

Year 5 – Term 6

Has the time come to trust machines more than humans?

COMPUTING



Sprites can be made to 'speak' using 'looks' blocks and using the 'if' block means you can set conditions for actions to be carried out.

Progression in Skill:

Problem Solving

Design, write and debug a program using a block language based on their own ideas.
Experiment with computer control applications.

Programming

Use sequence, selection and repetition in programs.
Write a program that accepts keyboard and mouse input and produces output on screen through speakers.

Logical Thinking

Explain a rule-based algorithm in their own words.

Creating content

Use and combine a range of programs on multiple devices.

Long-term Memory Knowledge:

Children can code using 'if/then/else,' 'sensing,' 'broadcast' and 'touching' blocks to create interaction between sprites in a game.
They build a way of tracking progress or challenge into their game using variables, possibly through scoring, loss of lives or a countdown timer.
Children develop techniques to detect and correct errors in their code, e.g. explaining to a friend what the code does, isolating the bit of the code that is causing the problem (perhaps by stepping through the program one line at a time), changing variables, or rewriting code.
They develop an understanding of the importance of using logical thinking and the scientific method of changing just one input at a time.

Key Vocabulary

variables	a way in which computer programs can store, retrieve or change data, such as a score, the time left or the user's name
block language	a programming language in which blocks are used to program the computer
script	a computer program typically executed one line at a time through an interpreter, such as the instructions for a Scratch character
sprite	a computer graphics object that can be controlled (programmed) independently of other objects or the background

Progression in Resources:

J2code: visual (level 2/3)

Relevance

Now	Children are increasingly confident in spotting their own mistakes and can find ways to solve them, developing resilience as they do so.
Future	Children can think around a complicated issue in life in order to solve a problem.
Aspirational	Children can become part of a team to think creatively around a problem to find a workable solution; they may consider a career in computing.

National Curriculum Links:

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.
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.

Essential Prior Learning:

Children should be familiar with visual coding, for example that used in Scratch or J2e. They should be able to give instructions that move a sprite around a screen using the 'motion' blocks of code and co-ordinates.