Year 7 Computing Curriculum

Autumn Term	Spring Term	Summer Term
Autumn 1	**Spring 1**	**Summer 1**
<u>Digital Literacy – Computer basics</u> **Knowing/Understanding** What a network, how the School Network operates and logging into the system, computer peripherals, good folder/file structure when saving documents and changing font and colours. **<u>E-Safety (Internet Safety)</u>** **Knowing/Understanding** A range of ways to use technology safely, respectfully, responsibly and securely, including how to keep data safe by protecting their online identity and privacy, computer viruses, password protection. Recognising inappropriate content, contact and conduct and know how to report concerns. **<u>History of Computers</u>** – presented in various office-based formats.) **Knowing/Understanding** The pioneers of Computers. What the first computer was. Innovations in the computing sector. The creation of the Internet.	**<u>Introduction to Computer Science</u>** **Knowing/Understanding** The different hardware and software that make up a computer system. **Knowing/Understanding** What is a computer – including the different hardware and software components Different types of computers/systems (e.g. mobiles, TV's, tablets, laptops)	**<u>Algorithms & Scratch Programming</u>** *(The fundamentals of coding/programming)* Understand several key algorithms that reflect computational thinking problems. Design, use and evaluate computational abstractions. Use a low-level programming language, making use of object-oriented software. Make appropriate use of data structures [for example, lists, tables or arrays]; design and develop modular programs that use procedures or functions.

Autumn 2	Spring 2	Summer 2
Spreadsheets **Knowing/Understanding** General office-based skills which allows students to create and format a spreadsheet, using formulas and functions and conditional formatting	**Data representation** **Knowing/Understanding** Binary – 4/5 bit denary to binary conversion, embedded systems	**Graphic Design Principles** Pivot Animation - A program to create stick-figure and sprite animations, and save them in GIF or AVI format.

Year 8 Computing Curriculum

Autumn Term	Spring Term	Summer Term
Autumn 1	**Spring 1**	**Summer 1**
Databases General office-based skills which allows students to use queries and reports to sort data, understand the different relationships within a database and primary keys.	**Data Representation** 8-bit binary conversion/ Binary to ASCII/ Binary addition and touch on image representation such as bitmap. **Knowing/Understanding** Binary / Denary / Hexadecimal Conversions, Text-Binary to ASCII Image representation (bitmap), sound representation	**Programming Algorithms Part 2** Computational thinking, pseudo code/flowcharts
Autumn 2	**Spring 2**	**Summer 2**
Further Computer Science - Networking Basics **Knowing/Understanding** What a network is including connection types, latency LAN/WA, topologies, cloud and virtual computing.	**Data Representation - Logic Gates** **Knowing/Understanding** Boolean Logic: Operators AND/OR/NOT gates	**Basic Python Programming** **Knowing/Understanding** Algorithms & Pseudocode Basic python syntax (write simple expressions in python)

		Output, Variables, Input & Data types Selection & Iteration

Year 9 Computing Curriculum

Autumn Term	Spring Term	Summer Term
Autumn 1	**Spring 1**	**Summer 1**
Enterprise/Media Project Use different software to create a product, business cards, posters/leaflets. **Knowing/Understanding** What an enterprise does What is an entrepreneur? Enterprise aims & purpose Internal/external factors that affect a business **Cyber Security** Knowing/Understanding Cyber security threats Social engineering Malicious code	**Advanced Networking** **Knowing/ understanding** TCP/IP -OSI Model. Viruses and malware.	**Advanced Python Programming** Search and sort algorithms and programming constructs in Python – selection and loops Understand several key algorithms that reflect computational thinking problems. Design, use and evaluate computational abstractions.
Autumn 2	**Spring 2**	**Summer 2**
Advanced Computer Science Depth understanding of the hardware and software of a computer system **Knowing/Understanding** CPU, BIOS, utility and application software	**Computing Ethics** **Knowing/Understanding** Computer misuse Act, Data protection Act, (GDPR) Digital divide, Environmental concerns Impacts of society.	**Advanced Python Programming** Use an industry recognised programming language. Make use of Boolean Logic, make appropriate use of data structures [for example, lists, tables or arrays]; design and develop

		modular programs that use procedures or functions.