

Computing Year 8	The Year 8 Computing curriculum builds upon the foundations established in Year 7 by developing students' technical knowledge, computational thinking and digital creativity. Students move beyond basic digital literacy to explore cybersecurity, programming, algorithms, data analysis and web development in greater depth. Through a balance of practical application and theoretical understanding, students learn how digital systems operate, how information is processed and how technology can be used safely, responsibly and effectively. Knowledge is carefully sequenced and revisited through retrieval practice, interleaving and project-based learning to strengthen long-term retention. Students are encouraged to think critically, solve problems and create digital solutions using a range of software tools and programming languages. By the end of Year 8, students will have developed greater independence, confidence and technical proficiency, preparing them for more advanced computing concepts in Year 9 and beyond.																													
Topic	Topic 1: Cybersecurity & Ethics					Topic 2: Spreadsheets & Data Analysis					Topic 3: Algorithms					Topic 4: Data & Databases					Topic 5: Text-Based Programming (Python)					Topic 6: Websites (HTML)				
Interleaving	Students revisit online safety from Year 7 while extending their understanding to cybersecurity, privacy and ethical issues. Critical thinking and responsible digital behaviour are reinforced throughout the year.					Students apply prior knowledge of data representation and organisation when working with datasets. Mathematical reasoning, interpretation and evaluation are revisited through data analysis activities.					Students build on computational thinking developed through Scratch programming. Logical reasoning, sequencing and problem-solving are revisited and applied to increasingly complex scenarios.					Students revisit concepts of data representation and organisation while developing more advanced techniques for storing, validating and retrieving information.					Students transfer programming concepts from Scratch, including sequence, selection and repetition, into a text-based environment. Problem-solving and logical thinking are continually revisited.					Students apply design principles developed in Year 7 Digital Design and Websites. Understanding of audience, usability and accessibility is reinforced through practical web development projects.				
Knowledge	Students explore common cybersecurity threats including malware, phishing and social engineering and learn how these threats exploit both technical weaknesses and human behaviour. They investigate passwords, encryption, data protection and privacy alongside the ethical issues surrounding responsible technology use.					Students learn how spreadsheets can organise, manipulate and analyse data. They explore formulas including SUM, AVERAGE, MIN and MAX, alongside sorting, filtering, conditional formatting and charts. Students also learn how functions such as IF and COUNTIF can be used to analyse larger datasets.					Students learn how algorithms are designed to solve problems and process information efficiently. They explore linear and binary search, sorting algorithms and the importance of efficiency, using tracing and comparison to investigate how different algorithms operate.					Students learn how organisations collect, store and manage structured data. They explore fields, records and data types, validation, searching, sorting and queries, developing practical skills in creating and maintaining databases.					Students build on visual programming by learning to create programs using Python. They explore variables, input and output, selection and iteration, while developing an understanding of program structure, syntax and debugging.					Students learn how websites are created using HTML. They explore webpage structure and common HTML elements including text, images and hyperlinks, alongside navigation, usability, accessibility and testing				
Understanding	Students explain how different cyber threats are used to compromise systems and information and how security measures can reduce risk. They recognise the importance of privacy and responsible behaviour and evaluate ethical issues relating to technology and data.					Students use spreadsheets to process and analyse data accurately and efficiently. They select appropriate formulas, functions and charts to answer questions, identify patterns and communicate findings clearly.					Students describe and trace common searching and sorting algorithms and explain how they operate. They compare different algorithms and develop an understanding of why efficiency and the choice of algorithm matter when solving problems.					Students design and use simple databases to organise information effectively. They select appropriate fields and data types, apply validation and use searches, sorting and queries to retrieve useful information efficiently.					Students write programs using sequence, selection and iteration to solve problems. They understand how variables store and manipulate data and use testing and debugging to identify errors and improve their programs.					Students explain how HTML is used to structure webpages and apply appropriate elements when creating their own. They consider navigation, layout, usability and accessibility and use testing and feedback to improve their websites.				
Skills	Computational Thinking Problem Solving Analysis, Evaluation and Implementation Technical Vocabulary Digital Literacy & Communication					Computational Thinking Problem Solving Analysis, Evaluation and Implementation Technical Vocabulary Digital Literacy & Communication					Computational Thinking Problem Solving Analysis, Evaluation and Implementation Technical Vocabulary Digital Literacy & Communication					Computational Thinking Problem Solving Analysis, Evaluation and Implementation Technical Vocabulary Digital Literacy & Communication					Computational Thinking Problem Solving Analysis, Evaluation and Implementation Technical Vocabulary Digital Literacy & Communication					Computational Thinking Problem Solving Analysis, Evaluation and Implementation Technical Vocabulary Digital Literacy & Communication				
Assessment	Students complete a Cybersecurity Case Study, investigating a realistic cyber incident, identifying threats and recommending preventative measures while considering ethical implications.					Students complete a Data Analysis Project, using spreadsheets to organise, analyse and present information through formulas, functions and charts.					Students complete an Algorithm Investigation, tracing, comparing and evaluating searching and sorting algorithms to demonstrate efficiency and problem-solving.					Students design and create a Database Solution that stores, validates and retrieves information using searches, sorting and queries to answer a given scenario.					Students complete a Python Coding Challenge, designing, creating and testing a program using variables, input/output, selection and iteration.					Students create a multi-page HTML website demonstrating effective structure, navigation, usability and presentation for a specified audience and purpose.				