

Learning Programme

Computer Systems – GCSE

Topic/Content	Objectives/Skills	Homework	Assessment	Stretch & Challenge (Thirst for Learning)
Hardware and software	<ul style="list-style-type: none"> • Define the terms hardware and software and understand the relationship between them. 		Class Q and A's	<p>Complete further research into the components that affect the performance of a computer. Be able to identify the different.</p> <p>Be able to interpret logic circuits with 3 or more logic gates combined</p> <p>Use little man computer to see how the internal components of the processor work</p> <p>Complete research into the different levels of cache and what each one does</p>
Boolean logic	<ul style="list-style-type: none"> • Construct truth tables for the following logic gates: <ul style="list-style-type: none"> ○ NOT ○ AND ○ OR. • Construct truth tables for simple logic circuits. Interpret the results of simple truth tables. • Create, modify and interpret simple logic circuit diagrams. 	Complete the combined logic circuits worksheet	Topic Worksheets Completed homework End of topic tests	
Software classification	<ul style="list-style-type: none"> • Explain what is meant by: <ul style="list-style-type: none"> ○ system software ○ application software. • Give examples of both types of software • Understand the need for, and functions of, operating systems (OS) and utility programs. • Understand that the OS handles management of the: <ul style="list-style-type: none"> ○ processor(s) ○ memory ○ I/O devices ○ applications ○ security 			

<p>Systems architecture</p>	<ul style="list-style-type: none"> • Explain the Von Neumann architecture • Explain the role and operation of main memory and the following major components of a central processing unit (CPU): <ul style="list-style-type: none"> ○ arithmetic logic unit ○ control unit ○ clock ○ bus • Explain the effect of the following on the performance of the CPU: <ul style="list-style-type: none"> ○ clock speed ○ number of processor cores ○ cache size ○ cache type • Understand and explain the Fetch-Execute cycle. • Understand the differences between main memory and secondary storage. • Understand the differences between RAM and ROM • Understand why secondary storage is required. • Be aware of different types of secondary storage (solid state, optical and magnetic). • Explain the operation of solid state, optical and magnetic storage. • Discuss the advantages and disadvantages of solid state, optical and magnetic storage • Explain the term 'cloud storage' 	<p>Create a presentation based around the different types of secondary storage devices</p>		
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	<ul style="list-style-type: none">• Explain the advantages and disadvantages of cloud storage when compared to local storage.• Understand the term 'embedded system' and explain how an embedded system differs from a non-embedded system.			
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