

# **KS 1 Computing Coverage of skills over 2 year rolling programme.**

<b>Learning Objective</b>	<b>Milestone 1 (By end of Year 2)</b>
<b>Algorithms</b> <i>Pupils should be taught to understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions</i>	<ol style="list-style-type: none"> <li>1. Create a series of instructions and plan a journey for a programmable toy.</li> <li>2. Understand that algorithms are used on digital devices.</li> </ol>
<b>Create programs</b> <i>Pupils should be taught to create and debug simple programs</i>	<ol style="list-style-type: none"> <li>1. Create, store and retrieve digital content.</li> <li>2. Write a simple program and test it.</li> </ol>
<b>Reasoning</b> <i>Pupils should be taught to use logical reasoning to predict the behaviour of simple programs</i>	<ol style="list-style-type: none"> <li>1. Predict what the outcome of a simple program will be (logical reasoning).</li> </ol>
<b>Using technology</b> <i>Pupils should be taught to use technology purposefully to create, organise, store, manipulate and retrieve digital</i>	<ol style="list-style-type: none"> <li>1. Use a chosen website and move between pages under instruction.</li> <li>2. Use a camera to take a framed picture.</li> <li>3. Record sound and play back.</li> <li>4. Understand that programs require precise instructions.</li> <li>5. Organise, retrieve and manipulate digital content.</li> </ol>
<b>Uses of IT beyond school</b> <i>Pupils should be taught to recognise common uses of information technology beyond school</i>	<ol style="list-style-type: none"> <li>1. Describe and talk about some of the IT uses in their own home.</li> <li>2. Know how technology is used in school and outside of school.</li> </ol>
<b>Safe use</b> <i>Pupils should be taught to 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</i>	<ol style="list-style-type: none"> <li>1. Use technology safely – understanding the age appropriate rules for safe internet use.</li> <li>2. Understand why it is important to keep personal information private.</li> <li>3. Know where to go for help if concerned.</li> </ol>

## **KS 2 Computing Coverage of skills over 2 year rolling programme.**

<b>Learning Objective</b>	<b>Milestone 2 (By end of Year 4)</b>	<b>Milestone 3 (By end of year 6)</b>
<b>Create programs</b> <i>Pupils should be taught to design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts</i>	<ol style="list-style-type: none"> <li>1. Develop a sequenced program that has repetition and variables identified</li> <li>2. Give an 'on-screen' robot specific instructions that takes them from A to B</li> </ol>	<ol style="list-style-type: none"> <li>1. Use technology to control an external device</li> <li>2. Write a program that combines more than one attribute</li> </ol>
<b>Develop programs</b> <i>Pupils should be taught to use sequence, selection, and repetition in programs; work with variables and various forms of input and output</i>	<ol style="list-style-type: none"> <li>1. Design a sequence of instructions, including directional instructions</li> <li>2. Experiment with variables to control models</li> </ol>	<ol style="list-style-type: none"> <li>1. Develop a sequenced program that has repetition and variables identified</li> </ol>
<b>Reasoning</b> <i>Pupils should be taught to use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs</i>	<ol style="list-style-type: none"> <li>1. Discern when it is best to use technology and where it adds little or no value</li> <li>2. Make an accurate prediction and explain why they believe something will happen (linked to programming)</li> </ol>	<ol style="list-style-type: none"> <li>1. Analyse and evaluate information reaching a conclusion that helps with future developments</li> <li>2. Design algorithms that use repetition and 2-way selection</li> </ol>
<b>Networks</b> <i>Pupils should be taught to 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</i>	<ol style="list-style-type: none"> <li>1. Navigate the web to complete more detailed searches</li> <li>2. Know how to search for specific information and know which information is useful and which is not</li> </ol>	
<b>Search engines</b> <i>Pupils should be taught to use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content</i>	<ol style="list-style-type: none"> <li>1. Use a range of software for similar purposes</li> <li>2. Collect and present information</li> <li>3. Select and use software to accomplish given goals</li> </ol>	<ol style="list-style-type: none"> <li>1. Understand how search results are selected and ranked</li> <li>2. Be aware that some search engines may provide misleading information</li> </ol>
<b>Using programs</b> <i>Pupils should be taught to 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</i>	<ol style="list-style-type: none"> <li>1. Understand what computer networks do and how they provide multiple services</li> <li>2. Produce and upload a podcast</li> </ol>	<ol style="list-style-type: none"> <li>1. Combine sequences of instructions and procedures to turn devices on and off</li> <li>2. Present the data collected in a way that makes it easy for others to understand</li> </ol>
<b>Safe use</b> <i>Pupils should be taught to use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact</i>	<ol style="list-style-type: none"> <li>1. Use technology respectfully and responsibly</li> <li>2. Know different ways they can get help if concerned</li> <li>3. Recognise acceptable and unacceptable behaviour using technology</li> </ol>	<ol style="list-style-type: none"> <li>1. Understand that they have to make choices when using technology and that not everything is true and/or safe</li> <li>2. Be increasingly aware of the potential dangers in using aspects of IT and know when to alert someone if feeling uncomfortable</li> </ol>