Lymm High School- KS3 Life after levels - Computing & ICT

		BRONZE	SILVER	GOLD	PLATINUM
		D and below= GCSE 1,2,3	C= GCSE 4	C/B= GCSE 5,6	A/A*= GCSE 7,8,9
YEAR 7	**Half Term 1 & 2 – E-Safety**	Understand a range of ways to use technology safely, respectfully, responsibly and securely, including protecting their online identity and privacy; recognise inappropriate content, contact and conduct, and know how to report concerns. Use presentation software. Use the Internet to carry out Research.	Understand a range of ways to use technology safely, respectfully, responsibly and securely, including protecting their online identity and privacy; recognise inappropriate content, contact and conduct, and know how to report concerns. Use presentation software to aid in explanation to an audience for a given purpose. Use the Internet to carry out suitable Research to support an argument.	Understand a range of ways to use technology safely, respectfully, responsibly and securely, including protecting their online identity and privacy; recognise inappropriate content, contact and conduct, and know how to report concerns. Use presentation software including features such as animation and transition. Use the Internet to carry out Research to support an argument, giving attention to trustworthiness.	Understand a range of ways to use technology safely, respectfully, responsibly and securely, including protecting their online identity and privacy; recognise inappropriate content, contact and conduct, and know how to report concerns. Use presentation software including features such as animation and transition to aid the impact of a presentation. Use the Internet to carry out Research to support an argument, giving attention to trustworthiness, design and usability.
	Half Term 3 & 4 - Sratch	Use a block base programming language, to solve a variety of computational problems; make appropriate use of data structures; design and develop modular programs that use procedures or functions.	Use a block base programming language, to solve a variety of computational problems; make appropriate use of data structures; design and develop modular programs that use procedures or functions.	Use a block base programming language, to solve a variety of computational problems; make appropriate use of data structures; design and develop modular programs that use procedures or functions.	Use a block base programming language, to solve a variety of computational problems; make appropriate use of data structures; design and develop modular programs that use procedures or functions.

		The following series of "I can…" statements apply to this unit of work: I can plan, create and evaluate a basic game. I can create simple blocks of code using Scratch. I can create a simple design for my game to show the layout and sprites.	The following series of "I can..", statements apply to this unit of work: I can plan, create and evaluate a game. I can create a design for my game to show the layout and sprites. I can create simple blocks of code using Scratch. I can use a number of sprites which use different logic. I can control sprites by using the keyboard. I can use scratch to draw shapes. I can use simple variables.	The following series of "I can..", statements apply to this unit of work: I can create a detailed design making reference to target audience including a simple flowchart. I can create more complex code including repeat and If function. I can draw complex shapes by using the repeat script. I can make my own variables and adapt my game logic to reflect their value. I can complete the game to include a winning and losing condition and test that it works correctly.	The following series of "I can..", statements apply to this unit of work: I can explain the difference between a forever and repeat function and create code in Scratch confidently. I can create a detailed flow diagram and/or pseudo code to help plan the game taking into account audience and purpose. I can nest functions by putting one script block inside another script block. I can use broadcast messages to communicate between sprites. I can provide a detailed self-evaluation about what I have learnt in this project.
	Spreadsheets	Understand the use of spreadsheet software to model real world situations The following series of "I can..", statements apply to this unit of work:	Understand the use of spreadsheet software to model real world situations The following series of "I can..", statements apply to this unit of work:	Understand the use of spreadsheet software to model real world situations The following series of "I can..", statements apply to this unit of work:	Understand the use of spreadsheet software to model real world situations. Create formula confidently using appropriate operators using BODMAS,

		Enter data into a spreadsheet and identify cell references correctly. Apply some basic formatting to a spreadsheet. Use the basic functions SUM, AVERAGE, MIN and MAX in a spreadsheet. Sort a spreadsheet and apply a basic filter with help. Use the > and < operators in a formula correctly. Create a bar and pie chart. Use relative cell references and absolute cell references. Change data in a spreadsheet. Recreate a basic spreadsheet from screenshot with limited guidance.	Enter data into a spreadsheet and identify cell references correctly. Apply some basic formatting to a spreadsheet. Use more complex functions SUM, AVERAGE, MIN and MAX in a spreadsheet. Sort a spreadsheet and apply a basic filter independently. Use the > and < operators in a formula correctly. Create a bar and pie chart. Use relative cell references and absolute cell references. Change data in a spreadsheet. Recreate a basic spreadsheet from screenshot with limited guidance.	Understand the difference between entering text and numbers. Create formula confidently using appropriate operators using BODMAS. Format a spreadsheet appropriately including changing column widths, merge and centre and currency formatting. Use AutoFill to replicate formulae. Understand the difference between absolute and relative cell references. Model data to get answers out of a spreadsheet. Create a working spreadsheet following text instructions without guidance.	understanding how to use brackets to change the order of calculation. Understand the difference between entering text and numbers using different formatting options to display the data. Add conditional formatting to a spreadsheet. Use the COUNTA and text functions. Use advanced filtering criteria. Evaluate different chart types for a purpose. Create a spreadsheet and graph from scratch and use the graph to answer questions.

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	Half Term 6 – Physical Computing	Understanding of physical components. Correctly connect components. Create simple text based programs / sequences of instructions with guidance.	Understand that computers can act on data from sensors after being programmed. Create simple text based programs with guidance. Create sequences of instructions with guidance.	Understand that computers can act on data from sensors after being programmed making them autonomous. Create simple text based programs independently. Create sequences of instructions independently.	Understand that computers can act on data from sensors after being programmed making them autonomous. Create text based programs including iteration independently that work on a microcomputer or simulation.
Year 8	**Term 1 – Technology & Networks**	Understand the hardware used with modern computers. List a number of applications and describe what they can be used for. Detail the history of Computing. Be able to search for information using the Internet. Digital Divide research task. Be able to describe what a Network is and identify at least one Network Topology.	Describe the difference between hardware and software. Identify several pieces of hardware for each category. Perform Internet research into other Input devices. Understand the difference between application software, operating system, utility software and identify a few different pieces of software from each group. Detail the history of Computing and how it's developed.	Perform Internet research into some more unusual input devices - ORC MICR Name several brands of each category of software. Explain how the digital divide can affect people. Explain what is meant by cloud computing and identify advantages. Describe the advantages and disadvantages of 3 different network topologies and explain how data flow on a network may be disrupted. Use IPCONFIG to find out your workstation's IP	Internet research into Input Devices. Create a presentation describing the difference between the 3 types of software. Create a brochure on Cloud Computing. List most of the hardware and software needed to connect to a network. Give practical advice on how to avoid some of these dangers.

		Be able to describe the difference between LAN and WAN. Identify what some of the threats are.	Know the difference between Internet and WWW. Explain what is meant by Cloud Computing. Digital Divide research task. Describe the advantages and disadvantages of 2 different network topologies. Explain what some of the threats are to Networks.	Address. Use PING to find out if a network is connecting to an IP Address. Create a brochure to tell people about the threats including how they are transferred and what they can do to a computer system.	
	Half Term 2 - Flowol	Design computational concepts that model the state and behaviour of real-world problems using flowcharts. Order the instruction to operate a Zebra crossing. Identify what each flowchart symbol does. Create a basic flowchart for a real life situation E.G. making a cup of tea. Use a mimic in Flowol.	Design, use and evaluate computational concepts that model the state and behaviour of real-world problems using flowcharts. Describe what each flowchart symbol does. Order the instruction to operate a set of traffic lights. Use a mimic in Flowol with inputs, processes and outputs. Understand how sensors are used in flowcharts.	Use a mimic in Flowol with inputs, processes and outputs. Create automated flowcharts. Call a procedure to complete common tasks. Create a flow chart using multiple sensors. I can construct a Flowchart using a Sub Routine. I can point out what has gone wrong in a faulty control system and suggest	Understand errors in flowcharts and apply their skills to fix them. Apply their knowledge of Flowol using subroutines to complete mimics. I can construct a Flowchart using a Variable. Create more than one flowchart to control a sequence of events using more than one DECISION, OUTPUT, and DELAY.

		Use the correct flowchart symbols for a basic mimic. Create a flowchart to control a short sequence of events using OUTPUTS and DELAYS. Repeat a sequence of instructions using a LOOP. Explain how a control system might be dangerous if it did not work properly.	Identify a VARIABLE in a SUB-ROUTINE in an existing flowchart. Give examples of common types of SENSORS used in control systems.	how this might be corrected. Combined a sequence of instructions into a SUB-ROUTINE and used this in a main flowchart. Explain the purpose of a VARIABLE in a SUB-ROUTINE or flowchart. Select the SENSORS that a new control system will need and justify my choices.	Combine a sequence of instructions into more than one SUB-ROUTINE and used these in a main flowchart.
	Half Term 3 - Database	I can give examples of a paper-based and electronic Databases. Discuss advantages and disadvantages of paper-based and electronic Databases. Create a table, name the fields, select the data type with help and add data. Understand difference between fields and records. Open a Database and create queries using simple criteria.	Create queries using multiple criteria. Create a query using two tables. Understand the term Relational Database and flat-file database. Define different data types used in a Database. Identify the Primary Key in tables. Create and format reports. Create and format Forms.	Understand how data in a table and a form are linked together. Use wildcards to search for more flexible data. Create queries using logical operators. Create a query three tables.	Create a calculated query. Explain why we use primary key in tables and how they are useful to people using Databases. Add validation to a database and explain why it is used. Explain what VB is and how it is used in a Database.

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		Select suitable field sizes for all text fields from datasheet. Create basic queries. Create simple forms and reports. Understand the difference between a flat file and Relational Database.			
	Half Term 4 - Python	Create simple code including the input and print scripts/function. Follow a sequence of instructions. Enter a program in idle and run it. Define what a variable is. Understand expression and their operators. Recognise different types of data: text, number, instruction	Create variables. Use If statements to make a decision. Use the random function in your programs. Describe operators, expressions and truth tables. Store a user input variable and write, save and run their first python program.	Use operators to effectively create programs so solve a number of scenarios. Write a Python function Use more complex If statements including “elif” allowing the program to have a conversation. Think through pseudo code and discus what it will achieve	Create If statements within other If statements. Use For and While loops in your programs Create simple games using Python. Write your own program to meet a requirement.
	Half Term 5 – Animated Banner	Use the drawing tools to create a simple shape.	Build in pauses into your animation to make it easier to understand.	Create multiple layers to their animation.	Add additional layers.

		Export the animation as an animated GIF. Follow a design brief. Create an animation suitable for a target audience. Be able to discuss what makes a good or bad animated banner.	Import images into the animation. Add different timings to frames, ensuring the animation is understandable and easy to read.	Add timeline effects to their animation. Import and edit images into the animation	Stagger the start of some parts of the animation to make them more understandable.
	Half Term 6 - Website	Look at a different websites and describe the areas you like and don't like, understanding good and bad points. Add text to a webpage and format it. Give basic details of some pages you want to include in your website. Create a basic webpages including text and images. Add a basic hyperlink to a webpage. Create a consistent look for each of your webpages. Have a three page website suitable for purpose.	Look at a different websites and suggest improvements. Describe details of all pages you want to include in your website. Insert relevant images to your website. Add other types of hyperlinks to link webpages together. Discuss what is meant by 'House Style' and why it is used. Have a five page website with pages linked together.	Describe what makes a good website and why. Give comprehensive details of all pages you want to include in your website ensuring you explain the reasons why you are going to add specific information. Create tables and hyperlinks in your webpage. Insert rollover images to your website. Create a professional looking website and make all the links work correctly.	Perform a detailed self-evaluation of your website and make suitable suggestions for improvements. Insert animated GIFs to the website. Create a completed, professional looking and error-free website. Discuss a range of software that can be used to create websites.

		Perform some basic tests on your own website. Discuss the good and bad points of your own websites.	Make sure all the webpages are completed, the links work and they are spell checked. Perform a thorough test of your own website. Discuss the good and bad points of other peoples' websites.	Suggest improvements to other peoples' websites.	
Year 9	**Half Term 1 - Scratch**	I can plan, create and evaluate a complex Scratch game. I can complex blocks of code using Scratch. I can create a plan for my game using Pseudo code or flowcharts. Follow instructions to create a Scratch game Understand what a variable is and why it is used in programming. Use most of the following techniques: Outputting to screen, storing data in variables, selection using IF, Iteration, an arithmetic	Write programs with instructions in the correct order. Create a detailed Make a working program which includes all functionality as described in the task. Test their program entering different values. Describe one of: How you overcame a problem in making your game, any bugs that exist in the program or any future improvements that could be made.	Test their program entering several different values and use information from this to comment on how well their program works. Describe how you overcame a problem in making your game, any bugs that exist in the program or any future improvements that could be made.	Independently develop the game, Create the game using a different programming language.

		operator, comments on your code. Make a program that has some of the functionality described in the task. Add suitable comments to their programs. Create a basic test plan Test a program.			
	Half Term 2: Controlled Assessment 1 – Programming Task 50% of Qualification Bronze (Level1) – expected to achieve qualification 40% Silver (Level 2) – 60% Gold (Level 3) – 80% In this strand, candidates will be expected to plan, write, test and evaluate a simple program. Their project will incorporate the following: Planning,	With constant support: Identify key requirements of a program. Develop a method of planning the flow of a program (e.g. flowcharts, pseudo code or algorithms). Plan a program they intend to write. Output to text or movement on screen Store an input in a variable. Write programs with instructions in the correct order.	All of the above with some support.	All of the above with limited support	

	Input and Output, Sequence, Selection, Iteration, Arithmetic Operators, Comments and Testing and Evaluation.	Make a program execute something IF a given condition is true. Use a loop in a program to execute statements multiple times. Use an arithmetic operator within a program. Add suitable comments to their programs. Make a working program which includes all functionality as described in the task. Test a program works in the way it is expected to work. Evaluate a program they have written. With constant support.			
	Half Term 3: Controlled Assessment 2 – Research Task 20% of Qualification	With constant support: Describe a development in computing. Describe different examples of the use/application of that technology.	All of the above with some support.	All of the above with limited support	

	Bronze (Level1) – expected to achieve qualification 40% **Silver (Level 2) – 60%** **Gold (Level 3) – 80%** In this strand candidates are expected to research a computing related technology (such as mobile phones, social networks). They will then communicate these findings through a presentation/report. Evidence may take the form of, but is not limited to, presentations, word processed reports, video or audio recordings.	Describe their impact. Use technical terms when describing their development. Describe examples of ethical, social and legal considerations related to their chosen development: Ethical considerations are when we look at whether things that happen are considered as wrong or unfair. Legal considerations are when we look at whether things that happen are against the law. Social considerations are when things happen that change the way we live our lives).			
	Half Term 4: Assessment 3 – Hardware, Software and Binary Logic Exam 30% of Qualification	Identify the components of a computer e.g. input, output and storage devices Identify the basic function of the common internal components of a computer e.g. motherboard, CPU, RAM, ROM, graphics cards, sound cards, hard disks Identify the basic functions of common peripherals e.g. camera, keyboard, microphones, monitor, mouse, scanner, speakers, printer. State why an operating system is needed, including its functions Describe the difference between application software and system software			

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	Bronze (Level1) – expected to achieve qualification 40% Silver (Level 2) – 60% Gold (Level 3) – 80% This strand consists of three broad sections on which the tests will be based. These sections include Hardware, Software and Logic.	State the purpose of different application software e.g. presentation, desktop publishing (DTP), spreadsheet, database, image editing, web browsing, word processing State the purpose of different system utilities e.g. computer security (antivirus, spyware protection and firewalls), disk organisation (formatting, file transfer, and defragmentation), and system maintenance (system information and diagnosis, system clean-up tools, automatic updating).			
	Half Term 5 – Video Unit	Describe the aim of the video clip. Create a simple storyboard covering the main elements. Create a video clip that is at least 30 seconds in length. Made use of: importing components, editing clips, transitions and at least one audio clip. Evaluate your video clip with relation to the plan and its purpose.	Describe the aim and the audience of the video clip. Create a detailed storyboard covering the main (all) elements. Describe how the video clip is appropriate. Add effects to your video clip. Included titles to your video clip. Include a sound track with more than one sound clip.	Export the video clip with some compression. Describe how the video clip is appropriate AND meets its aims. Have split tracks that are in your video clip. Included narration as part of your sound track. Justified the suitability of the export of the video clip, explaining why other formats were not suitable.	Exported the video in the correct format to a mobile phone. Discussed different types of video software that can be used and how the format of a video can change.

		Considered the appropriateness and quality of the components. Identified at least one area for improvement.	Evaluated your video clip with relation to its purpose and the intended audience. Included the opinions of others in your evaluation. Identify and explained at least one area for improvement. Your video clip has been exported in a suitable file format.	Evaluated your video clip with relation to its purpose and the intended audience. Consider how closely you followed the plan and explained where you have deviated from it and why. Discuss the appropriateness and quality of the components and the quality, appropriateness and effectiveness of the final clip. Include the opinions of others. Identify and explained at least two areas for improvement.	
	Half Term 6: Extended Task – Programming (GCSE Computing), Video Unit, Animation or Creating a Website (CiDA Pupils).	Work independently on the following skills: Identify key requirements for task. Develop a method of planning out what you are required to do e.g. storyboard Flowchart, Pseudo code etc… Make use of: importing components, editing clips, transitions etc… Create and Develop project. Spot and change errors in work e.g. On code, website, etc… Self-evaluate work.			

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		Written evaluation looking at good and bad points and how to improve work.