



# **KS3 Long Term Plan**

**Subject: Computing**

**2020/21**

### **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	
<b>Yr. 8</b>	Unit 1: Data Representations:	<b>Skills</b> <ul style="list-style-type: none"> <li>• Computer system</li> <li>• Data representation</li> <li>• Binary conversions</li> <li>• Units of information</li> </ul>	<b>Topics</b> Unit 2 Introduction to programming	<b>Skills</b> <ul style="list-style-type: none"> <li>• Algorithms</li> <li>• Decomposition</li> <li>• Abstraction</li> <li>• Computational Thinking</li> <li>• Flowcharts</li> <li>• Boolean logic</li> </ul>	<b>Topics</b> Unit 4 Introduction to Python	<b>Skills</b> <ul style="list-style-type: none"> <li>• Boolean logic</li> <li>• Selection (IF/ELSE)</li> <li>• Sequencing</li> <li>• Iteration</li> </ul>
<b>Assessments</b>			- written assessment paper		written assessment paper	
	Spring 2		Summer 1		Summer 2	
<b>Yr. 8</b>	Unit 3 Cryptography	<ul style="list-style-type: none"> <li>• Programming the Caesar Cipher</li> <li>• Hashing</li> <li>• Cryptography and the WWW</li> </ul>	<b>Topics</b> Unit 5 Heroes in Computing	<b>Skills</b> <ul style="list-style-type: none"> <li>• Image editing</li> <li>• Effective searching</li> <li>• <a href="#">Copyright</a></li> <li>• <a href="#">Reworking and reusing digital artefacts</a></li> </ul>	Unit 4 Introduction to Python	<ul style="list-style-type: none"> <li>• programming constructs:               <ul style="list-style-type: none"> <li>○ Sequencing</li> <li>○ Selection (IF/ELSE)</li> <li>○ Iteration</li> </ul> </li> <li>• WHILE loops</li> <li>• FOR loops</li> </ul>
<b>Assessments</b>			written assessment paper		written assessment paper	

	<b>Autumn 1</b>		<b>Autumn 2</b>		<b>Spring 1</b>	
<b>Yr. 7</b>	<b>Topics</b> <b>Unit 1 Computer Systems</b>	<b>Skills</b> Data and Information Hardware and software components that make up computer systems Input/ Output Devices CPU - Fetch Decode Execute Cycle	<b>Topics</b> <b>Unit 3 Data Representation</b>	<b>Skills</b> <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> </ul>	<b>Topics</b> <b>Unit 2 Me and My Digital World</b>	<b>Skills</b> Reflecting on their place in a digital world Understanding how to combat cyberbullying Using PowerPoint to create an eBook – inc hyperlinks
<b>Assessments</b>			<b>Unit 1 written assessment paper</b>			
	<b>Spring 2</b>		<b>Summer 1</b>		<b>Summer 2</b>	
<b>Yr. 7</b>	<b>Topics</b> Unit 4 What is programming?	<b>Skills</b> <ul style="list-style-type: none"> <li>• Algorithms</li> <li>• Flowcharts</li> <li>• Pseudocode</li> <li>• Boolean logic</li> <li>• Sequencing</li> <li>• Selection (IF/ELSE)</li> <li>• Iteration</li> </ul>	<b>Topics</b> <b>Unit 4 Visual Programming</b>	<b>Skills</b> Scratch: <ul style="list-style-type: none"> <li>• Stage</li> <li>• Sprite</li> <li>• Blocks</li> <li>• Algorithms</li> <li>• Sequencing</li> <li>• Selection (IF/ELSE)</li> <li>• Iteration</li> </ul>	<b>Topics</b> <b>Unit 4 Visual Programming</b>	<b>Skills</b> Scratch: <ul style="list-style-type: none"> <li>• Algorithms</li> <li>• Sequencing</li> <li>• Selection (IF/ELSE)</li> <li>• Iteration</li> <li>• Game Challenge - designing</li> <li>• Variables</li> <li>• Conditional statements</li> </ul>
<b>Assessments</b>	<b>Spring 2 Mid-Year Assessment</b>				End of Year Assessment	

	Autumn 1		Autumn 2		Spring 1	
Yr. 9	<b>Topics</b> <b>Unit 1 Boolean Logic and python</b>	<b>Skills</b> <ul style="list-style-type: none"> <li>• Logic gates</li> <li>• Boolean statement</li> <li>• Lists</li> <li>• Functions</li> <li>• Procedures</li> <li>• Reading and writing to files</li> </ul>	<b>Topics</b> <b>Unit 2 Computer Architecture</b>	<b>Skills</b> <ul style="list-style-type: none"> <li>• CPU</li> <li>• Registers</li> <li>• Busses</li> <li>• 3 Storage types and how it works, advantages and disadvantages</li> <li>• Cloud storage</li> </ul>	DT	
Assessments	Unit 1 written assessment		Unit 2 written assessment			
	Spring 2		Summer 1		Summer 2	
Yr. 9	DT	•	Food tech	•	Food Tech	•
Assessments						