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

Learning Objective	Milestone 1 (By end of Year 2)
Algorithms *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*	1. Create a series of instructions and plan a journey for a programmable toy. 2. Understand that algorithms are used on digital devices.
Create programs *Pupils should be taught to create and debug simple programs*	1. Create, store and retrieve digital content. 2. Write a simple program and test it.
Reasoning *Pupils should be taught to use logical reasoning to predict the behaviour of simple programs*	1. Predict what the outcome of a simple program will be (logical reasoning).
Using technology *Pupils should be taught to use technology purposefully to create, organise, store, manipulate and retrieve digital*	1. Use a chosen website and move between pages under instruction. 2. Use a camera to take a framed picture. 3. Record sound and play back. 4. Understand that programs require precise instructions. 5. Organise, retrieve and manipulate digital content.
Uses of IT beyond school *Pupils should be taught to recognise common uses of information technology beyond school*	1. Describe and talk about some of the IT uses in their own home. 2. Know how technology is used in school and outside of school.
Safe use *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*	1. Use technology safely – understanding the age appropriate rules for safe internet use. 2. Understand why it is important to keep personal information private. 3. Know where to go for help if concerned.

KS 2 Computing Coverage of skills over 4 year rolling programme.

Learning Objective	Milestone 2 (By end of Year 4)	Milestone 3 (By end of year 6)
Create programs *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*	1. Develop a sequenced program that has repetition and variables identified 2. Give an 'on-screen' robot specific instructions that takes them from A to B	1. Use technology to control an external device 2. Write a program that combines more than one attribute
Develop programs *Pupils should be taught to use sequence, selection, and repetition in programs; work with variables and various forms of input and output*	1. Design a sequence of instructions, including directional instructions 2. Experiment with variables to control models	1. Develop a sequenced program that has repetition and variables identified
Reasoning *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*	1. Discern when it is best to use technology and where it adds little or no value 2. Make an accurate prediction and explain why they believe something will happen (linked to programming)	1. Analyse and evaluate information reaching a conclusion that helps with future developments 2. Design algorithms that use repetition and 2-way selection
Networks *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*	1. Navigate the web to complete more detailed searches 2. Know how to search for specific information and know which information is useful and which is not	
Search engines *Pupils should be taught to use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content*	1. Use a range of software for similar purposes 2. Collect and present information 3. Select and use software to accomplish given goals	1. Understand how search results are selected and ranked 2. Be aware that some search engines may provide misleading information
Using programs *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*	1. Snderstand what computer networks do and how they provide multiple services 2. Produce and upload a podcast	1. Combine sequences of instructions and procedures to turn devices on and off 2. Present the data collected in a way that makes it easy for others to understand
Safe use *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*	1. Use technology respectfully and responsibly 2. Know different ways they can get help if concerned 3. Recognise acceptable and unacceptable behaviour using technology	1. Understand that they have to make choices when using technology and that not everything is true and/or safe 2. Be increasingly aware of the potential dangers in using aspects of IT and know when to alert someone if feeling uncomfortable