Computing - Spring Term – Year 6

This term's eSafety focus includes reviewing and editing online safety rules as well as reviewing the risks of using social networking sites and understanding age restrictions. Pupils will also use Scratch to further develop their programming skills, decomposing larger tasks into smaller parts, and detecting and correcting errors in algorithms.

In this unit children will:

- Develop their knowledge of programming through Scratch

  Learn how to:

  - use a **forever** loop to constantly generate a moving sprite
  - use a **repeat until** loop to ensure the sprites follow a line
  - stamp a sprite.
  - make your own Scratch blocks
  - use block inputs
  - create random numbers
  - broadcast a message and have other sprites respond
  - select random items from a list

Prior Learning

eSafety is taught in every year group.

PSHCE Rights & responsibilities

Year 2 & 3 – Programming Beebots & Spheros

Year 3 & 4 – Programming with Logo

Year 4 – Introduction to Scratch

Year 5 – Scratch to develop games

Cross Curricular Links to Scratch

Maths – inputs and outputs links to algebra in Year 6.

Key Vocabulary

Scratch – it is a block-based visual programming language

sprite- are the images on a Scratch computer program screen. Every Scratch program is made up of sprites

scripts (instructions) that control the sprites. Scripts are programmed to make the sprites do things.

blocks - Blocks are puzzle-piece shapes that are used to create code in Scratch.

broadcast - A broadcast is a way of sending a message from a sprite which can be heard by all sprites. Think of it like an announcement made over a loudspeaker.

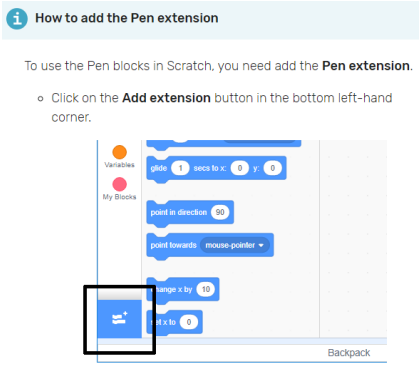
algorithm – a set of rules or instructions to be followed

clone - allows a sprite to create a copy of itself while the project is running.

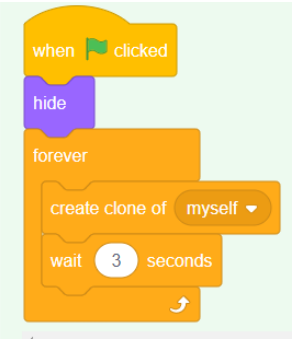
extension - allows Scratch to connect projects with external hardware, sources of information on the web or blocks allowing for more advanced functionality.

Key Knowledge

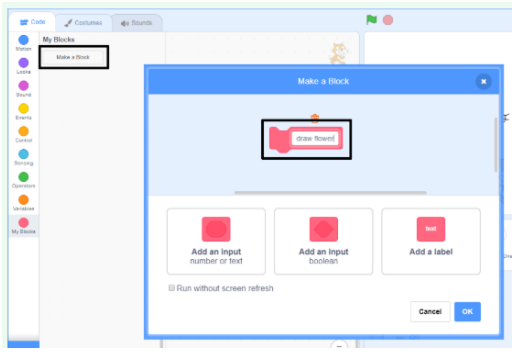
I know how to add the pen extension so that I can draw with a **sprite**.

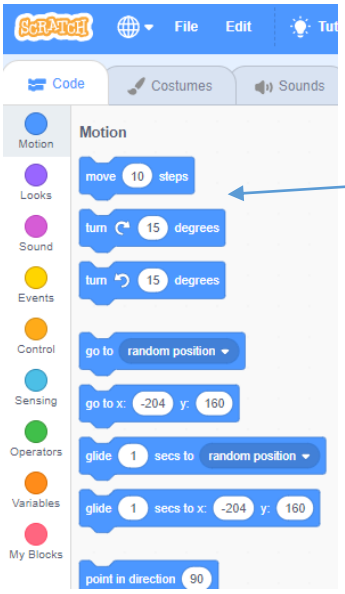


I can **clone** a **sprite** so that it repeatedly appears

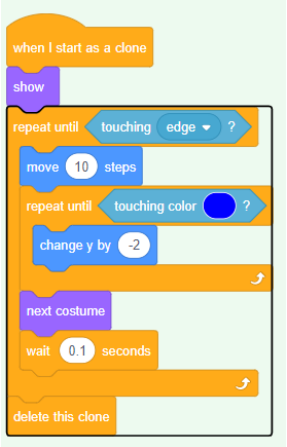


Instead of making lots of copies of the code, I can create my own **block** and use it each time.





These are the **blocks** use in Scratch to create **algorithms.**



I can make the sprites walk until they reach an edge. When it reaches the edge of the Stage, it should disappear.

Key Questions

- Do you know how to set the pen colour to a specific colour?
- Can you predict the outputs for the steps in an algorithm before your un it?
- Can you extend your project by adding a score board or timer?
- How could you make your game more difficult for the player?