Key Stage 3 – YEAR 8 COMPUTER SCIENCE & ICT – 2021-2022
Curriculum Map for Students

	Autumn 1	Autumn 2	Winter	Spring	Summer
Theme	eSafety Refresher	**Unit 1 - Python Programming**	**Unit 2 - Data Representation: Hexadecimal**	**Unit 3 - Hardware & Software**	**Unit 4 - Networking & Cloud Computing**
Topic Overview	Reigniting the conversation about staying safe in an ever-changing online world.	Introduction to text-based programming using Python. Saying "Hello" to the world of programming.	Hexadecimal - using numbers and letters to represent colours, text and lots, lots more.	What's the difference between Hardware & Software? Devices and Components... What are they?	Connecting people from here to anywhere! Computer communication on a local and global scale.
Focus	Students will spend two lessons revisiting the best ways to stay safe online. These lessons provide students an opportunity to discuss emerging issues they may have encountered online. This topic also looks at new terminology they will encounter as they continue to grow their online presence and use of technology.	Students will learn about the Python programming language and how it is practically used across a variety of platforms they use in everyday life (e.g. YouTube, Google, Spotify). Students will learn how to write and structure program code to carry out a variety of different tasks. Students will learn about the main programming constructs (Sequence, Selection and Iteration) and how to use these to build efficient and robust programs.	Students will learn about the Hexadecimal number system by firstly revisiting and revising their Binary knowledge from Year 7. Students will then learn about how to convert between Denary, Binary and Hexadecimal numbers. This will lead to students learning about colour codes, internet protocol addresses and different character coding schemes such as ASCII and Unicode.	Students will learn the difference between Hardware and Software and will be able to categorise different devices as either input, output or both. Students will also learn about how components differ from devices before looking inside the computer. Students will focus on the main components of a computer including the Motherboard, Memory (RAM and ROM), the CPU and Secondary Storage devices. Students will learn the different categories of software.	Students will learn what a computer network is and will look at the advantages and disadvantages of using stand-alone vs networked devices. Students will learn about different types of networks including LAN's and WAN's before looking at specific network topologies. Students will gain an understanding of key networking terminology and will be able to describe what the internet is, how it functions and how it differs from the World Wide Web. Students will learn about the development of Cloud Computing and how this will potentially impact future computing.
Assessment	*Students are assessed based on their contribution to group and class-based discussion and on the work completed during lessons.*	*Students are assessed on the production of a quiz program designed to allow them to demonstrate the programming skills gained during this unit. Students will also complete a 45-minute online assessment that includes a mix of multiple choice and short answer questions. Students classwork will be assessed against the I CAN statements within their workbooks.*	*Students are assessed by completing a 45-minute online assessment that includes a mix of multiple choice and short answer questions on their ability to convert between the different number systems covered as well as their theoretical knowledge of the hexadecimal number system. Students classwork will be assessed against the I CAN statements within their workbooks.*	*Students are assessed based on the production of an individual poster that provides an explanation and key details about the different functionality of a chosen piece of applications software. Students also complete a 45-minute online assessment that includes a mix of multiple choice and short answer questions. Students classwork will be assessed against the I CAN statements within their workbooks.*	*Students will be assessed on the creation of (and their contribution to) an infographic (in pairs) that details information about Cloud Computing. Students also complete a 45-minute online assessment that includes a mix of multiple choice and short answer questions. Students classwork will be assessed against the I CAN statements within their workbooks.*