

Computer Science Long Term Plan Year 8 2021-22

Temperance Term

Area of Study	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	HALF TERM	
Core Learning	Recap	How Computers Work							
Opportunities for Challenge	<p>Objectives: Understand drives and cloud storage Organise files in folders</p> <p>Content: File management</p>	<p>Objectives: Recall the main parts of a computer system Describe the function of the main components</p> <p>Content: Input, output and storage devices Internal components of a computer</p>	<p>Objectives: Describe data representation in a computer Convert between binary and denary numbers</p> <p>Content: Binary representation (8- bit) Representing text</p>	<p>Objectives: Describe some common network topologies Compare common network topologies</p> <p>Content: Computer networks (topologies) Peer Review / Improvements</p>					
Assessment		Less common devices Utility software	Adding binary numbers together Compare ASCII with Unicode	Client-Server, Peer-peer networks					
Area of Study		Questioning / Task completion	Questioning / Task completion	Socratic Test					

W/C	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13	CHRISTMAS	
Area of Study	Small Basic Project – Lemonade Stand or Lunar Lander							
Core Learning	<p>Objectives: Decompose problems Recall and use commands</p> <p>Content: Variables, constants and assignment Input and output Calculations</p>	<p>Objectives: Work methodically Use and apply programming techniques</p> <p>Content: Selection (making decisions) Iteration (repeating instructions)</p>	<p>Objectives: Identify and resolve errors Evaluate solutions</p> <p>Content: Subprograms Peer Review</p>					
Opportunities for Challenge	BIDMAS Modulo operator	Multiple conditions (including AND OR) Conditional and nested loops	Parameters / arguments					
Assessment	Questioning / Task completion	Questioning / Task completion	Socratic Test					

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Justice Term

W/C	Week 14	Week 15	Week 16	Week 17	Week 18	Week 19	HALF TERM
Area of Study	Mobile Phone App						
Core Learning	<p>Objectives: Describe event driven programming Create simple app with help</p> <p>Content: Event driven programming GUI design, objects (elements), properties and (event) methods</p>		<p>Objectives: Design and implement a simple app with help Design and implement a mobile app independently</p> <p>Content: Design and implementation Objects, properties and Methods</p>		<p>Objectives: Suggest design improvements Make suitable improvements</p> <p>Content: Testing programs Evaluation and improving</p>		
Opportunities for Challenge	Customise user interface		More complex app using greater variety of elements and program instructions.		More refined improvements.		
Assessment	Questioning / Task completion		Questioning / Task completion		Socratic Test		

W/C	Week 20	Week 21	Week 22	Week 23	Week 24	Week 25	HALF TERM
Area of Study	Python Programming – Dice Game						
Core Learning	<p>Objectives: Recall simple Python commands Implement calculations in a program</p> <p>Content: Input and Output Variables and assignment</p>		<p>Objectives: Describe selection and iteration Implement selection and iteration in a program</p> <p>Content: Selection Iteration</p>		<p>Objectives: Describe advantages of modular programming Implement procedures and functions in a program</p> <p>Content: Procedures Functions</p>		
Opportunities for Challenge	Calculations involving (BIDMAS)		Nested Loops		Subprograms with parameters		
Assessment	Questioning / Task completion		Questioning / Task completion		Socratic Test		

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