



**Intent for the Year - Computing Year 9 Curriculum 2020-2021**

*In Computing we aim to provide an inspirational experience for every student in a safe and purposeful learning environment that is relevant, exciting and reflective in order for every student to be confident in their use of technology. Students will learn about option courses they can take next year and investigate future careers.*

**Implementation:**

*Students experience opportunities to all increase their understanding of how computers work, the changes in modern technology, as well as to focus on key areas of e-safety such as how we use the internet impacts on everyday life. Throughout the year students will practice and improve their ICT skills such as word processing, simple spreadsheets and how to create presentations to help them across all aspects of their curriculum. All students have opportunities to develop understanding of basic Computational Thinking and Computer Skills that are in the programme of study, including ensuring that all students can create a program and explain key concepts of how a computer works such as memory, storage networks and the CPU. Through the year students will develop problem solving strategies and enhance their thinking skills. They will be encouraged to develop an appreciation of the subject, and understand that the study of Computers is an intellectual endeavour in its own right. They will begin to develop an understanding of the importance of a qualification in Computing as a gateway to future learning and improved life chances.*

<b>Term</b>	<b>Enquiry/Topic/Unit:</b> What is going to be taught?	<b>Key Outcomes:</b> What will students have achieved by completing this scheme of learning?	<b>Character Education:</b> How does this topic link to a sense of Self, Others and the World, in terms of Character Education?	<b>Assessment:</b> Will there be formative and/or summative testing? What role will interleaving play?	<b>Vocabulary:</b> What are the key words for this topic/unit that students must know?	<b>Home-Learning:</b> What homework will be set and why (e.g. consolidate/extend)?
1a	i) E-safety –social media and how it can affect your career. Positive and negative possible impacts on future career aspirations. Logging on/ Setup user & google chrome areas. SMHW and e-praise.  ii) Boolean Logic gates – recap and 2-step	Understand a range of ways to use technology safely, including protecting their online identity and privacy. Access to cross-curricular technology.  understand simple Boolean logic [for example, AND, OR and NOT] and some of its uses in circuits and programming  understand how numbers, data of various	Be a responsible digital citizen- empathetic / courteous  Resilient in completing / learning new skills  Confident in approaching skills / learning  Reflective – on new learning / technology and how it impacts on everyday life	Verbal feedback – interleaved throughout KS3  H/W tasks	Career Online presence Logic gate AND OR NOT Circuit Binary Image pixel Character set Conversion	H/W task - colours and digital portfolio idea badge  H/W task - Bebras / computational thinking practise questions



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	iii) Binary – recap, calculations, images, sound, character sets	types(including, text, sound, images) 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]				
<b>1b</b>	<p>i) Graphic Design software – Fireworks including how this can help design and create webpages</p> <p>ii) HTML – learn how a website is programmed, using iDea</p> <p>iii) To look at potential careers in technology – using iDea badges for web designer and tech careers.</p>	<p>create, reuse, revise and repurpose digital artefacts for a given audience, with attention to trustworthiness, design and usability</p> <p>create, reuse, revise and repurpose digital artefacts for a given audience, with attention to trustworthiness, design and usability</p> <p>To consider what opportunities may be available in the future using technology.</p>	<p>Be a responsible digital citizen- empathetic / courteous</p> <p>Resilient in completing / learning new skills</p> <p>Confident in approaching skills / learning</p> <p>Reflective – on new learning / technology and how it impacts on everyday life</p> <p>Curious in exploring different careers</p>	<p>Verbal feedback – interleaved throughout KS3</p> <p>H/W tasks</p> <p>Bebras</p> <p>iDea</p>	<p>Repurpose</p> <p>Graphic design software</p> <p>Copyright</p> <p>PNG</p> <p>GIF</p> <p>JPG</p> <p>HTML</p> <p>CSS</p> <p>Navigation bar</p> <p>Banner</p> <p>Hyperlink</p> <p>Image</p> <p>Target audience</p> <p>Purpose</p> <p>Tech</p> <p>Cyber</p> <p>Career</p> <p>Webdesigner</p>	<p>H/W task - web designer idea badge</p> <p>H/W task - SMHW revision quiz</p>
<b>2a</b>	Mobile app development - decomposing problems, improve computational thinking and programming skills	<p>design and develop modular programs that use procedures or functions</p> <p>undertake creative projects that involve selecting, using, and combining multiple applications, preferably across a range of devices, to achieve challenging goals,</p>	<p>Be a responsible digital citizen- empathetic / courteous</p> <p>Resilient in completing / learning new skills</p> <p>Confident in approaching skills / learning</p> <p>Reflective – on new learning / technology and how it impacts on everyday life</p>	<p>Verbal feedback – interleaved throughout KS3</p> <p>H/W tasks</p>	<p>App</p> <p>variable</p> <p>sequence</p> <p>decomposition</p> <p>error checking</p> <p>input</p> <p>output</p> <p>event handler</p>	<p>H/W task - visualisation diagram</p> <p>H/W task - w/s checking understanding</p>



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2b	<p>i) e-safety - self image, identity, online relationships</p> <p>ii) Networks – how a packet is sent across the network</p> <p>iii) Secondary storage</p>	<p>understand a range of ways to use technology safely, respectfully, responsibly and securely, including protecting their online identity and privacy;</p> <p>understand computer networks, including hardware and the internet and the opportunities they offer for communication and collaboration</p> <p>understand how instructions are stored and executed within a computer system</p>	<p>Be a responsible digital citizen- empathetic / courteous</p> <p>Resilient in completing / learning new skills</p> <p>Confident in approaching skills / learning</p> <p>Reflective – on new learning / technology and how it impacts on everyday life</p>	<p>Verbal feedback – interleaved throughout KS3</p> <p>H/W tasks</p>	<p>Online identity Network Protocol Packet switching Component Ethernet Router Switch Hub</p>	<p>H/W task - esafety</p> <p>H/W task - w/s checking understanding</p>
3a	<p>i) e-safety - managing information online</p> <p>ii)Cybersecurity - encryption, malware, security threats and prevention, global data</p>	<p>understand a range of ways to use technology safely, respectfully, responsibly and securely</p> <p>understand how instructions are stored and executed within a computer system</p>	<p>Resilient in completing / learning new skills</p> <p>Confident in approaching skills / learning</p> <p>Reflective – on new learning / technology and how it impacts on everyday life</p>	<p>Verbal feedback – interleaved throughout KS3</p> <p>H/W tasks</p>	<p>cyber security cipher encryption decryption security threat worm virus antimalware data computer misuse act legislation</p>	<p>H/W task - computer misuse act research</p> <p>H/W task - SMHW revision quiz</p>
3b	<p>i) Blockly – revisit basic block programming</p> <p>ii) Clickteam Fusion - Game planning, design and creation using more advanced programming skills</p>	<p>undertake creative projects that involve selecting, using, and combining multiple applications, preferably across a range of devices, to achieve challenging goals.</p>	<p>Resilient in completing / learning new skills</p> <p>Confident in approaching skills / learning</p>	<p>Verbal feedback – interleaved throughout KS3</p> <p>H/W tasks</p> <p>End of Year exams</p>	<p>Program Costume SpriteScript Event Refine Test</p>	<p>H/W task - storyboard</p> <p>H/W task - game review</p>



		use 2 or more programming languages to solve a variety of computational problems	Reflective – on new learning / technology and how it impacts on everyday life			
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**Impact:**

*Be able to use computational / logical thinking to successfully program.  
Understand how a computer works and how they are part of a network.  
Choose a career path best suited to them and the future world.*