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

Computing

WHEN YOU LEARN COMPUTING, YOU'RE LEARNING ABOUT THINKING - Bill Mitchell -

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

	Knowledge (SL)	Skills (SL)	Context (Teacher)
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)	•
	-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 (SL)	Skills (SL)	Context (Teacher)
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	•
	-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 (SL)	Skills (SL)	Context (Teacher)
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	•
	-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 (SL)	Skills (SL)	Context (Teacher)
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	•
	-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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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	•
	-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 (SL)	Skills (SL)	Context (Teacher)
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	•
	-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	

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Knowledge (SL)

Skills (SL)

Context (Teacher)

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