Tudor Grange Academy Redditch

Your Guide to Year 10 Computer Science

Assessment Criteria
Every half term students are assessed using national curriculum levels and sub levels. Each assessment is marked using this criteria which outlines the differences between each level. This is given to students at the beginning of the school year. A copy is attached for your perusal.

Expectations of Students			
Students are expected to come equipped with appropriate stationary. They also need to read their teachers comments in their books and act on the feedback given. Students are expected to complete their progress tracking in the front of their books after every assessment.			
Year 10	**Topic Title and unit**	**What students will be learning**	**How you can specifically help your child**
HT1	System Architecture	Understanding the purpose of the Central processing unit. Understanding the Von Neumann architecture to include the MAR, MDR, PC and ACC. Identify the main components of the CPU and their functions, to include ALU, CU and cache. Understand the purpose of the Fetch-Decode-Execute cycle Identify common characteristics that effect the CPUs performance. Understand the purpose of and embedded system.	Encourage them to revisit the work they have completed during the lesson. Ensure they complete their homework. Which can be found on https://www.showmyhomework.co.uk If they have any concerns about any topic they are covering, please do not hesitate to contact Mrs George, email address is below or telephone the school if you would like to speak to her. Tel: 01527 523088
HT2	Memory Storage	Know the difference between RAM and ROM. Know the purpose of RAM and ROM. Understand the need for virtual memory. Know what flash memory is. Understand why there is a need for secondary storage. Data capacity and calculation of data capacity requirements. Know common types of storage. Be able to discuss suitable storage devices and media for a given applications, advantages and disadvantages.	
HT3	Wired and wireless networks	Know the difference between LAN and WAN and the factors that affect the performance of networks. Understand the different roles of computers in client-server and peer-to-peer networks. Identify the hardware required to connect stand-alone computers to a LAN. Discuss the Internet as a worldwide collection of networks, to include, DNS, hosting and the cloud. Understand what is and the purpose of virtual networks.	
HT4	Network topologies Protocols Layers	Discuss the different topologies. Understand what wifi is, to include frequency and channels and encryption. Discuss the uses of IP addressing, MAC	

		addressing and protocols. Understand the concept of layers and packet switching.	
HT5	System security System software	Understand the types of attacks and the treat posed to networks. Identify and understand how to prevent vulnerabilities. Understand and the purpose and functionality of systems software. Explain different operating systems. Discuss different utility system software.	
HT6	Ethical, legal, cultural and environmental concerns	Discuss Computer Science technologies while considering different issues. Explain how key stakeholders are affected by technologies. Explain the environmental impact of Computer Science. Understand the cultural implications of Computer Science. Know the difference between open and proprietary software. Discuss the legislation relevant to Computer Science.	
Key dates and what students will be doing			

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