# ICT Curriculum Map – Computer Programming

EYFS

- Sequencing items using drag and drop on screen e.g. how to clean your teeth or creating a simple tune.
- Following instructions, using buttons to control onscreen avatars in online games and software
- Moving toys using different methods (including controlling Beebots).

Year 1

- Programming unplugged activity – drawing pictures on paper using vague and specific instructions (to stress the importance of clear instructions within programming).
- Programming Beebots to solve problems/reach a given location.
- Predict the movement of the Beebot to help when sequencing more than one instruction.
- Using an on-screen avatars.
- Exploring how items are controlled in different ways – levers, buttons, joy sticks, draw strings, etc… (control technology).

Year 2
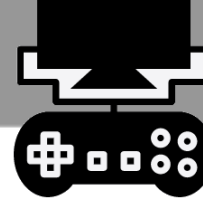
- Block based programming to move characters around the screen.
- Programming on screen avatars, by making choices, in order to differentiate between items.
- Investigate how sensors are used, as part of hardware, to support using programming to sort.
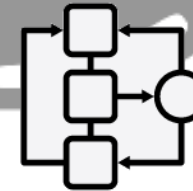- Program simulations by altering variables and testing changes.

Year 3

- Program avatars (Scratch) to respond to a single input e.g.. using left click to collect items (including altering the angle of the characters as they move).
- Using Logo to create textual programming to create shapes (including use of repeat).

Year 4

- Use of loops (within block based programming), angles of turn to create patterns and pictures & grouping commands (pre-cursor to nesting in Y5).
- Predict the outcome of new commands as a class.
- Use Logo to make turns in order to create a picture. Use textual programming to alter pen colour and fill shapes.
- Use sequential programming (FlowGrid) to program simulations using inputs and outputs.

Year 5

- Create a quiz where users can input their own answers (score variable is also created) – includes the use of IF statements for if an answer in correct or incorrect and loops to continue the questioning.
- Use Logo to create a repeated pattern. Alter angles of turn to create shapes and randomise movement. Use of nesting to create one overall program.
- Use block based instructions to program a robot to complete a simple activity (e.g. lifting a ramp or releasing a crane) using inputs (e.g. sound or button), outputs (the wheels and forklift) and sensors (infrared).
- Annotate a print screen of the completed program to explain how the programming works and any changes that have been made.
- Use sequential programming (FlowGrid) to control more than one output.

Year 6

- Create a game using looped commands to move avatars & collect items and/or reach a destination, using IF statements, in a given time limit (timer variable).
- Annotate a print screen of the completed program to explain how the programming works and any changes that have been made.
- Consolidation of creating a quiz/game that allows user input. List variables are used to provide the answers (as opposed to operators in the Y5 project).
- Using extensions in Scratch to translate text input into different languages.

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