


Curriculum Information

Computing



What I learn about in the curriculum...

Year		Topics	 How does this build on from previous learning?	The key concepts we cover
7	Autumn 1	Introduction to Computing	Revisit your understanding of e-safety and understand how to use technology safely covered in Key Stage 2.	Internet Safety Programming Algorithms Software Skills System Architecture
	Autumn 2	Under The Hood	Identify the different parts of a computer and develop your knowledge of the internal components of a computer as well as the external components covered in KS2.	
	Spring 1	Sealife Centre	Revisit a range of Microsoft Office software and explore the tools of PowerPoint and word covered at KS2.	
	Spring 2	NASA	Demonstrate and expand on skills in PowerPoint previously explored.	
	Summer 1	BMW	Revisit a range of Microsoft Office software and explore the tools of PowerPoint and word covered at KS2 and the previous unit.	
	Summer 2	Game On	Explore different types of memory used in a computer and demonstrate your programming skills in a block-based programming language previously explored in KS2.	
8	Autumn 1	Netflix	Explore your knowledge further from Year 7 of network security risks and identify the different types of networks.	Internet Safety Programming Algorithms Software Skills System Architecture

	Autumn 2	Binary & Data Representation	Apply your knowledge of how hardware and software work together from Year 7 to explore how circuits in a computer work.	
	Spring 1	GCHQ	Explore and enhance your knowledge of the threats you are exposed to on a network and computer previously covered in Year 7.	
	Spring 2	Comic Con	Demonstrate your editing and publishing skills on a range of different platforms explored throughout KS2, Year 7 & 8.	
	Summer 1	Social Networking	Revisit and explore a range of risks we are exposed to when using social networking and demonstrate your PowerPoint skills previously explored in Year 7 & 8 to create an interactive product.	
	Summer 2	Programming	Extend your knowledge of block based programming explored in Year 7 & 8 and apply to BBC Microbits.	
9	Autumn 1	Computer Ethics & Legislation	Consider how to use a computer safely and explore e-safety units covered in Year 7 & 8 further by covering different laws we must follow when using a computer.	Internet Safety Programming Algorithms Software Skills System Architecture Networks Data Representation
	Autumn 2	Pure Gym	Develop your skills previously explored in PowerPoint to develop your own interactive multimedia product.	
	Spring 1	Algorithms	Demonstrate your knowledge of binary and data representation explored in Year 8 and present them in an algorithm.	
	Spring 2	Programming	Demonstrate your basic understanding of programming concepts explored in block-based programming in Year 8 by demonstrating skills in a text-based language- Python.	

	Summer 1	System Security	Explore the system security methods applied to computers previously explored in the Year 8 Netflix topic.	
	Summer 2	Logic & Data Representation	Revisit topics covered on how a computer works using binary and logic gates in Year 8.	
10 iMedia	Autumn 1	R093: Exam Preparation	Revisit the different types of pre-production documents previously created in Year 9. Extend your knowledge and revisit different legislation we must consider when using a computer for example Copyright, The Computer Misuse Act & The Data Protection Act.	Plan Design Develop Evaluate
	Autumn 2	R094: Controlled Assessment Task Preparation	Create pre-production documents to evidence your understanding of the development process of a product explored in the previous unit. Demonstrate your practical skills on software explored throughout your KS3 curriculum.	
	Spring 1	R094: Controlled Assessment Task	Apply the skills applied to the previous unit to your provided assignment brief independently.	
	Spring 2	R094: Controlled Assessment Task	Apply the skills applied to the previous unit to your provided assignment brief independently.	
	Summer 1	R094: Controlled Assessment Task	Apply the skills applied to the previous unit to your provided assignment brief independently.	
	Summer 2	R097: Controlled Assessment Task Preparation	Create pre-production documents to evidence your understanding of the development process of a product explored in the previous unit. Demonstrate your practical skills on software explored throughout your KS3 curriculum.	
	Autumn 1	System Architecture	Explore the hardware and software of a computer covered in KS3. Understand how a computer works.	

	Autumn 2	Memory & Storage	Explore the different memory and storage used by a computer system and revisit topics from KS3 on how a computer uses binary and logic.	Data Representation
	Spring 1	Computer Networks, Connections & Protocols	Revisit the different types of networks previously completed in Y8 & 9. Understand the different types of network hardware required.	
	Spring 2	Network Security	Explore methods of network security previously covered in Year 9.	
	Summer 1	System Software	Identify the different types of system software and what they are used for explored in Year 9.	
	Summer 2	Ethical, Legal, Cultural & Environmental Impacts of Digital Technology	Revisit topics such as legislation, e-waste and the digital divide previously explored in Year 9.	
11 iMedia	Autumn 1	R082: Controlled Assessment Task	Create pre-production documents to evidence your understanding of the development process of a product. Demonstrate your practical skills on software explored throughout your KS3/4 curriculum.	Plan Design Develop Evaluate
	Autumn 2	R087: Controlled Assessment Task	Create pre-production documents to evidence your understanding of the development process of a product. Demonstrate your practical skills on software explored throughout your KS3/4 curriculum.	

	Spring 1	R087: Controlled Assessment Task	Create pre-production documents to evidence your understanding of the development process of a product. Demonstrate your practical skills on software explored throughout your KS3/4 curriculum.	
	Spring 2	R081: Examination Preparation	Revisit the different types of pre-production documents previously created in Year 9. Extend your knowledge and revisit different legislation we must consider when using a computer for example Copyright, The Computer Misuse Act & The Data Protection Act.	
	Summer 1	R081: Examination Preparation	Revisit the different types of pre-production documents previously created in Year 9. Extend your knowledge and revisit different legislation we must consider when using a computer for example Copyright, The Computer Misuse Act & The Data Protection Act.	
	Summer 2			
11 Computer Science	Autumn 1	Ethical, Legal, Cultural & Environmental Impacts of Digital Technology	Revisit topics such as legislation, e-waste and the digital divide previously explored in Year 9.	Programming Plan Design Develop Evaluate Data Representation Software Skills Systems architecture
	Autumn 2	Algorithms	Demonstrate your understanding of flowcharts & Pseudocode explored in Year 9.	

	Spring 1	Programming	Apply your knowledge from KS3 of the text-based programming language Python to a practical programming task.	
	Spring 2	Programming & Producing Robust Programs	Apply your knowledge from KS3 of the text-based programming language Python to a practical programming task.	
	Summer 1	Revision	Revisit all previous topic areas.	

	Information
Personal Development within the Curriculum	<ul style="list-style-type: none"> • Preparing students to be responsible digital citizens • Preparing students for the working world with skills in ICT & Technology • Knowledge on how to use technology safely, ethically and legally. • Exploring concepts of e-safety on all devices and applying this to their own personal experiences.
Extra Curricular Opportunities	<ul style="list-style-type: none"> • KS3 programming club • Digital Ambassadors • Opportunities to visit Bletchley Park
Assessment	<p>Key Stage 3 Practical skills such as use of tools in a range of software, how to use a computer safely and responsibly- demonstrating this throughout lesson time. Theory elements tested through a multiple choice test. Each topic will be assessed through a practical and written assessment. Practical assessment tasks will be accompanied with a list of criteria which will be shared with the class. The written assessment will take the form of an online multiple-choice test. Skills are assessed every lesson in 'Do-Now' retrieval tasks and consolidation tasks. The formal written and practical assessments for each topic will take place at the end of each topic usually at the end of each half term.</p> <p>Key Stage 4 <u>Computer Science:</u> Title of course studied: OCR J277 GCSE Computer Science Course Content and assessment information:</p> <p><u>Component 1-</u> Paper 1- Computer Systems (80 marks, 1 hour 30 mins, 50%) Covering the following topics:</p> <ol style="list-style-type: none"> 1. Systems architecture 2. Memory and storage 3. Computer Networks, connections and protocols 4. Network security 5. Systems Software 6. Ethical, legal, cultural and environmental impacts of digital technology. <p><u>Component 2-</u> Paper 2-Computational Thinking, Algorithms & Programming (80 marks, 1 hour 30 mins, 50%) Covering the following topics:</p> <ol style="list-style-type: none"> 1. Algorithms 2. Programming fundamentals 3. Producing robust programs 4. Boolean logic 5. Programming language and Integrated Development Environments.

	<p>iMedia Title of course studied: OCR J834 Level 1/2 Cambridge National Certificate in Creative iMedia</p> <p>Course Content and assessment information:</p> <p>Component 1: R093- Creative iMedia in the media Industry</p> <ul style="list-style-type: none"> • Written Exam Paper • 1 hour 30 mins • 70 marks • 40% of GCSE <p>Component 2: R094- Visual identity and digital graphics</p> <ul style="list-style-type: none"> • Controlled Assessment • Approx. 30 hours • 60 marks • 30% of GCSE <p>Component 3: R097- Interactive Digital Media</p> <ul style="list-style-type: none"> • Controlled Assessment • Approx. 42 hours • 60 marks
Qualification Information	<p>Computer Science: OCR J277 GCSE Computer Science: https://www.ocr.org.uk/Images/558027-specification-gcse-computer-science-j277.pdf</p> <p>iMedia: OCR J834 Level 1/2 Cambridge National Certificate in Creative iMedia : https://www.ocr.org.uk/Images/610942-specification-cambridge-nationals-creative-imedia-j834.pdf</p>
Ways to Support your Child in this subject	<p>Computer Science</p> <ul style="list-style-type: none"> • Purchase a CGP GCSE OCR Computer Science Revision guide • Access the range of revision resources available on Inspire • Mark and assess practice exam questions • Encourage your child to watch the 'Craig 'n' Dave' revision videos and YouTube channel. • Visit the teach ICT website and encourage your child to create a revision mindmap or flashcards on the topic areas. • Encourage your child to independently explore a programming language. Websites such as codeacademy.com can be useful for this. <p>iMedia</p> <ul style="list-style-type: none"> • Encourage your child to meet all controlled assessment deadlines • Purchase an iMedia revision guide • Access the range of revision resources available on Inspire • Mark and assess practice exam questions