

Levenshulme High School – Curriculum Map – Computing and Business

		Term 1		Term 2		Term 3	
No. of Weeks KS3 have 1 lesson a week		7	7	6	6	13	
Year 7	Topic Title and NC link	Introduction to Computer systems NC 7, 9		Modelling NC 1, 7		Scratch NC 1, 2,3	
	<i>Pupils should know... (Core knowledge and concepts to learned)</i>	How to log on. How to save documents. How to use Onedrive. How to create and organise folders How to create documents for audience and evaluate. How to be safe on the internet The importance of a strong password What the different software are used for with examples. Different hardware devices relating to computing.	How to use tools within the ribbon in a range of applications in MS Office. Use MS Powerpoint to create a presentation Use Ms Word to write a letter How to use the tools within Outlook to send and receive emails. How to use snippet and print screen How to use Copy, Cut and paste. How to use online email systems	What a Spreadsheet is and who would use it. Know the key terminology, row, column, cell. The four arithmetic operators (+, -, / and *) and how they are used. The layout of a spreadsheet is important for audience – focussing on correct headings.	What a condition is in a statement. Where list boxes are used and how they can make data entry more manageable/accurate. MS Excel can include basic programming to allow actions to be done quicker. What a Macro is and how is can be used to store instructions to make actions quicker.	What the x and y coordinates do in relation to sprite movement. What a variable is and know that it is something that can be changed. What a condition statement is in relation to Scratch	What a variable is and how it is used. Know how loops are used using repeat. How instructions are written and used in systems.
	<i>Pupils should be able to do...</i>	Log on, log off, restart and	Create a publication that incorporates the	Write scenarios that include the	Use conditional formatting to write a statement in Excel that	Design a game that is appropriate to audience	Use broadcast and receive to enhance game with levels.

	<i>(Skills being developed)</i>	<p>shutdown a computer</p> <p>Create and use a folder structure internally and externally with appropriate file names.</p> <p>Use mouse and keyboard correctly</p> <p>Use keyboard specifics accurately, E.g. shift, capslock numlock etc.</p>	<p>skills that they have learnt</p> <p>Use formatting tools within Powerpoint. E.g shapes, textbox, colours, fonts, grouping etc.</p> <p>Write a properly formatted letter using the tools within Office.</p> <p>Send, receive, reply and forward an appropriately written email.</p> <p>Use tools within the operating system to use technology to support their learning.</p> <p>Log on to school emails remotely.</p> <p>Explain with examples the purpose of the software and how it can be used.</p>	<p>correct use of the four operators.</p> <p>Write formulas that allow appropriate calculations to happen.</p> <p>Be able to solve mathematical problems that include a written scenario.</p> <p>Use the tools and formatting features to create a basic working spreadsheet for a given audience.</p> <p>Give examples of who would use a Spreadsheet and be able to demonstrate this</p>	<p>produces a given outcome based on the whether or not the condition has been met.</p> <p>Create list boxes to allow user to enter data.</p> <p>Create and use and use a Macro to allow actions to take place quicker. (all for a purpose) Basic formulas</p> <p>Use the formula and formatting features within the ribbon.</p> <p>Use Powerpoint to present their models explaining how their model solves a problem</p>	<p>Write a sequence of accurate instructions to solve a problem.</p> <p>Create variables within Scratch and use these to manipulate their sprites.</p> <p>Use conditions within Scratch to change the movement of their Sprite</p> <p>Use the x and y co-ordinates to program the movement of their sprite.</p> <p>.</p>	<p>Use blocks that represent loops to keep an action continuing</p>
	<p><i>Why are we doing this now?</i></p> <p><i>How does it build on prior learning and</i></p>	<p>Pupils need a secure knowledge base of computers and the uses of computers to allow them to use technology to</p>	<p>Pupils will send emails to their peers and their subject teachers across all subjects.</p>	<p>Pupils need to understand the importance of correct layout and headings when creating systems. This will support</p>	<p>Understanding conditions is important as this underpins the learning of Computing. Also this will further support problem solving in general.</p>	<p>Pupils will have a greater understanding of how conditions work which will support future units. Work from the spreadsheet unit will be built upon.</p> <p>As Scratch is about pupils using pre-set code to create a program, this unit will give</p>	

	<i>prepare for knowledge and learning still to come?</i>	<p>support their learning.</p> <p>These skills will underpin the learning of all future topics as these skills will constantly be used when completing set work.</p> <p>Documents will be created in future units.</p> <p>E-safety will be a feature of future units – this will be constantly updated in relation to current events.</p>	<p>The learning of how to use the tools will support their use of technology in all other subjects.</p> <p>MS Office is used to evidence learning in units – students will need to know how to use this.</p>	<p>the learning in design and coding units where pupils will be taught about audience and usability in relation to the software used.</p> <p>Future units will feature problem solving which is a life skill that pupils will need.</p>	<p>Conditions will be used and retaught in coding units and the computational thinking unit. Pupils having this prior knowledge will support learning that be built upon.</p> <p>Pupils will have the opportunity to use spreadsheets in real life scenarios which relate to real life and will include a maths element. This will support wider learning when using mathematical operators.</p>	<p>pupils a secure coding base in preparation for future coding units where they will be asked to write their own code. Pupils will understand how this related to real life scenarios.</p>	
Year 8	Topic Title and NC link	Computational thinking NC 1, 2, 4, 5, 7	Python programming NC 1, 2, 3, 6	HCI/UX NC 6, 7	Image creation NC 6, 7, 8	Internet NC 1, 4, 5, 9	Fundamentals of computing NC 4, 5, 6
	<i>Pupils should know... (Core knowledge and concepts to learned)</i>	<p>That computers understand and work from instructions</p> <p>The difference between an action, a decision and a process.</p> <p>The importance of sequencing instructions to produce the correct outcome.</p>	<p>Programs are written in coding languages.</p> <p>Pupils will create their own programs.</p> <p>The different text based programs that are available to code</p> <p>How actions can be repeated using loops</p>	<p>The importance of users when creating a platform</p> <p>How users link and interact with icons</p> <p>How users link and interact with images</p> <p>How human instinct reflects design.</p> <p>How businesses use images and technique for</p>	<p>What metadata is and how it works</p> <p>What copyright is and the importance of copyright.</p> <p>What will happen if copyright is broken.</p> <p>Careful planning for creating publications is important.</p> <p>How different audiences respond to different design techniques</p>	<p>What the internet is.</p> <p>What a network is.</p> <p>How the internet works.</p> <p>Know how different people use the internet.</p> <p>Know how to search the internet effectively.</p> <p>What hardware used to connect to the internet.</p>	<p>What physical components of computer systems do</p> <p>If a component of a computer is an input, output, storage or neither.</p> <p>The functions of a range of Computing components. This includes: CPU, motherboard, processor etc.</p> <p>That computers understand binary.</p>

				<p>advertising purposes.</p> <p>How embedded systems are created with focus on user input.</p>	<p>Who would use Photoshop and how this relates to industry</p>	<p>The importance of using the internet safely.</p> <p>How to connect to the internet using different devices.</p> <p>How the basis of a computer network works</p> <p>How the internet works globally How to use MS Word to create a report</p>	<p>The difference between logic truth tables</p> <p>Which form of media would have the highest file size.</p> <p>What the physical components are that make up the internet works</p> <p>How the internet works in terms of data transfer</p>
<p><i>Pupils should be able to do... (Skills being developed)</i></p>	<p>Break down problems into smaller sections.</p> <p>Be able to write basic algorithms as a sequence of instructions</p> <p>Create flow charts that include decisions</p> <p>Create flow charts that solve a problem</p>	<p>Set data types to strings</p> <p>Set data types to floats</p> <p>Write 'if statements'</p> <p>Setting conditions in the code</p> <p>Create and explain a program of their choice that solves a problem.</p>	<p>Analyse current platforms and recognise design features.</p> <p>Create a wire plan for a user designed system</p> <p>Design and test icons for users to use</p> <p>Design platforms</p> <p>Test platforms</p> <p>Create a static user interface design for a given project.</p>	<p>Insert images into Photoshop</p> <p>Inserting shapes and change their sizes</p> <p>Use the blur tool</p> <p>Use free transform</p> <p>Use a range of advanced tools in Photoshop</p> <p>Use the distortion tool</p> <p>Using a range of advanced tools in Photoshop</p> <p>Creating publications and graphics aimed at different audiences</p>	<p>Draw a network with correct devices labelled.</p> <p>Analyse how current networks work in relation to network speed.</p> <p>Be able to use search criteria and search engines officially.</p> <p>Be able to provide full examples of who uses the internet and how the internet supports social and business activity.</p>	<p>Calculate the number of bits, bytes, kb, mb and gb in relation to given problems.</p> <p>Be able to convert between binary and denary and visa-versa.</p> <p>Write out truth tables for AND, NOT and OR logic gates.</p> <p>Calculate denary to binary and binary to denary</p> <p>Calculate denary to hexadecimal.</p> <p>Explain whether a device is an input or an output</p>	

					<p>Add metadata to an image.</p> <p>Explain the uses of Photoshop and how it relates to graphic design</p>		<p>Use drawing package to draw truth tables.</p> <p>Explain how the devices</p> <p>Use mouse and keyboard correctly</p> <p>Use keyboard specifics accurately, E.g. shift, capslock numlock etc.</p> <p>Save files correctly</p>
<p><i>Why are we doing this now?</i></p> <p><i>How does it build on prior learning and prepare for knowledge and learning still to come?</i></p>	<p>Pupils will have built knowledge of a what a problem is and what a condition is from the modelling unit. This is covered in more depth and challenge in this unit. Pupils will be taught how to break down a problem which a fundamental skill in computing and is transferrable to other subjects. This will also prepare pupils for further study when writing their own programs using different languages.</p>	<p>Pupils will have the opportunity to write their own computer programs. This will allow them to be creative with code.</p> <p>This will support their learning of HTML and Visual Basic</p>	<p>Pupils will be confident in using IT systems, bot mobile and fixed. This unit will provide the opportunity for pupils to explore their thinking in terms of user interface. Pupils will be aware of techniques used and this will support them in their own planning and creating. HCI and UX design is a fast growing industry.</p>	<p>Pupils will have learnt about the importance of audience in the introduction to systems and modelling units. This will be further developed in this unit. In this unit pupils will study the importance of design and layout of publications and how this is important in terms of audience. Pupils will be given the opportunity to develop their creative ICT skills for design. This will support further learning into the HTML and enterprise unit. Pupils will also learn about how metadata is used on images and the security issues which links to e-safety. Pupils will also be aware of copyright which they will</p>	<p>Pupils will have an understanding of how data travels across a network. This will give pupils a firm understanding of how digital communication works. Having this knowledge will give pupils a greater understanding Computing concepts. Also, pupils will have an understanding of the internet in real life context.</p> <p>Pupils being able to search the internet accurately will allow them expand their use of the internet to</p>	<p>Pupils will be able to link knowledge from the network unit in terms of devices to have a better understanding of how they work. Pupils will have secured their arithmetic skills from the modelling unit to support their calculations. Pupils will also have gained a wider understanding of how systems work which will support usability. This will support future learning for GCSE subjects.</p> <p>Pupils will have the secure knowledge to support them in the use of devices in their life.</p>	

					need for all areas of study.	support their learning across all subjects.	
Year 9	Topic Title and NC link	Cyber security 1, 5, 9	Enterprise/Media NC 7	Visual Basic NC 1, 2, 3, 6	Networking NC 1, 6	Computing / Office skills / Project	
	<i>Pupils should know... (Core knowledge and concepts to learned)</i>	<p>The main principles of e-safety</p> <p>What cyber security is and how it is used</p> <p>How usernames and passwords can be guessed by hackers</p> <p>What social engineering is and how this works.</p> <p>That messages that are encrypted are more secure than non encrypted.</p> <p>What an encryption key is and the fundamentals of how key exchange works.</p> <p>The history of encryption and how it has been used over time.</p>	<p>How enterprise is used in society.</p> <p>What enterprising skills are.</p> <p>Where enterprising skills are used in real life situations.</p> <p>The difference between a product and a service</p> <p>What a business plan is</p> <p>How business create and advertise new products</p> <p>Will know what a storyboard is</p> <p>Will know what a script is and why it is used</p> <p>Careful planning for creating publications is important.</p> <p>How different audiences respond to different design techniques</p>	<p>What a decoder does</p> <p>What a compiler does</p> <p>How a program is executed</p> <p>Know the difference between coding and object orientated design</p> <p>What the tools are in Visual Basic</p> <p>How actions can be repeated using loops</p>	<p>The difference between a stand alone and a network computer.</p> <p>What a server is and how it works</p> <p>What the different network topologies are</p> <p>Know the difference between a LAN and a WAN</p> <p>Know the functions of the basic network devices</p> <p>Know what internet protocols are</p> <p>How data packets are sent over the internet</p> <p>How to use MS Software to present report.</p>	<p>Which pieces of software to use for the given task.</p> <p>How the DTP software links together</p> <p>How file structures are important.</p> <p>How Digital safety is important and how to be safe.</p> <p>How to use online forms</p> <p>How to write a CV</p> <p>How to use the internet to effectively search</p> <p>How to write reports digitally</p>	

	<p><i>Pupils should be able to do... (Skills being developed)</i></p>	<p>Create a secure password.</p> <p>Use an encryption algorithm to decode a message.</p> <p>Write their own encryption algorithm to encrypt a message.</p> <p>Complete a key exchange scenario.</p>	<p>Think of a new business idea/product</p> <p>Decide of the best advertising strategy for their product</p> <p>Work with their peers on a project</p> <p>Write a business proposal and explain to an audience what their Business idea is and why it has been chosen.</p> <p>Create and present a Business idea to an audience using Enterprising skills.</p> <p>Self assess and accurately record enterprising skills that they have used</p> <p>Evaluate business idea</p> <p>Using a range of advanced tools in Photoshop</p> <p>Creating publications and graphics aimed at different audiences</p>	<p>Write sequences of instructions</p> <p>Break down a problem</p> <p>Create flow charts</p> <p>Run VB programs</p> <p>Compile code</p> <p>Execute code</p> <p>Using text boxes to input data</p> <p>Use labels to show results</p>	<p>Choose the appropriate topology for the given scenario</p> <p>Draw a LAN and WAN network</p> <p>Choose the correct software to design</p>	<p>Use all features of DTP software and be able to select the correct piece of software.</p> <p>Write and design an appropriate CV</p> <p>Use online forms for applications (to college in particular)</p> <p>Create publications that meet the need of the audience</p> <p>Create digital safety materials that highlight understanding and support fellow peers.</p> <p>Use the full search facilities to find specific information to support learning (focus on academic pieces)</p>
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	<p><i>Why are we doing this now?</i></p> <p><i>How does it build on prior learning and prepare for knowledge and learning still to come?</i></p>	<p>Pupils will have learnt key internet safety points and will be taught how the technical aspects of this works.</p> <p>The unit will further support the learning in the network unit where data exchange is taught in more depth in relation to wider networks. Pupils will be able to use technology safely as they will have a greater understanding of how data exchange works. This knowledge will support their use of social media as they are able to use these more in year 9. Also, pupils will have further knowledge of how to protect themselves when using the internet for wider uses.</p>	<p>Pupils will have had the opportunity to be creative in previous units in years 7 and 8. They will have analysed audience needs in detail. This unit will allow them to further expand on this as they will think about audience when creating their product. They will be able to reflect on how they use enterprise skills which will promote confidence in their presentation, planning and oral communication. Pupils will use these skills when deciding their final end of KS3 project. These skills will support them as they approach their GCSEs and work experience.</p>	<p>Visual Basic is a high level piece of software. In this unit pupils will have the opportunity to build upon their coding skills using object orientated design. This brings together the audience, design and programming. Pupils will be able to extend their coding skills in Visual Basic as they will already have an understanding of coding structures that they learnt in Scratch, Python and HTML. They will be able to use their skills in writing conditions to create a working program that has been coded with a GUI.</p>	<p>This unit will build upon knowledge learnt in the internet unit and cyber security. In this unit pupils will have a greater understanding of how networks work in relation to every day device use.</p>	<p>This unit will cover a range of digital skills that will support them in their personal and academic life. These skills are essential to using technology effectively and safely. These will also support their transition in KS4.</p>	
Year 10 Business Studies	Topic Title and NC link	J204/1 1.1 The role of business enterprise and entrepreneurship	1.3 Business ownership 1.4 Business aims and objectives	1.5 Stakeholders in business 1.6 Business growth	2.1 The role of marketing 2.2 Market research	2.3 Market Segmentation 2.4 The marketing mix	3.1 HR The purpose of human resources within business

		1.2 Business planning					
<i>Pupils should know... (Core knowledge and concepts to learned)</i>	<p>What the purpose of a business is.</p> <p>Know what Enterprise is.</p> <p>How Business plans are used</p> <p>What an entrepreneur is</p> <p>Risks and rewards associated with starting a business.</p>	<p>Different types of business objectives</p> <p>What the different sectors of the economy are</p> <p>External factors that can impact a business</p> <p>What the functional areas and roles are within a Business</p>	<p>The role of a stakeholder</p> <p>The difference between organic and external growth.</p> <p>The impacts on a business and how this affects the growth of the business.</p> <p>Further business language and terminology</p>	<p>What secondary research is</p> <p>What primary research is</p> <p>How good market research affects the business</p> <p>The importance of good customer feedback</p> <p>What a customer profile is</p>	<p>The 4ps are of the marketing mix and how they impact a business</p> <p>What the product life is and how this changes over time</p> <p>Complex business language</p>	<p>The different organisational structures within a business.</p> <p>The importance of digital communication for a business</p> <p>How the process of interviewing and recruitment works including current legislation</p> <p>Motivational methods that a business has for its employees</p>	
<i>Pupils should be able to do... (Skills being developed)</i>	<p>Explain the purpose of business activity and enterprise.</p> <p>Describe the characteristics of an entrepreneur</p> <p>Write a business plan for a given scenario</p> <p>Explain the concept of risk and reward to a business</p>	<p>Be able explain why different businesses have different aims and objectives.</p> <p>Use accurate business terminology</p> <p>Explain the concept of limited liability</p> <p>Explain the features of different types of business ownership</p>	<p>Write analytically and apply business knowledge to various case studies in a fluent manner.</p> <p>Use business language appropriately.</p> <p>Evaluate business information.</p>	<p>Gather primary and secondary research</p> <p>Gaining customer feedback</p> <p>Analysing product development</p> <p>Identifying customer profiles</p> <p>Completing market research to aid decisions</p> <p>Use business language effectively.</p>	<p>Describe social class and show an understanding of different customers</p> <p>Explain the four Ps of the marketing mix and their importance.</p> <p>Be able to create and describe a product life cycle</p> <p>Explain the use of the marketing mix to inform and implement business decisions.</p>	<p>Describe different organisational structures.</p> <p>Understanding the different functional areas of a business</p> <p>Explain methods and importance of business communications</p> <p>Explain the influence of digital communication on business activity</p> <p>Describe methods of selection.</p>	

			Describe the different functional areas of a business Apply business knowledge to a scenario Analyse business cases			Interpretation of market data Use accurate and complex business language effectively. Apply business knowledge to a business case and evaluate impact to the business and its stakeholders. Reach judgement and justify conclusions.	Have practical experience of the recruitment process through completing CVs, job applications and mock interviews. Describe financial and non-financial methods of motivation Describe the impact of current legislation on recruitment and employment Reach judgement and justify conclusions.
	<i>Why are we doing this now? How does it build on prior learning and prepare for knowledge and learning still to come?</i>	Pupils will have a wider understand of Business which will include links to real life examples. These examples will allow pupils to have a broader understanding of the world around them. Skills from KS3 Enterprise unit will be revisited and discussed further.	Pupils will have a wider understanding of the economy and how this links to Business. This will widen their general knowledge of finance which will support further learning. This will be studied further.	The knowledge in this unit builds upon previous units of entrepreneurship and the economy. Pupils will gain further knowledge on what stakeholders are. This supports the learning of how a business functions.	Pupils will recognise the importance of building a customer profile. This builds upon learning in KS3 Enterprise unit. Pupils will learn the importance of feedback in real life scenarios which will support them in further learning. Pupils will learn different communication methods which will benefit their own interpersonal skills.	Pupils will have the opportunity to evaluate current products and use reasoning techniques to describe stages of their life cycle. These skills will support pupils in wider areas of evaluation and analysis. These skills will also be revisited in controlled assessments where a scenario is given.	In this unit pupils will be taught about the structures of business. This will allow pupils to learn about wider hierarchical structures in society. They will also learn about CVs and complete mock interviews which is a life skill. This will help them when applying for higher education or potential jobs.
Year 10 Functional Skills	Topic Title and NC link	The purposes of ICT / Health and Safety	Communication techniques (All topics will encompass	Security Techniques / E-safety / viruses	Finding information / Searching	MS Excel	MS Access

		(All topics will encompass office skills – word and pp)	office skills – word and pp)	(All topics will encompass office skills – word and pp)	(All topics will encompass office skills – word and pp)		
	<i>Pupils should know... (Core knowledge and concepts to learned)</i>	<p>Where to find tools within the ribbon of Office.</p> <p>The importance of being safe when using ICT equipment.</p> <p>How to access system settings</p>	<p>The different ways people communicate using digital devices</p> <p>How to be safe when using devices</p>	<p>How to be safe when using devices</p> <p>How to change settings on social media apps</p> <p>The difference between a web based and fixed app.</p> <p>What a virus is a how it can be harmful.</p> <p>Why a strong password is important.</p>	<p>How to use a search engine</p> <p>How to use key words</p> <p>What the different extensions of a web address are</p> <p>The different types of browsers available</p>	<p>What cells, rows and columns are</p> <p>How to save an open an excel file</p> <p>Where to find tools within the ribbon of Office.</p>	<p>What a Database is</p> <p>How a database works</p> <p>What a field is in a database</p> <p>What a query/search is</p> <p>How a mobile phone is a database</p> <p>Who uses a database</p>
	<i>Pupils should be able to do... (Skills being developed)</i>	<p>Explain with examples the importance of being safe when using ICT.</p> <p>Start to evaluate current publications made using ICT and explain the strengths and weaknesses (this will support further tasks).</p> <p>Understand design aspects that have been used and how</p>	<p>Write down and explain how communication method is used and provide examples.</p> <p>Write example communication messages for each device according the setting and audience.</p> <p>Write an appropriate email</p>	<p>Investigate the uses and security setting of social media – both web and app based.</p> <p>Prepare a report with recommendations for settings on specific apps.</p> <p>Present information to an audience.</p> <p>Evaluate the impact of social</p>	<p>Use key words when searching the internet to find a more accurate search result.</p> <p>Use and understand advanced search to produce accurate search results.</p> <p>Analyse websites for accuracy in terms of date made and content.</p> <p>Explain and highlight all the areas to look out for when deciding if online</p>	<p>Write conditional statements.</p> <p>Create interactive cells.</p> <p>Create and use list boxes.</p> <p>Use conditional formatting.</p> <p>Create and use and use a Macro. (all for a purpose)</p> <p>Create charts and graphs and be</p>	<p>Create tables and populate with data.</p> <p>Change the format of the table.</p> <p>Sort and filter data in the table.</p> <p>Write queries and rules using operators to search data effectively.</p> <p>Create forms and format design to allow data to be entered with ease.</p>

		<p>these relate to the audience.</p> <p>Change the system settings on a computer/mobile device to suit the health and safety need of the user.</p>	<p>Use the functions of Outlook correctly.</p>	<p>media on society highlighting the advantages and disadvantages.</p> <p>Explain what makes a good password and how important it is to have a strong password and to use different passwords for different sites/apps.</p> <p>Explain what a computer virus is and how it can be stopped. Explain what copyright is and how it is used. Put passwords on documents in MS Office.</p>	<p>information is accurate or fake.</p> <p>Understand the term bias and be able to highlight this in online information.</p>	<p>able to label these correctly.</p> <p>Use the filter and sort tools in Excel.</p>	<p>Create reports and format design so it is clearer for the audience to read.</p>
	<p><i>Why are we doing this now? How does it build on prior learning and prepare for knowledge and learning still to come?</i></p>	<p>As an introduction to the course pupils will focus on the safety aspects of using computers safely. Further study from the year 7 introduction unit will be done to allow pupils to use the advanced setting of a computer system. This will support them in wider learning and their own personal device use.</p>	<p>Pupils will be required to use emails more for a professional setting, whether this be in school or outside use. The focus of this unit is to further reteach from KS3 on how to send an appropriate email. This will support them in applications etc. The pupils are also taught some of the further features in</p>	<p>As pupils are more aware of social media and are using ICT more it is important that this is re covered in more depth from KS3 learning. In this unit pupils are also taught in detail about settings in browsers and apps. The importance of passwords and copyright is taught to ensure pupils</p>	<p>As pupils will be completing KS4 work online using online resources. It is important that they know how to use search told effectively. This follows on from the KS3 internet unit. Pupils will also be taught how to spot fake news to make them more aware in their lives of how to use online materials. This both for a safety and online resource point of view. These skills will support pupils</p>	<p>This unit will build upon skills learnt in the KS3 modelling unit. Pupils will learn the advanced features of Excel. These skills will support their logical think and problem solving skills. They will also allow them to understand the costs of things in general to support their wider general knowledge. These</p>	<p>In this unit pupils will look at how information is stored and found. This will be related to real life scenarios that the pupils will have in their daily lives. Pupils will be upon learning of the use of conditions in KS3.</p>

			Outlook so they can use this more effectively to support their personal use and wider learning in KS4.	are aware of their own use of images. This learning will be done whilst pupils use Microsoft Office tools to continue to support their use of this.	in their assessment where they will need to search the internet effectively.	will also be assessed in their highest assessment.	
Year 10 Computer Science	Topic Title and NC link	System Architecture	Memory and storage System Software	Computer networks, connections and protocols Network security	Ethical, legal, cultural and environmental impacts of digital technology	Coding project	Coding project
	<i>Pupils should know... (Core knowledge and concepts to learned)</i>	<p>What the Von Neuman Architecture and how this works</p> <p>Know function of the CPU</p> <p>Know the function of the registers How the Fetch-Decode-Execute cycle works when running a program</p> <p>Know how code is used the Fetch-Decode-Execute cycle</p> <p>Know the characteristics of embedded computer systems</p>	<p>The 3 types of storage in computing.</p> <p>The characteristics of each type of memory storage in terms of sider use.</p> <p>What virtual memory is and how this affects speed . What RAM is and how different amounts of RAM affect speed What ROM is</p> <p>The differences between RAM and ROM</p> <p>Units in computing</p> <p>Binary conversions, shifts and arithmetic</p>	<p>Factors that affect the performance of networks</p> <p>The roles of a peer-server network</p> <p>What a DNS server is</p> <p>What a hosting server is</p> <p>How cloud computing works</p> <p>What a virtual network is and why it is used</p> <p>Know what the different protocols are in networking and why they are used.</p>	<p>Know the issues in computing. This includes</p> <ul style="list-style-type: none"> • Ethics • Legal issues • Cultural Issues • Environment issues • Privacy issues <p>Stakeholders in technology</p> <p>Computer legislation</p> <p>Computer laws</p>	<p>Pupils will know how to create their own programs using Python and Visual Basic that they have learnt throughout year 1.</p>	

			<p>How characters are stored e.g. ASCII</p> <p>How images are stored</p> <p>How sound is sampled and stored</p> <p>How data is compressed using lossy and lossless compression</p> <p>Functions of an operating system.</p> <p>Different types of utility software.</p>	<p>What packet switching is</p> <p>What packet sniffing is</p> <p>How computers can be attacked by external forces</p> <p>How networks can be attacked</p> <p>A range of measures to prevent taken to prevent these attacks</p>			
	<p><i>Pupils should be able to do... (Skills being developed)</i></p>	<p>Evaluate current embedded systems and say why they are embedded.</p> <p>Recall previous knowledge to explain the functions of internal computing components.</p> <p>Explain in depth how the Fetch-Decode-Execute cycle works</p>	<p>Decide of the most effective memory device for the given scenario.</p> <p>Use analysis skills to explain best possible solutions to increase speed of a computer.</p> <p>Explain the differences of RAM and ROM</p> <p>Use knowledge to explain how parts of the operating system work and why they are important.</p> <p>Identify key utility software, how it</p>	<p>Use knowledge to design and plan out a network using the correct protocols.</p> <p>Evaluating computers and networks in terms of safety and creative preventative measures for this.</p>	<p>Analysing current laws and matching them to scenarios.</p> <p>Explain what a stakeholder is</p>		

			works and why it is important.				
	<p><i>Why are we doing this now?</i></p> <p><i>How does it build on prior learning and prepare for knowledge and learning still to come?</i></p>	<p>Pupils will have an understanding of how the core of the computer system works. This knowledge will support pupils in the following Computer Science units as they build upon this unit.</p>	<p>Pupils will recall knowledge from system architecture to link this with the speed that computers run. Pupils will be able to understand why they devices are running faster/slower and be able to optimise their devices for best use. This will also be linked into further units of study.</p> <p>The computing units and binary side of this unit builds on work students did in the Computer Fundamentals unit in KS3 and allows students to understand units such as bandwidth and download speeds.</p> <p>Having understood how computers store data, students are then able to apply basic concepts of how images, sound and characters are stored in memory.</p>	<p>Pupils will expand on learning from the KS3 Networking unit. The learning in this unit focus on the technical details of networks, their structures and how data is sent. From this unit pupils will be able to use their own devices more accurately in terms of accessing online materials and setting up networks for personal us.</p> <p>This unit will build upon network knowledge and include security aspects of using networks. Pupils will be able to become more secure in their own network devices within school and in their personal life. This includes understanding the use of network keys and accessing mobile networks.</p>	<p>This unit combines all units together with a focus on legal issues. The key points learnt will allow pupils to think of their own wider use of technology and be able to recognise ethical issues which will result in them becoming better digital citizens.</p>		

			<p>This unit gives students an understanding of the importance of how the operating system bridges the hardware (see System Architecture) with the software apps they use every day. Knowledge about utility software can be used by students in their everyday lives to enhance the performance of the devices they use and keep themselves safe and secure online.</p>				
Year 11 Business Studies	Topic Title and NC link	<p>3.1 HR 4.1 Production processes 4.2 Quality of goods and services 4.3 The sales process and customer 4.4 Consumer law 4.5 Business location</p>	<p>4.6 Working with suppliers 5.1 The role of the finance function 5.2 Sources of finance 5.3 Revenue, cost, profit and loss</p>	<p>5.4 Break-even 5.5 Cash and cash flow 6.1 Ethical and environmental considerations 6.2 The economic climate</p>	<p>6.3 Globalisation 7 The interdependent nature of business</p>		
	<i>Pupils should know... (Core knowledge and concepts to learned)</i>	<p>Recap from HR: Describe the impact of current legislation on recruitment and employment</p>	<p>the concept of supply chain Factors influencing business location The impact of logistical and</p>	<p>Why a business needs finance The different sources of finance The importance of revenue, costs and</p>	<p>Outline ethical considerations by a business How the global market works and benefits and drawbacks of globalisation on businesses.</p>	<p>The interdependent nature of business operations, finance, marketing and human resources within a business context</p>	

		<p>The production methods</p> <p>How technology impacts business</p> <p>What the consumer laws are</p> <p>The impact of good customer service and dangers of poor customer service.</p>	<p>supply decisions on a business</p> <p>The influence of the finance function on business activity</p>	<p>profit & loss in business decision-making</p> <p>The usefulness of break-even in business decision making</p> <p>The usefulness of cash flow forecasting to a business</p>	<p>What an economic climate is</p> <p>The changing levels of consumer income have an impact on different businesses in different contexts.</p> <p>The changing levels of unemployment have an impact on different businesses in different contexts.</p>	<p>Pupils will revisit all of the topics covered during the business qualification.</p>	
	<p><i>Pupils should be able to do... (Skills being developed)</i></p>	<p>Evaluate the three main production methods.</p> <p>Explain the impact of technology in production.</p> <p>Describe methods of ensuring quality</p> <p>Describe the sales process, customer service and importance of ICT/ social media</p> <p>Describe the impact of consumer law on businesses Location</p> <p>Communicate their ideas effectively Draw well-evidenced and informed</p>	<p>Categorising costs</p> <p>Calculating revenue Calculating profit and loss.</p> <p>Explain the reasons businesses need finance</p> <p>Identifying sources of finance</p>	<p>Calculate & interpret profitability ratios</p> <p>Calculate and interpret average rate of return</p> <p>Calculating breakeven.</p> <p>Evaluate the usefulness of break-even in business decision making.</p> <p>Explain the usefulness of cash flow forecasting to a business</p> <p>Complete a cash flow forecast</p> <p>Explain ethical considerations and</p>	<p>Explain the interdependent nature of business</p> <p>Explain how the economic climate impacts a business.</p> <p>Make connections with wider, important business themes such as sustainability and environment and how this impacts a business.</p> <p>Evaluation of strategies to reduce risk.</p>	<p>Use a range of strategies to recall business knowledge gained from the course and be able to apply this to the different business case studies presented to them.</p>	<p>I can outline the concept of supply chain</p>

		conclusions about business issues.		their impact on businesses Explain environmental considerations and their impact on businesses Make judgements and draw conclusions			
	<i>Why are we doing this now? How does it build on prior learning and prepare for knowledge and learning still to come?</i>	Pupils will build upon learning in the KS3 enterprise. Pupils will study the use of technology to create successful advertisements. In this unit pupils will also learn what consumer laws are which will support their wider general knowledge and life skills.	Pupils will be asked to calculate costs of produces. This follows on from KS3 units where costing was studied. Pupils will learn where money comes from and how it can be borrowed etc. This is something that they will use in their personal lives and will also be assessed.	Pupils gain a greater understanding of economics and factors that impact the economic climate. This is widening pupils' general knowledge in terms of them understanding their own finances; now and in the future. Pupils will also be asked to use their maths skills which will support their learning in Maths.	This unit will include further learning from the previous learning with the inclusion of sustainability and environmental issues. Pupils will be taught the impacts of these which will increase their general knowledge and awareness of this.		
Year 11 Enterprise and Marketing	Topic Title and NC link	R069 Topic Area 1	R069 Topic Area 2 R067 Marketing mix	R069 Topic Area 3 R067 Advertising and promoting	R067 Extension strategies R067 Retaining customers	Revision for the R067 exam	
	<i>Pupils should know... (Core knowledge and concepts to learned)</i>	What a brand is and why it is important. Why brands are used	How promotional objectives raise awareness of a product	What aspects make a successful business pitch	Advertising Price changes Adding value		

		What all the different branding methods there are	How they differentiate products How they create market presence How they increase market share	How verbal and none verbal skills are both important. How use of cue cards can support pitch delivery	Exploring new markets		
	<i>Pupils should be able to do... (Skills being developed)</i>	Create a brand Explain why they have chosen this particular brand	Create a promotional plan Add time frames for the promotional campaign Highlight key performance indicators in the promotional campaign	Create a practise pitch and evaluate Create a final pitch Present a successful pitch Be able to answer questions from the panel	To select the most appropriate extension strategy for products with justification. Highlight the factors that need considering when looking at ways to keep customers.		
	<i>Why are we doing this now? How does it build on prior learning and prepare for knowledge and learning still to come?</i>	Pupils will build upon their first assessment and create a brand to support the overall project pitch of a new business. Theory will be linked to support exam	This leads on from the brand as pupils need to understand the importance of promoting a brand once created. Theory will be linked to support exam	Pupils will be gaining presentation skills that will support wider learning.	This will support the evaluation and review of the completed Controlled assessment as this theory links to what is required in the assessment.		
Year 11 Functional skills	Topic Title and NC link	MS Outlook	Scenario based problem solving (exam prep)	Recap / Exam Ent L1, 2 and 3	Exam prep Level 1	Level 1 exam	
	<i>Pupils should know... (Core knowledge and concepts to learned)</i>	How emails are used in society How to write a professional email	How to break down a scenario				

	<i>Pupils should be able to do... (Skills being developed)</i>	<p>Send an appropriate email.</p> <p>Reply to an email.</p> <p>Forward an email.</p> <p>Use CC and BCC.</p> <p>Create an email signature</p> <p>Insert contacts from an address book.</p> <p>Add contacts to an address book.</p> <p>To use the functions of Outlook in preparation for their exams.</p>	<p>Read and understand project briefs and be able to create documents for the audience.</p> <p>Be able to present their project to the class.</p> <p>Read a scenario and how to break down the scenario into parts of what is required.</p>	<p>Pupils will work through past assessments for entry 1,2 and 3. This will be completed as a real exam and marking will be discussed as a class to run through each point.</p>	<p>Pupils will work through past assessments for Level 1. This will be completed as a real exam and marking will be discussed as a class to run through each point.</p>		
	<i>Why are we doing this now? How does it build on prior learning and prepare for knowledge and learning still to come?</i>	<p>Pupils will learn the extra features in Outlook which will support their general use of sending and organising emails. This will support college applications. This will also be assessed.</p>	<p>Pupils will use their problem solving skills to break down a problem and select the appropriate use of software. This will support them when completing their assessment.</p>				
Year 11 IT	Topic Title and NC link	R070 Controlled Assessment – Augmented reality	Data testing Data collection Cyber Security threats	Digital communications	Internet of everything	Revision	
	<i>Pupils should know... (Core knowledge)</i>	<p>How HCI is important in terms of AR.</p>	<p>How data is tested and all the methods used to do this. Also, why this is important.</p>	<p>How devices communicate with each other.</p>	<p>How devices that rely on internet use works.</p> <p>How devices are automated.</p>		

	<i>and concepts to learned)</i>	<p>How triggers are used to start and action.</p> <p>How actions are designed and used to engage audience in AR systems</p> <p>How the client brief is important when designing a system</p>	<p>How data is collected both online and in real life. How this links to security.</p> <p>What threats there are in terms of cyber security and how attacks can be prevented.</p>	<p>The list of devices and their function.</p> <p>How devices are selected to meet audience needs and requirements.</p>	<p>How devices are starting to control aspects of everyday life</p> <p>How automation works and why It is now a part of every day life.</p>		
	<i>Pupils should be able to do... (Skills being developed)</i>	<p>Plan, using a range of techniques on how they will create their AR prototype</p> <p>Use appropriate actions in their prototype</p> <p>Use appropriate triggers in their prototype</p> <p>Create a fully functional prototype</p>	<p>Analyse different scenarios and produce the correct outcome using what has been learnt.</p>	<p>Analyse different scenarios and produce the correct outcome using what has been learnt.</p>	<p>Analyse different scenarios and produce the correct outcome using what has been learnt.</p>		
	<i>Why are we doing this now? How does it build on prior learning and prepare for knowledge and learning still to come?</i>	<p>Pupils are aware of new systems and technologies that are being introduced.</p> <p>This will give pupils a wider awareness of new software needed for the systems</p>	<p>Pupils will recap knowledge from their spreadsheet-controlled assessment where they actually used data validation techniques.</p> <p>Cyber security is a key part of learning with IT.</p>	<p>This follows on from data unit as pupils will now need to understand how data is sent and received.</p>	<p>This encompasses all learning and relates this to real life scenarios which then further links to real life scenarios that include automation.</p>		