Linked learning theme: Spring term, Year 2

Computing – Creating media – Robot algorithms

Prior Learning

- In Year 1, the children will have completed the Moving a Robot module, creating simple instructions and being introduced to algorithms that will allow their robot to move. This learning will be extended in this module as the children design their own algorithms, making predictions and debugging errors within these.

Core knowledge

This unit develops pupils' understanding of instructions in sequences and the use of logical reasoning to predict outcomes. Pupils will use given commands in different orders to investigate how the order affects the outcome. Pupils will also learn about design in programming. They will develop artwork and test it for use in a program. They will design algorithms and then test those algorithms as programs and debug them.

Key skills

- Create clear and precise instructions that can be used to form an algorithm.
- Consider the order of instructions and sequence instructions to explore outcomes.
- Make predictions using logical reasoning.
- Design, create and test a product.
- Design and test algorithms, making predictions about their outcome.
- Decompose a coding problem and debug errors within the algorithm.

Vocabulary

Algorithm
Debug
Decompose
Design
Instruction
Outcomes
Predictions
Sequence
Test

Learning Outcomes

- To describe a series of instructions as a sequence.
- To explain what happens when we change the order of instructions.
- To use logical reasoning to predict the outcome of a program (series of commands).
- To explain that programming projects can have code and artwork.
- To design an algorithm.
- To create and debug a program that I have written.