

Computing Progression Map

Coding

	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Statutory Info (ELG/NC)	Children recognise that a range of technology is used in places such as homes and schools. They select and use technology for particular purposes.	Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions Create and debug simple programs Use logical reasoning to predict the behaviour of simple programs		Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts Use sequence, selection, and repetition in programs; work with variables and various forms of input and output Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs 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			
Discovery Education		On the move – learn that programs execute by following clear instructions. Understand that programs respond to inputs to do different things.	Different sorts of inputs – Learn that programs respond to different sorts of inputs, and that the keyboard can be used to control objects on screen, not just by clicking them directly.	Sequence and animation – Learn to make things happen in a sequence, creating simple animations and simulations	Introduction to variables – Learn how computers use variables to count things and keep track of what is going on, then create simple games which use a score variable.	Speed, direction and coordinates – Learn how computers use numbers to represent things such as how fast things are moving, and where they are.	More complex variables – Learn to use variables in more complex ways, and to manipulate inputs to create useful outputs
		Simple Inputs – Learn to combine start and input events to create more advanced apps and programs using precise instructions	Buttons and instructions – learn that one object can be used to control another object e.g. writing code so clicking a button gives an instruction to make a lorry move.	Conditional events (selection) – Learn to code with ‘if statements’, which select different pieces of code to execute depending on what happens to other objects.	Repetition and Loops – Learn how computers use repetition and loops to do things over and over again (and again!)	Random numbers and simulations – Learn how computers can generate random numbers and how these can be used in simulations.	Object properties – Learn more about how computers use property values and parameters to store information about objects.
Computational Thinking	Follow simple oral algorithms Spot simple patterns Sequence simple familiar tasks						
Coding and Programming	Use a mouse, touchscreen or appropriate access device to target and select options on screen Input a simple sequence of commands to control a digital device with support (BeeBot)	Create a simple program e.g. sequence of instructions for a BeeBot Use sequence in programs Locate and fix bugs in my program	Create programs on a variety of digital devices Debug programs of increasing complexity Use logical reasoning to predict the outcome of simple programs				
Computer networks (KS2 only)				Understand that computers in school are connected together in a network Understand why computers are networked Understand the difference between the internet and the World Wide Web	Understand that servers on the internet are located across the planet Understand how e-mail is sent across the internet Understand how the internet enables us to collaborate	Understand how we view web pages on the internet Use search technologies effectively Understand that web spiders index the web for search engines Appreciate how pages are ranked in a search engine	Understand what HTML us and recognise HTML tags I know a range of HTML tags and can remix a web page Create a webpage using HTML
Provision	BeeBots BeeBot App	BeeBots J2E Discovery Education	Bee Bots J2E Discovery Education	Discovery Education	Discovery Education	Discovery Education	Discovery Education

Vocabulary		Sequence, program, algorithm, edit, debug, control, distance, direction, turn, predict, precise	predict, debug, program, instructions, sequence, algorithm, edit	Predict, program, instruction, debug, repeat, procedure, subroutine, angle, turn, input, output, sequence, sprite, movement, direction, position, algorithm	Predict, sequence, sprite, movement, rotate, direction, position Repeat, procedure, algorithm, logo, program, precise, instructions	Input, output, program, repetition, selection, sequence, debug, switch, sensor, variable, control, simulation Scratch, debug, algorithms, sprite, block script, predict, broadcast, sub routine, procedure,	Sequence, program, control, distance, direction, turn, predict, precise, algorithm, debug, repeat, selection, subroutine, flow chart
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