



Prior Learning:

In Year Two, the children will understand what algorithms are and how they are implemented as programs on digital devices. They will know that programs execute by following precise and unambiguous instructions. They will use a floor robot (Beebot) to create and debug simple programs and use logical reasoning to predict the behaviour of simple programs.

Key Computing Knowledge: Know basic coding skills using Hopscotch software on an iPad to create a game.

- Know how to use a variety of inputs.
- Know how to use a variety of outputs.
- Know how to use the 'repeat' (loop) command within a series of instructions.
- Know how to use the 'if... then' (conditional statement) command within a series of instructions.
- To be able to design a programme to accomplish a task (i.e. Whack a mummy or escape from a pyramid maze).
- Know how to use pen down/pen up commands.
- Know how to use pen-up/pen-down and an algorithm to draw 2D shapes on-screen.
- Know that computer algorithms (instructions) can be represented in a written language or as symbols and flow charts.
- Know that algorithms have to be clear.
- Know that algorithms can included choices (if) and repetition (loops)
- Know that algorithms must be tested and changed if wrong.
- Know that programmes on computers are just set of instructions to meet a task.



Software/Hardware Resources

- ✓ iPads
- ✓ Hopscotch software
- ✓ <https://www.bbc.com/ownit/take-control/gaming-when-to-take-a-break?collection=gaming>
- ✓ <https://www.bbc.co.uk/bitesize/topics/zs7s4wx/articles/zw96tfr>
- ✓ <https://www.bbc.co.uk/bitesize/topics/zs7s4wx/articles/zqrq7ty>

Key Computing Vocabulary

algorithm	A set of instructions or rules followed by a computer programme.
coding	Coding is the process of using a programming language to get a computer to behave how you want it to.
input	Input is the term for anything that goes into the computer, such as a command from the keyboard or a piece of coding.
output	Output is the term used for anything that is sent out by a computer, such as text on the screen or a piece of graphics moving in an online game.
loop/repeat	In computer programming, a loop is a sequence of instructions that is continually repeated until a certain condition is reached.
symbols	A symbol is a graphic or picture used by a computer to represent a function. For example, images of arrows are used in coding to indicate direction of movement.
flow charts	A flowchart is a diagram that represents an algorithm or process. The flowchart shows the steps as boxes and their order by connecting the boxes with arrows.
if/when	A condition of the code, which defines 'if' or 'when' a sprite will move.
pen down	A condition of the code, which will leave a drawn trail once the sprite, has moved.
pen up	A condition of the code, which will stop the sprite from leaving a drawn trail as it moves.

Computing Outcomes

The children will create a short game using the Hopscotch coding software on the iPads. They will base their game on an Ancient Egyptian theme, such as chasing a mummy or finding a way out of a pyramid. The children will share and play each other's games.

Cross Curricular Links

Maths: Understanding symbols, directions and flow charts.
History: To study the achievements of the earliest civilizations - an overview of where and when the first civilizations appeared and a in depth study of Ancient Egypt.