| Design a maze project | **Computing** | **Learning Lens: Computer Science** |
| | **Knowledge organiser** | **Class: 3** |

Previous Knowledge

Using Scratch Junior, the children will have followed precise and unambiguous instructions, created programs on iPads, debugged programs and used logical reasoning to predict the outcome of simple programs.

Project Hook or 'Wow' memory

To design a maze and programme a bug to travel though it showing the line that it takes.

Learning Steps	Key Knowledge (answers)
Explain how a sprite moves in an existing project.	Learn how characters move using events, improve and existing project and control multiple sprites.
Create a program to move a sprite in four directions.	Choose a character for a sprite, make it an appropriate size and program the movement.
Adapt a programme to a new context by drawing a line.	Use a programming extension, consider the real world when making design choices and choose blocks to set up the programme.
Develop a program by adding features.	Identify additional features, choose suitable keys to turn on the features and build more sequences of demands to make the design work.
Identify and fix bugs in a program.	Test a program against a given design, match a piece of code to a given outcome and modify a program using a design.
Design and create a maze based challenge.	Make design choices and justify them, implement the design and evaluate the project.

The key skills we want pupils to use during this topic:

I can design and create programs

I can write programs that accomplish specific goals

I can use repetition in programs I can work with various forms of input

Key vocabulary

Events	Actions that occur in a sequence one after another.
Debugging	A problem with a program script is fixed so it works correctly.
Motion	The movement of a sprite.
Logic	A way of solving a problem that uses careful thought and reasoning.
Algorithm	A set of instructions to be followed.
Code	A set of instructions that work together to make the sprite move.
Extension Block	An object or program that is used at the same time as Scratch.

Statutory Requirements

Create and solve a maze.

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