Owls – Year 4/5
Spring 1 (B)

Computing
Programming - Scratch

What I should already know: *I can follow instructions as part of practical activities and games. I can give simple instructions. I can program a Bee-bot/ Blue-bot to follow a planned route. I can debug instructions when things go wrong. I can use programming language to explain how a floor robot works. I can debug an algorithm in an unplanned scenario. I can use logical thinking to explore software, predicting, testing and explaining what it does. I can use an algorithm to write a basic computer program. I can use loop blocks when programming to repeat an instruction more than once. I can incorporate loops to make code more efficient. I can continue existing code. I can make reasonable suggestions for how to debug their own and others' code.*

Enquiry Questions

- What are the key features of Scratch?
- How does a Scratch game work?
- What is a variable and how do we make one?
- How can we make a variable in Scratch?
- How can we use variables to make a quiz?

Key Vocabulary

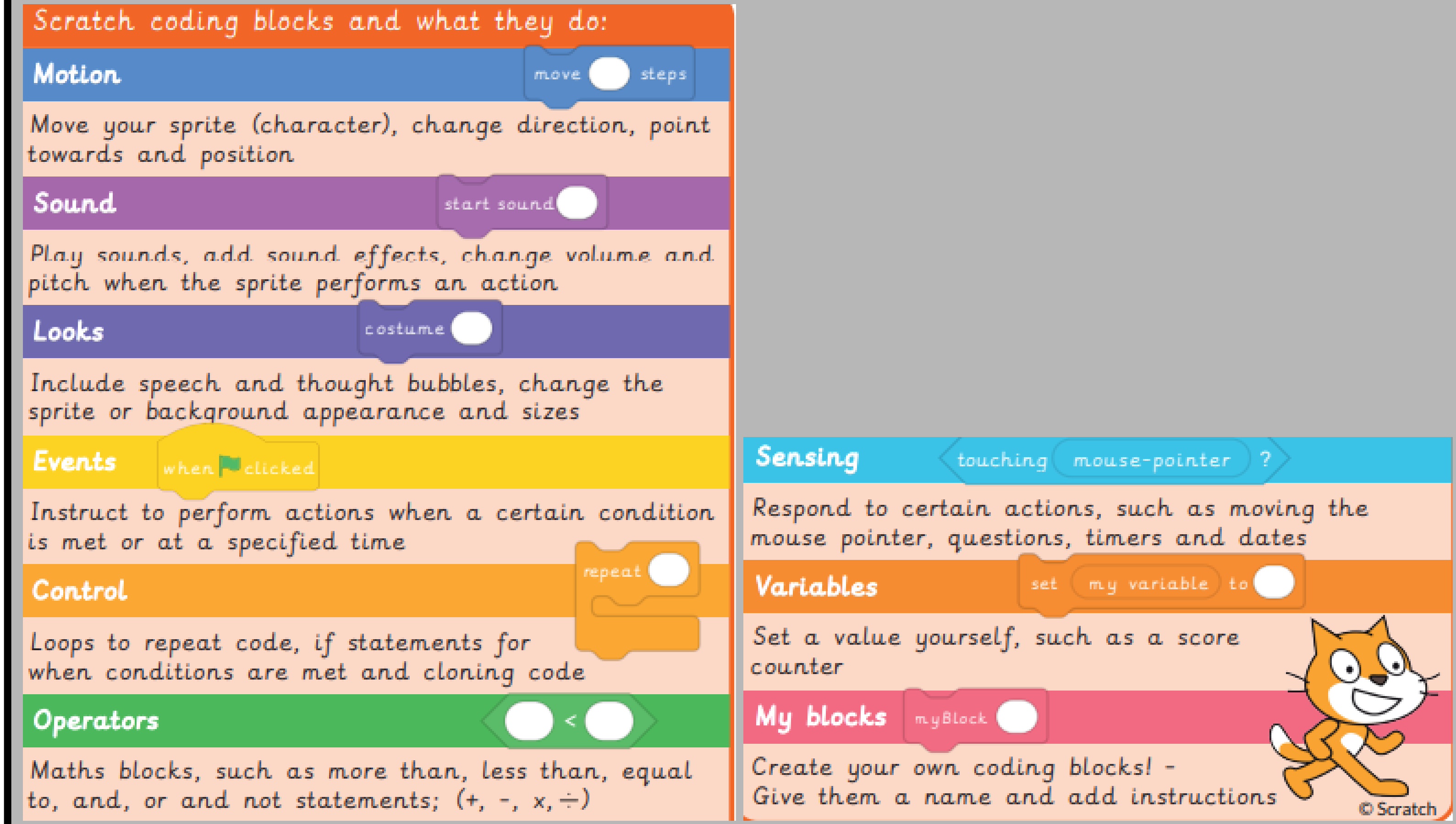
Broadcast block – Block used to set the timing of events in an animated scene, game or story.
Code blocks – A visual representation for a section of code that performs a certain job. They can be snapped together to build a program.
Conditional – Depending on or demanding a certain condition or conditions.
Coordinates – A pair of numbers that identifies a point on a graph or grid.
Decomposition – Breaking something down into smaller chunks.
Features – The individual parts that make up something
Negative numbers – Numbers that describe values on a scale that goes below zero, e.g. temperature scales.
Orientation – Positioning to a particular place or direction.
Parameters – A set of specifications or limits, the value or variations of which determine the form or behaviour of something.
Position – The location of where something or someone is.
Program – A sequence of instructions that allows a computer to perform a task or a set of operations.
Project – A creation developed within the Scratch program.
Script – A program or sequence of instructions that is interpreted or carried out by another program.
Sprite – Visual object that can be manipulated through code, for example to move, respond, appear or disappear.
Stage – The background of the Scratch project to suit your game, animation or project.
Tinker – To explore and play with something to discover the key functions.
Variables – This could be a number or text, that can change each time the program is run and often in combination with selection, to change the end result of the program.

Computing Skills

Pupils will:

- Create algorithms for a specific purpose.
- Code a simple game.
- Incorporate variables to make code more efficient.
- Iterate and develop their programming as they work.
- Use a more systematic approach to debugging code, justifying what is wrong and how it can be corrected.
- Write code to create a desired effect.
- Use a range of programming commands.
- Amend code within a live scenario.

Links to other curriculum areas: Maths –time tables



Scratch coding blocks and what they do:

Motion

Move your sprite (character), change direction, point towards and position

Sound

Play sounds, add sound effects, change volume and pitch when the sprite performs an action

Looks

Include speech and thought bubbles, change the sprite or background appearance and sizes

Events

Instruct to perform actions when a certain condition is met or at a specified time

Control

Loops to repeat code, if statements for when conditions are met and cloning code

Operators

Maths blocks, such as more than, less than, equal to, and, or and not statements; (+, -, x, ÷)

Sensing

Respond to certain actions, such as moving the mouse pointer, questions, timers and dates

Variables

Set a value yourself, such as a score counter

My blocks

Create your own coding blocks! -
Give them a name and add instructions