ALGORITHMS – OVERVIEW

Overview

This unit introduces students to algorithms. This will be the first time some students have heard the term algorithm.

In this unit, students will understand that an algorithm is simply a sequence of instructions. They will learn how to sequence instructions to achieve a desired result. They will learn that sometimes there are things wrong with the instructions which prevents the result we want from being produced. They will learn that sometimes bugs (or errors) can occur in instructions which affect the results.

National Curriculum

You can see the areas of the National Curriculum and the key computing concepts covered in this unit in the table below:

Knowledge and understanding	Computing concepts
To understand what algorithms are.	Algorithm
To understand that programs follow precise and unambiguous instructions.	Sequencing
To understand how to create precise instructions.	Sequencing
To understand how to debug a simple program.	Debugging

The Computing Curriculum

You can see where the knowledge and understanding developed in this unit fits into the computing curriculum in the table below:

Prior Learning	Future Learning
EYFS Unit: Introduction to Beebots and programmable toys.	Year 1 Unit: Virtual Beebots.
	Year 2 Unit: Debugging algorithms.
	Year 2 Unit: Scratch Jnr.
	Year 3 Unit: Introduction to Scratch.
	Year 3 Unit: Programming a quiz in Scratch.
	Year 4 Unit: Introduction to micro:bits.
	Year 4 Unit: Introduction to HTML.
	Year 5 Unit: Advanced micro:bits.
	Year 5 Unit: Programming simulations.
	Year 6 Unit: Scratch – coding a computer game.
	Year 6 Unit: Introduction to Python.

Cross-curricular links and extension activities

This unit provides opportunities for cross-curricular links to maths. Students will learn about position, direction and describing movement. Children will also learn about key skills such as making a sandwich. They will have links to English as they learn to read, use and make instructions.