KS3 Long Term Plan

Subject: Computer Science

Curriculum Statement of Intent

Computer science KS3 curriculum is in line with the overall aims and vision for the whole school curriculum. Digital literacy and a firm understanding of how computers work is vital for all of our students in the technologically changing world of today. We intend to develop our students' natural curiosity about the e-world and how it works. The department aims to encourage all students to develop an interest in computing and to work in a confident and independent manner. We strive to equip students with the practical and theoretical skills necessary to flourish in the world of work. The department achieves this by providing a supportive learning environment and challenging all students to be the best that they can be.

Curriculum Statement of Implementation

We will achieve the above mentioned intend by:

- Having engaging lessons, creating a love for the subject.
- Ensuring pupil progress in every lesson, no student should be left behind.
- Covering national curriculum and making sure students have sound, in-depth knowledge.
- Promoting independent activities / tasks to help students become independent learners.
- Working online and teacher marking their progress using one note/ some other online platform.
- Regular formative tests to check student knowledge.
- Summative tests to recap / test learning.

	Autumn 1	Autumn 2	Spring 1
Yr. 8	**Topics and skills:** Programming concepts • Write and run programs in Small Basic • variables, input output • selection statements • Identify and correct syntax errors • For…EndFor loop • While…EndWhile loop • Find and correct logic errors	**Topics and skills:** Heroes in computing Reworking and reusing digital artefacts • Image editing • Background / layers • Text addition / fonts colours etc • Effective searching • Copyright and patents • Getting peer feedback and improving the work	**Topics and skills:** Cyber Security : • Broadcasting message over internet • When messages spread on internet • Staying safe online ,Online risks : sharing material online, difficulty of removing potentially compromising material online • Not to provide other with material which you don't want to be shared and not to share personal material that is send to them • Intro to Cryptography • Cryptography and www
Assessments		- written assessment	

	Spring 2	Summer 1	Summer 2
Yr. 8	**Topics and skills:** HTML •Write HTML code to create a simple web page and display it in a browser •Write CSS to define the styles used in a web page •Create a simple navigation system using HTML •Use a design to create a template for a web page using HTML •Create their own multi-page website •Insert text, images and links on their web pages	**Topics and skills:** Data representation 2 • Binary addition • Logic gates • Searching Algorithms (linear) • Searching Algorithms (binary)	**Topics and Skills** Spreadsheet Modelling : • Give examples of how computer models are used in the real world • Format a simple spreadsheet model • Use simple formulae and functions • Name cells in a spreadsheet model • Use a simple spreadsheet model to explore different "what if" scenarios • Create a basic pie chart to display results
Assessments	**Mid-year assessment**		**EOY Assessment**

	Autumn 1	Autumn 2	Spring 1
Yr. 7	**Topics and Skills** Computer Systems: • Data and Information • Hardware and software components that make up computer systems • Input/ Output Devices • CPU - Fetch Decode Execute Cycle • RAM and ROM	**Topics and Skills** Data Representation 1: • Binary code • Binary to Decimal • Binary to ASCII • Image Representation • Sound Representation • Assessment	**Topics and Skills** Me and My Digital World 1 • Reflecting on their place in a digital world • Understanding how to combat cyberbullying • Using PowerPoint to create an eBook – inc hyperlinks • Get user feedback and improve ebook. • Boolean Logic and Logic Gates
Assessments		**written assessment**	

	Spring 2	Summer 1	Summer 2
Yr. 7	**Topics and Skills** Computational Thinking : • Algorithms • Abstraction • Decomposition • Pattern recognition • Flowcharts: • Algorithm selection • Algorithm iteration	**Topics and Skills** Introduction to Scratch : • How to create animations, games and interactive programs using Scratch • Drawing Shapes • Creating a swimming fish game • Creating face changers • Creating a maze game • Assessment	**Topics and Skills** Unit 6 Me and My Digital world 2 • What to trust online • How to search smart • Cyberbullying – bystander and up stander • Cyber safety • Internet safety
Assessments	**Spring 2 Mid-Year Assessment**		**End of Year Assessment**

	Autumn 1	Autumn 2	Spring 1
Yr. 9	**Topics and Skills:** • Variables • Input/output statements • Maths, Boolean logic and Selection	**Topics and skills:** • Selection • Iteration: For Loops, • While loops	**Topics and Skills:** • Lists: 1D and 2D • Functions and procedures
Assessments		**written assessment**	**written assessment**

	Spring 2	Summer 1	Summer 2
Yr. 9	**Topics and Skills:** • Functions and procedures • Reading and writing to files	**Topics and Skills:** • AI and machine learning (computational abstractions)	**Topics and Skills:** • Cyber security (malware, phishing, virus)
Assessments			**written assessment**