

KS 3 ICT Curriculum 2022-2023

Curriculum Intent

The IT curriculum will equip all pupils with the knowledge needed to use computational thinking and creativity to understand the digital world around them.

Curriculum Implementation

Year	Start When	No of lessons	Topic	Big Questions	Assessment for learning	Key Words
7	Autumn	7	E-Safety	<p>What is the meaning of E-Safety?</p> <p>What are the risks and solutions of Cyber bullying and peer on peer abuse?</p> <p>What are the risks and solutions of on-line grooming?</p> <p>What are the dangers and solutions to social media and chat rooms?</p> <p>What are the dangers and solutions to using a mobile phone and sexting?</p> <p>What are the different things that can cause harm to your computer or device?</p> <p>Explain the importance of secure passwords.</p>	<p>40 min online written assessment</p> <p>Cold Calling</p>	<p>Cyber bullying</p> <p>Social media</p> <p>Online grooming</p> <p>Mobile phones</p> <p>Devices</p> <p>Secure Passwords</p> <p>Spam</p> <p>Viruses</p> <p>Fraud</p> <p>Phishing</p>
7	Autumn/Spring	7	Modelling	<p>What is data?</p> <p>How can you organise Data?</p> <p>What is a spreadsheet?</p>	<p>40 min online written assessment</p> <p>Cold Calling</p>	<p>Data</p> <p>Information</p> <p>Function</p> <p>Cell</p> <p>Spreadsheet</p>

				<p>What is a cell?</p> <p>How are cells referenced in a spreadsheet?</p> <p>How do you alter the colour and border of a cell?</p> <p>How do you write basic formula in a spreadsheet?</p> <p>How do you use cell references in a formula?</p> <p>How do you autofill to replicate cell data?</p> <p>Explain the difference between data and information.</p> <p>Explain the difference between Primary and Secondary sources of Data</p> <p>How can you use spreadsheet functions to Analyse data?</p> <p>What do the functions SUM, MIN,MAX and COUNTA do?</p> <p>How can a chart be created on a spreadsheet?</p> <p>How can you sort and filter data in a spreadsheet?</p>	<p>Formula</p> <p>Autofill</p> <p>Replicate</p> <p>Primary Data</p> <p>Secondary Data</p> <p>Analyse</p> <p>Charts</p> <p>Filter</p> <p>Sort</p> <p>Conditional Formatting</p>
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				<p>What do the functions COUNTIF, AVERAGE and IF do?</p> <p>What is conditional formatting and how can be helpful in a spreadsheet?</p> <p>How do businesses use spreadsheets to model finances?</p>		
7	Spring/ Summer	7	Scratch	<p>Explain the difference between a forever and repeat function.</p> <p>How can you write code to change a character's direction and size in scratch?</p> <p>What is a nested loop?</p> <p>How can you use a nested loop to create more complex patterns?</p> <p>How do you adjust the pen tool in Scratch?</p> <p>How can you use an 'If...then' tool to control how sprites interact.</p> <p>Create a variable to keep score.</p> <p>How can you use an 'If...then...else' function to check if an answer is correct?</p> <p>How do you add questions to a quiz?</p> <p>How can you make the sprites in Scratch move naturally using different costumes?</p>	<p>40 min online written assessment</p> <p>Cold Calling</p>	<p>Forever</p> <p>Repeat</p> <p>Function</p> <p>Code</p> <p>Nested Loop</p> <p>Complex</p> <p>Pattern</p> <p>Errors</p>

				<p>How can you adapt a game to make it more complex?</p> <p>How do you recheck code you have written to spot errors?</p>		
7	Summer	5	Gaining Support for a Cause	<p>How do you select the most appropriate software to use to complete a task?</p> <p>What are the key features of a word processor?</p> <p>How do you format a document?</p> <p>Why do we format documents?</p> <p>How do you select appropriate images for a given context?</p> <p>How do you format the chosen images?</p> <p>Have an understanding of the licensing issues involving online content – How do you apply Creative Commons Licenses?</p> <p>How do you credit the original source of an image?</p> <p>How can you tell what you see on the internet is Valid/Reliable?</p>	<p>40 min online written assessment</p> <p>Cold Calling</p>	<p>Citation</p> <p>Plagiarism</p> <p>Paraphrase</p> <p>Format</p> <p>Valid</p> <p>Reliable</p>
8	Autumn	7	Back to the Future	<p>What are the origins of computing?</p> <p>What role did George Boole play in computing?</p>	<p>40 min online written assessment</p> <p>Cold Calling</p>	<p>Algorithm</p> <p>Origin</p> <p>Entrepreneur</p> <p>Society</p>

				<p>What are the origins of Algorithms?</p> <p>What are the roles of key people at NASA and why were/are they important?</p> <p>What role did Tim Berners Lee play in the creation of the World Wide Web?</p> <p>How do entrepreneurs impact society?</p>		
8	Autumn/ Spring	7	Understanding Computers	<p>What is a Computer?</p> <p>What is a Storage Device?</p> <p>What is the difference between Input and Output?</p> <p>What is the difference between Hardware and Software?</p> <p>What are the main components of the CPU and why is it important?</p> <p>What are the units for measuring Processing Speeds?</p> <p>What are the different stages of the FDE cycle?</p> <p>How is Data represented in Binary?</p> <p>Why do computers only understand 1 or 0?</p> <p>How is data saved on a CD?</p>	<p>40 min online written assessment</p> <p>Cold Calling</p>	<p>Hardware</p> <p>Software</p> <p>Input</p> <p>Output</p> <p>Storage</p> <p>Fetch</p> <p>Decode</p> <p>Execute</p> <p>Clock Speed</p> <p>Cache</p> <p>Byte</p> <p>Binary</p> <p>Logic</p> <p>Addition</p> <p>Carries</p> <p>Overflow</p> <p>Storage</p> <p>Capacity</p> <p>Technology</p> <p>Future</p> <p>Planning</p>

				<p>Name different types of storage devices.</p> <p>How do technological developments impact society?</p> <p>What is Moore's Law?</p>		
8	Spring	7	Python (Coding)	<p>Explain what print does</p> <p>How do you use print to display strings?</p> <p>How do you use print to display the answers to calculations?</p> <p>Explain how some mathematical operations can be applied to strings</p> <p>Describe different data types</p> <p>Describe the need for variables</p> <p>Use the input function</p> <p>Identify where selection is used in a program</p> <p>Describe the purpose of different comparison operators</p> <p>Explain how logical errors can occur when using selection</p> <p>How can you identify where iteration is used in a program?</p>	<p>40 min online written assessment</p> <p>Cold Calling</p>	<p>Sequence</p> <p>String</p> <p>Integer</p> <p>Float</p> <p>Variable</p> <p>Selection</p> <p>Iteration</p> <p>String</p> <p>Runtime</p> <p>Logical</p> <p>Syntax</p> <p>Abstraction</p> <p>Decomposition</p>

				<p>Describe count controlled loops</p> <p>Explain how logical errors can occur when using iteration</p> <p>Identify where iteration is used in a program</p> <p>Describe condition controlled loops</p> <p>Explain how logical errors can occur when using iteration</p> <p>Describe different types of errors</p> <p>Identify errors in programs</p> <p>Fix errors in programs</p> <p>Identify where selection is used in a program</p> <p>Describe the purpose of different comparison operators</p> <p>Explain how logical errors can occur when using selection</p>		
8	Spring/ Summer	8	Ready Player One	<p>What are Ethics?</p> <p>What are the ethical issues of setting up a virtual school?</p> <p>What is data protection?</p>	<p>40 min online written assessment</p> <p>Cold Calling</p>	<p>Ethics</p> <p>Virtual</p> <p>Data protection</p> <p>Copyright</p> <p>Intellectual property</p>

				<p>How can you keep your personal data safe?</p> <p>What is copyright?</p> <p>What is intellectual property?</p> <p>What data is collected and stored about me?</p> <p>What is the environmental impact of our thirst for new technology?</p> <p>What are the potential mental and physical health problems that technology can cause?</p>		
8	Summer	5	App Development	<p>How can I identify when a problem needs to be broken down?</p> <p>How can you implement and customise GUI elements to meet the needs of the user?</p> <p>How can events control the flow of a program?</p> <p>How can you use block-based programming language to create a sequence?</p> <p>How do you use user input in an event driven programming event?</p>	<p>40 min online written assessment</p> <p>Cold Calling</p>	<p>GUI Implement Program Variables</p>

				How do you use variables in an event driven programming event?		
9	Autumn	5	Cyber Security	<p>What happens to your data once it has been put online?</p> <p>Why is customer data valuable to businesses?</p> <p>What data might social media companies collect?</p> <p>What is the Data protection act?</p> <p>How do human errors pose a security risk to data?</p> <p>What is social engineering?</p> <p>What is shouldering?</p> <p>What is Phishing?</p> <p>What is Blagging?</p> <p>What is Hacking?</p> <p>How can you reduce the chance of a brute force attack?</p> <p>What is Malware?</p> <p>What are the categories of Malware?</p>	<p>40 min online written assessment</p> <p>Cold Calling</p>	<p>Security Risk</p> <p>Social engineering</p> <p>Shouldering</p> <p>Phishing</p> <p>Blagging</p> <p>Malware</p> <p>Hacking</p> <p>Cyber Security</p>

				How can we protect against cyber security threats?		
9	Spring	7	Networks	<p>How is data transferred across a network?</p> <p>What is a network?</p> <p>What are the benefits to a network?</p> <p>What hardware is necessary for connecting computers into a network?</p> <p>What is the difference between wired and wireless data transfer?</p> <p>What is the Internet and how does it work?</p> <p>Are the Internet and World Wide Web the same thing?</p>		<p>Hub</p> <p>Server</p> <p>Network</p> <p>Router</p> <p>Wireless</p> <p>Bandwidth</p> <p>Internet</p> <p>World Wide Web</p>
9			Data Representation			
9			Python			
9			Improving the internet			