Overarching Principles…**H**onesty **E**mpathy **A**spiration **R**espect **T**eamwork

Curriculum Drivers:

Personal – our world - context – society

Originality – oracy – adventure – risk – aspiration – creativity

Well-being – mental and physical – meta cognitive – learning powers

Environment and Nature – environment – sustainability

Real – Here and Now - current affairs – topical

Computing

"When you learn computing, you're learning about thinking"

Bill Mitchell

	Knowledge (EYFS)	Skills	Vocabulary
FS1	• To explore and experiment with a range of simple digital technology • To use equipment within the learning environment to support their play e.g. torches, microphones and voice recorders • To have an increasing understanding that the internet is not always safe • To know what to do to keep safe if using the internet e.g. ask their parent or adult to access something with them • To follow instructions outlined by the technology to complete a task e.g. Beebots • To use the SMART board interactively and with care.	• I can use a computer to play a game. • I can turn equipment on and off. • I can keep myself safe using ICT. • I can follow instructions to tell a Beebot where I want it to go. • I can use my finger to complete an activity on a smart board.	Internet, Internet Search, search engine, programme, click, turn on, turn off, press, backspace, delete, loud, quiet, volume, batteries, electric, electricity, plug, forward, backwards, left, right, safety, games, drag. smart board,delete

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	Knowledge (EYFS)	Skills	Vocabulary
FS2	• To select and use digital technology in a range of ways to enhance creativity or communication • To know that technology responds to the instructions given • To know what happens when instructions are given to a variety of technological equipment • To be familiar and confident with a keyboard and mouse • To use a PC to complete a simple programme • To be aware that the world and the internet is not always safe • To know how to stay safe and which programmes etc are safe for them to access	• I can select a particular type of technology that I need for a certain purpose. • I can give simple instructions to a variety of technological equipment in order to get a particular response. E.g. Beebots, remote control cars, cameras. • I can select a particular icon or app on a screen that I need to support or enhance my play. • I can explore and learn how to use simple apps or programs. • I can ask an adult before using the internet to make sure it is safe. • I can say which apps/programs are safe for me to use and can ask an adult if I'm not sure.	Instructions, Instructions, on, off, left, right, forwards, backwards, internet, safe, **Computer Science**: iPad app buttons computer internet battery power switch electricity charge Bee-Bot direction forwards backwards turn instruction **Digital literacy**: iPad app camera record photograph video buttons computer internet battery power switch electricity charge safety rules pop-ups **Information technology**: iPad app camera record photograph video buttons computer internet battery power switch electricity charge safety rules pop-ups apps/applications, programs, Beebots, remote control, iPad, camera, screen

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	Knowledge (National Curriculum)	Skills	Vocabulary
Year 1	-understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions -know that logical reasoning can predict the behaviour of simple programs	-give simple instructions to everyday devices to make things happen -make choices to control simple models or simulations -solve a problem using technology and logical reasoning (cause and effect)	**Computer Science**: Devices Control Input Output Direction Algorithm Sequence Sprite Commands Implement **Digital literacy**: SMART rules Safe, Meet, Accepting, Reliable, Tell Information technology Online Trusted adult Internet Offline Digitally Log out **Information technology**: Curser Mouse Keys Keyboard Upper/lower case Username Password Program Word processor Document File Save Retrieve
	-use technology purposefully to create, organise, store, manipulate and retrieve digital content	-complete simple tasks on a computer by following instructions -save and retrieve files -explain that images give information. Say what a pictogram is -put data into a program (pictogram) -sort objects and pictures in lists or simple tables	
	-recognise common uses of information technology beyond school -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	-discuss and share how and when they use technology in everyday life. -show an awareness of information in different formats -use a range of programs and apps for different purposes (linked to topic) -identify different devices that can go online, and separate those that cannot -state who to tell if something concerns them online. -make decisions about whether statements or images found online are likely to be true	

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	Knowledge (National Curriculum)	Skills	Vocabulary
Year 2	-know how to create and debug simple programs -know that logical reasoning can predict the behaviour of simple programs	-write, test and debug simple programs -use logical reasoning (cause and effect) to predict the behaviour of simple programs	**Computer Science**: Precise Logical Reasoning Digital devices Decompose Predict Logical reasoning Trial and error Sequence/sequential **Digital literacy**: Source of information Connected Appropriate Child friendly Permission Identity Search engine **Information technology**: Tab Insert Font Text box Output Data Copy Paste Data
	-use technology purposefully to create, organise, store, manipulate and retrieve digital content	-explain why digital folders are used. Organise work into digital folders -place objects and pictures in a list or simple table -explain how a branching diagram or tree works -make a simple Y/N tree diagram to sort information -use a range of different digital media to communicate knowledge to others -create different artistic effects using digital media	
	-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.	-identify obviously false information in a variety of contexts -identify personal information that should be kept private -communicate safely, respecting and considering other people's feelings online -state who to tell if something concerns them online.	

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	Knowledge (National Curriculum)	Skills	Vocabulary
Year 3	-design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts -use sequence, selection, and repetition in programs; work with variables and various forms of input and output -use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs	-write, test and debug simple programs including repeat loops -use logical reasoning (cause and effect) to explain how a simple algorithm works -use sequence, (logically sequenced instructions) selection (if, then, else statements) and repetition (repeat loops) in programs -analyse and tackle problems by decomposing into smaller parts	**Computer Science**: Navigate Sprite Foreground Background Coordinates Commands **Digital literacy**: Digital footprint Privacy settings Devices Implement Technology Emoji strategies **Information technology**: Layout Orientation Portrait Landscape Format Rotate Manipulate Evaluate Effectiveness Imported exported USB Input Output URL Reliability
	-understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration -use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content	-describe where data is stored and that the network allows it to be retrieved -draw family network, draw local network, draw the Internet & the www -describe the physical hardware connections necessary for a computer network to work -use search engines effectively -identify and select appropriate information using straight forward lines of enquiry -use different approaches to search and retrieve digital information, including the browser address bar and shortcuts	
	-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	-recognise which information is suitable for their topic -design a questionnaire to collect information -understand how to select information to put into a data table -use computers to combine different musical sounds, choosing an appropriate program for the task	
	-use technology safely, respectfully, and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.	-identify ways to keep safe when using technology -think before sending and suggest consequences of sending/posting -recognise online behaviours that would be unfair and show respect for individuals and intellectual property	

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	Knowledge (National Curriculum)	Skills	Vocabulary
Year 4	-design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts -use sequence, selection, and repetition in programs; work with variables and various forms of input and output -use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs	-design and write programs that accomplish specific goals, working with variables for input and output -detect and correct errors in algorithms and programs (debug) -test programs using models and simulation -use logical reasoning to detect problems, make changes, and find out what happens as a result	**Computer Science**: Precise Repetition Selection Conditional statements Visual/audio Servers Email Internet **Digital literacy**: Reputation Online social environments Online technologies Reliable Accurate Copyright Opinion Belief Fact Password **Information technology**: Transitions Animations Appropriate Published Edit Improve Manipulate
	-understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration -use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content	-discuss and use opportunities for online communication and collaboration -use a variety of software (Chrome, Edge etc) and Internet services on a range of digital devices and describe how results are ranked -say which web site search results may be inaccurate	
	-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	-describe how to sort and organise information to use a database -create a branching database in which they have collected and sorted their information -create and edit images digitally	
	-use technology safely, respectfully, and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.	-recognise social networking sites and social networking features, built into other things, such as online games and hand-held game consoles make judgements in order to stay safe whilst communicating with others online -state who to tell if anything worries them online -identify potential risks when presented with scenarios, including social networking profiles -use technology responsibly, securely, and safely -check the plausibility and usefulness of information they find	

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	Knowledge (National Curriculum)	Skills	Vocabulary
Year 5	-design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts -use sequence, selection, and repetition in programs; work with variables and various forms of input and output -use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs	-produce algorithms by using logical and appropriate structures to organise data, including if-then repeat loops and variables -create precise and accurate sequences of instructions -use flow-charts and other diagrams to follow how a process or model works -use logical reasoning to solve problems and model situations and processes -predict what will happen when variables and rules within a model are changed	**Computer Science**: Variables Timers Counters Conditionals Simulate Evaluate Networks Social media Intranet Cloud services **Digital literacy**: Modified Scenario Risk/danger Online communities Traced Positive contributions Platforms Abusive content/users Mis-information Dis-information Sceptical Hoax Blog Collaboratively **Information technology**: Presentation Diverse Green screen Collaboratively Blog Column Row Cell Highlight Menu
	-understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration -use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content	-identify and define the functions of the processor, memory, back-up storage and peripherals in a typical desktop computer -understand the need for accuracy when searching for and selecting information -use different sources to double-check information found -prepare and present information in a range of forms, using technology safely and responsibly	
	-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	-edit and enhance image files digitally -collect and enter data accurately -use formulae to change a spreadsheet model -make graphs from the calculations on their own spreadsheet -create, edit, save, and view documents online	
	-use technology safely, respectfully, and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.	-judge what sort of privacy and security settings might be relevant for reducing different risks -judge when to answer a question online and when not to -articulate what constitutes good behaviour online -find and cite the web address for any information or resource found online -learn how to use search operators; safe search tools and recognise the legality of age limits	

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	Knowledge (National Curriculum)	Skills	Vocabulary
Year 6	-design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts -use sequence, selection, and repetition in programs; work with variables and various forms of input and output -use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs	-produce algorithms independently using logical and appropriate structures, including if-then repeat loops, variables, and script calling (broadcast) -create flowcharts or other diagrams to explain how a process or model works and create corresponding algorithm -independently problem solve and model situations and processes, through understanding and explaining the impact of changing variables within a model	**Computer Science**: Broadcast messages Generic code Critically evaluate HTML Sources Cross reference Critically evaluate **Digital literacy**: Reliability Collaborate Vlog Critically evaluate Influence Manipulation Persuasion Inappropriate content Plagiarism Copyright Data protection Impulsive content Screen grabs PEGI BBFC Self regulation **Information technology**: Hyperlink Software Justification Vlog
	-understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration -use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content	-demonstrate knowledge and understanding of how networks work by describing the types of service offered (e.g. through email, www, ftp, and video conferencing) -take account of accuracy and potential bias when searching for and selecting information -continuously evaluate and edit presentations in the light of discussion, marking and audience response. -make choices based on knowledge of products and their functionality	
	-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	-explain that changing the numerical data affects the calculation -create data collection forms and enter data from these accurately -make graphs from the calculations on their spreadsheet -sort and filter information -create, edit, save, and view documents online -edit and enhance sound files digitally -evaluate a range of media for suitability for a specific task -design and create/use a range of independently selected programs to accomplish different goals	
	-use technology safely, respectfully, and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.	-find, report and flag buttons in commonly used sites and name sources of help (e.g. Childline and Cybermentors) -find a click-CEOP button and explain to parents what it is for -discuss scenarios involving online risk -state the source of information found online -act as a role-model for younger children	