Christ Church (C of E) Primary School

Progression of Computing Knowledge

	FS2	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Internet safety	Say what information is personal.	Say what information is personal and should not be shared online with support	Say what information is personal and should not be shared online. Follow and understand school rules for staying safe online.	Know how to keep safe online. Understand why safety rules are in place. Understand the importance of being polite online.	Understand that Seesaw is a safe, enclosed environment. Know that the internet has potential dangers and know how to stay safe online.	Understand how to use social media and search engines safely. Understand a code of conduct for online collaboration. Understand what to do in the case of cyber bullying.	Develop and understand rules for their own personal internet safety. Understand how to use social media and search engines safely. To be aware that some media is copyright protected.
Computer Science	Know basic symbols and how these might direct us to move.	Know what a command is. Know how basic symbols can be used to execute movement in a robot. Broaden the variety of directional commands.	Know how basic symbols and numbers can be used to execute movement in a robot. Know the connection between a command and an algorithm. Know the importance of	Know what programming language is and that repeats are more efficient. Know what a wait command is in a programme. Know that when they access a website, their device asks for the information and	Develop knowledge of repeat commands and conditional commands and to know how they can be used together. Know what a procedure is and to know that one procedure can call another procedure.	Know when the input is changed, the output is also changed. Know what 'and' 'or' and 'not' code blocks are. Know what events are. Know that devices must agree on security, speed and	Know what variables and procedures are in real life. Know that computer data is stored in binary form and that there are 8 bits in a byte. Know the differences between 'repeat',

			testing algorithms and what debugging is. Know what a repeat command and a conditional command are.	the website responds by sending it.	Know that many real world devices (eg, traffic lights and washing machines) are controlled using washing machines. Know that when their device connects to a website or service, their data is transferred through a network (the internet). Know that the internet is made up of different nodes: device, router, internet provider, server.	style of connection before they can transmit data. Know that this is called a handshake signal.	'repeat until' and 'forever if' loops. Know that data is sent in packets to help with cyber security and error correction.

Glossary

Word	Definition	Word	Definition
Social media	Websites and applications that enable users to create and share content or to participate in social networking.	Basic symbols	Directional arrows.
Search engines	Software that catalogues the internet and is designed to carry out web searches. For example - Google, Bing.	Command	A single instruction, for example – turn left.
Cyber bullying	The use of electronic communication to bully a person, typically by sending messages of an intimidating or threatening nature.	Execute	The process of how a computer or programme acts out the commands given to it.
Media	A particular form of storage for computer files, for example – images, videos, audio files.	Directional commands	A single instruction related to direction.
Copyright protected	Copyright law protects the creator or owner from having their work stolen or copied without permission.	Algorithms	A list of commands for a computer or programme to follow.
Debugging	The process of identifying and removing errors from an algorithm.	Repeat command *(Links to conditional command).*	A repeat command performs a set of instructions to be repeated. For example - ***Repeat*** *eat food until belly full = true.*
Programming language	When programming, a specific type of language is used when writing instructions to ensure computers and programmes understand.	Conditional command *(Links to repeat command).*	A conditional command puts a condition onto whether a computer should or shouldn't follow that instruction. For example – ***IF*** *hungry = true* ***THEN*** *eat food.*
Wait command	A wait command tells a computer to wait until something is done before it completes the instruction For example – ***WAIT UNTIL*** food cooked = true ***BEFORE*** eat food.	Programme	A compiled algorithm. *The algorithm transformed into the working app on the computer/iPad.*
Procedure	A procedure is a mini algorithm to be referenced from the main algorithm. For example: The instructions for eating food would be inputted to a procedure.	Input and Output	Input – Data that gets given to the algorithm or the computer. Output – The result after the data has been processed.

	This procedure could then be used in the main algorithm as 'eat food' when needed.		
Code blocks	These are individual blocks of code, or commands that children can drag and drop into their algorithm	Events	When the code is ready for an input (like a button click). Example: in a game, in the EVENT that the UP button is clicked, MOVE character UP.
Devices	Technological devices like iPads	Handshake signal	This is when your device agrees to send and receive data with the internet. All devices have to agree on the speed and type of data that will be sent – this is the handshake.
Variables	These can change depending on the context. "score" is a variable in a football match, increasing IF a goal is scored.	Bits	These are the individual 1s and 0s that computers use to communicate. Bits aren't often used individually and will instead be bundled up into 8 bits at a time (called a byte). Example: 10011011
Binary form	This is the language that computers understand (1s and 0s). It is always transmitted in bytes (8 bits). Example: 10010110	Loops	In coding, when the instruction is to do something over and over, either until a condition is met or for a certain amount of times. Example: REPEAT run race UNTIL laps_run=4
Bytes	8 bits (1s and 0s). Example: 10010110	Cyber security	Keeping your device safe from hackers and viruses. Antivirus and firewall software is used to keep threats out. Also important is being responsible with what you click on.
Packets	When anything is downloaded, it is first split into parts (packets) so that if there is an error along the network, only a part (packet) of the data will be lost, rather than the whole thing.		
Error correction	When data reaches your device, the device checks that there isn't an error. If there is, it will ask for that *packet* again.		