write a complex program, incorporating features such as selection, inputs, repetition, variables and procedures.  attempt to debug their own programs and corrects/ debugs errors in code.	The children learn:  to create their own complex game within Scratch or other block based coding app that uses variables, event handling, selection ("If" and "Then"), procedures and repetition (loops) to increase programming possibilities	The children learn:  about complex programs and are encouraged to persevere when solving difficult problems even if the solution is not obvious.  about executing and adapting common commands using a text-based language e.g. Python/Javascript / SwiftPlayground.

<p><b>Computer Science</b></p> <p>Logical Reasoning</p>	<p>The children learn: through play about action/reaction and will be asked “what do you think will happen?” when using technology or attempting to solve a problem.</p>	<p>The children learn: about making predictions when using technology. E.g. They will be asked to predict what will happen for a short sequence of instructions in a program.</p>	<p>The children learn: to offer accurate predictions of programs and then create their own simple program to check if they were correct.</p>	<p>The children learn: about using logical reasoning to detect potential problems in an algorithm or program which could result in something going wrong and then offer ideas of what is needed to fix/ debug it.</p>	<p>The children learn: to recognise an error in an existing program and attempt to debug/ fix the program.  to investigate existing programs, evaluating them and consider how they could be improved.</p>	<p>The children learn: to explore logical reasoning in greater depth and learn to give well thought-through explanations of any errors they identify in program code (using the correct terminology).</p>	<p>The children learn: to independently use logical reasoning to detect and correct errors in an algorithm and program.  that there is often more than one way to solve a problem in an algorithm or program.</p>
<p><b>Computer Science</b></p> <p>Networks and Online</p>							

SKILLS							
	<b>EYFS</b>	<b>KS1</b>		<b>KS2</b>			
		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6

<b>Digital Literacy</b>							
<b>Information Technology</b>							
<b>Computer Science</b>							