



	Half term 1	Half term 2	Half term 3	Half term 4	Half term 5	Half term 6
Year 7	<p>Topic: Digital Skills and Security</p> <p>Resources: Computers, Google Classroom, Diagnostic Questions, Microsoft Office/Office 365,</p> <p>Focus: How do I set up a safe system of working on computers in school?</p> <p>Outcome: School systems set up securely, ready for use across curriculum.</p> <p>Duration: 3 lessons</p>	<p>Topic: Digital Skills and Security</p> <p>Resources: Google Classroom, Internet</p> <p>Focus: Do I understand Data Law and Encryption?</p> <p>Outcome: Describe laws of computing and how data is encrypted.</p> <p>Duration: 3 lessons</p>	<p>Topic: E-Safety</p> <p>Resources: Google Classroom, Internet</p> <p>Focus: How can I stay safe online?</p> <p>Outcome: Use the Internet, apps and social media safely.</p> <p>Duration: 3 lessons</p>	<p>Topic: E-Safety and Python</p> <p>Resources: repl.it</p> <p>Focus: Can I create a quiz that is coded in Python and shows my understanding of staying safe online?</p> <p>Outcome: Code a quiz in Python that shows other young people how to stay safe online.</p> <p>Duration: 3 lessons</p>	<p>Topic: Careers Online</p> <p>Resources: Careers Websites</p> <p>Focus: What online resources are there to help me choose a future career?</p> <p>Outcome: Identify some future potential careers and understand the qualifications needed and application process.</p> <p>Duration: 3 lessons</p>	<p>Topic: Careers Online</p> <p>Resources: Google Classroom</p> <p>Focus: How do I apply for jobs?</p> <p>Outcome: Write a CV and formal letter to apply for a job.</p> <p>Duration: 3 lessons</p>
Year 8	<p>Topic: Algorithms</p> <p>Resources: Google Classroom</p> <p>Focus: What are algorithms, flow charts and simple programs? How do we design and develop them?</p> <p>Outcome: Create an algorithm, flow chart and simple program to solve a problem.</p> <p>Duration: 3 lessons</p>	<p>Topic: Programming</p> <p>Resources: repl.it, Google Classroom</p> <p>Focus: How do you develop a program in Python to complete a series of steps?</p> <p>Outcome: Develop a program in Python that solves a real-world problem.</p> <p>Duration: 3 lessons</p>	<p>Topic: Computer Hardware</p> <p>Resources: Computer components, Google Classroom</p> <p>Focus: What are the components of a computer system? Which factors influence the performance of a computer system?</p> <p>Outcome: Select a computer system to meet specific requirements within a specified budget.</p> <p>Duration: 3 lessons</p>	<p>Topic: File Storage and Binary</p> <p>Resources: Calculators, Google Classroom, repl.it</p> <p>Focus: How do computers store data? How can you convert between number bases?</p> <p>Outcome: Create a quiz using Python on computer hardware, data storage and binary.</p> <p>Duration: 3 lessons</p>	<p>Topic: Networks</p> <p>Resources: Network hardware, Internet access, Google Classroom</p> <p>Focus: How do networks operate? What are the different types? Why do we use a particular type of network?</p> <p>Outcome: Create a presentation about different types of networks.</p> <p>Duration: 3 lessons</p>	<p>Topic: Web Design</p> <p>Resources: W3 Schools online, Internet, Google Classroom</p> <p>Focus: How do I create web pages using HTML?</p> <p>Outcome: Create a website of hyperlinked web pages with images and text.</p> <p>Duration: 3 lessons</p>

Computer Science Curriculum Overview

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Year 9	<p>Topic: Algorithms</p> <p>Resources: Google Classroom, repl.it, Python</p> <p>Focus: How do I think computationally? What steps do I need to take to solve a problem? How can I lay out those steps logically?</p> <p>Outcome: I can write algorithms to solve problems including searching and sorting algorithms.</p> <p>Duration: 9 lessons</p>	<p>Topic: Flowcharts and Exam Reference Language</p> <p>Resources: Google Classroom, repl.it, Python</p> <p>Focus: How do I think computationally? What steps do I need to take to solve a problem? How can I lay out those steps logically?</p> <p>Outcome: I can create flow diagrams using the correct symbols. I can write algorithms in Exam Reference Language.</p> <p>Duration: 9 lessons</p>	<p>Topic: Python Programming</p> <p>Resources: Google Classroom, repl.it, Python</p> <p>Focus: How does Python define different types of data? How can I output information from a program?</p> <p>Outcome: I can write simple programs that solve problems. I can identify and fix errors in my code.</p> <p>Duration: 9 lessons</p>	<p>Topic: Python Programming</p> <p>Resources: Google Classroom, repl.it, Python</p> <p>Focus: How can I streamline my code? How do I design solutions to complex problems?</p> <p>Outcome: I can write complex programs with loops that solve real world problems.</p> <p>Duration: 9 lessons</p>	<p>Topic: Components of a Computer System</p> <p>Resources: Website, Google Classroom, Physical components, MS Paint</p> <p>Focus: What are the parts that make up a computer? What is the function of the CPU? How does memory work?</p> <p>Outcome: I can identify and describe the roles of the key components of a computer system.</p> <p>Duration: 9 lessons</p>	<p>Topic: Memory and Data Storage</p> <p>Resources: Website, Google Classroom, MS Paint</p> <p>Focus: How do computer store information? What are the different types of memory and software?</p> <p>Outcome: I can describe different types of memory and their purpose. I can explain the differences between types of software.</p> <p>Duration: 9 lessons</p>
Year 10	<p>Topic: Python Programming</p> <p>Resources: Google Classroom, repl.it, Python</p> <p>Focus: How can I streamline my code? How do I design solutions to complex problems?</p> <p>Outcome: I can write complex programs with loops that solve real world problems.</p> <p>Duration: 12 lessons</p>	<p>Topic: Programming, Assessment and Design</p> <p>Resources: Google Classroom, repl.it, Python</p> <p>Focus: What are arrays? How can I use sub programs? What is defensive design?</p> <p>Outcome: I can create complex programs that create and use arrays and sub programs. I can explain defensive design.</p>	<p>Topic: Networks</p> <p>Resources: Website, Google Classroom, MS Paint</p> <p>Focus: Why are there different types of network? How do I choose the best one for a task? What hardware is used in networking?</p> <p>Outcome: I can identify and describe different types of networks. I can explain the different items of network</p>	<p>Topic: Networks</p> <p>Resources: Website, Google Classroom, MS Paint</p> <p>Focus: What are network protocols? How does network security work? What is the Internet?</p> <p>Outcome: I can explain network layers and protocols. I can describe how to protect data from various attacks.</p>	<p>Topic: Ethics and Legal Issues</p> <p>Resources: Website, Google Classroom, MS Paint</p> <p>Focus: What are the ethical, environmental, cultural, and legal issues in computing?</p> <p>Outcome: I can describe the issues in computing. I can ensure that I use a computer legally and can protect myself from illegal</p>	<p>Topic: Designing and Testing Programs, Data Representation</p> <p>Resources: Google Classroom, repl.it, Python</p> <p>Focus: How can I design and test my programs? What are translators and IDEs and how can I use them? How can I convert between different number bases?</p> <p>Outcome: I can exhaustively test my programs to ensure they meet design criteria. I</p>

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		Duration: 12 lessons	hardware. I can describe a network topology. Duration: 12 lessons	Duration: 12 lessons	threats. Duration: 12 lessons	can convert between binary and denary numbers. Duration: 12 lessons
Year 11	<p>Topic: Data Representation</p> <p>Resources: Website, Google Classroom, MS Paint</p> <p>Focus: How do computers store different types of data?</p> <p>Outcome: I can convert between binary, denary and hexadecimal. I can describe how computers store characters, images, sound, and compressed data.</p> <p>Duration: 12 lessons</p>	<p>Topic: Programming Tasks</p> <p>Resources: Google Classroom, repl.it, Python, sample programming tasks</p> <p>Focus: How do we structure, design, test and explain programming solutions to sample programming tasks?</p> <p>Outcome: I can design, test, and explain using flow charts, pseudocode and Python solutions to sample programming tasks.</p> <p>Duration: 12 lessons</p>	<p>Topic: Computer Hardware, Memory and Software</p> <p>Resources: Website, Google Classroom, MS Paint, Past papers</p> <p>Focus: How do we explain different features of computer hardware and software?</p> <p>Outcome: I can structure clear explanations of the features of computer hardware and software.</p> <p>Duration: 12 lessons</p>	<p>Topic: Networks and Ethics</p> <p>Resources: Website, Google Classroom, MS Paint, past papers</p> <p>Focus: How do we describe networks, their topologies, and layers? What are the ethics and laws in computing?</p> <p>Outcome: I can structure clear explanations of network technology. I can describe the ethics and laws in computing.</p> <p>Duration: 12 lessons</p>	<p>Topic: Types of Software and Revision</p> <p>Resources: Website, Google Classroom, MS Paint, past papers</p> <p>Focus: What are the different types of software? What are the key topics that I need to focus my revision on? How can I improve my understanding of these topics?</p> <p>Outcome: I can describe different types of software, their uses and features. I can identify strengths and weaknesses in my knowledge. I can use strategies to fill in any gaps in my knowledge.</p> <p>Duration: 12 lessons</p>	