

Module/Unit of Learning	Taught During	What will students learn?	What enriching opportunities will students engage in?	Links to other Subjects
Computational Thinking	Autumn 1	Students will learn the principles of computing developing from year 8 computational thinking: abstraction, decomposition. This will develop into designing, creating and refining algorithms, alongside programming fundamentals. Learners will also complete aptitude and spatial testing to identify strengths and weaknesses in their computing skills et. The underlying theme of this term will be linked to careers in computing.	EU Code Challenge is an opportunity for students to apply the programming fundamentals in an international setting.	Yr8 computing
Computer Systems – the Central Processing Unit	Autumn 2	Students will learn the purpose of a computer and how this is developed into a computer system is the building blocks for Computer Science. All topics stem from this starting point. This subject will be taught around the Vodaphone App Project: which learners Identify everyday problems in the local community which could be solved by a mobile app, create, design and pitch the app.	Bebras Challenge a national competition that will bring together all the knowledge from Autumn 1 Vodaphone App Project	Business English
Boolean logic, Systems Architecture, units of storage	Spring 1	Students will learn about Boolean logic and how it is an integral part of both understanding computer systems and algorithms. It provides a deeper understanding of systems architecture and how computers work. Binary and logic gates are inherently connected. This will encourage confidence as students progress towards year 10 where algorithms and programming fundamentals is the focus.	Using the mircobits to apply knowledge learnt See real life examples of the FDE cycle	Maths

Systems Architecture	Spring 2	Students will learn about the purpose of a computer and how this is developed into a computer system is the building from Spring 1 students will know begin to research and learn a deeper understanding into system architecture. The component parts that fetch decode and execute instructions. They understand that instructions are converted into binary now we lead on to how they are decoded.	Factor in the sue of old IT equipment to be able to see a real example and be able to identify components	
Operating Systems, Systems software and defensive design	Summer 1	Students will learn about the operating system and why it is the most fundamental piece of system software. Learners will consider the interactions between software and hardware and the interface it provides between user and computer. This unit will also consider the purpose of defensive design as an introduction to Summer 2	Promote local careers and job opportunities Spaceport https://spaceportcornwall.com/ Monitor the development and launch of satellites from Newquay airport	
Threats to computer systems and networks	Summer 2	Students will learn about threats to computer systems and networks covering, cyber security threats, social engineer techniques (eg. phishing, pharming), malicious code as well as other cyber security threats. Methods to detect and prevent cyber security threats will also be considered.	Cryptography Challenge	