

Computing, Year 7, Long Term Plan

Week/ Lesson	Term	Topic	Knowledge and Skills	Complex activity: Writing genre:
1	Autumn T1	E-safety (Include baseline assessment, networking access & file management)	<ul style="list-style-type: none"> The concept of Netiquette School network systems & protocols Effective file management system 	
2			<ul style="list-style-type: none"> Understand the importance of E-Safety. Gain an understanding of digital protection. 	
3			<ul style="list-style-type: none"> Understand what social networks are used for. Be aware of the dangers of the internet. Understand what precautions can be taken to stay safe. 	
4			<ul style="list-style-type: none"> What to do if they are ever the victim of text bullying <p>*Model an instructional text (leaflet)</p>	Writing genre: instructional text in the form of a leaflet
5			<p>Monthly review</p> <ul style="list-style-type: none"> RETRIEVAL ACTIVITY Group activity: Review and summarise learning over last 3 weeks. RECALL ACTIVITY Low stake test on Online safety theory so far 	Complex activity (Homework): Plan, design and create a guidance leaflet on how to be safe online for primary students
6			Reteach week	

			<ul style="list-style-type: none"> • Concepts that have been retrieved and recalled less successfully by students 	
7			<p>Reteach week</p> <ul style="list-style-type: none"> • The ways in which we can combat cyberbullying • The main rules that they should follow when using online chatrooms/social media 	
8			FORMAL ASSESSMENT	
9	Autumn T2	Understanding computers (part 1)	<ul style="list-style-type: none"> • Distinguish between hardware and software • Identify input, output and storage devices • Name at least five pieces of software • Understand what happens at the "Process" stage • Suggest appropriate input and output devices for a given scenario 	
10			<ul style="list-style-type: none"> • Draw a block diagram of the main components of a computer: input, processor, output and storage • Explain what main memory is used for • Distinguish between main memory and permanent storage devices • Understand the difference between RAM and ROM and what ROM is used for. 	
11			<ul style="list-style-type: none"> • Name the three stages in the Fetch Execute Cycle 	

12			<ul style="list-style-type: none"> Define Hz, MHz and GHz and state how these relate to the speed of the processor <p>*Model persuasive text (Advert)</p>	Writing genre: Persuasive text in the form of an advertisement
13			<p>Monthly review</p> <ul style="list-style-type: none"> RETRIEVAL ACTIVITY Compare 3 different computer systems according to speed, memory and storage. Decide which is the best for 3 different stakeholders. Online safety: The use of passwords in computer systems and networks RECALL ACTIVITY Low stake test on Computer systems theory so far 	Complex activity (Homework):: Plan, design and create an advert for a new computer
14			<p>Reteach Week</p> <ul style="list-style-type: none"> Look up from a table the bit pattern for a given character State how many different characters can be represented using 8 bits Give examples of alphanumeric characters and special symbols that can be represented in ASCII Show that a bit pattern can represent either a character or a decimal number 	
15			FORMAL ASSESSMENT	
16	Spring T1	Computational Thinking	<ul style="list-style-type: none"> Understand computational thinking is a way of breaking a problem down into smaller parts in order to find a solution Know that decomposition is the first stage of computational thinking 	

			<ul style="list-style-type: none"> ● Be able to take a large problem and help to break it down into smaller tasks. 	
17			<ul style="list-style-type: none"> ● Know that once a problem has been decomposed it may be possible to identify patterns within the smaller tasks. ● Understand that pattern recognition can help us to solve complex problems more efficiently. <p>*Model descriptive text (Traffic light system)</p>	<p>Writing genre: Descriptive in the form of a report on what is happening in a real life system</p>
18			<p>Monthly review</p> <ul style="list-style-type: none"> - RETRIEVAL ACTIVITY Terms with definitions: Decomposition, abstraction, patterns recognition and algorithms (terms from previous topics too) Decompose a problem in order to solve it using computational thinking techniques - algorithm to check log-in. - RECALL ACTIVITY Low stake test on theory so far in year 7 <p>Computer systems: How the quality of a computer affects the performance of a game?</p>	<p>Complex activity (Homework):: Students to study a traffic light model for them to create an algorithm and describe how it works and how it can be refined</p>
19			<ul style="list-style-type: none"> ● Understand the term abstraction ● Be able to use abstraction to remove unnecessary detail from a problem ● By using abstraction, be able to simplify complex problems. 	

20			<p>Reteach Week</p> <ul style="list-style-type: none"> • Understand the term 'algorithm' • Be able to write an algorithm to solve a simple problem • Be able to test and debug an algorithm <p style="text-align: center;">ASSESSMENT</p>	
21	Spring T2	<p>Game programming using Scratch (GUI programming)</p>	<ul style="list-style-type: none"> • Understand that Scratch is a programming environment that allows you to create games, animations and other simulations • Understand what is meant by an algorithm • Create a sprite and write code to make it move and bounce • Load and use an existing Scratch file • Produce design ideas for a Scratch project 	
22			<ul style="list-style-type: none"> • Define a variable • Write algorithms which use variables to hold values such as Number of Lives Left or Score in a computer game • Understand the purpose of comments in a program • Annotate a program with comments 	

23			<ul style="list-style-type: none"> • Use selection statements <i>if, else</i> and <i>elif</i> in a program • Use indentation correctly to define a block of code 	
24			<ul style="list-style-type: none"> • Add two binary numbers (each less than 7 binary digits) • Multiply a binary number by 2 • Identify a binary number as being odd or even <p>*Model informative text (game synopsis)</p>	<p>Writing genre: Informative in the form of a synopsis</p>
25			<p>Monthly review</p> <ul style="list-style-type: none"> - RETRIEVAL ACTIVITY Practical problem in Scratch for students to use knowledge and skills learned so far. <p>Online safety retrieval: Dangers of the internet and How to be safe online – Why is online safety important for online games?</p> <ul style="list-style-type: none"> - RECALL ACTIVITY Low stake test on theory so far in year 7 	<p>Complex activity (Homework):: Create an information page on their game to provide to customers.</p>
26			<p>Reteach Week</p> <ul style="list-style-type: none"> • Learn what each of the operators in the Scratch Green block menu does • Use the Pick Random block to position objects randomly on the screen • Understand the use of the operators <, =, >, and, or, not. • Use some of these in a Scratch game 	

			ASSESSMENT	
27	Summer T1	Multimedia using Powerpoint (iMedia)	<ul style="list-style-type: none"> • Demonstrate a thorough understanding of the audience and purpose of multimedia products. • Be able to identify good points, bad points and improvements of multimedia products. 	
28			<ul style="list-style-type: none"> • Produce clear and detailed visualisation diagrams for the intended final product. • Identify different file types and their suitability for different platforms. • Identify a wide range of assets and resources to be used as part of these plans, which are wholly appropriate. 	
29			<ul style="list-style-type: none"> • Records and sources consistently appropriate assets from a wide range of sources to create assets for the Multimedia product. 	
30			<ul style="list-style-type: none"> • Combine a wide range of different planned assets with a clear navigation system to create a working interactive multimedia product. • Review and refine the final product. 	Writing genre: informative
31			<p>Monthly review</p> <ul style="list-style-type: none"> - RETRIEVAL ACTIVITY Different types of planning documents, copyright and appropriateness of sources, audience and purpose. 	Complex activity (Homework): Create an evaluation of their product with weaknesses and strengths (see week 32)

			<p>Online safety & computer systems retrieval: Dangers of downloading software, the importance of CPU speed for complex software and storage/memory capacity.</p> <p>- RECALL ACTIVITY Low stake test on theory so far in year 7</p>	
32			<ul style="list-style-type: none"> • Produce a review of the multimedia product sequence which demonstrates a thorough understanding of what worked and what did not, fully referencing back to the brief. • Review identifies areas for improvement and further development of the digital sound sequence, which are wholly appropriate and justified. <p>*Model informative text (product evaluation)</p>	
33	Summer T2	Introduction to data used in Businesses (Data analysis)	<ul style="list-style-type: none"> • Understand data in business and how business use data for the purpose of analysis – examples to be shown of businesses students may be familiar with 	
34			<ul style="list-style-type: none"> • Understand the concept of calculation • Understand the use of formulae 	

35			<ul style="list-style-type: none"> Use formulae revenue, cost and profit formulae have been used 	
36			<ul style="list-style-type: none"> Analyse data for different eventualities, drop in sales, price increase, tax increase, interest rate increase, impact on given business 	
37			<ul style="list-style-type: none"> Analyse the impact on their OWN business and strategies they may need to use when there is either an increase/decrease in sales, interest rates & tax <p>*Model informative text (Data analysis for business)</p>	Writing genre: Informative
38			<p>Monthly review</p> <ul style="list-style-type: none"> RETRIEVAL ACTIVITY Spreadsheets terms, definitions, formulae. Read and analyse data given in tables and graphs. Computational thinking: Read and create an algorithm for a business to follow depending on profits or losses (flowchart) RECALL ACTIVITY Low stake test on theory so far in year 7 	Complex activity (Homework):: Create an analysis for a business based on data to inform them of future decisions to improve
39			SUMMATIVE FORMAL ASSESSMENT	
40				

