St John Fisher RC Primary School
Year Four Knowledge Organiser – Spring Two – Computing – Programming

What we will be learning	Key Facts to Remember
Weeks 1 - 4 **I know:** • What micro:bit and MakeCode is. • How to write basic algorithms. • How to use simple selection in programs. • How to use programming with inputs and outputs. • How to use debugging and logical reasoning. • How to completing the project and documentation.	• I can understand what a micro:bit is and how it can be programmed using MakeCode. • I can create basic algorithms to solve simple problems. • I can use selection statements (like 'if…then') in my programmes. • I can connect inputs (like buttons) and outputs (like LEDs) to my projects effectively. • I can apply debugging strategies to identify and correct errors in my code. • I can demonstrate logical reasoning skills when analysing programming challenges. • I can complete a project and document the process using SeeSaw.

Key Vocabulary and Glossary

- **Micro:bit** - A small, programmable computer that can be used for coding lessons.
- **MakeCode** - A free online platform that allows you to create programmes for the micro:bit.
- **Algorithm** - A step-by-step set of instructions for solving a problem or completing a task.
- **Selection** - A programming concept that allows a program to make decisions based on certain conditions (e.g., if…then).
- **Input** - Data or information sent to a program from devices like buttons or sensors.
- **Output** - Information that a program sends out, such as light from an LED or sounds.
- **Debugging** - The process of finding and fixing errors in a program.
- **Logical Reasoning** - The ability to think through a problem to find the correct solution.
- **Project** - A collaborative task where students create a program using their skills.
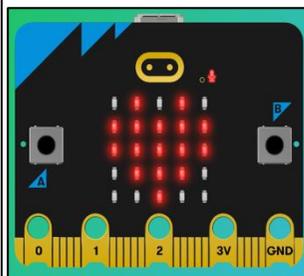
Interesting Facts

- The micro:bit was developed by the BBC for children to create and learn programming skills.
- Over 2 million micro:bits were distributed to schools in the UK, making it one of the biggest educational initiatives in history.
- The MakeCode platform allows block-based coding and JavaScript, catering to students with varying coding levels.
- The micro:bit has a built-in LED display that can show simple messages, numbers, and even animations!

Apps & Software

MakeCode
MakeCode is a free, online, block-based programming platform created by Microsoft that simplifies learning to code for beginners. It offers an easy-to-use interface for building programs, especially for the BBC micro:bit, but also allows for creating games, mods, and other projects.

BBC Micro:Bit
The BBC micro:bit is a pocket-sized, programmable microcomputer designed to help students learn about coding and digital making. It features an LED light display, buttons, sensors, and other features, allowing users to create a wide range of projects.

SeeSaw
An educational platform that can be used to create an electronic portfolio of children's completed digital work.