

Year: 13

Subject: Computer science

<b>Spring Term</b>		
Overarching Topic: Software development & the types of programming language		
	Core	Extension
The Big Questions (What questions will students be able to answer upon mastery of the topic?)	<ul style="list-style-type: none"><li>• What are computational methods?</li><li>• What is problem decomposition?</li><li>• What is backtracking?</li><li>• What is data mining and how can it be used to discover new trends?</li><li>• How can visualisation be used</li><li>• Which data structures and their operations are used for common algorithms?</li><li>• How is Big O notation used to describe the complexity of algorithms?</li><li>• How does searching and sorting work?</li><li>• What is Dijkstra's algorithm?</li><li>• What is the A* algorithm?</li></ul>	<ul style="list-style-type: none"><li>• Can searching and sorting algorithms be improved?</li></ul>
	Skill/Technique	How students will develop and demonstrate this
Key skills	Writing and following algorithms Refine and improve solutions Working independently Solving problems Programming in high and low level languages	During assessments, classwork and homework, students will: <ul style="list-style-type: none"><li>• complete tasks that test the knowledge and understanding.</li><li>• Students create a summary sheet for each topic that requires them to condense the topic into one A3 piece of paper.</li><li>• solve problems in VB.NET &amp; other languages</li></ul>