Title: Unit Computing.a541 -

Number of weeks (between 6&8)	Content of the unit	Assumed prior learning (tested at the beginning of the unit)
5 weeks	Fundamentals of Computer systems & Computing Hardware	Some have been covered during previous assessment/controlled assessments Some have also been covered in year 10.

Assessment points and tasks	Written feedback points	Learning Outcomes (tested at the end and related to subject competences)
Exam questions. Peer marking. Mark scheme marking. A451 tracker worksheet.	Peer testing and re-drafting using model answers	To know the following 5 topics identified for the exam: CPU and input/output Logic gates/binary

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Homework bite size assessment trackers. This Schemes of work is aimed towards GCSE Grades A*- B		Memory/storage/ Images Database Networks/Internet

Lesson	Clear learning intentions	Clear success criteria	Hook	Presentation of content	Guided practice	Independent practice (homework)	Closure
1.	**CPU** • Can state the purpose of the CPU • Describe the function of the CPU • Explain how common characteristics of CPU	CPU and the fetch execute cycle Characteristic of the CPU that affect its performance	Q&A Exam question from Homework previous lesson Q&A What Is CPU And What is Its Role/Purpose	PowerPoint Presentation with keywords and success criteria Student will be presenting back there presentation and be questioned by fellow peers.	Students to create an individual slide/ page covering all key elements of the CPU Section Using Model answers available in Revision Guide	Watch video on the summary of the CPU and makes notes in your book	Students will be answering exam questions on CPU Peer Assess

2.	**Input, Output Devices** • I can understand the need for input and output devices • I can describe suitable input devices for a wide range of computer controlled situations • I can describe suitable output devices for a wide range of computer controlled situations • I can discuss input and output devices for users with specific needs	Identifying input and Output devices Peripheral Devices Know the different devices for those with specific needs	Question from Homework previous lesson Name the different devices and what do they represent	Teacher guided practice, Teacher to present input/output & user with specific needs Student to watch video Video of Input/output and write notes from the video in your book	Poster to be created identify tying the three main keywords: Input output and User Needs Video of Input/output	Go through the keywords for this section Eye-typer Puff-Suck Switch Braille Keyboard/ Printer Screen readers voice synthesizers Actuators Peripheral Devices Input Output	Students will be answering exam questions on Topic Peer Assess & Model Answer/ Redrafting
3.	Binary & Logic Gates • I can explain why data is represented in computer systems in binary form • I can understand and produce simple logic diagrams using the operations NOT, AND OR • I can produce a truth table from a given logic diagram •	Conversion of binary and understand the numbering System Understand Hexadecimal Binary Addition and Conversion Understanding the different types of Logic Gate(and or Not) Able to decipher logic diagrams, statement and Truth Table	question from Homework previous lesson Covert denary number into a binary number	Workbook on binary addition and binary conversion Workbook on logic gates Workbook on Hexadecimal	Teacher to go the workbook using a quiz format. Random question asked to students	Go through keywords and bite size ASSESSMENT	Students will be answering exam questions on Topic Peer Assess & Model Answer/ Redrafting
4.	• Memory • I can describe the difference between RAM and ROM • I can explain the need for ROM in a computer system • I can describe the purpose of RAM in a computer system • I can explain how the amount of RAM in a personal computer affects the performance of the computer • I can explain the need for virtual memory • I can describe cache memory • I can describe flash memory • I can discuss how changes in memory technologies are leading to innovative computer designs	Ram & Rom Virtual Memory Cache Memory Flash Memory	question from Homework previous lesson Memory and Storage worksheet	students to create flashcard notes using specific keyword and key elements of the Topic they should write questions on 1 side and notes on the other	Teacher to go through PowerPoint Highlighting main point and exam tips	Keywords and practice flashcard. Students to answer their own questions created on the flash cards	Students will be answering exam questions on Topic Peer Assess & Model Answer/ Redrafting

5.	Storage: I can explain the need for secondary storage I can describe common storage technologies such as optical, magnetic and solid state I can select suitable storage devices and storage media for a given application and justify their choice using characteristics such as capacity, speed, portability, durability and reliability	Secondary Storage Magnetic Hard Disc Drive Optical Disk Flash Memory Sold State Storage	Q&A Exam question from Homework previous lesson Complete worksheet on secondary storage	Students to create a presentation on secondary storage small revision workbook Some group will come up and present. Q&A to random students	Teacher to check understanding of individual by targeted questioning of individuals and mini tutorials	Keywords to be used in their presentation and also as part of additional homework for clear comprehension.	Students will be answering exam questions on Topic Peer Assess & Model Answer/ Redrafting
6.	**Images** - I can explain the representation of an image as a series of pixels represented in binary - I can explain the need for metadata to be included in the file such as height, width and colour depth - I can discuss the effect of colour depth and resolution on the size of an image file.	Identify the different states of memory for pictures Identifying the different type of picture formats Know how pictures are stored and its relevant data((Metadata)	Q&A Exam question from Homework previous lesson Students in pairs can discuss what is the difference between Bitmap and Vector Images	Students to create a 1 slide poster covering the success criteria and keywords relevant to the topic	Teacher to provide PowerPoint for students to create a 1 slide poster covering the success criteria.	Peers assess and show & tell of posters. www and EBI feedback to be provided, based on Q&A from peers	Students will be answering exam questions on Topic Peer Assess & Model Answer/ Redrafting

7.	**Database** • I can explain how instructions are coded as bit patterns • I can explain how the computer distinguishes between instructions and data • I can describe a database as a persistent organised store of data • I can explain the use of data handling software to create, maintain and interrogate a database. • I can describe how a DBMS allows the separation of data from applications and why this is desirable • I can describe the principal features of a DBMS and how they can be used to create customised data handling applications.	Know what is a database and its purpose Identify key relevant fields Know how a database can be interrogated How to interpret information from a DBMS	Q&A Exam question from Homework previous lesson what is a database what is the difference between a database and DBMS	Students to create resources/ activities to do with databases. Students will pass these activities to thither peers to complete Videos Worksheets Engaging activities Q&A Quizzes, word searches keywords	Teacher to provide PowerPoint in public drive, student can use this to help with creating their resources/ activities	Students to complete each other's created resources	Students will be answering exam questions on Topic Peer Assess & Model Answer/ Redrafting
8.	Network • Understand the difference between LANs and WANs • Be able to give example of each type of network • Know what extra hardware is needed for a LAN to operate • Identify three different network topologies – bus, ring and star • Network Security • Client server an Peer to Peers server •	Using a network connection involves transferring bits (0s and 1s) between two devices. Network Performance determines how well that transfer can be carried out by the network. Bandwidth and latency are two measurements to describe the performance of a network connection. Network basics Network topologies Protocols and Protocol addressing Security	Q&A Exam question from Homework previous lesson Answers starter in workbook Connect the correct digital devices connections with the correct device How long should the stopwatch show in the middle for activity on the internet?	Students to complete both workbook Connectivity And Network topologies	2 separate PowerPoints in public drive available to support students to complete the questions in the workbook. Connectivity requires videos to be played Topologies requires and online bite size assessment	To complete homework in booklet: School considering a type of network	Students will be answering exam questions on Topic Peer Assess & Model Answer/ Redrafting

9.	Internet • Learn what the Internet and world wide web are • Learn how web addresses are constructed • Learn what a protocol is and why one is needed for data communication • Understand how packet switching works • Learn what the Domain Name Server (DNS) does •	What is the WWW INTERNET PROTOCOLS Know the difference between digital and analogue Ip address Compression How address compiled Router, bandwidth and Latency, DNS, HTML Domain Names	What is the internet write your answers down in your books	Students to participate in showing the transfer of data to represent the router and the data packets. In groups Students will be given 1 out 0f 9 a sections of an image with in a group Student to recreate the image and discuss how the information was transferred processed and received at the end destination. Multiple images for number of group students to complete worksheet on the composition of a URL Students also to complete the worksheets on domain names, and IP Addressing. students to create flashcards on compression lossy and lossless and also related keywords below Lossy, Lossless Router, bandwidth and Latency, DNS, HTML, HTTP Domain Names, digital and analogue	Teacher to provide and go through PowerPoint on given topics	Students to complete worksheets remaining and flashcard Revised on the keywords Lossy, Lossless Router, bandwidth and Latency, DNS, HTML, HTTP Domain Names, digital and analogue	Students will be answering exam questions on Topic Peer Assess & Model Answer/ Redrafting