



### Curriculum Intent

**Subject: Computing**

**Year: 7**

	What?	Why?	National Curriculum Links
Term 1-1	<p><b>Collaborating Online Respectfully</b></p> <p>This unit has been designed to ensure that learners are given sufficient time to familiarise themselves with the school network. It also allows the teacher to discuss appropriate use of the school network, and to update and remind learners of important online safety issues. Whilst completing this unit, learners will also learn how to use presentation software effectively. In terms of online safety, this unit focuses on respecting others online, spotting strangers, and the effects of cyberbullying.</p>	<p>This unit has been devised as a transitional unit to allow learners to confidently move from Year 6 to Year 7. By the end of the unit, they should be able to use the school network safely and respectfully. It acts as a baseline to assess prior learning and competence.</p> <p><b>Prerequisite for whole school KS4.</b></p> <p>Effective use of tools – Use software tools to support computing work</p> <p>Safety and security - Understand risks when using technology, and how to protect individuals and systems</p> <p>Impact of technology - Understand how individuals, systems, and society as a whole interact with computer systems</p> <p>Networks - Understand how networks can be used to retrieve and share information, and how they come with associated risks</p> <p>Creating media - Select and create a range of media including text, images, sounds, and video</p> <p>Design and development - Understand the activities involved in planning, creating, and evaluating computing artefacts</p> <p>Connected world:</p> <ul style="list-style-type: none"> <li>- Online bullying</li> <li>- Online relationships</li> <li>- Privacy and security</li> </ul>	<p><b>3.8:</b> create, re-use, revise and re-purpose digital artefacts for a given audience, with attention to trustworthiness, design and usability</p> <p><b>3.9:</b> understand a range of ways to use technology safely, respectfully, responsibly and securely, including protecting their online identity and privacy; recognise inappropriate content, contact and conduct and know how to report concerns.</p>
Term 1-2	<p><b>Networks: From Semaphores to the Internet</b></p> <p>This unit begins by defining a network and addressing the benefits of networking, before covering how data is transmitted across networks using protocols. The types of hardware required are explained, as is wired and wireless data transmission. Learners will develop an understanding of the terms 'internet' and 'World Wide Web', and of the key services and protocols used. Practical exercises are included throughout to help strengthen understanding.</p>	<p>This unit progresses students' knowledge and understanding of networks and associated hardware. The unit will establish a foundation understanding of how data is transmitted across networks, as well as exploring the factors that can affect performance. The unit will spend time focussing on the internet and services provided over the internet. <b>Prerequisite for Y9 Computer Science Networks topics.</b></p>	<p><b>3.5:</b> understand the hardware and software components that make up computer systems, and how they communicate with one another and with other systems</p>



		<p>Networks - Understand how networks can be used to retrieve and share information, and how they come with associated risks</p> <p>Computing systems - Understand what a computer is, and how its constituent parts function together as a whole</p> <p>Impact of technology - Understand how individuals, systems, and society as a whole interact with computer systems</p> <p>Safety and security - Understand risks when using technology, and how to protect individuals and systems</p> <p>Connected world: - Privacy and security</p>	
Term 2-1	<p><b>Gaining Support for a Cause</b></p> <p>During this unit, learners develop their understanding of information technology and digital literacy skills. They will use the skills learnt across the unit to create a blog post about a real-world cause that they would like to gain support for. Learners will develop software formatting skills and explore concerns surrounding the use of other people's work, including licensing and legal issues.</p>	<p>This unit progresses students' knowledge and understanding of licensing and legal issues surrounding the use of online sources of information. They will also gain an understanding of how to apply techniques to help determine the reliability of a source. Learners will develop practical skills in using software to make a blog that could be published online. <b>Prerequisite for Y9 iMedia.</b></p> <p>Impact of technology - Understand how individuals, systems, and society as a whole interact with computer systems</p> <p>Creating media - Select and create a range of media including text, images, sounds, and video</p> <p>Effective use of tools - Use software tools to support computing work</p> <p>Impact of technology - Understand how individuals, systems, and society as a whole interact with computer systems</p> <p>Design and development - Understand the activities involved in planning, creating, and evaluating computing artefacts</p> <p>Connected world: - Copyright and ownership - Managing online information</p>	<p><b>3.7:</b> undertake creative projects that involve selecting, using, and combining multiple applications, preferably across a range of devices, to achieve challenging goals, including collecting and analysing data and meeting the needs of known users</p> <p><b>3.8:</b> create, re-use, revise and re-purpose digital artefacts for a given audience, with attention to trustworthiness, design and usability</p>
Term 2-2	<p><b>Programming I</b></p> <p>This unit is the first programming unit of KS3. The aim of this unit and the following unit ('programming 2') is to build learners' confidence and knowledge of the key programming constructs. Importantly, this unit does not assume any previous programming</p>	<p><b>Prerequisite for Y9 Python Programming lessons.</b></p> <p>Algorithms - Be able to comprehend, design, create, and evaluate algorithms</p>	<p><b>3.2:</b> understand several key algorithms that reflect computational thinking [for example, ones for sorting and</p>



	<p>experience, but it does offer learners the opportunity to expand on their knowledge throughout the unit.</p> <p>The main programming concepts covered in this unit are sequencing, variables, selection, and count-controlled iteration. All of the examples and activities for this unit use Scratch 3.</p>	<p>Programming - Create software to allow computers to solve problems</p> <p>Design and development - Understand the activities involved in planning, creating, and evaluating computing artefacts</p>	<p>searching]; use logical reasoning to compare the utility of alternative algorithms for the same problem</p> <p><b>3.3:</b> use two or more programming languages, at least one of which is textual, to solve a variety of computational problems; make appropriate use of data structures [for example, lists, tables or arrays]; design and develop modular programs that use procedures or functions</p> <p><b>3.4:</b> understand simple Boolean logic [for example, AND, OR and NOT] and some of its uses in circuits and programming; understand how numbers can be represented in binary, and be able to carry out simple operations on binary numbers [for example, binary addition, and conversion between binary and decimal]</p> <p><b>3.8:</b> create, re-use, revise and re-purpose digital artefacts for a given audience, with attention to trustworthiness, design and usability</p>
Term 3-1	<p><b>Programming II</b></p> <p>Programming II follows on from the foundations built in 'Programming I'. It is vital that learners complete 'Programming I' before beginning this unit.</p> <p>This unit begins right where 'Programming I' left off. Learners will build on their understanding of the control structures' sequence, selection, and iteration (the big three), and develop their problem-solving skills. Learners will learn how to create their own subroutines, develop their understanding of decomposition, learn how to create and use lists, and build upon their problem-solving skills by working through a larger project at the end of the unit.</p>		
Term 3-3	<p><b>Spreadsheets</b></p> <p>The spreadsheet unit for Year 7 takes learners from having very little knowledge of spreadsheets to being able to confidently model data with a spreadsheet. The unit uses engaging activities to progress learners from using basic formulas to writing their own COUNTIF statements. This unit will give learners a good set of skills that they can use in computing lessons and in other subject areas.</p>	<p>This unit progresses learners' knowledge and understanding of modelling data using a spreadsheet. Due to the transitional nature of Year 7, the unit assumes that learners have little to no experience of using spreadsheets. <b>Prerequisite for KS4 whole school knowledge.</b></p> <p>Data and information - Understand how data is stored, organised, and used to represent real-world artefacts and scenarios</p> <p>Effective use of tools - Use software tools to support computing work</p> <p>Programming - Create software to allow computers to solve problems</p>	<p><b>3.1:</b> design, use and evaluate computational abstractions that model the state and behaviour of real-world problems and physical systems</p> <p><b>3.7:</b> undertake creative projects that involve selecting, using, and combining multiple applications, preferably across a range of devices, to achieve challenging goals, including collecting and analysing data and meeting the needs of known users</p>