Progression in Programming

EYFS

- Introduction to unplugged algorithms (Jam Sandwich instructions)
- Follow instructions from adult / peer using correct vocabulary
- Watch and listen to Year 1 children. Introduction to Beebots.
- Knowledge of sequence built: ordering steps in a process using time connectives (first, next, then) – can add timings or decisions if appropriate

Year 1

- Revisit unplugged algorithms
- Programming Beebots – Challenge cards
- Create 'How to use a Beebot' video to support Reception children.
- Use precise instructions to create a map for Beebots – Problem solving
- Predict – explore – explain cycle

Year 2

- Programming the character to move using blocks (coding) through tinkering

- Explain what blocks can do and how they work
- Predict – test – review cycle (reasoning with coding) in talk partners
- Create an animation using programming blocks and recognise loops
- Create and debug simple programs
- Program a code to run on tap – make the musical instrument play
- Introduction to controlling a sequence
- Use recordings of their own voice or pre-recordings and put them in a sequence
- Coding a joke
- Creating a three little pigs algorithm

Year 3

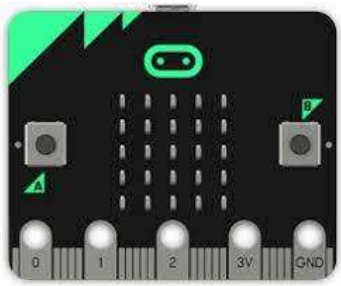
- To tinker with the new program / software – Scratch
- Understand different loops – choose appropriate loops (including loops in music)
- Use forever loops
- Create an animation by decomposing and problem solving
- Read someone else's program and debug to fix it using the game 'sabotage'.
- Explain the purpose of an algorithm and decompose a problem
- Write an algorithm to code a program

Year 4

Further coding with scratch

- Adjust sprite
- Add new sprite to stage
- Write a simple script
- Understanding how a Scratch game works by using decomposition to identify the key feature
- Sprites to contain more than one script
- Understand what a variable is and how to make one
- Use knowledge of variables to create a quiz
- Use an if/else block to check whether an answer is correct
- Using a variable called 'score' to calculate the total number of correct answers
- Ensure quiz is engaging and exciting

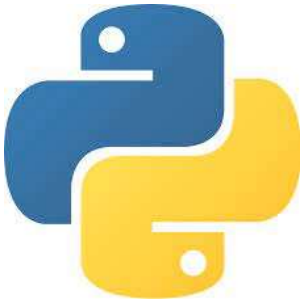
Year 5



Micro:bit

- Predict – explore – explain cycle linked to Micro:bit
- Decompose an amination into a series of images
- Explain the difference between 'on start' and 'forever'
- Choosing the correct block coding
- Identify code blocks
- Prediction of what block / program does and explain how it works
- Decompose and debug a program

Year 6



Python

- Tinker with a new program (Logo) by exploring independently

- Explain how a nested loop works within Logo
- Decompose a picture
- ‘Remix’ a project by tinkering
- Choose Python commands for a purpose
- Explain what a loop is and suggest and appropriate place to use a loop
- Use syntax for a loop
- Identify the need for random numbers
- Write an algorithm
- Decompose program