



## KS4 Computer Science Curriculum Map

The key stage 4 curriculum builds on knowledge gained from Key Stage 3. The intent of the qualification is to enable learners to:

- Understand and apply the fundamental concepts and principles of Computer Science
- Develop the capacity to think logically, problem solve, and make appropriate decisions in a resilient way
- Analyse problems in computational terms through practical problem-solving experience
- Enable learners to think creatively, innovatively, analytically, logically and critically
- Understand the components that make up digital systems and how they communicate with one another
- Understand the impacts of digital technology to the individual and wider society

|     | <i>AUTUMN TERM</i>   | <i>SPRING TERM</i>  | <i>SUMMER TERM</i>  |
|-----|--|---|---|
| Y10 | 2.2 Programming fundamentals <ul style="list-style-type: none"> <li>● Inputs &amp; variables</li> <li>● Inputs &amp; variables - data types</li> <li>● Inputs &amp; variables - More Maths</li> <li>● String manipulation</li> <li>● String manipulation</li> <li>● Selection</li> <li>● Selection - nested</li> </ul> | 2.2 Programming fundamentals <ul style="list-style-type: none"> <li>● Turtle - basics</li> <li>● Turtle - repeating instructions</li> <li>● For loops</li> <li>● While loops</li> <li>● Lists</li> <li>● File handling</li> </ul> | 2.2 Programming fundamentals <ul style="list-style-type: none"> <li>● Turtle - subroutines</li> <li>● Turtle - Random_if</li> <li>● Turtle - random_shapes</li> <li>● Turtle - complete all activities</li> <li>● Procedures &amp; Functions</li> </ul><br>2.1 Algorithms (Flowcharts & pseudocode) |
|     | <b>Homework Tasks, Achievement Tests, End of Unit Assessments</b>  | <b>Homework Tasks, Achievement Tests, End of Unit Assessment</b>  | <b>Homework Tasks, Achievement Tests, End of Unit Assessments, Mock Exam</b>  |



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|------|--|--|--|
| Yr11 | 1.1 – Systems architecture<br>1.2 – Memory and storage<br>1.2.3 - Units<br>1.2.4 - Data storage<br>1.2.5 - Compression | 2.1 – Algorithms<br>2.4 - Boolean logic<br>1.5 – Systems software                            | 1.6 – Ethical, legal, cultural and environmental impacts of digital technology<br>1.4 – Network security<br>1.3 – Computer networks, connections and protocols |
|      | <b>Homework Tasks, Achievement Tests, End of Unit Assessments, Mock GCSE, Revision packs</b>                           | <b>Homework Tasks, Achievement Tests, End of Unit Assessments, Mock GCSE, Revision packs</b> | <b>Homework Tasks, Achievement Tests, End of Unit Assessments, Revision packs, GCSE exam</b>   |