



# Curriculum Summary Document

## Year 8 Computing (1 x fortnight)

Module/Unit of Learning	Term Taught	What will students learn?	How will this build a broad and strong foundation?	Links to other subjects
Algorithms - How can we control the way things work?	1 + 2	<p>In the Year 8 project using Flowol 4, students will learn about algorithms by creating flowcharts to control real-life scenarios. They will gain an understanding of how to design and implement algorithms, which are step-by-step instructions for solving problems or performing tasks. By using flowcharts, students will visually map out these algorithms, making it easier to understand the logic and sequence of operations.</p> <p><b>Algorithm Design:</b> Students will learn to break down complex problems into manageable steps, which is a fundamental skill in computing and problem-solving.</p> <p><b>Flowchart Creation:</b> They will develop the ability to represent algorithms visually, which helps in planning and debugging code.</p> <p><b>Control Systems:</b> By applying their flowcharts to control real-life scenarios, such as traffic lights or robotic movements, students will see the practical applications of algorithms.</p> <p><b>Logical Reasoning:</b> This project will enhance their logical reasoning and critical thinking skills, as they will need to ensure their flowcharts are accurate and efficient.</p>	<p>Building on the Year 7 topics of digital citizenship, IT literacy, and basic coding, the Year 8 project using Flowol 4 will deepen students' understanding of algorithms through the creation of flowcharts to control real-life scenarios. This hands-on approach reinforces logical reasoning and problem-solving skills, essential for programming. By visualising and implementing algorithms, students gain practical experience in designing and debugging, which are crucial for more advanced computing topics. This project bridges the gap between theoretical knowledge and real-world application, ensuring a comprehensive and robust foundation for future studies in computing.</p>	Maths
From blocks to code - understand how to use code-based computing for programming	2 + 3	<p>In the "From Blocks to Code" topic using Scratch, students will transition from basic understanding of programming concepts, reinforcing and expanding their understanding of programming concepts. This builds on the Year 7 foundation of digital citizenship, IT literacy, and basic coding, as well as the Year 8 Flowol 4 project on algorithms and flowcharts..</p>	<p>By completing mini-projects, students will deepen their grasp of variables, loops, conditionals, and functions in a more complex coding environment. This hands-on experience with Scratch enhances their problem-solving skills and logical thinking, making the connection between visual and text-based coding clearer. This progression ensures students develop a comprehensive understanding of coding principles, preparing them for more advanced programming tasks and real-world applications</p>	Maths