Coleman Primary School

Key Knowledge Organiser: ***Year 6 – Autumn 1***

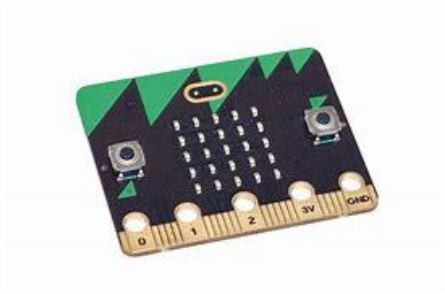
Computing: We are toymakers

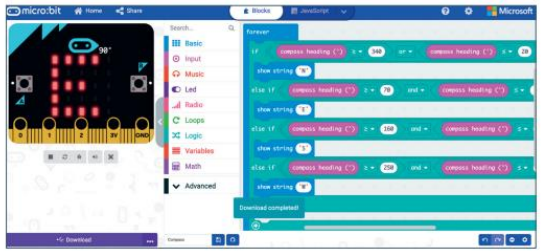
In this unit, pupils design and develop a micro:bit modification needed to make a soft toy interactive. They will have the opportunity to research electronic toys, design a toy and program a micro:bit to make it interactive.

Key Vocabulary

accelerometer	Hardware component providing data on changes in motion, typically in three directions
Bluetooth	Wireless digital communication
Controller	Programmable device that controls electronic output based on electronic input
Decomposition	Breaking a problem down into smaller parts
Edge connector	Part of a circuit board that allows input and output components to be directly connected
Embedded system	Computer hardware and software that forms part of a device or product
Input	Data supplied to a computer
Interactive	A system which input information into to get an output
Light-emitting diode (LED)	A component which lights up when current flows in one direction
MakeCode	Block- and text-based editor from Microsoft
Micro:bit	Simple, single board programmable computer
Output	Information produced by a computer
Simulator	Software that lets you test a program by allowing one computer system to behave like another
System	A set of components working together

Images:





In this unit, pupils will learn:

- To know how computers use stored programs to connect input to output.
- To know how to generate and evaluate designs in response to a brief.
- To know how to plan a complex project by decomposing it into smaller parts.
- To know how to design and write a program for an embedded system

Skills learned prior to this unit:

- design, write and debug programs that accomplish specific goals
- use sequence and repetition in programs; work with inputs and outputs
- use reasoning to explain how some simple algorithms work and to detect and correct errors in programs

Skills learned this unit:

- design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems
- use sequence, selection and repetition in programs, work with variables and various forms of input and output
- 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 analysing and evaluating data and information.