



ICT and Computing

Key Stage 3

Year group:	Topics covered:					
Year 7	The Year 7 curriculum mixes new content with building on skills and understanding theoretically picked up throughout Key Stage 2. Units are mapped carefully against the National Curriculum and combine a mix of both ICT and Computer Science based topics. Each topic will also be revisited in later KS3 units to some degree, providing initial learning of some key concepts that will underpin a range of more advanced and complex lessons later on.					
	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Knowledge	Correct use of the network and Office 365, E-safety and staying safe online, Spreadsheets		Past, Present & Future, Programming in Scratch		Computer components, Programming in Python	
Skills	<p>School Network and Office 365 At the start of the year students are taught and reminded how to correctly and effectively use the school network. User areas are organised and tidied (in Years 8 and 9) and students are made aware of the various rules when using the local or online network resources. Office 365 OneDrive areas are organised, and a range of tasks ensure students are able to log in, access, save and share their work correctly.</p> <p>E-Safety This unit provides age-appropriate lessons on topics including staying safe online, social networking and grooming. Students are encouraged to challenge stereotypes and question common misconceptions to gain a full understanding of how the Internet can be used safely. This builds on prior learning of skills in Office applications and effective Internet searching skills which will carry through to all future units of work. Lessons are sequenced in such a way that students have all the base knowledge required to complete the more detailed and in-depth content later in the unit. This learning will be reinforced in both year 8 and 9 when they complete the other e-safety units.</p> <p>Spreadsheets Students are introduced to the purpose and concept of a spreadsheet. They learn simple and complex formulas, formatting methods and a series of more advanced functions, chart options and conditional statements. Some of this is supported by the programming skills taught in the previous unit, and the layout and formatting options can be utilised in a variety of other applications.</p> <p>Past, Present & Future Students will learn about the history of Computing, finding out about the earliest advances in Computing through to modern technology and considering what might happen in the future. They will have opportunities to research and discover information, discuss their findings and use advances PowerPoint skills to look into the future and use their imagination to dream up their own ideas for future technology.</p> <p>Programming in Scratch Building on their Key Stage 2 experience, students will expand their knowledge of Scratch by moving beyond simple animations and games into more advanced programming techniques. The focus is on understanding the constructs themselves - conditions, loops, variables, and broadcasts - and how these can be combined to create complex and creative projects. Students will take part in structured challenges that gradually increase in difficulty before being given the independence to experiment and design their own programs. Alongside coding skills, they will develop resilience, problem-solving ability, and a strong sense of achievement as they see their ideas come to life in polished Scratch projects.</p>					



	<p>Computer Components This unit covers computer hardware and software, including input, output and storage devices. Students will find out how various elements of a computer system work, recognise the importance of embedded systems and find out why certain storage methods may be better than others for different requirements. This works as a precursor to later units about data processing and binary and enhances students' understanding of just how wide reaching computer systems are. This unit is heavy in substantive learning but also enables future learning to take place with a better understanding than if they were to go into later units "blind". Lessons are sequenced in such a way that students are introduced to the concepts of what a computer system is, then more advanced topics follow on about specific elements of a system, building on their initial understanding of input, output and storage devices. This is a topic covered in the Computer Science GCSE and underpins a lot of the hardware topics.</p> <p>Python Programming In this unit, students are introduced to text-based programming through Python, moving on from the block-based environment of Scratch. They will learn how to write and run simple programs using input and output, giving them their first experience of interacting with the computer through typed commands. The focus will be on understanding the difference between print statements and input functions, storing data in variables, and using basic data types such as numbers and strings. Through short, practical tasks, students will create simple programs such as a quiz, a chatbot, or a basic calculator, building their confidence in writing and testing code. This unit provides the foundation for further Python programming by establishing the core concepts of text-based coding and helping students transition smoothly into more advanced programming techniques.</p>					
<p>Assessment</p>	<p>When joining us in Year 7 students will have a range of skill sets and knowledge depending on the computing work carried out in Key Stage 2. As such, and in order to measure progress more effectively, a range of small assessments will be carried out throughout each unit to determine levels of progress for each student. By recording this we can measure the progress being made formatively through interim marking at a predetermined time in the unit, then a final assessment at the end of the unit.</p> <p>As part of this assessment each unit has opportunities for students use marked work to improve or deepen the work that has been completed. For example when looking at e-safety, the student's work might not clearly show a full understanding of how to report a concern online; in such an instance the improvement task, completed in green pen, would point them towards some work which will recap the key points covered and provide the chance to improve and enhance their understanding, following the idea of recapping information to improve retention. The unit assessments carried out at the end of each unit of work also feed into feedback allowing students to carry out specific tasks depending on how well they did in various sections of the assessment. Summative assessment is also provided during lessons as part of general class teaching, with feedback provided on work completed in books, on the computers and discussions carried out as a class or with an individual.</p>					
<p>Year 8</p>	<p>The topics covered in Year 8, which again are mapped carefully to ensure the NC objectives are met, cover a more theoretical series of units while still ensuring practical skills are being developed and improved. The networking and bigger picture units give a stronger lean towards Computer Science, with web design and computing heroes focussing more on IT related skills and knowledge.</p>					
	<p>Autumn 1</p>	<p>Autumn 2</p>	<p>Spring 1</p>	<p>Spring 2</p>	<p>Summer 1</p>	<p>Summer 2</p>
<p>Knowledge</p>	<p>Correct use of the network and Office 365, E-safety, cyberbullying, sexting and legal issues, advanced spreadsheets</p>		<p>Algorithms, Programming in Python</p>		<p>Cybersecurity, Binary & Computer Logic</p>	
<p>Skills</p>	<p>School Network and Office 365 At the start of the year students are taught and reminded how to correctly and effectively use the school network. User areas are organised and tidied (in Years 8 and 9) and students are made aware of the various rules when using the local or online network resources. Office 365 OneDrive areas are organised, and a range of tasks ensure students are able to log in, access, save and share their work correctly.</p>					



	<p>E-Safety This unit provides age-appropriate lessons on topics including staying safe online, social networking and grooming. Students are encouraged to challenge stereotypes and question common misconceptions to gain a full understanding of how the Internet can be used safely. Building on the topics covered in Year 7, students focus on cyberbullying, sexting and legal ramification of the use of inappropriate Internet and social media use.</p> <p>Advanced Spreadsheets Students will develop their spreadsheet skills beyond the basics, learning how to use formulas and functions to automate calculations and present data more effectively. They will explore tools such as conditional formatting, IF statements, and lookup functions to add more depth to their work, as well as creating charts and graphs to represent data visually. The focus will be on solving practical problems with spreadsheets, encouraging students to think about how data can be organised, manipulated, and displayed to meet specific needs. This unit builds confidence in a skillset that is valuable both in school and in the wider world.</p> <p>Algorithms Students will be introduced to the concept of algorithms as step-by-step instructions for solving problems, developing an understanding of how these are the foundation of all programming. They will learn to design algorithms using structured English and represent them visually through flow charts, using standard symbols for processes, decisions, inputs, and outputs. The unit will include practical problem-solving tasks where students break down everyday activities into algorithms, before moving on to designing solutions for computing challenges. By the end, students will be confident in planning and communicating their ideas clearly, skills that will support their programming work across Scratch, Python, and beyond.</p> <p>Intermediate Python Programming This unit begins with a recap of the core Python skills learned previously, revisiting input, output, and variables. Students will then move on to conditional statements, which allow programs to make decisions and respond differently depending on user input or stored values. They will experiment with if/else structures, logical operators, and simple nested conditions, applying these concepts in small projects such as number guessing games, quizzes with feedback, and interactive stories. This unit builds the foundations for more complex programming while reinforcing the transition from block-based to text-based coding.</p> <p>Cybersecurity Students will gain an understanding of the risks and threats that exist in the digital world and how to protect themselves and their data. The unit introduces key concepts such as phishing, malware, strong passwords, and the importance of keeping software up to date. Through case studies and interactive activities, students will explore how cyberattacks happen and consider the real-world consequences of poor digital security. Alongside this, they will learn about responsible online behaviour and the importance of safeguarding personal information, equipping them with practical strategies for staying safe in a connected world.</p> <p>Binary & Computer Logic In this unit, students will deepen their understanding of how computers use binary to represent and process data, moving beyond simple conversions to explore binary arithmetic and logic operations. They will learn how to add binary numbers, understand the use of logic gates, and see how these underpin decision-making inside a computer. Practical activities will include solving binary conversion challenges, truth table exercises, and linking logic to programming concepts such as conditions. By the end of the unit, students will appreciate the role binary and logic play in the functioning of computer systems and how this connects to their own coding projects.</p>
<p>Assessment</p>	<p>As in Year 7, each unit has opportunities whereby students use marked work to improve or deepen the work that has been completed. Unit assessments are also carried out at the end of each unit of work, which again feed into a lesson allowing students to carry out specific tasks depending on how well they did in various sections of the assessment. Formative assessment is also provided during lessons as part of general class</p>



	teaching, with feedback provided on work completed in books, tasks completed using the computers and discussions carried out as a class or with an individual.					
Year 9	Our Y9 curriculum offers a broad range of topics from different strands of what our department can offer. As well as continuing the IT and Computing topics, there is also a Business Studies-based enterprise unit and a Media Studies unit on movie posters, allowing students to complete KS3 having comfortably met the NC objectives and also experienced some additional breadth and variety in the topics covered.					
	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Knowledge	Correct use of school network and Office 365, e-safety including photo sharing, social media and propaganda Advanced Python programming		Film Posters, Heroes of Computing		Networking & the Internet, Ethics of Computing	
Skills	<p>School Network and Office 365 At the start of the year students are taught and reminded how to correctly and effectively use the school network. User areas are organised and tidied (in Years 8 and 9) and students are made aware of the various rules when using the local or online network resources. Office 365 OneDrive areas are organised, and a range of tasks ensure students are able to log in, access, save and share their work correctly.</p> <p>E-Safety This unit provides age-appropriate lessons on topics including staying safe online, including social networking selfie sharing and how to spot the use of propaganda online. Students are encouraged to challenge stereotypes and question common misconceptions to gain a full understanding of how the Internet can be used safely.</p> <p>Programming in Python Students learn how to take the programming skills learnt in previous years and use this in a text-based programming environment. These skills will build on prior knowledge from Year 7 and 8 and give them exposure to “proper” programming after using some more visual based tools in the past.</p> <p>Film Posters Moving into Media Studies, this builds on the previous unit’s work about promotion and focusses on the idea of film posters. Students develop the skills to recognise a range of elements on a film poster and how these have been used to create an effective promotion for the film. They also develop their own ideas, see how teaser posters and final versions work together, and how all of this works alongside the film itself. This also links in with the design work carried out in Year 8, and the development cycle covered several times before.</p> <p>Heroes of Computing In this unit, students will explore the contributions of key figures in the history of computing, such as Ada Lovelace, Alan Turing, Grace Hopper, and Tim Berners-Lee. They will learn how these pioneers shaped the development of modern technology and why their work remains important today. Alongside this, students will apply their spreadsheet skills to collect, organise, and analyse data about these individuals and their achievements. They will practise using formulas, charts, and data processing tools to present information clearly, combining historical understanding with practical digital skills. This mix of context and application helps students see both the human stories behind computing and the power of data to communicate ideas effectively.</p> <p>Networking and the Internet Students will learn how computer networks operate and how the internet connects people and devices across the globe. The unit will cover key concepts such as the difference between LANs and WANs, the role of hardware like routers and switches, and how data is transmitted using packets.</p>					



	<p>Students will also explore how the World Wide Web works, including domains, IP addresses, and protocols, linking this knowledge to the services they use every day. Practical activities such as modelling networks and simulating data transfer will help make abstract ideas concrete and show the importance of networking in modern life.</p> <p>Ethics of Computing In this unit, students will consider the wider impact of computing on individuals, society, and the environment. They will explore ethical issues such as digital privacy, copyright, artificial intelligence, and the digital divide, alongside environmental concerns like e-waste and energy consumption. Through discussions, case studies, and debates, students will evaluate the benefits and challenges that arise from new technologies and develop their own informed viewpoints. By the end of the unit, they will understand that computing is not just about machines and code, but also about people, values, and responsible decision-making.</p>
<p>Assessment</p>	<p>As in previous years, each unit has opportunities for students to use marked work to improve or deepen the work that has been completed. Unit assessments are also carried out at the end of each unit of work, which again feed into a lesson allowing students to carry out specific tasks depending on how well they did in various sections of the assessment. Formative assessment is also provided during lessons as part of general class teaching, with feedback provided on work completed in books, tasks completed using the computers and discussions carried out as a class or with an individual.</p>
<p>Assessment:</p>	<p>How Will I be assessed at Key Stage 3?</p>
	<p>As outlined in the individual year groups above, each unit throughout KS3 has a final assessment which leads into further opportunity to improve required skills and understanding, with the aim of filling any gaps lingering at the end of the units. Work is assessed both summatively and formatively throughout lessons, with regular verbal feedback during practical tasks, and regular “Go Green” marking allowing students to ensure that gaps are closed off before too much time has passed.</p>