



# **KS3 Long Term Plan**

**Subject: Computer Science**

**2022/2023**

### **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	<p><b>Topics and skills:</b> Programming concepts</p> <ul style="list-style-type: none"> <li>• Write and run programs in Small Basic</li> <li>• variables, input output</li> <li>• selection statements</li> <li>• Identify and correct syntax errors</li> <li>• For...EndFor loop</li> <li>• While...EndWhile loop</li> <li>• Find and correct logic errors</li> </ul>	<p><b>Topics and skills:</b> Heroes in computing Reworking and reusing digital artefacts</p> <ul style="list-style-type: none"> <li>• Image editing</li> <li>• Background / layers</li> <li>• Text addition / fonts colours etc</li> <li>• Effective searching</li> <li>• Copyright and patents</li> <li>• Getting peer feedback and improving the work</li> </ul>	<p><b>Topics and skills:</b> Cyber Security :</p> <ul style="list-style-type: none"> <li>• Broadcasting message over internet</li> <li>• When messages spread on internet</li> <li>• Staying safe online ,Online risks : sharing material online, difficulty of removing potentially compromising material online</li> <li>• 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</li> <li>• Intro to Cryptography</li> <li>• Cryptography and www</li> </ul>
Assessments		- written assessment	
	Spring 2	Summer 1	Summer 2
Yr. 8	<p><b>Topics and skills:</b> HTML</p> <ul style="list-style-type: none"> <li>•Write HTML code to create a simple web page and display it in a browser</li> <li>•Write CSS to define the styles used in a web page</li> <li>•Create a simple navigation system using HTML</li> <li>•Use a design to create a template for a web page using HTML</li> <li>•Create their own multi-page website</li> <li>•Insert text, images and links on their web pages</li> </ul>	<p><b>Topics and skills:</b> Data representation 2</p> <ul style="list-style-type: none"> <li>• Binary addition</li> <li>• Logic gates</li> <li>• Searching Algorithms ( linear)</li> <li>• Searching Algorithms ( binary)</li> </ul>	<p><b>Topics and Skills</b> Spreadsheet Modelling :</p> <ul style="list-style-type: none"> <li>• Give examples of how computer models are used in the real world</li> <li>• Format a simple spreadsheet model</li> <li>• Use simple formulae and functions</li> <li>• Name cells in a spreadsheet model</li> <li>• Use a simple spreadsheet model to explore different "what if" scenarios</li> <li>• Create a basic pie chart to display results</li> </ul>
Assessments	Mid-year assessment		EOY Assessment

	Autumn 1	Autumn 2	Spring 1
<b>Yr. 7</b>	<u>Topics and Skills</u> Computer Systems: <ul style="list-style-type: none"> <li>• Data and Information</li> <li>• Hardware and software components that make up computer systems</li> <li>• Input/ Output Devices</li> <li>• CPU - Fetch Decode Execute Cycle</li> <li>• RAM and ROM</li> </ul>	<u>Topics and Skills</u> Data Representation 1: <ul style="list-style-type: none"> <li>• Binary code</li> <li>• Binary to Decimal</li> <li>• Binary to ASCII</li> <li>• Image Representation</li> <li>• Sound Representation</li> <li>• Assessment</li> </ul>	<u>Topics and Skills</u> Me and My Digital World 1 <ul style="list-style-type: none"> <li>• Reflecting on their place in a digital world</li> <li>• Understanding how to combat cyberbullying</li> <li>• Using PowerPoint to create an eBook – inc hyperlinks</li> <li>• Get user feedback and improve ebook.</li> <li>• Boolean Logic and Logic Gates</li> </ul>
<b>Assessments</b>		<b>written assessment</b>	
	Spring 2	Summer 1	Summer 2
<b>Yr. 7</b>	<u>Topics and Skills</u> Computational Thinking : <ul style="list-style-type: none"> <li>• Algorithms</li> <li>• Abstraction</li> <li>• Decomposition</li> <li>• Pattern recognition</li> <li>• Flowcharts:</li> <li>• Algorithm selection</li> <li>• Algorithm iteration</li> </ul>	<u>Topics and Skills</u> Introduction to Scratch : <ul style="list-style-type: none"> <li>• How to create animations, games and interactive programs using Scratch</li> <li>• Drawing Shapes</li> <li>• Creating a swimming fish game</li> <li>• Creating face changers</li> <li>• Creating a maze game</li> <li>• Assessment</li> </ul>	<u>Topics and Skills</u> Unit 6 Me and My Digital world 2 <ul style="list-style-type: none"> <li>• What to trust online</li> <li>• How to search smart</li> <li>• Cyberbullying – bystander and up stander</li> <li>• Cyber safety</li> <li>• Internet safety</li> </ul>
<b>Assessments</b>	<b>Spring 2 Mid-Year Assessment</b>		<b>End of Year Assessment</b>

	<b>Autumn 1</b>	<b>Autumn 2</b>	<b>Spring 1</b>
<b>Yr. 9</b>	<b>Topics and Skills:</b> <ul style="list-style-type: none"> <li>• Variables</li> <li>• Input/output statements</li> <li>• Maths, Boolean logic and Selection</li> </ul>	<b>Topics and skills:</b> <ul style="list-style-type: none"> <li>• Selection</li> <li>• Iteration: For Loops,</li> <li>• While loops</li> </ul>	<b>Topics and Skills:</b> <ul style="list-style-type: none"> <li>• Lists: 1D and 2D</li> <li>• Functions and procedures</li> </ul>
<b>Assessments</b>		<b>written assessment</b>	<b>written assessment</b>
	<b>Spring 2</b>	<b>Summer 1</b>	<b>Summer 2</b>
<b>Yr. 9</b>	<b>Topics and Skills:</b> <ul style="list-style-type: none"> <li>• Functions and procedures</li> <li>• Reading and writing to files</li> </ul>	<b>Topics and Skills:</b> <ul style="list-style-type: none"> <li>• AI and machine learning ( computational abstractions)</li> </ul>	<b>Topics and Skills:</b> <ul style="list-style-type: none"> <li>• Cyber security ( malware, phishing, virus)</li> </ul>
<b>Assessments</b>			<b>written assessment</b>