Computing Curriculum Progression Map

The overarching aim for Computing at SJF is to ensure our children can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation - can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems - can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems and are responsible, competent, confident and creative users of information and communication technology

Our curriculum enables our children to Computing

Be independent and confident lifelong learners - Acquire the knowledge, skills and attitudes for them to thrive - Build resilience and become creative, critical thinkers - Make a positive contribution to both the school and the wider community - Experience enrichment opportunities that support learning where curiosity knows no boundaries

	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
DIGITAL LITERACY	Recognise common uses of information technology beyond school. Understand the rules and responsibilities outlined by the school's acceptable use policy and begin to understand where to go for help when they have concerns. Develop an understanding of how to keep their personal information private and understand they need to use technology safely and respectfully.	Know their responsibilities from their school's acceptable use policy and how to report any concerns they have. Recognise situations using technology and the internet involving content and contact that are not safe and know where to go for help. Begin to develop an understanding of the importance of computers and the internet to communicate. Develop their knowledge of the technology used in everyday life in a range of situations and be able to discuss their ideas.	Use technology safely and respectfully and have an understanding of how to keep information secure. Realise the importance of reporting any concerns they have using the internet and other communication technologies, and know some ways in which they can do it. Develop an understanding of what is acceptable and unacceptable online behaviour. Realise that not all information on the internet is trustworthy and there is a need to verify its reliability	Use technology respectfully, responsibly and safely, knowing how to keep their information and passwords secure. Know different ways of reporting concerns about content and contact involving the internet and other communication technologies. Have a greater understanding of what is acceptable and unacceptable online behaviour. Start to develop strategies to verify the reliability and accuracy of information on the internet and develop an awareness of copyright.	Use technology safely, respectfully and responsibly and continue to develop skills to identify risks involved with contact and content including developing an understanding of digital footprints. Know a range of ways of reporting concerns about content and contact involving the internet and other communication technologies. Understand what acceptable and unacceptable online behaviour is. Use strategies to verify the reliability and accuracy of information on the internet and understand copyright.	Be competent users of technology using it safely, respectfully and responsibly and know about digital footprints and 'strong' passwords. Demonstrate that they can identify the risks involved with content and contact and they know a wide range of ways of reporting any concerns they have. Understand what acceptable and unacceptable online behaviour is. Use strategies to verify and evaluate the reliability and accuracy of information on the internet and understand what copyright and plagiarism is and how it relates to their work.
INFORMATION TECHNOLOGY	Use technology with support, to create, store and retrieve digital content such as text and images.	Use technology with purpose to create, store, organise, retrieve and manipulate digital content.	Use a variety of software and devices to create digital assets such as programs, graphs and multimedia content for a defined purpose.	Use and combine a variety of software and devices with increasing independence, to create a range of digital assets such as programs, databases, systems and multimedia content.	Select, use and combine a range of software and use a wider range of devices to create a variety of digital assets.	Independently select, use and combine a wide range of software on a variety of devices.

	Use a simple search to find information or files. Develop understanding of how simulations work through exploring simple examples.	Learn to make a range of simple digital assets such as presentations, movies, audio files and graphs. Navigate the web and carry out simple searches using suitable search engines and begin to understand that not everything on the internet is true. Use simple simulations and understand how they work.	Develop their search strategies further by refining their use of keywords and starting to use appropriate key phrases and questions. Use more complex simulations and understand the effects of changing variables.	Understand how Boolean operators can change searches and select appropriate information for their tasks. Use models and simulations to produce graphs and explore patterns and relationships.	Understand about the use of operators in searching and continue developing their effective search techniques	Design and create a range of digital assets such as programs, systems and multimedia content for a defined purpose and audience. Use advanced searches including the use of operators. Create spreadsheet models to investigate real life problems, using their knowledge to make predictions.
COMPUTER SCIENCE	Understand what algorithms are and develop strategies to help find bugs in them. Make very simple programs.	Use algorithms and know that they can be implemented as programs on devices. Know what debugging is and find errors in their programs. Understand that programs execute by following a precise set of instructions. Create simple programs and further develop their strategies and logical thinking to find bugs and predict outcomes in their algorithms and programs.	Plan and write algorithms and programs using sequence and repetition and further develop their computational thinking strategies to solve problems and errors in their algorithms and programs. Have knowledge and experience of using a range of different inputs and outputs. Describe some of components of a computer network and some of the ways in which computer networks can be used.	Design and write more complex algorithms and programs using sequence, repetition and selection. Further develop their computational thinking to help debug their programs and design and solve problems and tasks. Have a simple understanding of how search engines work. Develop their understanding of inputs and outputs further, demonstrating how they can use programs to control external devices such as sensors, motors and robots. Understand the difference between the internet and World Wide Web.	Design and write programs using sequence, repetition, selection and variables. Develop greater understanding of how to use selection and repetition in more complex programs. Understand how search engines work. Further develop their computational thinking showing they can plan and decompose tasks; explain how the algorithms they write work and correct errors in their programs. Plan and write programs to control external devices such as sensors and motors and explain about the inputs and outputs used. Have an understanding of how a computer network works and the opportunities that it offers for communication and collaboration.	Know how search engines work and what 'ranking' is when related to search engines. Design and create more complex programs using sequence, repetition, selection and variables appropriately. Develop their computational thinking can demonstrate that they can decompose and evaluate their tasks and correct errors in their algorithms and programs. Be confident in their knowledge of inputs and outputs and plan and write programs to solve tasks to control external devices such as sensors and motors. Know how different computer networks work, including the roles of the components and the opportunities and benefits that they offer for communication and collaboration. Understand the difference between the internet and internet services

END OF KEY STAGE EXPECTATIONS	KS1	KS2
	• understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions • create and debug simple programs • use logical reasoning to predict the behaviour of simple programs • use technology purposefully to create, organise, store, manipulate and retrieve digital content • 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.	• 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 • 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 • 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 • use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.