

Computing – Coding		
Rationale		
<p>Coding is a basic literacy in the digital age, and it is important for children to understand and be able to work with and understand the technology around them. Having children learn coding at a young age prepares them for the future.</p> <p>Understanding computers and learning the basics of coding helps children to develop an appreciation of how things work. It also teaches them how software engineers use maths in order to solve problems in a logical and creative way.</p>		
Learning		
Early Years will be taught to:	In Year 1 pupils will be taught to:	In Year 4 Pupils will be taught to:
<p>Completes a simple program on a computer</p> <p>Uses ICT hardware to interact with age-appropriate computer software</p> <p>Recognises that a range of technology is used in places such as homes and schools (ELG)</p> <p>Selects and uses technology for particular purposes (ELG)</p>	<p>Predict the behaviour of simple programs</p> <p>Understand what algorithms are and how they are implemented on digital devices</p>	<p>Decompose programs into smaller parts</p> <p>Use logical reasoning to detect and correct errors in algorithms and programs</p> <p>Select, use and combine a variety of software, systems and content that accomplish given goals</p>
	In Year 2 pupils will be taught to:	In Year 5 pupils will be taught to:
	<p>Use logical reasoning to predict the behaviour of simple programs</p> <p>Create simple programs</p> <p>Create and debug simple programs</p> <p>Debug simple programs by using logical reasoning to predict the actions instructed by the code</p> <p>Understand that programs execute by following precise and unambiguous instructions</p>	<p>Design, input and test an increasingly complex set of instructions to a program or device</p> <p>Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems</p> <p>Design, write and test simple programs that follow a sequence of instructions or allow a set of instructions to be repeated</p> <p>Design write and test simple programs with opportunities for selection, where a particular result will happen based on actions or situations controlled by the user</p> <p>Use logical reasoning to explain how increasingly complex algorithms work to ensure a program's efficiency</p>
	In Year 3 pupils will be taught to:	In Year 6 pupils will be taught to:

	<p>Design, write and debug programs that control or simulate virtual events</p> <p>Use logical reasoning to explain how some simple algorithms work</p>	<p>Include use of sequences, selection and repetition with the hardware used to explore real world systems</p> <p>Solves problems by decomposing them into smaller parts</p> <p>Create programs which use variables</p> <p>Use variables, sequence, selection, and repetition in programs</p> <p>Use logical reasoning to explain how increasingly complex algorithms work and to detect and correct errors in algorithms and programs efficiently</p>
Key Vocabulary		
Algorithm instructions	Coding initiate	Debug
Sequence	Problem Solving	Reasoning
Programming	menu	logic steps