



Middlewich High School Computing/Computer Science Department – 5-Year Curriculum Map



	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 7	<u>Digital Literacy</u> Knowledge - Introduction to effectively using the basics. Skills – Storage, Word processing, PowerPoint, Google Classroom	<u>Spreadsheets</u> Knowledge - How to use Spreadsheets as models with the use of basic formulas Skills – Formulas, functions, formatting, modelling	<u>Graphic Design</u> Knowledge - How do businesses use advertising to attract customer attention Skills – formatting, posters, business cards, menus	<u>Databases</u> Knowledge - How to use databases to store and search for information Skills – Data entry, verification, simple and complicated queries, forms	<u>Internet Safety</u> Knowledge - How to be safe using the internet. Skills – privacy, social media, virus's, unplugged, digital drama, publisher skills	<u>Emerging Technology</u> Knowledge - What is technology and how will new technology effect society Skills – research, film making skills
Year 8	<u>Data Representation</u> Knowledge - To understand binary and how to convert binary to denary Skills – binary, denary, binary addition	<u>HTML</u> Knowledge - How to write HTML code to create a structured website Skills – HTML program creation, editing HTML programs	<u>Website</u> Knowledge - How to create a website to attract a target audience. Skills – Master pages, Links, Menus, image carousels, target audience	<u>Flowcharts</u> Knowledge - How do flowcharts allow for structured sequencing of instructions Skills – sequence, selection, iterations	<u>Animation</u> Knowledge - How to create an effective animation for an audience. Skills – Clients and Audience, mind maps, mood boards, storyboards, hardware, software, stop motion animation	<u>Python</u> Knowledge - How to write structured lines of code to create outcomes. Skills - sequence, selection, iterations
Year 9	<u>System Architecture</u> Knowledge - How do the different parts of a PC communicate? Networks and the internet Skills – CPU, Input and output devices, Networks, Memory, Logic Gates	<u>Digital Novel</u> Knowledge - How to create a comic strip to inform a target audience. Skills – Construction of comics, Planning, Storyboards, comic creation	<u>Spreadsheets</u> Knowledge - How to use Spreadsheets as models with the use of complicated formulas Skills - IF Statements, Vlookup, Count IF, Data Validation, Graphs, Data Validation	<u>Graphic Design</u> Knowledge - Creating a Digital Graphic Skills – Mood boards, mind maps, Visualisation Diagrams, Image creation	<u>Algorithms</u> Knowledge - How to write structured lines of code to create effective outcomes. Skills – variables and inputs, strings, data types, python	<u>Internet Safety</u> Knowledge – How to be Safe using the internet/Social Media Skills – Digital Foot print, Relationships, online hate, Breaking news and sharing content

Year 10	<u>Hardware Introduction</u> Knowledge - Computer Systems Skills – Embedded systems, RAM, ROM, Virtual memory, Storage <u>Architecture of the CPU</u> Knowledge - Introduction to CPU's - Primary and Secondary Memory Skills – CPU, FDE, performance factors	<u>Network Topologies</u> Knowledge - What is a network? - Network Topologies Skills – Hardware, performance, Topologies, communication <u>Network Protocols and threats</u> Knowledge - Methods of connections - Protocols and Layers - Threats and Prevention Skills – Encryption, PC addresses, Protocols, Layers, packets, threats, prevention	<u>Operating Systems</u> Knowledge and Skills - Purpose and usage of the OS - Utility Software <u>Programming Fundamental</u> Knowledge - Constructs - Selection - Iteration - Sequence Skills – Decomposition, Abstraction, Variables, IF statements, Loops, While loops, Trace Tables, Errors	<u>Algorithms</u> Knowledge - Constructs - Selection - Iteration - Sequence Skills – Patterns, Arrays, Searching, Sorting, Writing to files <u>Defensive Programming</u> Knowledge and Skills - Logic Errors and Testing - Defensive Design - Maintainable Code	<u>Developing SQL</u> Knowledge and Skills - Records - SQL constructs <u>Translators and Facilities of language</u> Knowledge - Translators and Facilities language Skills - Low and high level languages	<u>Open and Proprietary Software</u> Knowledge and Skills Digital Eco Systems <u>Programming Revision/Project</u>
Year 11	<u>Data Representation/Storage</u> Knowledge - Binary and Denary - Hex - ASCII Skills Binary Addition and Subtraction, Hex conversion, characters, images and sound conversions, compression <u>Boolean Logic</u> Knowledge & Skills - Logic Gates - Truth Tables - Binary Logic - Logic algebra	<u>Wider Impacts of Computer Science</u> Knowledge - Legislation - Ethical - Environmental - Cultural Issues Skills – Ethics, morals, privacy, environmental, legislation	<u>Languages and IDE's</u> Knowledge & Skills - Machine Code - Assembly Language - High Level Language <u>Revisit Programming</u> - Operators and Ifs - Iteration	<u>Searching and Sorting Algorithms</u> Knowledge & Skills - Binary and Linear Searches - Bubble, Insertion & Merge <u>Revision Lessons</u>	<u>Revision Lessons</u>	