Finham Primary School

Computing
Knowledge & Skill Progression

	Computer Science	Information Technology	Digital Literacy	E-Safety
	Computer Science covers the ability for children to understand the various skills required in order to design, test and create a working program. This is though coding, debugging, algorithms and additional skills such as procedures, loops, variables and use of decomposition.	**Information Technology encompasses the way people can communicate over the internet, understanding how networks are built, safeguarding data/information and troubleshooting computer issues. The children need to also know how hardware and software work in relation to the various areas of information technology skills.**	**As new technologies become mainstream, children need to be aware of how they can complete practical technical skills on a range of technology. Digital literacy is about learning to understand and perform tasks in a digital environment which would be required of them in everyday life, future careers and industries in the 21st century. Researching information, designing content using various software, typing at a speed which enables them to record their learning, collecting and storing information taken from the internet are all skills which are developed across school.**	**To use technology safely, respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact online. To independently recognise acceptable and unacceptable content/behaviour and ways of reporting these.** **To understand their role with regards to how they should positively interact with online communities.**
Nursery	-I can show skills in making toys work by pressing parts or lifting flaps to achieve effects such as a sound.	-I know that computers can help us.	-I know that information can be retrieved from computers. -Knows how to operate simple equipment (turn on iPads) Show an interest in technological objects e.g. Phones, cameras, iPads.	-I know that I need to tell an adult if I feel uncomfortable, worried or scared online.
Reception	-I can experiment through play with Beebots (physical system).	- Uses ICT hardware to interact with age-appropriate computer software.	-I can recognise that a range of technology is used in homes and schools. I can select and use technology for simple purposes. (e.g. what could we use if it's dark?)	-I know why I need to turn technology off to support my mental wellbeing. - To understand that devices need to be switched off in order to save

				electricity and to help our brain sleep at night.
Year 1	-Can write simple algorithms and understand they use precise instructions. -Write and test simple programs. -Use logical reasoning to make predictions.	-I can begin to describe how communication and technology is used outside of school. -With support sign into devices using their own username and passwords.	-I am learning how to locate keys on a keyboard.	-I know that my identity can hidden online using avatars. -I know how to use technology, safely, responsibly and respectfully. - I know why to keep passwords protected and private.
Year 2	-Understand use of algorithms. -Write, test and debug simple programs. -Use logical reasoning to make predictions.	-Organise, store, retrieve and manipulate data. -I can independently log onto devices using my own username and password.	-I am learning how to touch type on a physical keyboard. -Can begin to find relevant images using search engines.	-I know how to use technology, safely, responsibly and respectfully and who to speak to for help and support regarding content. -I know how to communicate online positively and how to respond to negative content online. -To understand what content is suitable to be posted online.

Year 3	-I can design, write and debug programs to achieve specific goals, including solving problems.	-I can troubleshoot some issues with entering passwords before asking for help from an adult. -I can understand computer networks.	-I can locate letters on a keyboard at a pace that enables me to record the lesson's learning. -I can use simple keyboard shortcuts.	-I understand what acceptable and unacceptable content online is. -I can use technology safely, respectfully and purposefully.

	-I can use logical reasoning to detect and correct errors in programs. -I can predict the outcome of a program which I have written.	-I can understand how computer networks offer different ways to communicate. -I can recognise and name the different components of a computer.	-I can collect and present data appropriately.	
Year 4	-I can design, write and debug programs to achieve specific goals, including solving problems. -I can use logical reasoning to detect and correct errors in programs. -I can predict the outcome of a program which I've written.	-I can troubleshoot some issues with entering my password before asking an adult for help. -I can recognise and name the different components of a computer. -I can understand computer networks work. -I can understand how computer networks offer different ways to communicate.	-I can collect and present data appropriately. -I can locate letters on a keyboard at a pace which enables me to record my lesson's learning. -I can use simple keyboard shortcuts.	-I can recognise acceptable and unacceptable behaviour and content. -I can use the internet safely, appropriately and responsibly. -I can understand computer networks (how images are moved quickly online).
Year 5	-I can design and write programs to solve problems. -I can use sequences, repetitions, inputs, variables and outputs in programs. -I can detect and correct errors in programs. -I can solve problems in writing programs by decomposing them into smaller parts. -I can simulate physical systems.	-I can understand what an output and an input are to computers. -I can understand uses of networks for collaboration and communication. -I can recognise the difference between hardware and software. -I can appreciate how search engines are ranked. -I understand how wi-fi works. Link to female inventor Hedy Lamarr.	-I can locate keys on a keyboard quickly and type at pace which allows me to record my work. -I can confidently use keyboard shortcuts. -I can combine software to accomplish given goals on a range of digital devices. -I can be discerning in evaluating digital content.	-I understand how to make passwords strong and how they are cracked. -I can understand the importance of using technology safely, respectfully and responsibly. -I can identify a range of ways to report concerns about content and contrast.

Year 6	-I design and write programs to solve problems. -I can solve problems by decomposing them into smaller parts. -I can use sequences, repetition, inputs, variables and outputs in programs. -I can detect and correct errors in programs. -Understand that computers follow instructions literally and cannot infer. -I can begin to use program loops, the exit of which is governed by a variable.	-I can understand uses of networks for collaboration and communication. -I can explain what binary is and how all data can be represented using binary code.	-I can combine a variety of software to accomplish given goals on a range of digital devices. -I can analyse and evaluate information and data. -I can be discerning in evaluating digital content. -I can confidently type on a keyboard, at a pace which enables me to record my work. -I can confidently use keyboard shortcuts accurately and independently. -I can recognise the audience when designing and creating digital content.	-I can identify a range of ways to report concerns about content and contact– including social media.