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| **Year 11 Term 1**  **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: Can flowcharts represent low level languages?** | | | | | | |
| **Component 2: Computational Thinking, Algorithms & Programming**  Students understand and apply the fundamental principles and concepts of Computer Science, including abstraction, decomposition, logic, algorithms, and data representation. They will also analyse problems in computational terms through practical experience of solving such problems, including designing, writing and debugging programs thinking creatively, innovatively, analytically, logically and critically. Further more students will apply mathematical skills relevant to Computer Science. | | | | | | |
| **Knowledge**  Students will know about… | **Application/Skills**  Students will be able to… | **Vocabulary** | **Home Learning** | **Assessment** | **Extra Resources**  **Extended Reading** | **Cultural Capital** |
| **Student will recall the learning from year 10.**   * Computer Architecture, CPU Performance, Embedded Systems * Primary Storage, Secondary Storage, Data Representation * Unit Conversion, Data Storage * Networks, Topologies and Protocols * Operating Systems & Utilities * Ethical & Legal * Computational Thinking * Boolean Logic & SQL * Programming   **2.1.2 Flowcharts**  Students will solve problems using a visual form to outline the steps needed.  **2.1.2 Pseudocoding**  Students will be writing solutions to a problem in order to structure their program. Students will think logically and use the following skill set to complete programming tasks:   * **Sequence & Variables & Data Types** * **Selection** * **Iteration** * **Arrays** * **String Manipulation** * **File Manipulation** | * Students will be recalling the skills from year 10 auring assessments at the beginning of the term * Be able to draw a flowchart for a given Scenario * Use appropriate symbols in a flow chart to create the solution effectively * Convert flowcharts into pseudocode * Write pseudocode directly from the question | * Process * Decision * Stary/stop * Sequence * Selection * Iteration * Variables * Input/Output * Arrays * Libraries * Packages * Indentation * Encapsulation * Casting * Data Type * String * Integer * Real * Boolean * Comments * Subroutine * Procedure * Function | High quality Homework set on Google Classrooms  Teach-ICT.com  PG Online – GCSE Computer Science | Practice Exam Papers  PPE2 & PPE3 Exams  Controlled Assessment of Coursework | [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/>  The Royal Institute of Science (free events)  <https://www.rigb.org/families/family-fun-days>  **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/> |