

Home-School Learning Collaboration – Computing



Topics in this cycle: Computational Thinking	Taught: Spring 2	Year Group: 8
Key knowledge/concepts to be learnt ('Tell me about....')		Websites/blogs/YouTube links and further reading to deepen and consolidate learning
<ul style="list-style-type: none"> • What is computational thinking? Identify the 4 steps of computational thinking. Describe how computational thinking works. Explain how computational thinking can benefit us in real world settings. • How does Decomposition work? Identify the elements we need to decompose a problem. Describe how we can decompose different problems. Explain what decomposition means. • What is pattern recognition? Identify patterns in different types of problems. Describe the benefit of using pattern recognition to solve problems. Explain what pattern recognition means. • What is abstraction? Describe what abstraction is. Explain how to abstract important information from a problem. Explain the difference between general and specific characteristics/details. • What is an algorithm? Identify the key elements of an algorithm. Describe what an algorithm is. Explain how algorithms work. • Why are flowcharts important in computational thinking? Identify the different shapes used in a flowchart. Describe the process of different flowcharts. Explain the importance of flowcharts in computing. 		<p>Notes/Information</p> <p>Computational Thinking Computational Thinking BBC Bitesize KS3 Computational Thinking</p> <p>Decomposition Decomposition BBC Bitesize KS3 Computational Thinking</p> <p>Pattern Recognition Pattern Recognition BBC Bitesize KS3 Computational Thinking</p> <p>Abstraction Abstraction BBC Bitesize KS3 Computational Thinking</p> <p>Algorithms Algorithms BBC Bitesize KS3 Computational Thinking</p> <p>Videos Computational Thinking: What is it? How is it used? Computational Thinking: What Is It? How Is It Used? YouTube</p>

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Key Vocabulary and Definitions To Be Learnt		What Will The Assessment Look Like?
Computation Thinking	an interconnected set of skills and practices for solving complex problems	Extended writing – Creating a flowchart to solve a problem, what is computational thinking? End of Unit test: 35 minutes/25 marks <ul style="list-style-type: none"> • Short answer questions • Extended writing • 3 marks for SPAG
Decomposition	involves breaking down a complex problem or system into smaller parts	
Abstraction	Removing unnecessary detail	
Flowcharts	a diagram that depicts a process	
Algorithms	is a set of instructions, used to solve problems or perform tasks.	
Solution	an action or process of solving a problem	Family Learning Opportunities Create a HexaHexaFlexagon with your family. Follow the algorithm to complete the task. Computational Thinking: HexaHexaFlexagon Creation Devise a quiz on the different aspects of computational thinking and test your family.
Patterns	pieces or sequences of data that have one or multiple similarities	
Characteristics	a feature or quality belonging typically to a person, place, or thing that identifies them.	
Sequence	A series of related events that follow one after the other	
Symbols	is an image or thing that stands for something else.	