Computing Learning Journey
Year 2 Autumn 2nd ½

2.2 We are games testers

Working out the rules for games

Play a turn-based two-player game, working together to identify winning strategies

Play a professionally produced coding-based game

Work out the rules (algorithms) used in a shooting game

Work out the rules (algorithms) for a two-player sports game

Work out the rules (algorithms) for a chase game

Work out the rules (algorithms) for a simple arithmetic game

Key Vocabulary

Abstraction: computational thinking approach to managing complexity by simplifying things through identifying what is important, and what detail can be hidden

Algorithm: a sequence of precise instructions or steps (sometimes a set of rules) to achieve an objective

Computational thinking: a way of looking at problems so that the solution can be automated using a computer

Input: data supplied to a computer – in this case, it is a mouse click, keyboard press or tapping on a tablet

Output: information produced by a computer – in this case, it is moving sprites on a screen

Parallel processing: when programs run (or appear to run) simultaneously

Pattern recognition: computational thinking approach in which common aspects of how a system behaves are used to simplify implementing solutions

Remix: to take a project and make changes to its source code **Repetition:** programming construct which allows a group of instructions to be repeated a number of times, or until a certain condition is met **Scratch**: simple, block-based programming language in which programs for characters are built by snapping together code blocks **Source code**: the code that a particular program follows; the instructions or rules that determine what happens in a game or other application

Sprite: a graphical character in a program that can be given its own sequence of instructions

Software: Scratch, FixTheFactory (alternative: Blockly Games)
Hardware: iPads/Android tablets, laptops/desktop/Chromebook computers for Scratch

Online safety:
We know that if we see anything inappropriate whilst on scratch online we know to turn off the monitor/turn the iPad over and tell a trusted adult.
Appropriate filters and monitoring are in place at school and we know that we should only play age-appropriate games at home.

Switched on Online Safety Unit:
Social and emotional wellbeing and developing resilience
Unit 2.2 – We are not online bullies
Creating a strong message against online

Unit overview:
The children will learn to:
- observe and describe carefully what happens in computer games
- use logical reasoning to make predictions of what a program will do and test these
- think critically about computer games
- create sequences of instructions for a virtual robot to solve a problem
- work out strategies for playing a game well
- be aware of how to use games safely and in balance with other activities.

In Key Stage 1:
Pupils learned about input, output and repetition in **Unit 2.1: We are astronauts**.

In Key Stage 2:
- In **Unit 3.2: We are bug fixers,** pupils use computational thinking to debug Scratch programs.
- In **Unit 4.1: We are software developers**, pupils develop another arithmetic game.
- In **Unit 5.1: We are game developers**, pupils develop their own games in Scratch.