Lodge Farm Primary School- Knowledge Organiser

Computing Topic: Coding 6.1

Year: 6 **Term:** Autumn 1

Key Knowledge/Content Coding:

- To design a playable game with a timer and a score.
- To plan and use selection and variables.
- To understand how the launch command works.
- To use functions and understand why they are useful.
- To understand how functions are created and called.
- To use flowcharts to create and debug code.
- To create a simulation of a room in which devices can be controlled.
- To understand how user input can be used in a program.
- To understand how 2Code can be used to make a text-adventure game.

Links to:

Prior learning:

Plan algorithms to a program.

Future learning:

Continue to develop coding skills.

Key vocabulary with definition:

Prior Vocabulary Coding:

- 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.
- 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.

New Vocabulary Coding:

- Variable - A named area in computer memory. A variable has a name and a value. The program can change this variable value. Variables are used in programming to keep track of things that can change while a program is running.
- Function - A block or sequence of code that you can access when you need it, so you don't have to rewrite the code repeatedly. Instead, you simply call the function each time you want it.

By the end of this unit

All children can: **make** good attempts to 'read' code and **predict** what will happen in a program.

Most children can: **translate** algorithms that include sequence, selection and repetition into code and their own designs show that they are able to think of how to accomplish the set task in code utilising such structures including nesting structures within each other

Some children can: beginning to be able to **turn** a more complex programming task into an algorithm by identifying the important aspects of the task (abstraction) and then decomposing them in a logical way using their knowledge of possible coding structures and applying skills from previous programs.

Background understanding for teachers and parents:

Children have a clear idea of how to design and code a program that follows a sequence. Children demonstrate a secure understanding of the impact of changing the position of instructions within 2Code. With this knowledge, they can demonstrate use of the tabs feature to carefully section code for the intention of easier debugging and less code error, as my coding becomes more complex.

Curriculum Driver (one):

Knowledge of the World

Evidence outcome:

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