MrPICT.com Computing Progression Document

Coding and Programming

Year Group	Key Vocabulary	Apps and Links
EYFS	Mouse, touch screen, move, command, device	Beebot, Daisy The Dinosaur
1	Digital, program, follow, code, bugs, fix, order, ScratchJr	Beebot, Scratch Jnr, Kodable,
2	Precise, logical reasoning, prediction, debug, sequence	Beebot, Scratch Jnr, Kodable, Tynker,
3	Sequence, inputs, outputs, code, design, programming language, Scratch	Beebot, Scratch Jnr, Kodable, Tynker, Scratch 3, Hopscotch, Swift Playgrounds,
4	Repetition, loop, forever loop, count controlled loop, selection, condition, systematic	Beebot, Scratch Jnr, Kodable, Tynker, Scratch 3, Hopscotch, Swift Playgrounds,
5	Data, memory, variables, value, initialisation, control, simulate, physical system	Beebot, Scratch Jnr, Kodable, Tynker, Scratch 3, Hopscotch, Swift Playgrounds,
6	Procedure, abstraction, conditional loop, logic, operator, implement	Beebot, Scratch Jnr, Kodable, Tynker, Scratch 3, Hopscotch, Swift Playgrounds,

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Year Group	**NC Objectives**	**Knowledge Statements**
EYFS	Playing and Exploring Creative and critical thinking	• I can learn how digital toys and apps work through exploration (Tinkering) • I can input more than one command into a programmable toy or simple app • I can input a sequence of commands into a programmable toy or simple app • I fix things through trial and error (Debugging) • I can fix things and explain my approach (Debugging)
1	• Co2/1.1 understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions • Co2/1.2 create and debug simple programs • Co2/1.3 use logical reasoning to predict the behaviour of simple programs	• I know how to create a simple program on a digital device e.g. Bee Bot or tablet • I know how to use sequence in programs • I know how to locate and fix bugs in my program
2		• I understand programs follow precise instructions • I know how to create programs using different digital devices E.g. Bee Bot or ScratchJr on a tablet • I know how to debug programs of increasing complexity • I know how to use logical reasoning to predict the outcome of simple programs

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Year Group	NC Objectives	Knowledge Statements
3	• Co2/1.1 design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts • Co2/1.2 use sequence, selection, and repetition in programs; work with variables and various forms of input and output • Co2/1.3 use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs • Co2/1.4 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 know how to design a program • I know how to create a program using a design • I know how to create a sequence of code • I know how to work with a variety of inputs and outputs • I know how to evaluate my program
4		• I know how to use repetition in programs • I know how to use simple selection in programs • I know how to work with a variety of inputs and outputs • I know how to use logical reasoning to systematically detect and correct errors in programs
5		• I know how to create programs by decomposing them into smaller parts • I know how to use a variety of selection commands in programs • I know how to use conditions in repetition commands • I know how to work with variables • I know how to create programs that control or simulate physical systems • I know how to evaluate my work and identify errors
6		• I know how to use a range of sequence, selection and repetition commands to implement my design • I know how to identify the need for, and work with, variables • I know how to create procedures to hide complexity in programs • I know how to critically evaluate my work and suggest improvements