



	Theme	Overview of key learning to take place	How learning will be assessed
Term 1	Types and components of a computer system	<p><b>Key Topic 1: Types &amp; components of a computer system</b>            This chapter introduces the basic components that make up these computer systems.</p> <ol style="list-style-type: none"> <li>I can define hardware as consisting of physical components of a computer system.</li> <li>I can identify internal and external hardware devices.</li> <li>I can define software as programs for controlling the operation of a computer or processing of electronic data</li> <li>I can identify and define the two types of software</li> <li>I can describe the CPU and its role</li> <li>I can describe internal memory and differentiate between them</li> <li>I can define input and output devices and describe the difference between them</li> <li>I can define secondary/backing storage</li> <li>I can define and describe operating systems which contain a Command Line Interface (CLI)</li> <li>I can define and describe operating systems which contain a Graphical User Interface (GUI)</li> <li>I can describe the differences, including the benefits and drawbacks, between operating systems which contain a CLI and those which contain a GUI</li> <li>I can describe the characteristics and uses of a personal/desktop computer and laptop computer both as a standalone and as a networked computer.</li> <li>I can describe the characteristics and uses of a tablet, smart phone and a smartwatch including its ability to use wireless technology or 3G/4G technology</li> <li>I can describe the advantages and disadvantages of each type of computer (as above) in comparison with the others (as above)</li> <li>I can describe how emerging technologies are having an impact on everyday life.</li> </ol>	<p><b>Formative Assessment:</b>            There will be two main Formative Assessments per term. Grades are not given for these pieces of work as the focus is on supporting students to make improvements to future pieces of work.</p> <ul style="list-style-type: none"> <li>Checklist (to check for understanding. These will be conducted over a series of lessons usually between 6 to 9 lessons or after every two-to-three-week period.</li> <li>Class discussions will take place almost every lesson at the start/mid and end of lessons.</li> <li>Review sessions – These can usually take place after a short pop quiz or upon completion of a certain topic e.g. types of computers/ input output devices.</li> </ul> <p><b>Other formative assessment examples:</b>            Fill in the blanks.            Exam style questions.            MCQ's            Model to be created (using chosen software)            Produce a presentation about findings.            Creating a poster            Mind map            Storyboard            Quizziz/Socrative</p> <p><b>Summative Assessments:</b> These will take place at the end of each unit studied in the Term. There will be a minimum of 2 End of Unit Assessments per Term.</p>

Input and output devices

**Key Topic 2: Presentations**

In this section students will be introduced to presentation software and how create an effective presentation using different tools.

- a) I can use a master slide to appropriately place objects and set suitable styles to meet the needs of the audience
  - identify the need for consistency of presentation, in terms of styles, point sizes, colour schemes, transitions and animations
  - use the master slide to place objects appropriately, including: images, text, logos, slide footers, automated slide numbering
  - use the master slide to set font styles, heading styles and colour schemes, as required by the audience
  - manipulate and use specified areas for headings, subheadings, bullets, images, charts, colours, text boxes, presenter notes, audience notes, as appropriate
- b) I can use suitable software tools to create presentation slides to meet the needs of the audience
  - insert a new slide, when required, selecting the appropriate slide type for the purpose
  - place text on the slides including: headings, subheadings, bulleted lists, where appropriate
  - apply consistent styles using available software tools, including: select from the presentation colour scheme, the use of text enhancement
  - place appropriate images on the slides, including: still images, video clips, animated images
  - place sound within a slide
  - place charts imported from a spreadsheet
  - place other objects including: symbols, lines, arrows, call out boxes
  - create consistent transitions between pages
  - create consistent animation facilities on text, images and other objects
- c) I can use suitable software tools to display the presentation in a variety of formats, including: looped on-screen carousel, controlled presentation, presenter notes, audience notes, taking into account the needs of the audience

- First summative assessment will take place on week 4. The written test will be 30 marks and last about 30-40 mins of the lesson.
- Second summative assessment will take place on week 9/10. The written test will be 30 marks and last about 30-40 mins of the lesson. (online/F2F)
- An average will be given of birth summative assessment which will generate their Termly report.
- Additional assessment – Short piece of homework(SPEA approval needed). A written assignment or presentation of chosen topic in case of term 1 based on Types of computers.

	Storage devices and media	<p><b>Key Topic 3: Input and Output devices</b></p> <p>This chapter describes the many input and output devices and their uses along with their advantages and disadvantages</p> <ul style="list-style-type: none"> <li>d) I can identify input devices and their uses</li> <li>e) I can describe direct data entry and associated devices</li> <li>f) I can identify the advantages and disadvantages of any of the input devices in comparison with others.</li> <li>g) I can identify output devices and their uses</li> <li>h) I can describe the advantages and disadvantages of any of the output devices</li> </ul>	
	Effects of using ICT	<p><b>Key Topic 4: Effects of using ICT</b></p> <p>This chapter considers the effect of ICT on employment as well as our everyday life in the home.</p> <ul style="list-style-type: none"> <li>a) I can describe how there has been a reduction of employment in offices, as workers' jobs have been replaced by computers in a number of fields (e.g. payroll workers, typing pools, car production workers)</li> <li>b) I can describe how there has been an increase in employment in other fields (e.g. website designers, computer programmers, delivery drivers in retail stores)</li> <li>c) I can describe how the use of computers has led to a number of employees changing their working patterns (e.g. part-time working, flexible hours, job sharing, compressed hours)</li> <li>d) I can describe what is meant by part-time working, flexible hours, job sharing, compressed hours</li> <li>e) I can describe the positive effects microprocessors have on aspects of lifestyle (e.g. the amount and use of leisure time, the degree of social interaction, the ability to leave the home)</li> <li>f) I can describe the negative effects microprocessors have on aspects of lifestyle (e.g. lack of exercise)</li> <li>g) I can describe repetitive strain injury (RSI) and what causes it</li> <li>h) I can identify other health issues (e.g. back problems, eye problems, headaches)</li> <li>i) I can describe some simple strategies for preventing these problems</li> <li>j) I can evaluate the use of IT equipment and develop strategies to minimise the health risk</li> </ul>	

	Audiences	<p><b>Key Topic 5: Audiences</b></p> <p>This chapter considers the importance of researching your audience before an ICT solution is implemented – this ranges from presentations through to actual ICT systems which run companies.</p> <ul style="list-style-type: none"> <li>a) I can show a clear sense of audience when planning and creating ICT solutions.</li> <li>b) I can analyse the needs of an audience.</li> <li>c) I can explain why solutions must meet the needs of the audience.</li> <li>d) I can explain the need for copyright legislation and the principles of copyright relating to computer software (e.g. software piracy)</li> <li>e) I can describe methods that software producers employ to prevent software copyright being broken</li> <li>f) I can discuss the legal, moral, ethical and cultural implications of creating an ICT solution</li> <li>g) I can create ICT solutions that are responsive to and respectful of the needs of the audience</li> <li>h) I can discuss why the internet is not policed (although legislation is enforced in some countries) and the effects of this, including the existence of inappropriate sites</li> </ul>	
	Safety & security	<p><b>Key Topic 6: Safety and security</b></p> <p>This chapter covers safety and security issues when using computers in the office or at home.</p> <ul style="list-style-type: none"> <li>a) I can describe common physical safety issues and what causes them, e.g. electrocution from spilling drinks, fire from sockets being overloaded or equipment overheating, tripping over trailing cables</li> <li>b) I can describe some simple strategies for preventing these issues</li> <li>c) I can evaluate own use of IT equipment and develop strategies to minimise the potential safety risk</li> <li>d) I can explain what is meant by personal data</li> <li>e) I can explain why personal data should be confidential and protected</li> <li>f) I can explain how to avoid inappropriate disclosure of personal data including: own name, address, school name, a picture in school uniform</li> <li>g) I can discuss why eSafety is needed</li> <li>h) I can evaluate own use of the internet and use strategies to minimise the potential dangers, e.g. only using websites</li> </ul>	

recommended by teachers, only using a learner-friendly search engine

- i) I can evaluate own use of email and use strategies to minimise the potential dangers, including only emailing people already known, thinking before opening an email from an unknown person, never emailing the school's name or a picture of a learner in school uniform
- j) I can evaluate own use of social media/networking sites, instant messaging and internet chat rooms and use strategies to minimise the potential dangers, including: knowing how to block and report unwanted users, never arranging to meet anyone alone, always telling an adult first and meeting in a public place, avoiding the misuse of images, using appropriate language, respecting confidentiality
- k) I can describe measures which should be taken when playing games on the internet (including not using real names)
- l) I understand effective security of data
  - define the term hacking and describe its effects
  - explain what is meant by the term hacking and the measures that must be taken in order to protect data
  - explain what is meant by the terms user id and password stating their purpose and how they are used to increase the security of data
  - explain what is meant by the term biometric data and why biometric data is used
- m) I understand security of data online
  - explain what is meant by the term digital certificate and its purpose
  - explain what is meant by the term Secure Socket Layer (SSL)
  - describe the features of a web page that identify it as using a secure server
  - define the terms: phishing, pharming, smishing
  - describe the methods which can be used to help prevent phishing, pharming and smishing
  - describe the potential for the malicious use of technology to collect personal data, including: phishing, pharming, smishing

		<ul style="list-style-type: none"> <li>–describe how it is possible to recognise when someone is attempting to obtain personal data, report the attempt and avoid the disclosure of information</li> <li>–explain the difference between moderated and unmoderated forums and the relative security of these</li> <li>–explain the concept of and how to recognise spam mail and avoid being drawn into it</li> <li>–describe what encryption is and why it is used–define the term computer virus and describe its effects</li> <li>–describe the effects of infecting a computer with a virus from a downloaded file</li> <li>–describe how to take preventative action to avoid the danger of infecting a computer with a virus from a downloaded file</li> <li>–describe the measures that must be taken in order to protect against hacking</li> <li>–describe how it is possible to be the subject of fraud when using a credit card online</li> <li>–explain the issues related to security of data in the cloud</li> <li>–explain the concept of a firewall and why it is used</li> <li>–discuss the effectiveness of different methods of increasing security</li> </ul>	
Term 2	Practical paper – Document production	<p><b>Key Topic 1: Document Production</b> In the document production section. All students must be able to do the following using MS word.</p> <ol style="list-style-type: none"> <li>a) I can use software tools to prepare basic document to match the purpose &amp; target audience.</li> <li>b) I can create a new document, open and edit existing document</li> <li>c) I can place objects into document.</li> <li>d) I can make sure that all work produced matches specified house styles and has consistency of presentation.</li> <li>e) I can create and edit styles for page layout &amp; text.</li> <li>f) I can create/insert, format a table and its contents.</li> <li>g) I can create and use headers &amp; footers (alignment &amp; placing of automated objects).</li> <li>h) I can set the page size, margins &amp; Orientation</li> <li>i) I can ensure that all work produced contains as few errors as possible.</li> <li>j) I can select the most appropriate graphs/ charts for a given task.</li> </ol>	<p><b>Formative Assessment:</b> There will be two main Formative Assessments per term. Grades are not given for these pieces of work as the focus is on supporting students to make improvements to future pieces of work.</p> <ul style="list-style-type: none"> <li>• Checklist (to check for understanding. These will be conducted over a series of lessons usually between 6 to 9 lessons or after every two-to-three-week period.</li> <li>• Class discussions will take place almost every lesson at the start/mid and end of lessons.</li> <li>• Review sessions – These can usually take place after a short pop quiz or upon completion of a certain topic e.g. types of storage devices &amp; media.</li> </ul> <p><b>Other formative assessment examples:</b></p>

		<p>k) I can create &amp; format a chart/graph.  l) I can explain what mail merge documents are and successfully create mail merged documents.  m) Save and print selected documents.</p> <p><b>Key Topic 2: Storage devices &amp; media</b>  This chapter describes the many forms of the secondary storage and compares their advantages and disadvantages.</p> <p>a) I can identify storage devices, their associated media and their uses</p> <ol style="list-style-type: none"> <li>i. magnetic backing storage media: fixed hard disks and drives, portable and removable hard disks, portable and removable hard drives, magnetic tape drives and magnetic tapes, memory card</li> <li>ii. optical backing storage media CD/DVD/Blu-ray): CD ROM/DVD ROM, CD R/DVD R, CD RW/DVD RW, DVD RAM, Blu-ray discs</li> <li>iii. solid state backing storage: solid state drives (SSDs), flash drives (pen drive/memory stick/USB stick)</li> </ol> <p>I can describe the advantages and disadvantages of the above devices</p>	<p>Fill in the blanks.  Exam style questions.  MCQ's  Model to be created (using chosen software)  Produce a presentation about findings.  Creating a poster  Mind map  Storyboard  Quizziz/Socrative</p> <p><b>Summative Assessments:</b> These will take place at the end of each unit studied in the Term. There will be a minimum of 2 End of Unit Assessments per Term.</p> <ul style="list-style-type: none"> <li>• First summative assessment will take place on week 4. The written test will be 30 marks and last about 30-40 mins of the lesson.</li> <li>• Second summative assessment will take place on week 9/10. The written test will be 30 marks and last about 30-40 mins of the lesson. (online/F2F)</li> <li>• An average will be given of birth summative assessment which will generate their Termly report.</li> <li>• Additional assessment – Short piece of homework(SPEA approval needed). A written assignment or presentation of chosen topic in case of term 2 based on Networks and the effects of using them.</li> </ul>
Term 2	Communication	<p><b>Key Topic 3: Communication</b>  This chapter covers certain aspects of using the internet. It also considers the differences between the internet, the world wide web and intranet.</p> <ol style="list-style-type: none"> <li>a) I can explain the rules &amp; regulations when sending emails.</li> <li>b) I can explain how the internet is used effectively.</li> <li>c) I can explain the general internet terms like HTTP, URL, ISP.</li> <li>d) I can explain what the difference between blogs &amp; wikis are.</li> <li>e) I can explain how different search engines work.</li> <li>f) I can successfully evaluate the reliability of information found on the internet.</li> </ol>	

**Key Topic 4: Networks & the effects of using them**

This chapter considers the types of network that exist and many of the features that are available because of networking. It also describes the devices that are used to connect the networks and transmit the data over a network.

- a) I can successfully identify all the hardware devices required for a computer network.
- b) I understand the different types of computer network and their differences.
- c) I can explain how similar & dissimilar accessing the internet is from the various devices.
- d) I can explain network security issues and how we can authenticate data.
- e) I can explain what the main principles of the data protection acts are.
- f) I can successfully differentiate between the different conferencing methods based on their advantages & disadvantages.



**Key Topic 1: ICT applications**

- a) I can successfully identify & describe a range of communication applications (e.g. newsletters, websites, multimedia presentations, flyers and posters)
- b) I can describe the use of smartphones for communication and the use of internet telephony, including Voice over Internet Protocol (VoIP)
- c) I can describe applications for publicity and corporate image publications (e.g. business cards, letterheads and brochures)
- d) I can describe the use of a range of data handling and measurement applications (e.g. scientific experiments, weather stations)
- e) I can explain the difference between analogue data and digital data and the need for conversion between analogue and digital data
- f) I can describe the use of microprocessors and computers in a number of applications (e.g. pollution monitoring, ICU in hospitals) and discuss the advantages and disadvantages of using computers in measurement rather than humans
- g) I can describe the role of a microprocessor or computer in control applications, including the role of the pre-set value and the use of computer control in applications (e.g. automatic washing machines, automatic cookers, computer controlled central heating systems & glasshouses, burglar alarms)
- h) I can describe the use of computer modelling in spreadsheets (e.g. for personal finance)
- i) I can describe a range of computer controlled applications (e.g. robotics in manufacture and production line control) and discuss the advantages and disadvantages of using computer controlled systems rather than humans
- j) I can describe how systems are used to manage learner registration and attendance, record learner performance, organising examinations, creating timetables and managing teaching cover/substitution
- k) I can identify areas where booking systems are used (e.g. travel industry, theatres and cinemas) and describe the online processing involved in booking tickets to discuss the advantages and disadvantages of online booking systems

**Formative Assessment:**

There will be two main Formative Assessments per term. Grades are not given for these pieces of work as the focus is on supporting students to make improvements to future pieces of work.

- Checklist (to check for understanding. These will be conducted over a series of lessons usually between 6 to 9 lessons or after every two-to-three-week period.
- Class discussions will take place almost every lesson at the start/mid and end of lessons.
- Review sessions – These can usually take place after a short pop quiz or upon completion of a certain topic e.g. expert systems.

**Other formative assessment examples:**

Fill in the blanks.

Exam style questions.

MCQ's

Model to be created (using chosen software)

Produce a presentation about findings.

Creating a poster

Mind map

Storyboard

Quizziz/Socrative

**Summative Assessments:** These will take place at the end of each unit studied in the Term. There will be a minimum of 2 End of Unit Assessments per Term.

- First summative assessment will take place on week 4. The written test will be 30 marks and last about 30-40 mins of the lesson.
- Second summative assessment will take place on week 9/10. The written test will be 30 marks and last about 30-40 mins of the lesson. (online/F2F)

- l) I can describe the computer processing involved in Electronic Funds Transfer (EFT), automatic teller machines (ATM) (e.g. withdrawing cash, depositing cash or cheques, checking account balance, mini statements, smartphone/cellphone recharge/top up, bill paying, money transfers, ordering paper-based goods) and the use of processing involved in credit/debit card transactions, clearing of cheques, phone banking, internet banking, and discuss the advantages and disadvantages of it
- m) I can describe the contents of information systems in medicine (including patient records, pharmacy records, monitoring and expert systems for diagnosis), how 3D printers can be used in producing medical aids (e.g. surgical and diagnostic aids, development of prosthetics and medical products, tissue engineering, artificial blood vessels and the design of medical tools and equipment)
- n) I can describe the files used in libraries (e.g. records of books and borrowers), computer processing involved in the issue of books, including the use of direct data entry methods and the automatic processing involved in issuing reminders for overdue books
- o) I can identify a range of applications which use expert systems (e.g. mineral prospecting, car engine fault diagnosis, medical diagnosis, chess games), the components of an expert system (e.g. interactive user interface, inference engine, rules base, knowledge base) and describe how an expert system is used to suggest diagnoses
- p) I can describe the use of point of sale (POS) terminals, how the stock file is updated automatically, and how new stock can be ordered automatically, the use of electronic funds transfer at point of sale (EFTPOS) terminals (e.g. the checking of the validity of cards, the use of chip and PIN, the communication between the supermarket computer and the bank computer), internet shopping and discuss the advantages and disadvantages of internet shopping
- q) I can describe how recognition systems work (e.g. Magnetic Ink Character Recognition (MICR), Optical Mark Recognition (OMR) and Optical Character Recognition (OCR), Radio Frequency Identification Device (RFID)), how number plate recognition

- An average will be given of birth summative assessment which will generate their Termly report.
- Additional assessment – Short piece of homework(SPEA approval needed). A written assignment or presentation of chosen topic in case of term 3 based on ICT applications.

systems work, processing of cheques, processing of OMR media (e.g. school registers, multiple-choice examination papers), RFID and RF technology is used in a range of applications (e.g. tracking stock, passports, automobiles, contactless payment)

- r) I can describe how a workforce or member of the public can be monitored or logged, cookies can be used to monitor a person's internet activity, the use of key-logging, and the use of automatic number plate recognition
- s) I can describe the use of different satellite systems (e.g. Global Positioning Systems (GPS), satellite navigation, Geographic Information Systems (GIS), media communication systems.

**Revision and  
End of Year  
Assessments****End of year assessment**

- . Students will complete 3 mini quizzes which will go towards their end of year assessment. These assessments will include all the topics that have been covered in term 1,2 and 3. Students will use [GCSEpod](#) to help with revision and accessing previously taught lessons.
- a. [Example Link](#)
- b. Revision topic 1 – [Types of computers.](#)
- c. Revision topic 2 – [Input and output devices.](#)
- d. Revision topic 3 – [Storage media](#)
- e. Revision topic 4 – [Networks](#)
- f. Revision topic 5 – [Database applications.](#)

End of year assessment will be calculated using a percentage grade for all summative assessments that have taken place.