Computing – Spring 2 - Year 5

Programming with Scratch

This term's eSafety focus is to protect our future selves.

Children will develop their skills in Scratch, using basic programming to create larger projects.

In this unit children will:

- **eSafety** - understand that posting inappropriate information online can cause regret later and that it can last forever.

Scratch - Learn how to:

- Change the costume of a sprite
- Use a repeat loop to animate a sprite
- Use a forever loop to repeat an animation indefinitely
- Understand that loops can be nested within each other
- Use pauses between actions within loops
- Use code to generate random numbers
- Add a variable to store a game score

Prior Learning
eSafety is taught in every year group.

Year 1 -Programming toys

Year 2 - Intro to programming / Beebots

Year 3 - Programming with Logo – Part 1

Year 4 - Programming with Logo – Part 2

Year 4 - Animation Skills / Pivot

Year 4 - Intro to Programming with Scratch

Cross Curricular Links to Scratch

Maths - direction, movement and positon, geometry, coordinates

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

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

**block of code** – more than one block linked together

animate / animation - to make something move

backdrop - Sprites appear on a stage Different backdrops can be added.

loops - a block that 'wraps around' other blocks so that it is repeated. This means you don't have to add it several times.

variable – this is something that changes, in Scratch it can be used to make a score counter or timer.
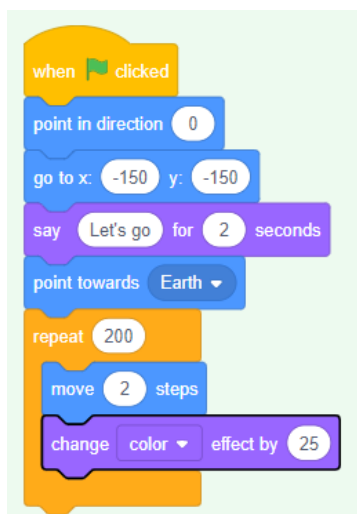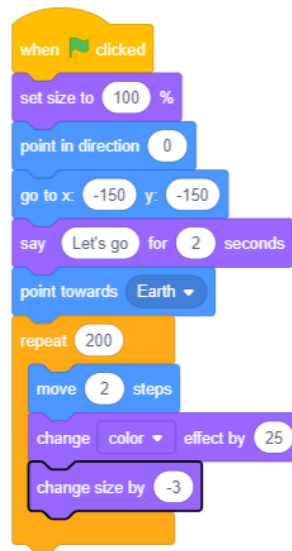
Key Knowledge
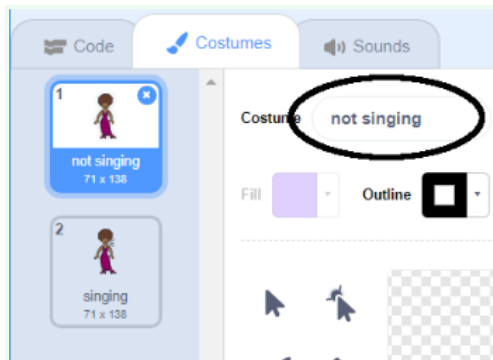
I can change the costume of a sprite.

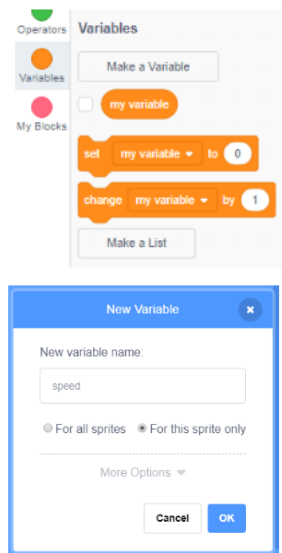I can use the code in the looks menu to switch between costumes.

I can use loops to 'repeat' blocks of code a given number of times.

When blocks of code become long, it is important to test them after each change.

Is it the outcome you wanted? Can you tinker (play around) with it to improve the quality of the outcome?

Variables can be used to keep score.

You need to make one and name it – it will then appear in your game.

Can you set it to zero when a new game starts?

Key Questions

- Can you add code to your sprite repeatedly grow and shrink?
- How can you make your sprite spin slowly in a circle forever?
- Why is it important to use pauses between actions within loops?
- How can it be improved further?