



Computing Topic: Coding 5.1

Year: 5 Term: Autumn 1

Key Knowledge/Content Coding:

- To begin to simplify code.
- To create a playable game.
- To understand what a simulation is.
- To program a simulation using 2Code.
- To know what decomposition and abstraction are in computer science.
- To take a real-life situation, decompose it and think about the level of abstraction.
- To understand how to use friction in code.
- To begin to understand what a function is and how functions work in code.
- To understand what the different variables types are and how they are used differently
- To understand how to create a string.
- To understand what concatenation is and how it works.

Links to:

Prior learning:

Use code selection for repetition.

Future learning:

Progression of coding is seen throughout school.

Key vocabulary with definition:

Prior Vocabulary Coding:

- Code blocks - A way to write code using blocks which each have an object or an action. Each group of blocks will run when a specific condition is met or when an event occurs.
- Nest - When coding commands are put inside other commands. These commands only run when the outer command runs.
- 'If/Else' Statement - A conditional command. This tests a statement. If the condition is true, then the commands inside the 'if block' will be run. If the condition is not met, then the commands inside the 'else block' are run.
- Debug/Debugging- Fixing code that has errors so that the code will run the way it was designed to.

New Vocabulary Coding:

- Concatenation - The action of linking a mixture of strings, variable values and numbers together in a series.
- Decomposition - A method of breaking down a task into manageable components. This makes coding easier as the components can then be coded separately and then brought back together in the program.
- Efficient - In coding, simplified code runs faster and uses less processing memory, it is said to be more efficient.
- Physical System - In this context, this is any object or situation that can be analysed and modelled. For example modelling the function of a traffic light, modelling friction of cars moving down surfaces or modelling the functions of a home's security system.

By the end of this unit

All children can: recall and apply previous coding knowledge in their code.

Most children can: understand the processes of decomposition and abstraction and can apply this knowledge when they are planning algorithms for a program.

Some children can create more complex programs and are beginning to understand that there are ways to simplify code to make my programming more efficient.

Background understanding for teachers and parents:

Children recall and apply previous coding knowledge to create more complex programs and understand that there are ways to simplify code to make my programming more efficient. With ease.

Curriculum Driver (one):

Knowledge of the World

Evidence outcome:

Children understand how coding is implemented across the world, including through the use of remote controls, use of technologies, keyboards and mouses.