Year 6 – Term 1

Looking to the future, how important are legacies from the past?

COMPUTING

National Curriculum Links:

Design, write and debug programs that accomplish specific goals, including controlling or stimulating physical systems; solve problems by decomposing them into smaller parts.

Use sequence, selection and repetition in program; 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.

Essential Prior Learning:

Children have used computer programming to control external equipment such as Lego and K'Nex.

They have used different computer programs to write a code that controls a sprite on the screen using block language.

Progression in Skill:

Design, write and debug a program based on their own ideas.
Design, write and debug their own computer control application.
Use sequence, selection, repetition and variables in programs.
Give clear and precise logical explanations of a number of algorithms.

Long-term Memory Knowledge:

Computer codes control many things we take for granted: for example, traffic lights and pedestrian crossings, signs and advertising, security lights.
Children will understand that they need to use a set of instructions to communicate with a computer.
Coding is a series of steps, written by the child, that the computer will follow.
Children will know that they need a disciplined, flexible approach to solving problems.

Key Vocabulary

algorithm	set of instructions
coding	the process of creating, designing or building a program
bug	a flaw in a set of instructions
program	allows a computer programmer to write lines of code that the computer can understand
variable	a value that changes
loop	a code that is repeated
bit	a singular unit of information usually represented by 0 or 1
scratch	a block-based programming language

Progression in Resources:

Crumble kits

Relevance

Now	Children use and apply the coding knowledge they have developed to a different situation: controlling lights rather than a sprite; they develop their understanding of how much we rely on computers and codes in twenty-first century life.
Future	Children can program everyday devices, such as security lights, to be useful; they have some understanding of the sequencing of traffic lights and use this knowledge to stay safe when using or crossing the road.
Aspiration	Careers in computer programming are considered, maybe in developing new products that enhance our lives and keep us safe or games and toys for entertainment.