Subject: Computer Science – 2022 **KS3 Curriculum Mapping**

<table>
<tr><th></th><th>Year 7</th><th>Year 8</th><th>Year 9</th></tr>
<tr><td rowspan="5">Cycle 1</td><td colspan="3">Computer systems
What is a computer?</td></tr>
<tr><td>What are the two types of computer?
Which two elements make up a computer system?
What are the two main types of software?
What are the two main tiers of storage?
How does the CPU process instructions?</td><td>What do input, output and storage devices do to data?
What are the three factors that affect the performance of a CPU?
Why do computers need primary storage?
What does the operating system do?
What does utility software do?</td><td>How do embedded systems work?
What are the three main types of secondary storage?
What happens when primary storage is full?
What are the two types of compression?
What are the three main parts of the CPU?</td></tr>
<tr><td colspan="3">Programming
How do we program?</td></tr>
<tr><td>Creating block-based code to create programs that use:
Sequence
Selection
Iteration</td><td>Creating block-based code to create programs that use:
Functions
Procedures</td><td>Creating text-based code to create programs that use:
Sequence
Selection
Iteration</td></tr>
<tr><td rowspan="2">Cycle 2</td><td colspan="3">Algorithms
How can computational thinking characteristics be used to help solve problems?</td></tr>
<tr><td>How can we read and write flowcharts to help design programs?</td><td>How can we read and write pseudocode to help design programs?</td><td>How do common sorting and searching algorithms work?
Bubble, insertion and merge sorts
Linear and binary search</td></tr>
<tr><td rowspan="2">Cycle 3</td><td colspan="3">Data representation
How do you turn electricity into…</td></tr>
<tr><td>… words?
Binary to Decimal
Decimal to Binary
Character representation</td><td>… images?
Binary addition
Hexadecimal numbers
Image representation</td><td>… sound?
Binary shifts
Sound representation</td></tr>
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