Curriculum Map
Subject: KS3 Computing 24-25

Year 7

Term	Unit of Work	Knowledge and Skills	Assessment
Term 1	**Topic: Introduction to Secondary systems & Microsoft Word**	Pupils are introduced to the IT and computing systems they will need for secondary school. This includes an introduction and how to use: • The computers at school which includes logging on and file/folder management • Accessing your school emails and one drive from home • E-praise – the school reward and homework platform • Seneca – use in some subjects for homework • ICT Policy – use of computers in school All logging in details will be written in their planner. As well as this introduction pupils will learn how to use Microsoft Word. This includes the following tabs and features: • Home tab • Insert tab • Layout & review tab • How to save a file • Where to save a file • Where to retrieve a file from – Windows explorer • How to print a document Throughout key stage 3 the computing curriculum provides lessons on Online Safety. This term pupils will have a lesson on: • Passwords – how secure are you? • Security settings on social media	**Key Assessment:** • Y7 Baseline assessment **Homework:** • Will be set twice per term • Tasks will be varied and focus on either retrieval, revision skills and/or prior learning. • All homework will be supported by a knowledge organiser **Topic Text:** • Information: Staying Safe online
Term 2	**Topic: PowerPoint**	Pupils will follow on from learning how to use Microsoft Word in term 1 and continue their Microsoft journey by learning how to use Microsoft PowerPoint. This should enable them to use these Microsoft skills in other subject areas. This includes the following tabs and features: • How to research using the internet • Using sitemaps • Home tab • Master & Design tab • Insert tab	**Key Assessment:** • PowerPoint presentation including the features **Homework:** • Will be set twice per term

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		• Edit tab • Transitions tab • Animation's tab This term there will be an Online safety lesson on social media & Cyber Bullying.	• Tasks will be varied and focus on either retrieval, revision skills and/or prior learning. • All homework will be supported by a knowledge organiser **Topic Text:** • Script: PowerPoint presentations to justify video games
Term 3	**Topic: Spreadsheets (Basic)**	This term sees the final part of the Microsoft journey – Excel. This unit of work includes learning the basic features of Excel by incorporating real life examples, i.e., how to manage a budget on a salary/wage. This includes: • Excel basic features – functions, layout, calculations etc. • Career & salary/wage – research on careers and salary/wage • Household bills – what bills do you pay? • Unexpected events	**Key Assessment** • Electronic assessment on Spreadsheet (Basics) **Homework:** • Will be set twice per term • Tasks will be varied and focus on either retrieval, revision skills and/or prior learning. • All homework will be supported by a knowledge organiser **Topic Text:** • Information: Cyber Bullying
Term 4	**Topic: Algorithms & Flowcharts**	Pupils will explore the world on algorithms and how they are used in programming. Pupils will learn how to use computational thinking in solving problems and Flowol a flowchart building software. This includes: • Flowcharts • Flowol • Sequencing • Sensors • Where are algorithms used?	**Key Assessment** • Algorithms & Flowol assessment **Homework:** • Will be set twice per term • Tasks will be varied and focus on either retrieval, revision skills and/or prior learning.

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			• All homework will be supported by a knowledge organiser **Topic Text:** • Article: What is an algorithm?
Term 5	**Topic: Scratch Block Programming**	Following on from last terms Algorithm topic, pupils will use the skills and apply them to their first programming unit. Programming problems will be presented and pupils will be required to use computational thinking in creating solutions to problems. Pupils will explore programming using Scratch. This includes: • Research into existing games – successful or unsuccessful? • Control • Collision • NPC's • Variables & blocks This topic will carry over into term 6 as pupils will have learnt this term how to use Scratch and how it can be used to solve programming problems. Pupils will use these skills to create an independent programming project in term 6.	**Key Assessment** • Electronic Scratch programming assessment **Homework:** • Will be set twice per term • Tasks will be varied and focus on either retrieval, revision skills and/or prior learning. • All homework will be supported by a knowledge organiser **Topic Text:** • Article: Ada Lovelace – who was she?
Term 6	**Topic: Scratch Block Programming**	For the final term of Year 7 pupils will create a Scratch game which solves a specific criterion. Pupils will create a written design brief and use skills learned in term 5 to create it. Pupils will need to problem solve in order to have a working game by the end of the term. Revision of the following topics from term 5: • Control • Collision • NPC's • Variables & blocks	**Key Assessment:** • Electronic Scratch programming assessment **Homework:** • Will be set twice per term • Tasks will be varied and focus on either retrieval, revision skills and/or prior learning. • All homework will be supported by a knowledge organiser **Topic Text:**

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			• None this term due to school testing (limited time)

Year 8

Term	Unit of Work	Knowledge and Skills	Assessment
Term 1	**Topic: Computer Components**	Pupils will delve into a computer this term by learning how a computer works. This will focus on each of the components that make a computer. This includes theory and a practical where pupils are to take apart an actual computer and put it back together after. This includes: • Hardware and software • CPU • Storage devices & media • Comparing the performance • Practical • Building their own PC (theoretical) Throughout key stage 3 the computing curriculum provides lessons on Online Safety. This term pupils will have a lesson on: • Digital Footprint	**Key Assessment:** • Electronic assessment on Components **Homework:** • Will be set twice per term • Tasks will be varied and focus on either retrieval, revision skills and/or prior learning. • All homework will be supported by a knowledge organiser **Topic Text:** • Information fact sheet on components
Term 2	**Topic: Artificial Intelligence & Machine Learning**	Pupils will have their first insight into the world of artificial intelligence and machine learning. Pupils will consider where AI is used, how machine learning are used in image recognition and the ethics of AI. This includes: • What is AI? • Machine learning • Ethics of AI • Image recognition • Turing tests and chatbots • Rate my review	**Key Assessment:** • Electronic assessment on AI & Machine Learning **Homework:** • Will be set twice per term

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			• Tasks will be varied and focus on either retrieval, revision skills and/or prior learning. • All homework will be supported by a knowledge organiser **Topic Text:** • An up-to-date news article
Term 3	**Topic: Spreadsheets (Advanced)**	Pupils will recall learning from Year 7 where they studied Excel. This unit of work includes revision of the basic features and expanding the depth of knowledge by learning more advanced features. This unit of work incorporates additional real-life learning in regard to bank accounts, credit cards, and mortgages. This includes: • Excel basic features – functions, layout, calculations etc. • Excel advanced features – SUM, AVERAGE etc. • Bank accounts - types • Credit cards – interest rates • Mortgages – how much can you afford?	**Key Assessment** • Electronic assessment on spreadsheets (advanced) **Homework:** • Will be set twice per term • Tasks will be varied and focus on either retrieval, revision skills and/or prior learning. • All homework will be supported by a knowledge organiser **Topic Text:** • Investigation to the uses of Spreadsheets
Term 4	**Topic: Cyber Security**	The world of Cyber security is vast. Pupils will explore the dangers and threats of our cyber world and learn what to do to protect themselves against malware, cyber criminals and their own human error. This includes: • You and your data • Social engineering • Script kiddies • Rise of the bots • There's no place like 127.0.0.1 • Under attack – a simulation of cyber threats and their choice of protection against these.	**Key Assessment:** • Electronic assessment on Cyber security **Homework:** • Will be set twice per term • Tasks will be varied and focus on either retrieval, revision skills and/or prior learning.

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			• All homework will be supported by a knowledge organiser **Topic Text:** • News Article: TikTok Security Breaches
Term 5	**Topic: Minecraft Education**	Over the next two terms pupils will be learning coding using Minecraft education. Pupils will have structured learning on coding theory and how to code in a more complex way which moves pupils on from Scratch. Programming problems will be presented and pupils will be required to use computational thinking in creating solutions to problems. This includes: • Introduction to Minecraft Education – how different is it from Minecraft? • Events • Coordinates This topic will carry over into term 6 as the concepts will be taught over more than one week. Pupils will use these skills to create an independent programming project in term 6.	**Key Assessment:** • Minecraft Education coding assessment **Homework:** • Will be set twice per term • Tasks will be varied and focus on either retrieval, revision skills and/or prior learning. • All homework will be supported by a knowledge organiser **Topic Text:** • Mental health & Computers
Term 6	**Topic: Minecraft Education**	For the final term of Year 8 pupils will continue their learning in coding using Minecraft Education. Coding skills from term 5 will be recalled and used as well as lessons that further their understanding of coding. At the end of this term pupils will use these coding skills in a group Minecraft project. Lessons include: • Events – revision from term 5 • Coordinates – revision from term 5 • Variables • Conditionals • Project – Survival or Creator? There will be an online safety lessons which includes learning on Mental Health & Computers.	**Key Assessment:** • Minecraft Education coding assessment **Homework:** • Will be set twice per term • Tasks will be varied and focus on either retrieval, revision skills and/or prior learning. • All homework will be supported by a knowledge organiser **Topic Text:**

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			• None this term due to school testing (limited time)

Year 9

Term	Unit of Work	Knowledge and Skills	Assessment
Term 1	**Topic: Data Representation**	Pupils will learn how data is represented in computers. This includes how text files, images and sound is saved in a computer. This includes cross curricular recall using their mathematical skills to convert decimal numbers into binary. This includes: • Introduction to binary and logic • Binary numbers • Computer games • Digital sound • Storing text There will be an online safety lessons which includes learning on Real or Fake News which is focused around social media and the internet.	**Key Assessment:** • Data representation **Homework:** • Will be set twice per term • Tasks will be varied and focus on either retrieval, revision skills and/or prior learning. • All homework will be supported by a knowledge organiser **Topic Text:** • Tubes & Transistors

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Term 2	**Topic: App Development**	Pupils will aim to create a complete app with full takeaway functionality on a mobile phone or desktop web browser. Pupils will plan and implement their own projects using skills taught on Appshed. Parents will be able to view what pupils have complete online. This includes: • Introduction to apps • Home screen and navigation • Content screens and photo galleries • Map functions • Programming with Blockly • Publishing your app	**Key Assessment:** • Mobile App development assessment including its creation **Homework:** • Will be set twice per term • Tasks will be varied and focus on either retrieval, revision skills and/or prior learning. • All homework will be supported by a knowledge organiser **Topic Text:** • Apps to improve family life
Term 3	**Topic: Taster Lessons & Computing Topical Debates**	There will be two topics covered this term, The first focus is taster lessons for GCSE Business and GCSE Computer Science, and the second focus is Computing Debates. The taster lessons will allow pupils to form an idea of what GCSE lessons will be like in that subject and inform them of what they will study. The aim with computing debate lessons is that pupils focus on more than using computers, and focus on the ethical, legal and environmental issues that are part of the use of computers. This topic complements their English lessons on how to form a debate speech. The topics chosen for debate is open to the pupil's choice. Here are some examples of possible debate topics are: • When I have my own children, I will need to protect them from smartphones, social media, and the internet. • People are so lost in artificial 'screen-worlds' that they are losing touch with reality. • Computing technology is harming people's health more than it is benefitting it • For the most part, our use of computing technology is a waste of electricity Lessons will include: • How to debate • How to structure a debate speech • Preparation & counter arguments • The debate	**Key Assessment** • Assessment research skills, written responses & argument linked to computing **Homework:** • Will be set twice per term • Tasks will be varied and focus on either retrieval, revision skills and/or prior learning. • All homework will be supported by a knowledge organiser **Topic Text:** • Negative impact of computers on the environment

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Term 4	**Topic: Python Programming**	This topic will crossover into Term 5. Pupils will be introduced to a text-based programming language called Python. The foundation of pupils programming experience has been built upon over Year 7 and Year 8 in block coding. They will now transfer from block coding to text-based coding but still use the theory they have learned in Year 7 and 8. This topic is introduced by revising how computers work from Year 8 term 1 where pupils learned how computers work – they require input, processes and outputs. This includes: • User input • Output • Strings • Variables • Data types • Computer arithmetic • Selection	**Key Assessment:** • None this term due to a larger project crossing over into next term **Homework:** • Will be set twice per term • Tasks will be varied and focus on either retrieval, revision skills and/or prior learning. • All homework will be supported by a knowledge organiser **Topic Text:** • Understanding loops
Term 5	**Topic: Python Programming** **Topic: Business Project**	Pupils this term will finish the Python programming unit from Term 4. This includes revision of the topics covered previously and the addition of: • Loops • Programming challenges Pupils will be introduced to a Business project that will crossover into Term 6. Pupils will be asked a focus question relating to branded and non-branded goods. This will be the focus of the project and they will spend lessons learning business concepts and gathering evidence. This will enable pupils to write a report which answers the focus question justifying their opinions using the evidence gathered. This term lessons include: • Introduction and set up of groups • Questionnaires – how to create one • Using Excel to display findings	**Key Assessment:** • Electronic Python programming assessment **Homework:** • Will be set twice per term • Tasks will be varied and focus on either retrieval, revision skills and/or prior learning. • All homework will be supported by a knowledge organiser **Topic Text:** • Aldi/Lidl news article
Term 6	**Topic: Business Project**	Pupils will continue their business project on branded and non-branded goods. This term lessons include:	**Key Assessment:** • End of project report

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		• Taste test – branded vs non-branded • Report writing • What were their findings? Is branded better than non-branded? There will be an online safety lessons which includes learning on Bank accounts, gambling, buying online and financial scams/phishing.	**Homework:** • Will be set twice per term • Tasks will be varied and focus on either retrieval, revision skills and/or prior learning. • All homework will be supported by a knowledge organiser **Topic Text:** • None this term due to school testing in computing lessons (limited time)