

Y7

Computer Science				Year 7 Curriculum map		
	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
What am I learning?	Using Computer safely(E-Safety)	Programming Fundamental	Spreadsheet	Python Turtle Graphic	Python Turtle Graphic	Mini project
Why am I learning this?	To develop awareness of how to keep safe when using the internet and the impact digital footprint can have.	To develop knowledge around what algorithms are and why they are important and how they are linked to everyday life.	To develop basic skills around data manipulation and develop transferable skills that they can use in future.	Students will be able to use two or more programming languages, at least one of which is textual which will be Python turtle graphic, to solve a variety of computational problems.	Students will be able to use two or more programming languages, at least one of which is textual which will be Python turtle graphic, to solve a variety of computational problems.	To demonstrate the knowledge they have learnt in Python in a practical way.
How will I be supported?	As this can be a sensitive topic we will have support in place to help students if they need. We will also have class discussion and peer tasks to work on.	There will be loads of practice tasks and modelled examples to help them. Question and a change for students to practise before doing independent work	There will be videos and loads of different examples that they will be able to refer back to. From the class teacher.	Using the PRIMM method to teach this content, where it starts off with scaffolding to work to build independently.	Using the PRIMM method to teach this content, where it starts off with scaffolding to build independently.	Will have previous resources to refer back to and teachers will also support students.

Computer Science Curriculum Map K3 & K4

How will I be challenged	Having peer/class discussion. Through knowledge checked homework	Challenging task along with an extension task.	Challenging task along with an extension task.	Challenging task along with an extension task.	Challenging task along with an extension task.	Using the skills they have learnt to create a mini project. They will need to be creative in their thinking.
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Y8

Computer Science				Year 8 Curriculum map		
	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
What am I learning?	Intro to Python	Intro to Python	Law & Ethics	HTML /CSS (create website)	HTML/CSS (create website)	Computer system
Why am I learning this?	Developing on from using Python Turtle Graphic in Year 7 students will develop on their computational skills, problem solving, designing of flowcharts/pseudo	Developing on from using Python Turtle Graphic in Year 7 students will develop on their computational skills, problem solving, designing of flowcharts/pseudo	To equip students around the laws that are linked to keeping their personal data safe, around use of computers or other people's content. These laws they will need to adhere to	As websites are an essential part of the world we live in today. Students will learn how they are created and styled using HTML and CSS which is a great skill to have.	Carry on with this topic from last term which will lead to students to develop skills in undertaking a creative project and applying the knowledge and skills they have learnt and	To help students understand the hardware and software components that make up computer systems, and how they communicate with one another and with other

Computer Science Curriculum Map K3 & K4

	code to help them develop on their programming skills where they will look at data types (String, Float, Integer and Boolean) program constructs (sequence, selection and iteration) variables.	code to help them develop on their programming skills where they will look at data types (String, Float, Integer and Boolean) program constructs (sequence, selection and iteration) variables.	irrespective of their career path. They will look at Data Protection (GDPR), Copyright and Patent, Computer misuse act and e-waste.		developed.	systems.
How will I be supported?	Using the PRIMM method to teach this content, where it starts off with scaffolding to build independently.	Using the PRIMM method to teach this content, where it starts off with scaffolding to build independently.	Students will have videos and lesson resources. group/peer discussion and articles to help.	Scaffolding through having examples throughout the lesson to help students. Teacher model, then students go and try a sample to see if it works.	Scaffolding through having examples throughout the lesson to help students. Template to refer back to.	Focus on Key terminology, using effective questioning before doing independent tasks.
How will I be challenged	Challenging task along with an extension task.	Challenging task along with an extension task.	Challenging tasks, through questioning, creating articles based on facts.	Students will have to implement what they learnt in lessons. Students are able to work ahead/ will set	Students will create their own website where they will have to create the content and source	Through peer discussion, effective questioning and stretching task.

Computer Science Curriculum Map K3 & K4

				stretch tasks.	information they will use.	
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Y9

Computer Science				Year 9 Curriculum map		
	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
What am I learning?	Algorithms (searching /sorting)	Intro to data representation	Ethics	Structured Programming (1)	Structured Programming (2)	Mini project
Why am I learning this?	So that students can develop understanding of key algorithms that reflect computational thinking such as (sorting and searching); It will help students to develop logical reasoning to	So that students can understand simple Boolean logic such as (AND, OR and NOT) they will also understand how numbers can be represented in binary (also with binary addition). students will also	As we look at the law aspects we will now develop on these and look at morals, Ethics, culture and how they have an impact on different countries in use of technology and the world we are	Students will develop on what they have learnt in Year 7 and 8 and programming is a skill that is developed through regular practice. In this topic students will make appropriate use of data	Students will develop on what they have learnt in Year 7 and 8 and programming is a skill that is developed through regular practice. In this topic students will make appropriate use of data	To develop skills in undertaking a creative project and applying the knowledge and skills they have learnt and developed.

Computer Science Curriculum Map K3 & K4

	compare different algorithms and how it is linked to the real-world and things they do daily.	understand how data of various types (including text, sounds and pictures) can be represented and manipulated digitally, in the form of binary digits.	living in today where AI is on the rise.	structures such as (lists/ arrays), design and develop modular programs that use procedures or functions	structures such as (lists/ arrays), design and develop modular programs that use procedures or functions	
How will I be supported?	Teachers will use the model approach of I do, we do, you do to help develop the knowledge students will need.	Teachers will use the model approach of I do, we do, you do to help develop the knowledge students will need.	Teacher will use class discussion linked to real world examples that students will be able to relate to.	Using the PRIMM method to teach this content, where it starts off with scaffolding to build independently.	Using the PRIMM method to teach this content, where it starts off with scaffolding to build independently.	Scaffolding through having previous work they have completed from year 7 to current to refer back back. Teacher will provide links to resources to help.
How will I be challenged	More complex tasks to solve and being also able to explain the process using correct terminology.	More challenging tasks which will deepen what they have learnt, have independent task to help them practise the content taught,	Challenging tasks, different scenarios where students will need to be able to apply the knowledge we have covered through lesson slides and discussion.	Challenging programming tasks to stretch students further than the knowledge they would have learnt in lessons, linked to problem solving.	Challenging programming tasks to stretch students further than the knowledge they would have learnt in lessons, linked to problem solving.	Using the skills they have learnt to complete a programming project. They will use all the skills they have learnt from year 7 to 9.

Year 10 Computer Science

GCSE Computer Science Year 1				Year 10 Curriculum map		
	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
What am I learning?	Boolean Logic, Units, Data storage - numbers, Data storage- Characters, Computational thinking	Data storage - Images, Data storage - Sound, Data storage - compression, Designing - creating - and refining algorithms, (Practical Programming)	Architecture of CPU, CPU performance, Programming fundamentals, Data types	Embedded systems, Primary storage(memory), Secondary storage, Additional programming techniques	Networks and topologies, Wired and wireless networks, protocols and layers	Practical Programming Skills (program project).
Why am I learning this?	So students understand the makeup of a computer, the language that the	So that students are aware of how image is represented in binary and how sound can be	So that students are aware of the purpose of the CPU, the common components and	So that students are aware of different basic file handling operations,	So that students are aware of different types of networks that they come across in the	To demonstrate that they have the fundamental knowledge and skill to be able to

Computer Science Curriculum Map K3 & K4

	<p>computer understands and how that is different to what we use as humans. to be able to know the different units of storage.</p>	<p>sampled and stored in digital form. why we might need to compression files along with the drawback and benefits of doing it which is something they would have done but not knowing fully why. Students will develop skills on how to create, design and understand algorithms and develop solutions, they will develop on what they would have learnt in KS3.</p>	<p>their function along with what can affect the performance of the CPU. Students deepen what they learnt about variables, program constructs and operators that the computer uses. Along with different different data types to help when creating programs.</p>	<p>understand how to write basic SQL and develop further programing knowledge and skills. so students know the difference between primary memory and secondary storage and why computers use them.</p>	<p>real world to know that different computer on a network have different roles devices use along with understanding the internet as a worldwide collection of computer networks and what the cloud is as it is widely used in the real world and things that can affect the performance of a network which they would have experience. Students will also understand the difference between IP and MAC addressing which again is very much real to the things they.</p>	<p>problem solve and think computationally to create a solution to a problem. Knowing that there can be more than one way to solve a problem.</p>
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Computer Science Curriculum Map K3 & K4

<p>How will I be supported?</p>	<p>Through exam practice related to the topics, independent tasks to help with application of the content. Through teacher modelling I do, we do, you do.</p>	<p>Through exam practice related to the topics, independent tasks to help with application of the content. Through teacher modelling I do, we do, you do.</p>	<p>Through exam practice related to the topics, independent tasks to help with application of the content. Through teacher modelling I do, we do, you do and questioning/class and peer discussion.</p>	<p>Through exam practice related to the topics, independent tasks to help with application of the content. Through teacher modelling I do, we do, you do.</p>	<p>Through exam practice related to the topics, independent tasks to help with application of the content. Through teacher modelling I do, we do, you do.</p>	<p>Students can refer back to past tasks which they would have completed to remind them of certain techniques and notes in book and revision resources provided.</p>
<p>How will I be challenged</p>	<p>Through complex tasks, Higher grade tasks.</p>	<p>Through complex tasks, Higher grade tasks, practical tasks to develop application of skills.</p>	<p>Through complex tasks, Higher grade tasks.</p>	<p>Through complex tasks, Higher grade tasks, practical tasks to develop application of skills through looking at different scenarios.</p>	<p>Through complex tasks, Higher grade tasks, practical tasks to develop application of skills through looking at different scenarios.</p>	<p>Students will complete project on their own to demonstrate their knowledge and skills of programming.</p>

Y11 Computer Science

GCSE Computer Science Year 2				Year 11 Curriculum map		
	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
What am I learning?	Threats to computer system and networks, Identifying and preventing vulnerabilities, Defensive design, Operating systems, testing	Utility software, Ethical, legal, cultural and environmental impact. Languages, The Integrated Development Environment (IDE) , searching and sorting algorithms,	Theory Revision, Practical Programming Skills Revision	Theory Revision, Practical Programming Skills Revision	Revision, Examinations	Revision, Examinations
Why am I learning this?	So that students are aware of the different threats posed to a device or system and to then know how to limit these threats. They will also look at the purpose of OS and functionality and end with learning how to carry out testing on a program	So that students will understand that computers come with utility software and how to perform housekeeping tasks. To understand the impact of digital technology on wider society along with the legislations that are relevant to computer science. To know the purpose of different levels of programming languages, the purpose of translators in relation to programming along	Students will practise knowledge, application of knowledge and programming skills to different scenarios.	Students will practise knowledge, application of knowledge and programming skills to different scenarios.		

Computer Science Curriculum Map K3 & K4

	during and after it has been created.	with compiler and interpreter. What different tools are available in IDE. know what these algorithms are and be able to identify them.				
How will I be supported?	Through exam practice related to the topics, independent tasks to help with application of the content. Through teacher questioning and class discussion. Intervention	Through exam practice related to the topics, independent tasks to help with application of the content. Through teacher questioning and class discussion. Intervention	GCSE question and Intervention. Additional practice task, looking at different examples.	GCSE question and Intervention. Additional practice task, looking at different examples.		
How will I be challenged	Through complex tasks, Higher grade tasks and looking at different scenarios.	Through complex tasks, Higher grade tasks and looking at different scenarios.	Through complex tasks, Higher grade tasks and looking at different scenarios.	Through complex tasks, Higher grade tasks and looking at different scenarios.		