

Year 7

School Vision	Challenging all of our students supportively to become confident and curious enhancing lives now and in the future					
Faculty Intent	To engender a desire and passion to learn and be Inspired in STEM subjects, experiencing STEM outside the class - applying learning in unfamiliar situations.					
Subject Intent	“We study Computer Science to enhance our logical thinking, decision-making, and problem-solving skills, and learn about computer hardware and networks. We also explore the impact of technology in society and ways to improve computer systems.”					
	Term 1		Term 2		Term 3	
	1	2	3	4	5	6
Topic Name	Clear messaging in digital media	Networks from semaphores to the Internet	Using media – Gaining support for a cause	Programming essentials in Scratch – part I	Programming essentials in Scratch – part II	Modelling data using spreadsheets
Key Content	Combining the use of digital tools and online collaboration to produce media.	Recognising networking hardware and explaining how networking components are used for communication.	Creating a digital product for a real-world cause.	Applying the programming constructs of sequence, selection, and iteration in Scratch.	Using subroutines to decompose a problem that incorporates lists in Scratch.	Sorting and filtering data and using formulas and functions in spreadsheet software.
Intent						
How does this link to your intent?	Impact of technology in society	Computer hardware and networks	The social impact of their work	Logical thinking, decision-making and problem-solving skills.	Logical thinking, decision-making and problem-solving skills.	Logical thinking, decision-making and problem-solving skills.
Sequencing						
Why this and why now?	This unit introduces students to the	As students now have access to a client-server	To engage students, develop practical skills,	Pupils have differing levels of experience with	Building on the previous topic of concepts this topic	Many students have not used Spreadsheet

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	network, their email and elements of e-safety to ensure students are	network it makes it an ideal time to explain how this works and how it differs from home networks.	promote media literacy, and lay the foundation for future learning	Scratch. This topic reintroduces the basics that and ensures the key concepts/keywords are understood.	introduces both subroutines and lists finally getting students to attempt to solve problems	software in primary. This gives pupils knowledge on how to many of the basics so they can use the software if needed for other subjects.
National Curriculum Audit						
use and evaluate computational abstractions					✓	
understand several key algorithms that reflect computational thinking				✓		
use two or more programming languages				✓		
understand simple Boolean logic				✓		
hardware and software components		✓				
hardware and software components						

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undertake creative projects that involve selecting			✓		✓	✓
create, re-use, revise and re-purpose digital artefacts	✓		✓	✓		✓
understand a range of ways to use technology safely, respectfully, responsibly and securely	✓					
Key concepts / Vocabulary						
12 or less	Application Software Formatting Images Audience Purpose	Reliability Plagiarism Citation Copyright Law Creative Commons	Search Terms Desktop Publishing Branding Rubric Feedback	Sequence Variable Selection Operators Iteration	Subroutine Decomposition Count-Controlled iteration List Iteration Evaluation	rows columns formulas Cell referencing formatting Conditional formatting Fill handle
Learning Outside the Classroom / Cultural Capital						
Opportunities						National Museum of Computing Bletchley
Homework						

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Description	Knowledge organiser: create revision resources - 2 weeks of homework on week 6 & 7 of each topic	Knowledge organiser: create revision resources - 2 weeks of homework on week 6 & 7 of each topic	Knowledge organiser: create revision resources - 2 weeks of homework on week 6 & 7 of each topic	Knowledge organiser: create revision resources - 2 weeks of homework on week 6 & 7 of each topic	Knowledge organiser: create revision resources - 2 weeks of homework on week 6 & 7 of each topic	Knowledge organiser: create revision resources - 2 weeks of homework on week 6 & 7 of each topic
Assessment						
Type	MCQs – Google Forms	MCQs – Google Forms	MCQs – Google Forms	MCQs – Google Forms	MCQs – Google Forms	MCQs – Google Forms
Why this style of assessment and why now?	With an hour a week time is short for learning and topics therefore formative starter quizzes every lesson and a large Summative MCQ on key knowledge at the end of the topic.	With an hour a week time is short for learning and topics therefore formative starter quizzes every lesson and a large Summative MCQ on key knowledge at the end of the topic.	With an hour a week time is short for learning and topics therefore formative starter quizzes every lesson and a large Summative MCQ on key knowledge at the end of the topic.	With an hour a week time is short for learning and topics therefore formative starter quizzes every lesson and a large Summative MCQ on key knowledge at the end of the topic.	With an hour a week time is short for learning and topics therefore formative starter quizzes every lesson and a large Summative MCQ on key knowledge at the end of the topic.	With an hour a week time is short for learning and topics therefore formative starter quizzes every lesson and a large Summative MCQ on key knowledge at the end of the topic.

Year 8

School Vision	Challenging all of our students supportively to become confident and curious enhancing lives now and in the future					
Faculty Intent	To engender a desire and passion to learn and be Inspired in STEM subjects, experiencing STEM outside the class - applying learning in unfamiliar situations.					
Subject Intent	“We study Computer Science to enhance our logical thinking, decision-making, and problem-solving skills, and learn about computer hardware and networks. We also explore the impact of technology in society and ways to improve computer systems.”					
	Term 1		Term 2		Term 3	
	1	2	3	4	5	6

Topic Name	Developing for the Web	Layers of computing systems	Media – Vector graphics	Representations – from clay to silicon	Mobile app development	Introduction to Python programming
Key Content	Involves the creation and management of web-based software applications, requiring knowledge of programming languages, software development methodologies, and web technologies.	Provides insights into the organization, functioning, and optimization of computer hardware and software, and offers a foundation for the development of efficient and secure computing systems.	Provides insights into technology, society, and digital media creation, while developing students' logical thinking, decision-making, and problem-solving skills	Explores the evolution of information representation from physical objects to digital data, providing insights into the history and theory of computing and the development of digital technologies.	Involves designing, creating and deploying software applications for mobile devices, requiring knowledge of programming languages, software development methodologies, and mobile technologies.	Python is a widely-used and versatile programming language. This topic focuses on logical thinking, decision-making, and problem-solving skills
Intent						
How does this link to your intent?	Problem-solving skills and exploring the impact of technology in society	Learning about computer hardware and networks. Ways to improve computer systems	Computer Networks and exploring the impact of technology in society.	Problem-solving skills, and learning about computer hardware	Logical thinking, decision-making, and problem-solving skills. Exploring the impact of technology in society and ways to improve computer systems	Logical thinking, decision-making and problem-solving skills.
Sequencing						
Why this and why now?	Having gained knowledge of	Y7 networks looked at	Builds on the media topic in Y7	Foundations of understanding how		Introduction to High level

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	networks in Y7 this topic builds on this and introduces students on how websites are created and accessed via the internet	hardware. This topics looks “under-the-hood” of a Computer system so pupils understand what the purpose of components are.		computers use Binary to represent. Built upon further in Y9		programming. This topic builds on the concepts learnt in Scratch.
National Curriculum Audit						
use and evaluate computational abstractions	✓					✓
understand several key algorithms that reflect computational thinking						✓
use two or more programming languages						✓
understand simple Boolean logic			✓			
hardware and software components			✓			
hardware and software components			✓		✓	
undertake creative projects that involve selecting	✓	✓				

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create, re-use, revise and re-purpose digital artefacts		✓		✓		✓
understand a range of ways to use technology safely, respectfully, responsibly and securely						
Key concepts / Vocabulary						
12 or less	Computing Systems programs Processor memory storage input output Operating system Artificial intelligence	Bandwidth Buffering Internet Internet of Things (IoT) IP Address Packet Protocol Search Engine Web Browser	Align Distribute Duplicate Ellipse Equidistant Fill Flip Freehand Handles Intersection Node Monochrome	Bit Nibble Byte Kilobyte Megabyte Gigabyte Terabyte Petabyte Binary Number Base 2 Number system Data Denary	Abstraction Algorithm Computational Thinking Debugging Blocks Decomposition Execute GUI Iteration Selection Sequence Variable	Sequence Variable Selection Operators Iteration Subroutine Decomposition Count-Controlled iteration List Iteration Evaluation
Learning Outside the Classroom / Cultural Capital						
Opportunities			Lego PRIME competition in Nicosia			
Homework						

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[illegible]

Year 9

School Vision	Challenging all of our students supportively to become confident and curious enhancing lives now and in the future					
Faculty Intent	To engender a desire and passion to learn and be Inspired in STEM subjects, experiencing STEM outside the class - applying learning in unfamiliar situations.					
Subject Intent	“We study Computer Science to enhance our logical thinking, decision-making, and problem-solving skills, and learn about computer hardware and networks. We also explore the impact of technology in society and ways to improve computer systems.”					
	Term 1		Term 2		Term 3	
	1	2	3	4	5	6
Topic Name Key Content	Python programming with sequences of data Manipulating strings and lists. Creating a programming project.	Media – Animations Creating 3D animations through object manipulation, and tweaking and adjusting lighting and camera angles.	Data science Extract meaning from large data sets to gain insights & support decision making.	Representations – going audio-visual Representing images and sound using binary digits.	Introduction of cybersecurity Identifying how users and organisations can protect themselves from cyberattacks.	Applying programming skills with physical computing Identifying how users and organisations can protect themselves from cyberattacks.
Intent						
How does this link to your intent?	Logical thinking, decision-making and problem-solving skills.	Decision-making, and problem-solving skills	Logical thinking, decision-making and problem-solving skills.	Computer hardware and networks. We also explore the impact of technology and ways to improve computer systems	Computer hardware and networks. We also explore the impact of technology in society and ways to improve computer systems	Logical thinking, decision-making, and problem-solving skills, and learn about computer hardware
Sequencing						

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Why this and why now?	Building on from Y8 some of the more complex concepts that were visited in Python are introduced in text form	Blender is complex industry software. There are many features that are overly complex and Y9 pupils will not be overwhelmed with the interface. Content also contains more complex concepts/problem solving		This advances the previous representations topic in Y8 to revisit and deepen the understanding of how Computers represent images, sound and video using Binary.		This unit combines the Python learnt in Y8 and Y9 as well the hardware topic (Y8) to allow pupils to program some physical hardware
National Curriculum Audit						
use and evaluate computational abstractions	✓	✓				
understand several key algorithms that reflect computational thinking	✓	✓				
use two or more programming languages	✓	✓				
understand simple Boolean logic						
hardware and software components						

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hardware and software components	✓	✓			✓	
undertake creative projects that involve selecting				✓		
create, re-use, revise and re-purpose digital artefacts			✓			
understand a range of ways to use technology safely, respectfully, responsibly and securely						✓
Key concepts / Vocabulary						
12 or less	Sequence Variable Selection Operators Iteration Subroutine Decomposition Count-Controlled iteration List Iteration Evaluation	Extrude Keyframe Vertex Loop tweening object Organic Proportional Rotate Render ray tracing timeline subdivision	Anomalies Conclusion correlation criteria data analysis data capture data cleansing data collection data source insight outliers prediction	Binary number Pixel Bit(b) Resolution Megapixels Colour Depth Bitmaps RGB Colour Representation Size Digitising Sampling Rate Sampling Size	Adware Authentication Auto update Biometrics Blagging CAPTCH DoS/DDoS Encryption Firewall Hacking Malware Penetration Testing	Accelerometer Buttons Light sensor Temperature sensor Compass Radio antenna Accelerometer Magnetometer Iteration Variable

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Subject Intent	"We study Computer Science to enhance our logical thinking, decision-making, and problem-solving skills, and learn about computer hardware and networks. We also explore the impact of technology in society and ways to improve computer systems."					
Exam Board & Specification	J277 OCR Computer Science					
	Term 1		Term 2		Term 3	
	1	2	3	4	5	6
Topic Name Key Content	1.1: Systems Architecture Primary storage and secondary storage	1.2: Data Representation Units and data storage	☐ 1.3: Networks Networks and topologies, wired and wireless networks, protocols, layers	1.4: Network Security & Systems Software Threats to computer systems and networks, identifying and preventing vulnerabilities, operating systems and utility software	1.5: Impacts of Digital Technology Different computer technologies and applications and the ethical, environmental and legal considerations surrounding them	EoY Theory Revision & Programming Project (20 hours) Algorithms, Programming Techniques, Producing Robust Programs, Translators and facilities of languages
Intent						
How does this link to your intent?	Students learn about the organization and interconnection of various components, such as the	Students explore how different types of data (e.g., text, numbers, images) are represented	Students gain a comprehensive understanding of how data is transmitted and received across devices in a	They consider the societal implications of data breaches, identity theft, and other security incidents.	Students explore how technology influences social interactions, education, employment, and other aspects of society. They gain	

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	CPU, memory, and input/output devices.	using binary code.	networked environment.		insights into both positive and negative consequences, fostering an awareness of technology's role in shaping modern life.	
Sequencing						
Why this and why now?	Students should have a basic understanding of computer systems from lessons delivered	Students progress logically from the internal workings of a computer (Systems Architecture) to how data is represented within these systems	Extend that understanding to how data is exchanged between systems in a networked environment (Networks).	Students can move on to exploring how computers connect and communicate in a networked environment. Understanding security and software concepts is crucial when addressing network-related issues.	Placing this topic later in the sequence allows students to apply their technical knowledge gained from previous topics to a broader context.	Preparation for the Year 10 mock. Carrying out the compulsory 20-hour programming project
Key concepts / Vocabulary						
12 or less	CPU Control Unit ALU Cache Von Neumann MAR MDR	Binary Bit Depth Sample Rate Colour Depth Pixel Binary Shift (left/right) Character Set	LAN WAN Latency Bandwidth DNS Hosting The Cloud Web Server	Malware Virus Worm social engineering Trojan horse Phishing brute-force attack data interception	Ethical Cultural Environmental Legislation Manufacture Disposal Upgrade Replace	Variables Constants ==, !=, <, <=, >, >=, read Operators MOD, DIV, ^, Write Inputs

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	Program Counter Accumulator Clock Speed Cache Size Cores	ASCII Unicode Meta Data Hertz Compression	Client Server Star Network Mesh Network Topology	SQL Injection denial of service attack penetration testing	E-Waste Privacy Legal Data Protection	Exponentiation Outputs data types records
Learning Outside the Classroom / Cultural Capital						
Opportunities						
Homework						
Description	A mixture of online platforms Seneca and SmartRevise or exam question in their CGP revision guides.	A mixture of online platforms Seneca and SmartRevise or exam question in their CGP revision guides.	A mixture of online platforms Seneca and SmartRevise or exam question in their CGP revision guides.	A mixture of online platforms Seneca and SmartRevise or exam question in their CGP revision guides.	A mixture of online platforms Seneca and SmartRevise or exam question in their CGP revision guides.	A mixture of online platforms Seneca and SmartRevise or exam question in their CGP revision guides.
Assessment						
Type	Retrieval practice each lesson. End of Topic MCQs summative assessments followed by an end of unit written	Same assessments as previous topics, however the end of unit written summative assessment is always				

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	summative assessment.	cumulative. Adding new the new topic to previous ones.				
Why this style of assessment and why now?						

Y11

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Exam Board & Specification	J277 OCR Computer Science					
	Term 1		Term 2		Term 3	
	1	2	3	4	5	6
Topic Name Key Content	2.1 Algorithms Computational thinking, pseudocode, flowcharts, trace tables, searching algorithms and sorting algorithms	2.2 Programming Fundamentals Programming fundamentals, data types and additional programming techniques are all covered	2.3 Logic and Languages Producing robust programs, Boolean logic and Programming languages and Integrated Development Environments	Revision and Exam Preparation		

Intent						
How does this link to your intent?	Computational Thinking and Logical thinking when studying Algorithms	Computational Thinking and Logical thinking when programming	Computational Thinking and Logical thinking when programming and exploring logic gates			
Sequencing						
Why this and why now?	Looks at decomposing large problems to form a solution which is a skill the is needed before the next topic	Looks at key constructs' students have used during their y10 programming project and solves other small problems	Highlights and consolidates key tools and terms that students have been using and shows how the exam board examine this.	Completion of the course content. Past papers and exam technique focus.		
Key concepts / Vocabulary						
12 or less	algorithmic thinking Inputs Processes Outputs structure diagrams Pseudocode Flowcharts Abstraction trace tables syntax error logical error algorithm	Variables Constants ==, !=, <, <=, >, >=, read Operators MOD, DIV, ^, Write Inputs Exponentiation Outputs data types records	erroneous syntax logic error logic diagrams Authentication test data Validation Maintainability boundary sub programs Defensive design			

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			low-level language			
Learning Outside the Classroom / Cultural Capital						
Opportunities						
Homework						
Description	A mixture of online platforms Seneca and SmartRevise or exam question in their CGP revision guides.	A mixture of online platforms Seneca and SmartRevise or exam question in their CGP revision guides.	A mixture of online platforms Seneca and SmartRevise or exam question in their CGP revision guides.	A mixture of online platforms Seneca and SmartRevise or exam question in their CGP revision guides.		
Assessment						
Type	Retrieval practice each lesson. End of Topic MCQs summative assessments followed by an end of unit written summative assessment.	Same assessments as previous topics, however the end of unit written summative assessment is always cumulative. Adding new the new topic to previous ones.				
Why this style of assessment and why now?	The Mid-Unit Assessment and Final-Unit Assessment, assesses student's knowledge of the current unit.					

Y12

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Subject Intent	"We study Computer Science to enhance our logical thinking, decision-making, and problem-solving skills, and learn about computer hardware and networks. We also explore the impact of technology in society and ways to improve computer systems."					
Exam Board & Specification						
	Term 1		Term 2		Term 3	
	1	2	3	4	5	6
Topic Name						
Key Content						
Intent						
How does this link to your intent?						
Sequencing						
Why this and why now?						
Key concepts / Vocabulary						
12 or less	• • •		• • •			

Learning Outside the Classroom / Cultural Capital						
Opportunities						
Homework						
Description						
Assessment						
Type						
Why this style of assessment and why now?						

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Exam Board & Specification						
	Term 1		Term 2		Term 3	
	1	2	3	4	5	6
Topic Name						
Key Content						
Intent						
How does this link to your intent?						
Sequencing						
Why this and why now?						
Key concepts / Vocabulary						
12 or less	• • •		• • •			

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Learning Outside the Classroom / Cultural Capital						
Opportunities						
Homework						
Description						
Assessment						
Type						
Why this style of assessment and why now?						