



## GCSE Computer Science Year 1 Curriculum Planning Sequence

| Subject  | Year   | Term                                 | Big Ideas                                       | Topics   | Subject Learning Checklist |
|--|--|--------------------------------------|---|--|----------------------------|
| GCSE Computer Science Year 1   | Year 10  | Term 1 - 35hrs                       | 3.1 Algorithms                                  | 3.1.1 Representing Algorithms  |                            |
|  |  |                                      | 3.2 Programming                                 | 3.2.1 Data Types   |                            |
|  |  |                                      |   | 3.2.2 Programming Concepts   |                            |
|  |  |                                      |   | 3.2.3 Maths in Programming (Arithmetic Operations)                     |                            |
|  |  |                                      |   | 3.2.4 Less than, Greater than (Relational Operations)                  |                            |
|  |  |                                      |   | 3.2.5 AND, OR, NOT, XOR (Boolean Operations)                           |                            |
|  |  |                                      |   | 3.2.6 Arrays and Lists (Data structures)                               |                            |
|  |  |                                      |   | 3.2.7 Input/output   |                            |
|  |  |                                      |   | 3.2.8 String Handling  |                            |
|  |  |                                      |   | 3.2.9 Random Numbers   |                            |
|  |  |                                      |   | 3.2.10 Structured programming and Subroutines (Procedures & Functions) |                            |
|  |  | 3.2.11 Robust and Secure programming |   |  |                            |
|  |  | 3.3 Data representation              | 3.3.1 Number Bases (Binary, Denary & Hex)       |  |                            |
|  |  |                                      | 3.3.2 Converting between Binary, Denary and Hex |  |                            |
|  |  |                                      | 3.3.3 Units - Bits, Bytes, Kilobytes, Megabytes |  |                            |
|  |  |                                      | 3.3.4 Binary Arithmetic                         |  |                            |
|  |  |                                      | 3.3.5 Character encoding (ASCII and Unicode)    |  |                            |
|  |  |                                      | 3.3.6 Representing Images                       |  |                            |
|  |  |                                      | 3.3.7 Representing Sound                        |  |                            |
|  |  |                                      | 3.3.8 Compressing Data                          |  |                            |
| 3.4 Computer systems   | 3.4.1 Hardware and Software  |                                      |   |  |                            |
|  | 3.4.2 Boolean logic (AND, OR, NOT, XOR circuits & Expressions)   |                                      |   |  |                            |
|  | 3.4.3 Application and System Software  |                                      |   |  |                            |
|  | 3.4.4 High Level and Low Level Programming   |                                      |   |  |                            |
|  | 3.4.5 CPU, RAM, ROM, HDD, Cloud Storage, Embedded Systems  |                                      |   |  |                            |
| 3.8 Ethical, legal and environmental impacts of digital technology on wider society, including issues of privacy | OPTIONAL   |                                      |   |  |                            |
|  | 3.8 Ethical, legal and environmental impacts of digital technology on wider society, including issues of privacy |                                      |   |  |                            |
|  |  |                                      | Review mock/make improvements                   |  |                            |
|  |  |                                      |   | 1hr Cycle Programming Teacher Lead and Independent Programming         |                            |