Year 8 Curriculum map

Half-term	Units	Description
8.1	Computer Systems	This unit takes students on a tour through the different layers of computing systems: from programs and the operating system to the physical components that store and execute these programs, to the fundamental binary building blocks that these components consist of. The aim is to provide a concise overview of how computing systems operate, conveying the essentials and abstracting away the technical details that might confuse or put off students. This also covers open-source software and AI.
8.2	Web development	In this unit, students will explore the technologies that make up the internet and World Wide Web. Starting with an exploration of the building blocks of the World Wide Web, HTML, and CSS, students will investigate how websites are catalogued and organised for effective retrieval using search engines. By the end of the unit, students will have a functioning website.
8.3	Introduction to programming	This unit introduces students to text-based programming with Python. The lessons form a journey that starts with simple programs involving input and output, and gradually moves on through arithmetic operations, randomness, selection, and iteration. Emphasis is placed on tackling common misconceptions and elucidating the mechanics of program execution.
8.4	Graphics	This unit offers students the opportunity to design graphics using vector graphic editing software Vector graphics can be used to design anything from logos and icons to posters, board games, and complex illustrations. Through this unit, students will be able to better understand the processes involved in creating such graphics and will be provided with the knowledge and tools to create their own.
8.5	App development	This unit aims to take the students from designer to project manager to developer in order to create their own mobile app. Using App Lab from code.org, students will familiarise themselves with the coding environment and have an opportunity to build on the programming concepts they used in previous units before undertaking their project. Students will work in pairs to consider the needs of the user; decompose the project into smaller, more manageable parts; use the pair programming approach to develop their app together; and finish off by evaluating the success of the project against the needs of the user.
8.6	Data representation	This unit conveys essential knowledge relating to binary representations. The activities gradually introduce students to binary digits and how they can be used to represent text and numbers. The concepts are linked to practical applications and problems that the students are familiar with.