

What are the aims and intentions of this curriculum?

The aim of our Key Stage 3 Curriculum is to ensure students experience a broad and balanced experience in ICT and computer science which prepares them effectively for the workplace and their future careers. The curriculum offers an approach which incorporates teaching specific software applications which students may experience in the workplace, ensuring they can understand and apply the fundamental principles and concepts of computer science. Students are taught to analyse problems in computational terms and have repeated practical experience of writing computer programs in order to solve such problems. They can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems and ultimately become responsible, competent, confident and creative users of information and communication technology.

Term	Topics	Knowledge and key terms	Skills developed	Assessment
Autumn 1	Pseudocode & Online Sexting & Selfies	<ul style="list-style-type: none"> MS Office 365 Pseudocode Online Sexting Social and ethical issues <p>Useful Online Resources: https://www.bbc.co.uk/bitesize/subjects/zvc9q6f https://teach-ict.com/index.html</p>	<p>Students should understand a range of ways to use technology safely, respectfully, responsibly and securely, including protecting their online identify and privacy.</p> <p>Recap:</p> <ul style="list-style-type: none"> Website Reliability and Quality of Sources of Information Safe & Effective Searching Copyright Issues Online Dangers Strategies to Stay Safe 	<p>A written assessment made up of exam style questions covering the all aspects of the unit. This will be carried out at the end of the unit (approximately at the end of the half-term).</p>
Autumn 2	Boolean Logic, Logic gates, Truth Tables	<ul style="list-style-type: none"> True/False using binary numbers Truth table Combining multiple AND gates <p>Useful Online Resources: https://www.bbc.co.uk/bitesize/subjects/zvc9q6f https://teach-ict.com/index.html</p>	<p>Understand simple Boolean logic [for example, AND, OR and NOT] and some of its uses in circuits and programming</p> <p>Binary Bits and Bobs – The Binary Number System - Binary – Denary Conversions Binary Addition - Binary Representation of Text Binary Representation of Images Binary Representation of Sound.</p>	<p>A written assessment made up of exam style questions covering the all aspects of the unit. This will be carried out at the end of the unit (approximately at the end of the half-term).</p>

Spring 1	Scrolling Game Maker	<ul style="list-style-type: none"> • Scrolling backgrounds • Flyer and Shooter • Object and Score • Creating different levels <p>Useful Online Resources: https://www.bbc.co.uk/bitesize/subjects/zvc9q6f https://teach-ict.com/index.html</p>	<p>Use of programming language, which is textual, to solve a variety of computational problems.</p> <ul style="list-style-type: none"> • Designing Interfaces, Gameplay (and progression) and Algorithms • Code Development, • Alpha Testing and Debugging • End-User-Testing and Evaluations 	<p>An extended project assessing the full development process of coding a computer game: - Design - Development - Testing - Evaluation A good piece of work should include detailed design work, efficient coding (with few bugs), evidence of testing with resulting improvements documented and a detailed evaluation of the success of the project.</p>
Spring 2	HTML, CSS & JavaScript	<ul style="list-style-type: none"> • Creating and designing a webpage using CSS • Using JavaScript to design a webpage <p>Useful Online Resources: https://www.bbc.co.uk/bitesize/subjects/zvc9q6f https://teach-ict.com/index.html</p>	<p>Use of programming languages, which is textual, to solve a variety of computational problems.</p> <ul style="list-style-type: none"> • HTML and CSS • HTML Basics • CSS: Text -Images - Divisions - Layout 	<p>A written assessment made up of exam style questions covering the theoretical aspects of the unit (to be carried out at the end of the unit) In addition to this there will be an extended project, assessing the use of the practical HTML skills taught on the course. This will be an ongoing assessment throughout the second half of the unit.</p>
Summer 1	Back to the Future	<ul style="list-style-type: none"> • Appreciating Computer Science history. In particular to the early pioneers whose work have made a remarkable difference to the world of computing. Bonus task will be to consider the difficulties with time travel. <p>Useful Online Resources: https://www.bbc.co.uk/bitesize/subjects/zvc9q6f https://teach-ict.com/index.html</p>	<p>Visiting famous CS pioneers and exploring their work:</p> <ul style="list-style-type: none"> • George Boole – Boolean Logic • Catherine Johnson Nasa Computer Scientist • Tim Berners-Lee – HTML and WWW • Ada Lovelace - Mathematician • Charles Babbage – The Difference Engine and Problem Solving • Alan Turing – Code Breaking • Back to the Future film 	<p>A written assessment made up of exam style questions covering the all aspects of the unit. This will be carried out at the end of the unit (approximately at the end of the half-term).</p>

Summer 2	MS Access	<ul style="list-style-type: none">• Creating tables• Creating forms• Relationship between tables• Importing and exporting data. <p>Useful Online Resources: https://www.bbc.co.uk/bitesize/subjects/zvc9q6f https://teach-ict.com/index.html</p>	Use of MS access to store, sort, retrieve data. Student understand the concept of databases. Student can identify the advantages and disadvantages of databases. Students can create and simple and advanced relational databases. Students can interrogate databases. Students can use a range of verification and validation rules.	A written assessment made up of exam style questions covering the all aspects of the unit. This will be carried out at the end of the unit (approximately at the end of the half-term).
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