New Marston Computing Curriculum

Aims:

The national curriculum for computing aims to ensure that all pupils:

- 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
- are responsible, competent, confident and creative users of information and communication technology.

Key stage 1:

	Strand	Subject content - Pupils should be taught to …	Year 1 Units	Year 2 Units
A	**Computer science**	understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions	1.2, 1.4, 1.5, 1.7	2.1
B	**Computer science**	create and debug simple programs	1.5, 1.7	2.1
C	**Computer science**	use logical reasoning to predict the behaviour of simple programs	1.5, 1.7	2.1
D	**Information Technology**	use technology purposefully to create, organise, store, manipulate and retrieve digital content	1.3, 1.6, 1.7, 1.8	2.3 , 2.4, 2.5, 2.6, 2.7,

				2.8,
E	**Digital Literacy**	recognise common uses of information technology beyond school	1.9	2.5
F	**Digital Literacy**	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.	1.1	2.3

Key stage 2:

	Strand	Subject content - Pupils should be taught to …	Year 3 Unit	Year 4 Unit	Year 5 Unit	Year 6 Unit
A	**Computer Science**	design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts	3.1	4.1 4.5	5.1 5.5 5.9	6.1 6.5 6.8
B	**Computer Science**	use sequence, selection, and repetition in programs; work with variables and various forms of input and output	3.1	4.1 4.5	5.1 5.9	6.1
C	**Computer Science**	use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs	3.1	4.1 4.5	5.1 5.9	6.5
D	**Computer Science**	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	3.5	4.2 4.7 4.8	5.2	6.1 6.5 6.8
E	**Information**	use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content		4.7	various	6.2

	Technology					
F	**Information Technology**	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	3.3, 3.4 3.5 3.6 3.7 3.8 3.9	4.1 4.3 4.4 4.6 4.9	5.1 5.3 5.4 5.5 5.6 5.7 5.8 5.9	6.1 6.3 6.4 6.5 6.7 6.8 6.9
G	**Digital Literacy**	use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.	3.2 3.5 3.9	4.2	5.2	6.2 6.4