Subject: Computer Science

Kay Stage 3 Curriculum Plan

Year: 9

Department Information:

At KS3 students follow the national curriculum.

Curriculum aims and intent:

A high-quality computing education equips pupils to use computational thinking and creativity to understand and change the world. Computing has deep links with mathematics, science, and design and technology, and provides insights into both natural and artificial systems. The core of computing is computer science, in which pupils are taught the principles of information and computation, how digital systems work, and how to put this knowledge to use through programming. Building on this knowledge and understanding, pupils are equipped to use information technology to create programs, systems and a range of content. Computing also ensures that pupils become digitally literate – able to use, and express themselves and develop their ideas through, information and communication technology – at a level suitable for the future workplace and as active participants in a digital world.

Assessment:

Students are assessed on the last lesson of every half term, based on the content covered that term.

Resources used to support learning:

BBC Bitesize - Covers a wide array of topics at KS3 and KS4.
Youtube - Craig n Dave - Although aimed at GCSE content some topics have videos that will be useful for KS3 groups.

Home Learning:

How parents can help their child:

Encourage at home learning through reading the PowerPoints on Microsoft Teams and encouraging revision using BBC Bitesize and other materials.

Term	Summary of work being covered	Knowledge, Understanding and skills assessed	How the work is assessed	Career Links
1	Data Representation Focus on Binary, Denary and Hexadecimal conversions. Introduction to text, sound and image representation	Why is 1 + 1 = 10? Why do computers only understand 1s and 0s? Do you want a bit or a byte?	Microsoft Forms quiz on Teams	
2	Data Representation Focus on Binary, Denary and Hexadecimal conversions. Introduction to text, sound and image representation	Why is 1 + 1 = 10? Why do computers only understand 1s and 0s? Do you want a bit or a byte?	Microsoft Forms quiz on Teams	
3	Algorithms and logical thinking	Explain how an algorithm solves a given problem. Trace an algorithm to determine its output. Compare different algorithms for the same task. Understand how selection and iteration affect program flow. Explain the importance of efficient and accurate algorithm design. Identify and explain errors in an algorithm	Microsoft Forms quiz on Teams	
4	Algorithms and logical thinking	Explain how an algorithm solves a given problem. Trace an algorithm to determine its output. Compare different algorithms for the same task. Understand how selection and iteration affect program flow. Explain the importance of efficient and accurate algorithm design. Identify and explain errors in an algorithm	Microsoft Forms quiz on Teams	
5	Python Focus on Logic, data structures and functions	How can I make my programs more efficient? What is logic AND why is it needed? How can I develop my programming further?	Microsoft Forms quiz on Teams	
6	Python Focus on Logic, data structures and functions	How can I make my programs more efficient? What is logic AND why is it needed? How can I develop my programming further?	Microsoft Forms quiz on Teams	