Computing

Curriculum Intent:

A high-quality computing education equips pupils to use computational thinking and creativity to understand and change the world. Computing has deep links with mathematics, science, and design and technology, and provides insights into both natural and artificial systems. The core of computing is computer science, in which pupils are taught the principles of information and computation, how digital systems work, and how to put this knowledge to use through programming. Building on this knowledge and understanding, pupils are equipped to use information technology to create programs, systems and a range of content. Computing also ensures that pupils become digitally literate – able to use, and express themselves and develop their ideas through, information and communication technology – at a level suitable for the future workplace and as active participants in a digital world.

By the end of each key stage, pupils are expected to know, apply and understand the matters, skills and processes specified in the relevant programme of study.

	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Next Steps in KS3
Coding and Programming		Use logical reasoning to predict the behaviour of simple programs (Y1 Aut)		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 Y5 Y5 Y4 Y3 Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems Y4 y3 Y5 Solve problems by decomposing them into smaller parts. Y4 Y5 Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs Y4 Y5 Use sequence, selection, and repetition in programs; work with variables and various forms of input and output Y6 Y5				understand several key algorithms that reflect computational thinking [for example, ones for sorting and searching]; use logical reasoning to compare the utility of alternative algorithms for the same problem use 2 or more programming languages, at least one of which is textual, to solve a variety of computational problems; make appropriate use of data structures [for example, lists, tables or arrays];

								design and develop modular programs that use procedures or functions
	ELG	Create simple programs Use technology purposely to create, organize and store digital content. Recognise common uses o information technology beyond school.	Create and debug simple programs Understand what algorithms are and how they are implemented as programs on digital devices and that programs execute by following precise and unambiguous Use technology purposely to manipulate and retrieve content.	Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact	Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact	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 (And additional CEOP E-Safety)	Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact	
E-Safety		Use technology safely and respectfully	Keeping personal information private; the internet or other online technologies Identify where to go for help and support when they have concerns about content or contact on					