Computer Science – Key Stage 3

Intent:

It is vital that students are able to use computers and relevant software independently. In order to achieve high levels of Computing competence early, students study Computer Science for one 50-minute lesson per week from Year 7 - 8. Students tackle challenging activities and cover topics in depth, allowing them not only to expand their skills and knowledge, but also to gain confidence. We believe the topics we cover at KS3 prepare students excellently for GCSE Computer Science.

The qualification will build on the knowledge, understanding and skills established through the Computer Science elements of the Key Stage 3 programme of study. The content has been designed not only to allow for a solid basis of understanding but to engage learners and get them thinking about real world application.

Term	Year 7		
	Topic	**Knowledge**	**Skills**
Term 1	**Introduction**	Logging on to the system, Managing their files properly Using e-mail Using social networking safely Keeping data safe scales, planning and executing fieldwork of our local area.	Log on Identify Describe Evaluate Justify
	Computer Hardware	The various components of a computer system and their purpose. The purpose of the CPU The purpose of the RAM The purpose of the Hard Drive The purpose of the I/O devices How they all function together The function of the CPU (including the fetch, decode, execute cycle)	Identify Describe Explain Evaluate
Term 2	**Visual Scratch Programming**	Programming inputs Variable storage Outputs Sequencing Selection	Identify Describe Explain Create Evaluate
	Binary Bits and Bobs	Binary number system Converting between binary and denary Simple binary addition Characters Images Sound	Identify Describe Explain Evaluate

Term	Year 7		
	Topic	**Knowledge**	**Skills**
Term 3	**Advanced Scratch**	The 'Advanced Scratch' unit introduces students to event driven programming. Students will recap basic programming constructs including selection / Iterations.	Identify Describe Explain Create Evaluate
	Introduction Python (Part 1)	Print messages to the screen Ask the user to input data Store data in variables.	Identify Describe Explain Evaluate

Term	Year 9		
	Topic	**Knowledge**	**Skills**
Term 1	**Bits and Bobs 2**	Revisit Bits and Bobs Hexadecimal numbers, Calculating sizes of images and sound	Identify Describe Explain Evaluate
	Computational Thinking	Computational Thinking Abstraction Decomposition Flow Charts Pseudo Code	Identify Describe Explain Evaluate
	Introduction Python (Part 2)	Store data in variables. How computers make decisions How to program IF statements	Understand Identify Describe Explain

Term	Year 9		
	Topic	**Knowledge**	**Skills**
Term 2	**HTML, CSS and Javascript**	This unit teaches the basics of HTML enabling students to create a mini website. Students learn how to add: - text - images - hyperlinks plus formatting techniques, including: - fonts - text size - alignment Students will be introduced to CSS so that they can understand how to better present their webpages. They will learn how to add: - Add gradient backgrounds - Add page borders - Add curve images	Identify Describe Explain Evaluate
Term 3	**Intermediate Python**	Count controlled Loops Condition controlled Loops Lists Introduction to procedures and functions	Identify Describe Explain Evaluate