



YEAR 6

Subject: Computing
Unit: Programming – Sensing

Characteristics of an Effective Learner

- Courage
- Commitment
- Collaboration
- Creativity
- Curiosity

We aim to equip pupils to use computational thinking and creativity to understand and change the world; to become digitally literate –using, and expressing themselves and developing their ideas through, information and communication technology. They will build on this knowledge and understanding, becoming equipped to use information technology to create programs, systems and a range of content– at a level suitable for the future workplace and as active participants in a digital world

Prior Learning:

Key concepts from Education for a connected World:
 Year 1 Introduction to programming
 Year 2 Programming Robot algorithms
 Year 3 Programming Events and Actions
 Year 4 Repetition in gaming
 Year 5 Programming A selection in physical computing
 Year 6 Programming Variables in games

Key Vocabulary taught in this unit:

Microbit, MakeCode, input, process, output, flashing, USB, selection, condition, if then else, variable, random, sensing, accelerometer, Compass, direction, navigation, design, task, algorithm, step counter, plan, create, code, test, debug

Intent: What do we want the children to know, be able to do by the time they complete this unit?

- **Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts**
 Design and create a program to run on a controllable device; design a project that uses inputs and outputs on a controllable device
- **Use sequence, selection, and repetition in programs; work with variables and various forms of input and output**
 Explain how selection can control the flow of a program
- **Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs**
 Update a variable with a user input; use a conditional statement to compare a variable to a value
- **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**
 Use a micro bit to create a controllable program

Impact / Outcome:

What will the final product / result be?

Pupils will use a micro-bit to create their own step counter,

P4C Inquiry (where appropriate)

N/A