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| **Year 10 Term 3**  **GCSE Computer Science** | Our mission is to stimulate and challenge our students to excel and provide a desire for lifelong learning and pursue careers in the world of Business, Computing, and ICT. | | | | | |
| **Enquiry Questions: Are all networks entirely accessible using a web browser?** | | | | | | |
| **Component 1: Computer Systems**  Students will understand the components that make up digital systems, and how they communicate with one another and with other systems. They will also recognise the impacts of digital technology to the individual and to wider society. Students also learn computing fundamentals of data and apply mathematical skills relevant to data representation. | | | | | | |
| **Knowledge**  Students will know about… | **Application/Skills**  Students will be able to… | **Vocabulary** | **Home Learning** | **Assessment** | **Extra Resources**  **Extended Reading** | **Cultural Capital** |
| * **Networks & Topologies**   The different roles of computers in a client-server and a peer-to-peer  network  The hardware needed to connect stand-alone computers into a Local Area Network  The Internet as a worldwide collection of computer networks  The differences between Star and Mesh network topologies  Modes of connection ie. Wired and wireless connections  Encryption of data | * Identify suitable network hardware for different workplaces and suggest suitable topologies * Compare and contrast the differences between Client Server and Peer to Peer networks * Connecting IP, URL and DNS * Mapping devices into a suitable topology that is fit for purpose * Compared the advantages and disadvantages of wired and wireless connections * Learn to encrypt and decrypt data | * Client server * Peer to peer * Router * Hub * Switch * NIC * Print Server * Email Server * File Server * Star * Mesh * Caesar Cipher * Vigenere Cipher * WiFI * Ethernet * Bluetooth * Fibre Optic * DNS, IP, URL, Hosting, Cloud | High quality Homework set on Google Classrooms  Teach-ICT.com  PG Online – GCSE Computer Science | End of unit assessments   * Networks   Pre-Public Examination at the end of year 10 May 2023. | [Teach-ICT.com](https://teach-ict.com/2016/GCSE_Computing/OCR_J277/OCR_J277_home.html)  [Isaac Computer Science](https://isaaccomputerscience.org/topics/gcse?examBoard=all&stage=all#all)  Seneca – [Computer Science](https://app.senecalearning.com/classroom/course/a1ce4570-6e27-11e8-af4b-35cf52f905c2/section/65ac2e24-3b57-4598-b4dc-01e04eddee1b/session)  BBC Bitesize  CGP – GCSE Computer Science  Hodder Education – Revision Book A Level Computer Science | The National Science Museum (free events)  <https://www.sciencemuseum.org.uk/>  **National Museum of Computing, Bletchley Park (Near Milton Keynes)**  <http://www.tnmoc.org/>    <https://www.bletchleypark.org.uk/>  <http://www.codesandciphers.org.uk/bletchleypark/>  (virtual tour)    Centre for Computing History, Cambridge  <http://www.computinghistory.org.uk/> |