The GCSE curriculum has been developed to instil a solid foundation in both the practical programming aspects of computer science, and the conceptual theory too. Students are given ample opportunity for practical work both individually and in pairs to maximise their exposure to writing and debugging code, giving students the skills to further their coding ability through further study or individually.

Half Term 1:	Half Term 2	Half Term 3
Strand A - Programming part 6: Dictionaries and data files: **STUDENTS MUST KNOW:** - Why the record and dictionary data structures are useful in programming - How to write Python programs to initialise and utilise records and dictionaries **Strand B – Networks:** **STUDENTS MUST KNOW:** - What computer networks are including common hardware and topologies - How data is transmitted through both wired and wireless mediums - The different protocols used throughout networks with in-depth look at TCP **How this will be assessed:** Students will take a summative assessment analysing and writing code snippets at the end of the unit and a test on networks.	**Strand A - Programming part 6: Dictionaries and data files:** **STUDENTS MUST KNOW:** - How to read and write to and from a file in Python - How to structure and plan a large program - How to combine all previous knowledge in Python to write a complex program **Strand B – Impacts of Technology:** **STUDENTS MUST KNOW:** - The laws and regulations surrounding technology and data - The cultural, ethical, and environmental impacts of technology - How to write balanced arguments for or against technological topics **How this will be assessed:** Students will produce a large piece of code and sit an assessment on the impacts of technology.	**Strand A – Continuous Python programming:** **STUDENTS MUST KNOW:** - How to use all previously taught programming constructs to write and interpret programs **Strand B – Databases and SQL:** **STUDENTS MUST KNOW:** - The structure and parts of flat file and relational databases - How to structure and write SELECT, UPDATE, INSERT, and DELETE queries in SQL - How to interpret written questions to produce relevant SQL queries **How this will be assessed:** Students will sit a test on databases and SQL queries – coding will be continually assessed in class.
Half Term 4	Half Term 5	Half Term 6
Strand A – Continuous Python programming: **STUDENTS MUST KNOW:** - How to use all previously taught programming constructs to write and interpret programs **Strand B - Network Security:** **STUDENTS MUST KNOW:** - The potential threats posed to networks from cybercriminals	**Revision:** Key topics will be revisited with students in preparation for the GCSE exams.	**Revision:** Key topics will be revisited with students in preparation for the GCSE exams.

- How software and network design can help prevent attacks - How companies test their vulnerability to cybercrime **How this will be assessed:** Students will take a summative assessment on network security at the end of the unit – coding will be continually assessed in class.		

Embedding this knowledge can be supported at home by cross curricular experiences as well as developing computational thinking skills by use of program such a IDLE Visual studio code.
Codeacademy and code.org are also fun and challenging for anyone wanting to develop their programming skills