Year 10 Computing Learning Pathway

	Term 1	**Term 2**	**Term 3**	**Term 4**	**Term 5**	**Term 6**
Topic	**Topic 3** – Data representation **Topic 2** - Programming	**Topic 3** – Data representation **Topic 2** – Programming **Topic 4** – Computer Systems	**Topic 4 –** Computer Systems **Topic 1** – Algorithms **Topic 2** - Programming	**Topic 1** – Algorithms **Topic 2** - Programming	**Topic 6** – Cyber Security **Topic 1** – Algorithms **Topic 2** - Programming	**Topic 6** – Cyber Security **Topic 2** - Programming
Threshold Concept explored	- Problem solving - Computational thinking - Programming	- Problem solving - Computational thinking - Programming	- Problem solving - Computational thinking - Programming	- Problem solving - Computational thinking - Programming	• Online Safety • Problem solving • Computational thinking - Programming	- Online Safety - Problem solving - Computational thinking - Programming
Building on	- Year 7, 8 and 9 programming (e.g. Scratch programming, Python, Thunkable) - Data representation (e.g. Year 7 data representation, Year 9 Computer Science) - Year 9 Computing theory (e.g. logic gates, flow charts, algorithmic thinking)				- - Same as previous, however also builds on: - Year 9 Cyber security	
Leading to	- Secure knowledge in key specification areas of the Computer Science GCSE					
How will you know what you are doing/how to improve	- OneNote checking - End of unit assessment - Teacher support - Peer support - Self reflection - Meeting lesson objectives - Mock exams					

Experiences to look out for	- Learning initial coding skills. Such as sequence and selection -	- Learning coding skills such as iteration	- Learning coding skills such as Arrays and data structures - Learning to code searching algorithms such as a linear search	- Introduction to structured programming techniques such as Sub routines	- Introduction to complex data structures such as 2D arrays	- Consolidation of all the skills learnt this year
Reading, Writing, Oracy practice	- Writing skills developed through the use of past paper questions and key terminology - Reading of key information and ability t note take within exercise book					
Link to the ideas	Topic 3 - Data representation Topic 3 - Images and Sound Topic 2 - Programming	Topic 4 - Computer Systems	Topic 1 - Algorithms	Topic 1 - Searching algorithms	Topic 6 - Cyber Security	

Year 11 Computing Pathway

	Term 1	**Term 2**	**Term 3**	**Term 4**	**Term 5**	**Term 6**
Topic	Topic 5 – Networks Topic 2 - Programming	Topic 5 – Networks Topic 2 – Programming	Topic 7 – Databases and SQL Topic 2 – Programming	Topic 7 – Database and SQL Topic 8 – Ethics and legal	- Consolidation of all units in preparation for exam	N/A

		Topic 1 - Algorithms	Topic 1 - Algorithms	Topic 2 – Programming		
Threshold Concept explored	- Problem solving - Computational thinking - Programming	- Problem solving - Computational thinking - Programming	- Problem solving - Computational thinking - Programming	- Problem solving - Computational thinking - Programming	• Problem solving • Computational thinking - Programming	
Building on	- Year 7, 8 and 9 programming (e.g. Scratch programming, Python, Thunkable) - Content previously covered in Year 10 - Year 9 - Ethics				- All previous content taught	
Leading to	- Secure knowledge in key specification areas of the Computer Science GCSE					
How will you know what you are doing/how to improve	- OneNote checking - End of unit assessment - Teacher support - Peer support - Self reflection - Meeting lesson objectives - Mock exams					
Experiences to look out for	- Learning what a network is and how they work	- Understanding how to complete 'trace tables'	- Understanding what a database is, ad how to code SQL	- Understanding the various laws that exist surrounding computer Science, and discussing the ethics of computer science.	- Reflecting and recapping on the content covered over the past two years	- N/A

Reading, Writing, Oracy practice	- Writing skills developed through the use of past paper questions and key terminology - Reading of key information and ability t note take within exercise book					
Link to the ideas	Topic 5 - Networks Topic 5 - Network Security		Topic 7 - Databases and SQL	Topic 8 - Ethics and legal		