

Computing Subject content and progression

Year 1	<ul style="list-style-type: none">• To know what an algorithm is and to express simple algorithms using symbols• Understand that computers need precise information and share precise information to avoid errors.• Run, check and change programmes• Understand that digital literacy content can be shared in many different ways.• Locate content using an internet browser• Can communicate safely and respectfully and understand why.• Use software under the control of the teacher to create, store and edit digital content using appropriate file and folder names.• To know common uses of IT beyond the classroom.
Year 2	<ul style="list-style-type: none">• Design simple algorithms using loops, and selection.• Use logical reasoning to predict outcomes.• Find and correct errors i.e. debugging, in algorithms.• Understand that data can be structured in tables to make it useful.• Use arithmetic operators, if statements, and loops, within programs.• Use logical reasoning to predict the behaviour of programs.• Begin to use a variety of software to manipulate and present digital content: and information.• Understand and can use a range of input and output devices.• Use IT with increasing independence to purposefully organise digital content
Year 3	<ul style="list-style-type: none">• Designs solutions (algorithms) that use repetition and two-way selection i.e. if, then and else.• Use diagrams to express solutions• Create programs that implement algorithms to achieve given goals.• Can sort data in a flat file can improve searching for information.• Understand the difference between the internet and internet service e.g. world wide web.• Collect, organise and present data and information in digital content.• Make appropriate improvements to solutions based on feedback received, and then comment on the success of the solution.

Year 4	<ul style="list-style-type: none"> • Use logical reasoning to predict outputs, showing an awareness of inputs. • Declare and assign variables. • Use post-tested loops e.g. 'until', and a sequence of selection statements in programs, including an if, then and else statement. • Implement filters to perform single criteria searches for information. • Appreciate what is acceptable and unacceptable behaviour when using technologies and online services. • Create digital content to combine software packages and internet services to communicate with a wider audience e.g. blogging. • Begin to understand the difference between hardware and application software, and their roles within a computer system.
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Year 5	<ul style="list-style-type: none"> • Have an awareness of tasks best completed by humans or computers. • Designs solutions by decomposing a problem and creates a sub-solution for each of these parts (decomposition). • Understand the difference between, and appropriately I can use if and if, then and else statements. • Use variable and relational operators within a loop to govern termination. • Design, write and debug modular programs using procedures. • Perform more complex searches for information e.g. using Boolean and relational operators. • Know the main functions of the operating system. • Make judgements about digital content when evaluating and repurposing it for a given audience • Appreciate the audience when I am designing and creating digital content.
Year 6	<ul style="list-style-type: none"> • Appreciate that different solutions exist for the same problem. • Identify similarities and differences in situations and can use these to solve problems (pattern recognition). • Know that a procedure can be used to hide the detail with sub-solution (procedural abstraction). • Analyse and evaluate data and information, and understand that poor quality data leads to unreliable results, and inaccurate conclusions • Know that digital computers use binary to represent all data. • Understand the difference between physical, wireless and mobile networks. • Use criteria to evaluate the quality of solutions and identify improvements making some refinements to the solution, and future solutions. • Know how to construct static web pages using HTML and CSS. • Recognise ethical issues surrounding the application of information technology beyond school.

Year group	Topics					
1	Learning about hardware and software	Programmable toys	e-safety	Communication and networks	Photo editing	Sound editing
2	Learning about hardware and software	Programmable toys	e-safety	Data logging	Video editing	Presentation
3	Presentation	Programming (Scratch jnr)	e-safety	Communication and networks	Presentation	Sound editing
4	Presentation	Programming (Scratch jnr)	e-safety	blogging	Video editing	Web design
5	Presentation	Programming	e-safety	Communication and networks	Programmable toys	Sound editing
6	Presentation	Programming	e-safety	blogging	Video editing	Web design

