Computer Science Long Term Plan Year 7

Temperance Term

W/C	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	
Area of Study	**Using Computers Safely and Effectively**							HALF TERM
Core Learning	**Objectives:** • Recognise the need to be safe and respectful online • Be able to login and use the school systems • Construct an effective email and send it to the correct recipients • Be able to discuss the different aspects of Online Safety				**Content:** Strong passwords Responsible and respectful use of technology Online safety Phishing and Spam			
Opportunities for Challenge	Research & worksheets on the History of the internet and how it developed and continues to develop.							
Assessment	Formative assessment: Through teacher observation, questioning, quizzes and marked activities Summative assessment: End of Unit Quiz assessment							

W/C	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13	CHRISTMAS
Area of Study	**Introduction to Computing**						
Core Learning	**Objectives:** • To be able to know the simple hardware that computers use • To understand file sizes and how these are created/converted • To understand what binary is and how computers use it.			**Content:** Simple hardware Storage devices and their characteristics File sizes and converting file sizes Data representation – Binary			
Opportunities for Challenge	Worksheets on different types of hardware, Questions on converting larger files sizes and Binary Addition						
Assessment	Formative assessment: Through teacher observation, questioning, quizzes and marked activities Summative assessment: End of Unit assessment						

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Justice Term

W/C	Week 14	Week 15	Week 16	Week 17	Week 18	Week 19	
Area of Study	**Data Analysis using Spreadsheets**						
Core Learning	**Objectives:** • To be able to understand the fundamentals of spreadsheets • To be able to choose appropriate formula when analysing data • To be able to implement conditional formatting • To be able visually model data for easy comparisons			**Content:** Understanding what data is and introducing spreadsheets, cells, columns and rows. Demonstrating how to utilise formulae Applying cell formatting Contextualising spreadsheets in real world scenarios Applying conditional formatting techniques Creating charts and Graphs			HALF TERM
Opportunities for Challenge	Creating more complex algorithms and flow charts to represent "real world" problem solving.						
Assessment	Formative assessment: Through teacher observation, questioning and marked activities Summative assessment: End of Unit assessment						

W/C	Week 20	Week 21	Week 22	Week 23	Week 24	Week 25	
Area of Study	**Computational Thinking**						
Core Learning	**Objectives:** • To be able to understand the fundamentals of Computational Thinking. • To be able to describe and explain what abstraction, decomposition and problem solving is • To be able to apply abstraction, decomposition and problem-solving skills to every-day problems. • To learn the components of flow charts			**Content:** Using, understanding and creating everyday algorithms. Discussions on Computing in "real world" contexts, including careers. How computational thinking is applied Introduction to flow charts			EASTER
Opportunities for Challenge	Creating more complex algorithms and flow charts to represent "real world" problem solving.						

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Assessment	Formative assessment: Through teacher observation, questioning and marked activities Summative assessment: End of Unit assessment	

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Courage Term

W/C	Week 26	Week 27	Week 28	Week 28	Week 30	Week 31	
Area of Study	**Programming Essentials – Part I – Micro:Bits**						
Core Learning	**Objectives:** • Define and modify sequence, selections and iteration in code. • Identify and use variables in coding. • Apply programming constructs to solve "real world" problems			**Content:** Variables and assignment Operators Selection (if-else) Count-controlled iteration (for loops) Physical Computing			**HALF TERM**
Opportunities for Challenge	Using boolean operators and functions within the coding environment						
Assessment	Formative assessment: Through teacher observation, questioning and marked activities Summative assessment: End of Unit assessment						

W/C	Week 32	Week 33	Week 34	Week 35	Week 36	Week 37	
Area of Study	**Programming Essentials –Part II – Scratch Programming**						
Core Learning	**Objectives:** • To be able to use programming skills learnt in another IDE and transfer those skills to the Scratch IDE • Consolidate knowledge of programming ie variables, sequences, selection and iteration • Begin to understand how an IDE can be helpful for coding • Develop a Space Invaders game which uses all the elements previously learnt.			**Content:** Variables and assignment Operators Selection (if-else) Count-controlled iteration (for loops) Using different Integrated Development Environments			**SUMMER**
Opportunities for Challenge	The use of comparable operators and Boolean operators in block coding. Extensions for more complex block coding.						
Assessment	Formative assessment: Through teacher observation, questioning and marked activities Summative assessment: End of Unit Assessment based on the Space Invaders game project.						

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