What will my child learn in Computer Science

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Year 10	Computational Thinking • Representing Algorithms • Linear Search • Binary Search • Bubble Sort • Insertion Sort • Merge Short Translators & IDEs • Sequence • Variables • Input • Flowcharts & Random numbers • Arithmetic expressions	• Selection • Logical Expressions • Nested Selection • While Loops • Trace Tables • For Loops • Data Validation What is Representation? • Number Bases • Binary Addition • Binary Shifts • Hexadecimal Logic • Logic Gates • Logic Problems	Computer Systems & System Software • Introducing the CPU • The FDE Cycle • Main Memory • Secondary Storage • Optical and Magnetic Storage • Selecting a Storage • Computer Specifications Pseudocode Project	What is Representation? • Representing Text • Unicode and File Size Calcs • Representing Bitmap images • Bitmap File Size Calculation • Representing Sound • Sound File Size Calculation • Measurements of Storage • Compression What is a Computer Network? • The Client-Server Model • Network Hardware • Network Topologies • Transmission Media	What is a Computer Network? • Network Performance and Costs • What is the Internet? • Protocols • The TCP/IP Model Database Essentials • SQL Searches • Insert, Update, Delete • Swim Challenge	Programming • Subroutines • Functions • Scope • Structured Programming • Create a Program • Snakes and Ladders

Year 11	How Does Technology Impact US? - The Law, Data Protection and Copyright - The FIA and the CMA - Cultural Impacts - Privacy and Surveillance - Enviromental Impact - Ethical Impact	Programming - String Handling - Arrays and Lists - List Methods 2D Arrays and Lists 2D List Challenge - Reading Text Files - Writing Text Files Cybercrime - The Cost of Cybercrime and Hacker Motivation - Non-automated Cybercrime - Automated Cybercrime - Protecting Systems with Software - Network Design and Defence - Where is the Danger?	Cybercrime - Being Part of the Solution Reteach - Issues - Computer Systems - Algorithms	Reteach - Networks - Databases - Network Security - Programming	Exams	Exams