

Computing
Curriculum Map

KEY

- Lesson starters/mini lesson
- Main lesson objective
- Peer/Self assessment or plenary

	AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
EYFS	Understanding the world - Technology - To recognise a range of technology is used in places (eg. Homes, schools etc.) - To select and use technology for a particular purpose					
YEAR 1	Information Technology - I can share my use of technology in school. - I know common uses of information technology beyond the classroom. - I can use software (With guidance) to create, store and edit digital content using appropriate file and folder names. - I can name ways that people interact with computers	Hardware and processing - I know that computers have no intelligence and that computers can do nothing unless a program is run. - I know that all software executed on digital devices is programmed.	Communications and Networks - I can find content from the world wide web using a web browser. - I know the importance of communicating safely and respectfully online, and the need for keeping personal information private. - I know what to do when concerned about content or being contacted.	Algorithms - I can say what an algorithm is - I can express simple algorithms using symbols. - I can show care and precision to avoid errors	Programming - I know that users can write their own programs. - I can create a simple program. - I can run, check and change programs.	Data and Data representation - I can name different types of data: text, number. - I know that digital content can be represented in many forms. - I know the difference between some of these digital forms and can explain the different ways that they communicate information.
YEAR 2	Algorithms - I can use logical reasoning to predict outcomes. - I can design simple algorithms using loops, and selection i.e. if statements - I can find and correct errors i.e. debugging, in algorithms. - I know that algorithms are implemented on digital devices as programs.	Programming - I can use logical reasoning to predict the behaviour of programs. - I can find and correct simple semantic errors i.e. debugging, in programs - I can show that programs run by following precise instructions.	Information Technology - I can share my experiences of technology in school and beyond the classroom. - I can show an awareness for the quality of digital content collected. - I can use a variety of software to manipulate and present digital content: and information. - I can talk about my work and make changes to improve it.	Data and Data representation - I know that programs can work with different types of data. - I can show that data can be structured in tables to make it useful. - I know the difference between data and information.	Communications and Networks - I can navigate the web and can carry out simple web searches to collect digital content. - I can show use of computers safely and responsibly, knowing a range of ways to report unacceptable content and contact when online.	Hardware and processing - I know that all software executed on digital devices is programmed. - I know that a range of digital devices can be considered a computer. - I know and can use a range of input and output devices.

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YEAR 3	<p>Data and Data representation</p> <ul style="list-style-type: none"> - I know the difference between data and information. - I can use filters or can perform single criteria searches for information. - I know why sorting data in a flat file can improve searching for information. 	<p>Information Technology</p> <ul style="list-style-type: none"> - I can collect, organise and present data and information in digital content. - I can use technology with increasing independence to purposefully organise digital content. - I can show an awareness for the quality of digital content collected. 	<p>Algorithms</p> <ul style="list-style-type: none"> - I can find and correct errors i.e. debugging, in algorithms. - I can design solutions (algorithms) using diagrams that use repetition and two-way selection i.e. if, then and else. - I can use logical reasoning to predict outputs, showing an awareness of inputs. 	<p>Programming</p> <ul style="list-style-type: none"> - I can find and correct simple semantic errors i.e. debugging, in programs - I can create programs that implement algorithms to achieve given goals. - I can declare and assign variables. 	<p>Communications and Networks</p> <ul style="list-style-type: none"> - I know the difference between the internet and internet service e.g. world wide web. - I can show how to use of computers safely and responsibly, knowing a range of ways to report unacceptable content and contact when online. - I can show an awareness of, and can use a range of internet services e.g. VOIP. 	<p>Hardware and processing</p> <ul style="list-style-type: none"> - I know that a range of digital devices can be considered a computer. - I know how programs specify the function of a general purpose computer. - I know that computers collect data from various input devices, including sensors and application software.
YEAR 4	<p>Information Technology</p> <ul style="list-style-type: none"> - I know the audience when I am designing and creating digital content. - I can create digital content to achieve a given goal through combining software packages and internet services to communicate with a wider audience e.g. blogging. - I can make appropriate improvements to solutions based on feedback received, and can comment on the success the solution. 	<p>Communications and Networks</p> <ul style="list-style-type: none"> - I can decide what is acceptable and unacceptable behaviour when using technologies and online services. - I can effectively use search engines - I can explain how search results are selected, including that search engines use 'web crawler programs' elects, combines - I can use internet services. 	<p>Hardware and processing</p> <ul style="list-style-type: none"> - I can describe the difference between hardware and application software, and their roles within a computer system. - I know the main functions of the operating system. - I know why and when computers are used. 	<p>Algorithms</p> <ul style="list-style-type: none"> - I can show an awareness of tasks best completed by humans or computers. - I can design solutions by decomposing a problem and creates a sub-solution for each of these parts (decomposition). - I can show that different solutions exist for the same problem. 	<p>Programming</p> <ul style="list-style-type: none"> - I can use post-tested loops e.g. 'until', and a sequence of selection statements in programs, including an if, then and else statement. - I can use a variable and relational operators within a loop to govern termination. - I know the difference between, and appropriately I can use if and if, then and else statements. 	<p>Data and Data representation</p> <ul style="list-style-type: none"> - I can perform more complex searches for information e.g. using Boolean and relational operators. - I can analyse and evaluates data and information - I can show that poor quality data leads to unreliable results, and inaccurate conclusions.

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	AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
YEAR 5	Communications and Networks - I can show responsible use of technologies and online services - I can identify a range of ways to report concerns. - I can construct static web pages using HTML and CSS.	Data and Data representation - I know that digital computers use binary to represent all data. - I know that computers transfer data in binary. - I know how bit patterns represent numbers and images. - I can describe the relationship between binary and file size (uncompressed).	Hardware and processing - I know why and when computers are used. - I know the difference between physical, wireless and mobile networks. - I know the function of the main internal parts of basic computer architecture.	Information Technology - I can use criteria to evaluate the quality of solutions and can identify improvements making some refinements to the solution, and future solutions. - I can evaluate the appropriateness of digital devices, internet services and application software to achieve given goals. - I know the potential of information technology for collaboration when computers are networked.	Algorithms - I know that different solutions exist for the same problem. - I know that iteration is the repetition of a process such as a loop. - I can represent solutions using a structured notation. - I can identify similarities and differences in situations and can use these to solve problems (pattern recognition).	Programming - I can design, write and debug modular programs using procedures. - I know that a procedure can be used to hide the detail with sub-solution (procedural abstraction). - I can demonstrate how programming bridges the gap between algorithmic solutions and computers.

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YEAR 6	<p>Data and Data representation</p> <ul style="list-style-type: none"> - I can describe the relationship between binary and file size (uncompressed). - I can define data types: real numbers and Boolean. - I can query data on one table using a typical query language. 	<p>Programming</p> <ul style="list-style-type: none"> - I can use a range of operators and expressions e.g. Boolean, and applies them in the context of program control. - I can select the appropriate data types. - I have practical experience of a high-level textual language, including using standard libraries when programming. 	<p>Communications and Networks</p> <ul style="list-style-type: none"> - I know the main functions of the operating system. - I know how search engines rank search results. - I know data transmission between digital computers over networks, including the internet i.e. IP addresses and packet switching. 	<p>Algorithms</p> <ul style="list-style-type: none"> - I can represent solutions using a structured notation. - I can identify similarities and differences in situations and can use these to solve problems (pattern recognition). - I can show that different solutions exist for the same problem. 	<p>Information Technology</p> <ul style="list-style-type: none"> - I can evaluate the appropriateness of digital devices, internet services and application software to achieve given goals. - I can design criteria to critically evaluate the quality of solutions, I can use the criteria to identify improvements and can make appropriate refinements to the solution. - I can recognise ethical issues surrounding the application of information technology beyond school. 	<p>Hardware and processing</p> <ul style="list-style-type: none"> - I know the function of the main internal parts of basic computer architecture. - I can explain concepts behind the fetch-execute cycle. - I can identify different types of operating systems and application software for the same hardware.