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| **Subject: Computer Science** |
| **Year 10** |
| Half -Term | Autumn 1 | Autumn 2 | Spring 1 | Spring 2 | Summer 1 | Summer 2 |
| Themes/Content/A can of a product  Description automatically generated with medium confidenceUnits covered | Dismantling a PC to identify hardware inside Learning about the purpose of the fetch execute cycleLearning about CPU components and the Von Neuman ArchitectureWriting your first programs in PythonDiscovering how to debug your own code and identify syntax errorsUsing arithmetic and comparison operators in algorithmsLearning about data types and casting in algorithms  | Learning about the performance of the CPULearning about embedded systemsLearning about primary storage (e.g. ROM, RAM and virtual memory)Applying sequence in programmingIdentifying and using selection in programmingExploring more complex programs | Learning about secondary storage (e.g. magnetic, optical and solid state) Tackling a long answer exam question Learning the units of data capacityConverting data units (e.g. bytes to kilobytes) Identifying and using count-controlled iterationIdentifying and using condition-controlled iterationProgrammingproject  | Learning why computers need to store data in binaryConverting denary to binary numbers and vice versaAdding 2 binary numbers togetherConverting from hexadecimal to binary and vice versaConverting from denary to hexadecimal and vice versaRepresenting algorithms as flow charts and using trace tablesGenerating random numbers in programs | Learning how computers process charactersLearning how computers process imagesLearning how computers process soundLearning how compression algorithms are usedExploring Boolean logic; creating truth tables and designing logic diagrams | Learning string manipulation and applying these to algorithmsUsing file handling operations (open, read, write, close) Using arrays when solving problemsUsing programs (functions and procedures) to produce structured code |