

## KS3 Computing : History of Computing Spring 2024

<p><b>Subject curriculum intent:</b></p>	<p>We want to prepare our students for life within the "Digital World". Students will develop the knowledge and skills required to use ICT within the academic, vocational and social aspects of their life. Students will be curious and confident in their use of ICT and have self-belief, digital confidence and the necessary knowledge and skills to keep up with the rapid changes within digital technology. Students will be able to problem solve ICT related issues. Students will know how to stay safe online and how to use the internet in a positive way in order to develop appropriate relationships, research information and make use of the wide range of online services.</p> <p>We want:</p> <ul style="list-style-type: none"> <li>• To provide pupils with opportunities to develop their computing capabilities in all areas specified by the National Curriculum and other relevant curricular guidance.</li> <li>• To provide pupils with a small steps, knowledge and skills based spiral curriculum that meets their post 16 needs.</li> <li>• To develop pupils' awareness of the use of ICT not only in the classroom, but also in everyday life.</li> <li>• To develop a digital confidence and curiosity within pupils via Computing lessons and the use of ICT in general.</li> <li>• To provide opportunities for pupils to gain knowledge about the general administration and maintenance of ICT tools. These include iPads, digital recording devices, word processors, databases, control devices, graphics and software for processing sound and images.</li> <li>• To provide vocational experiences with external agencies e.g. Digital Advantage.</li> <li>• To ensure our pupils stay safe online and interact appropriately.</li> <li>• To ensure pupils understand how to use the internet to carry out research and access the wide range of online services.</li> <li>• Where appropriate, to provide pupils with the opportunity to be accredited for their computing skills (OCR Functional skills).</li> <li>• To provide pupils with the skills and knowledge to use common software found within educational and workplace settings.</li> <li>• To provide pupils with the knowledge and skills required to make use of and maintain hardware found within the home.</li> <li>• To provide all pupils with a differentiated curriculum that is supported by the relevant hardware and software.</li> </ul>	
<p><b>End of KS3 intent/outcome</b></p> <p>Students will be confident in their use of key functional software (Word, PowerPoint, Publisher) in line with the Information Technology strand of the national curriculum.</p> <p>Students will understand the concept of coding and will understand how to design, write and debug programmes to accomplish specific goals in line with the Computer Science strand of the national curriculum.</p>	<p><b>End of KS4 intent/outcome</b></p> <p>Students will continue to build on the Information Technology, Computer Science and Digital literacy strands of the National Curriculum by following a curriculum that revisits the use of key functional software, coding, e-safety through the 2-year curriculum. Students understanding of Digital Literacy will also be developed as they continue to study key Computing topics relevant to today's digital world (I.e. fake news and the use of ICT within the domestic and workplace environment).</p>	<p><b>End of KS5 intent/outcome</b></p> <p>Students will continue to build upon the knowledge and skills gained within KS3 and 4 by integrating the use of ICT within all aspects of their academic curriculum (I.e. formatting presentation work) and vocational curriculum (planning and preparing local trips).</p>

<p>As part of the Digital Literacy strand of the national curriculum, students will understand the key events within the history of computing, they will have the knowledge and confidence to troubleshoot basic issues with a computer and they will understand how to stay safe online.</p>		
<p>Intent for this topic:</p>	<p>Students will learn how ICT has developed over time and the key developments that has enabled ICT to progress. Students will discuss how ICT has impacted our society and they will look to the future and endeavour to predict future developments within ICT and how that will impact upon our lives.</p>	
<p>Key vocabulary taught within this topic:</p>	<p>Timeline, sequence, Windows, Apple, Bill gates, Steve Jobs, hardware, software, wi-fi, broadband, cable, reserach, compare, evaluate. Health and safety, search engine, desktop pc, laptop, consoles, mobile phone, smart tv, iphone, laptop, headphones, printer, scanner, voice activation devices.</p>	
<p>Links to other subjects:</p>	<p>-History -Maths</p>	
<p>RRSA</p>	<p>Article 13 Every child must be free to say what they think and to seek and receive all kinds of information, as long as it is within the law. Article 17 Every child has the right to reliable information from the media. This should be information that children can understand. Governments must help protect children from materials that could harm them.</p>	

<p align="center"><b>Prior knowledge: what pupils may already have studied</b></p>				
Key stage	Subject	Topic title	Term/year taught	Content/What might pupils already know?
3	Computing	Hardware and Software	Year 2 – Term 2	Students understand the hardware and software components that make up computer systems, and how they communicate with one another and with other systems.
<p>Links to other subjects: Design and Technology Science</p>				

	<u>B2 P 5-6</u>	<u>B2 P7-8</u>	<u>B2 Step 1</u>	<u>B2 Step 2</u>	<u>B2 Step 3</u>
<b>Theme-Understanding the history of key computing developments</b>					

<p><b><u>Subject specific knowledge</u></b></p>	<p><b><u>Students know</u></b> the names of the following pieces of hardware:</p> <p>Mouse Computer keyboard Monitor Base unit Headphones Power cable Plug / plug socket</p>	<p><b><u>Students understand</u></b> that computers play a role in all areas of society:</p> <p>Teaching and Learning Banking (cash machines / card payments) Mobile phones The internet Online shopping Smart TV and broadband TV Gaming consoles Social media / email</p>	<p><b><u>Students know</u></b> the following timeline:</p> <p>In order to help students process the timeline choose a famous figure who is approximately 50 years of age (the length of the timeline), compare the various stages of this person life to the developments within computing.</p> <p>-1971-Personal Computers (PC's) start to become available to the general public</p> <p>-Microsoft was formed in 1975 Introduce Bill Gates</p> <p>-Apple was formed 1976 Introduce Steve Jobs</p> <p>-1985-Laptops start to become popular</p> <p>-1985-First cellular mobile phone released in the UK</p> <p>-Microsoft Office was released in 1989</p> <p>-1989-Sky TV launches in the UK</p> <p>-1993-the internet is available to the public - Tim Berners Lee invented the technologies that</p>	<p><b><u>Students know</u></b> the following timeline</p> <p><i>(note for teachers-this is a succinct timeline based upon key computing events)</i></p> <p>In order to help students process the timeline choose a famous figure who is approximately 70 years of age (the length of the timeline), compare the various stages of this person life to the developments within computing.</p> <p>-1948 the world's first computer to be able to <u>store and re run a computer program</u> (prior to that computers had to be reprogrammed after use) called "The baby" ran its first program. It was invented in Manchester. It is the fore runner to the computers of today.</p> <p>-4th July 1956 First keyboard used to input data. Prior to the keyboard programmers used punched cards, dials and switches.</p> <p>-1963-The mouse was invented and consisted of a wooden shell, circuit board and two metal wheels. It was called a mouse because the wire looked like a tail.</p> <p>-In 1971 companies started to use microchips in computers. The computer's central processing unit (the most important part of the</p>	<p><b><u>Students understand</u></b> key current developments within computing:</p> <p>-Computer driven vehicles</p> <p>-Artificial intelligence</p> <p>-Bio-technology</p> <p>-Nano-technology</p>
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			<p>the modern internet is built upon.</p> <ul style="list-style-type: none"> <li>-email became widely used in 1993 with the launch of the internet</li> <li>-1994-play station launched</li> <li>-1994-First smartphone released</li> <li>-1996 - Google search engine launched</li> <li>-2001 Xbox launched</li> <li>-2004 Facebook launched Introduce Mark Zuckerberg</li> <li>-2005 YouTube</li> <li>-Twitter launched 2006</li> <li>-what's app launched 2009</li> <li>-Instagram 2010</li> <li>-first iPad released 2010</li> </ul>	<p>computer as it does all the calculations) was now able to be stored on a small microchip. This enabled computers to become significantly smaller and available for personal use by the general public (hence the term PC meaning Personal Computer).</p> <p>-In 1973 computers started to use monitors similar to the ones we use today (prior to that computers had small screens inbuilt into the computer itself).</p> <p style="color: red; text-align: center;"><b>The modern day Personal Computer was born!!</b></p> <p><i>Prior to the advent of the personal computer in the 1970's, computers were very much large pieces of machinery kept in large rooms and were operated by highly skilled individuals and used for calculating data.</i></p>	
<b><u>Subject specific skills</u></b>	<p>Is able to match the above hardware to appropriate uses.</p> <p>For example when prompted by a verbal clue or an audio file (i.e. what do I use to type words into the computer?) is able to choose the correct piece of hardware</p>	<p>Is able to match specific activities to the above areas of society.</p> <p>Is able to match up non-computing activities to the above area to illustrate how society functioned pre computers.</p> <p>i.e. no social media - people had speak to each other on a landline, send letters or meet up etc.</p>	<p>Is able to discuss how each of these developments have impacted on their lives and the lives of the people around them.</p> <p>Is able state if they think this impact is positive or negative and justify.</p>	<p>Is able to discuss how each of these developments have impacted on their lives and the lives of the people around them.</p> <p>Is able state if they think this impact is positive or negative and justify.</p> <p>Is able to imagine a world without the computer and discuss what kind of impact (negative or positive) it would have on their life.</p>	<p>Is able to give an informed opinion on at least one of the above developments.</p> <p>Is able to predict future computing developments and their impact on society.</p>
<b>Theme-Creating a PowerPoint presentation</b>					
<b><u>Subject specific knowledge</u></b>	<b><u>Students understand</u></b> the	<b><u>Students understand</u></b> the definition of presentation software	<b><u>Previous +</u></b>	<b><u>Previous +</u></b>	

	<p>following basic rules of creating a presentation within Book Creator</p> <p><i>-Use contrasting colours for text and background. Light text on a dark background is best. Patterned backgrounds can reduce readability of text.</i></p> <p><i>-ensure all images, video, audio and text used within a page are related to each other.</i></p> <p><i>-make the most of the whole page when positioning your objects, ensure all your objects are the appropriate size for your reader.</i></p>	<p><b><u>Students know</u></b> the following key features of presentation software:</p> <p><b>Numbered slides</b> <b>Edit and present mode</b> <b>Transitions</b> <b>Slides can contain a mixture of text, images, video, audio, links and sound.</b></p> <p><b><u>Students know</u></b> how to locate and use tools for:</p> <p><b>Inserting a new slide / re-ordering slides</b> <b>Inserting objects (image, video and audio)</b> <b>Formatting slides (colour/design)</b> <b>Saving and storing a file</b> <b>Adding and editing text</b> <b>Identify and correct spelling mistakes</b></p>	<p><b><u>Students understand</u></b> the key design differences between:</p> <p><b>PowerPoint-presentation software</b> <b>Publisher-Desk top publishing software</b> <b>Word-word processing software</b></p> <p>In addition to Step 1 list, <b><u>Students know how to locate</u></b> and use tools for:</p> <p><b>Cropping tool</b> <b>Insert and edit shapes</b> <b>Insert and populate a table</b> <b>Insert transitions</b> <b>Insert animations</b> <b>Insert a hyperlink</b> <b>Adding and editing Word Art</b> <b>Use freehand ink tool</b></p>	<p><b><u>Students know</u></b> the key design differences between and justify these design differences.</p> <p><b>PowerPoint-presentation software</b> <b>Publisher-Desk top publishing software</b> <b>Word-word processing software</b></p> <p>In addition to Step 1 and 2 list, <b><u>Students know how to locate</u></b> and use tools for:</p> <p><b>Adding action buttons</b> <b>Adding and presenting notes</b> <b>Adding a graph</b> <b>Creating a screen recording</b> <b>Creating a master slide</b> <b><u>Students know</u> how to independently record and insert video and audio into a presentation.</b></p>
<p><b><u>Subject specific skills</u></b></p>	<p>-is able to recognise and rectify mistakes based upon the above basic rules.</p> <p>- is able to create a Book Creator presentation (based upon their computer hardware knowledge) by working through a Book Creator template and</p>	<p>When creating a presentation:</p> <p>Is able to insert a range of features (premade shapes, text, images audio, video).</p> <p>Is able to edit and manipulate shapes, text and audio to change size, colour and to add additional features (i.e. a frame).</p> <p>Is able to independently save and retrieve work.</p> <p>Is able to independently navigate the slide show features of PowerPoint when presenting their work.</p>	<p>Previous +</p> <p>Is able to make use of the animation and transition features within PowerPoint to create engaging effects.</p> <p>Is able to insert appropriate hyperlinks.</p> <p>Is able to insert, populate and edit a table listing key features of the presentation.</p>	<p>Previous +</p> <p>Is able to add action buttons and graphs into their presentation.</p> <p>Is able to create and insert audio and video into their presentation explaining the features of their product.</p> <p>Is able to prepare for their presentation by making use of presentation notes and keywords / sentences.</p>

	following the audio, video and text based instructions.		Is able to make effective use of word art and freehand drawing when designing and labelling their product.	
<b>Personal development</b>	<p><b>Problem solving-</b> Linked to resolving hard and software issues.</p> <p><b>Communication skills-</b> Asking appropriate questions and listening to responses when troubleshooting ICT issues and discussing work.</p> <p><b>Self-belief-</b> Never giving up if unable to resolve the issues, continue to ask, listen and try different solutions.</p> <p><b>Team Work-</b> Supporting fellow classmates when appropriate.</p> <p><b>Self-management-</b> Linked to independent research tasks and the ability to following a brief for a specific presentation task.</p>			
<p><b>Suggested activities</b></p> <p><b>B2 P5-8</b></p> <p><b>See Skills Section</b></p> <ul style="list-style-type: none"> <li>-use picture sequence sheets and video tutorials to teach students how to edit within Book Creator</li> <li>-use quiz format to test and embed student skills (i.e. give them a challenge "insert a red triangle" and the first one to complete it wins)</li> <li>-Students copy the actions of teacher / TA to learn editing skills, students then take it in turn to lead the group</li> <li>-treasure hunts based upon having to take pictures or record videos of specific objects</li> </ul> <p><b>B2 Step 1-3</b></p> <p><b>See Skills Section</b></p> <ul style="list-style-type: none"> <li>-students work collaboratively to re-create slides.</li> <li>-use picture sequence sheets and video tutorials to teach students how to edit within PowerPoint</li> <li>-individually or within groups students have to model an editing technique to the class using appropriate presentation skills.</li> <li>-Worksheet based test based upon all aspects of the module.</li> <li>-Using flashcards, students quiz each other on the basic rules for creating and editing a PowerPoint as well as on the editing tools used within a presentation.</li> <li>-use presentation templates to assist lower level students to create their own presentations.</li> <li>-students use flashcards to test each other on computing timeline.</li> <li>-students present their opinions to the rest of the class.</li> <li>-students carry out picture research tasks based upon different types of PC's (modern and historic).</li> </ul>				
<p><b>Online resources</b></p> <p><a href="https://www.manchester.ac.uk/discover/news/birth-of-first-modern-computer-celebrated-in-manchester/#:~:text=Digital%2060%20Day%20marks%20the,Tom%20Kilburn%20and%20Freddie%20Williams">https://www.manchester.ac.uk/discover/news/birth-of-first-modern-computer-celebrated-in-manchester/#:~:text=Digital%2060%20Day%20marks%20the,Tom%20Kilburn%20and%20Freddie%20Williams</a>.</p> <p><a href="https://www.bbc.co.uk/bitesize/search?q=history+of+computing">https://www.bbc.co.uk/bitesize/search?q=history+of+computing</a></p> <p><a href="https://simpletexting.com/where-have-we-come-since-the-first-smartphone/#:~:text=The%20first%20smartphone%2C%20created%20by,Simon%20Personal%20Communicator%20(SPC)">https://simpletexting.com/where-have-we-come-since-the-first-smartphone/#:~:text=The%20first%20smartphone%2C%20created%20by,Simon%20Personal%20Communicator%20(SPC)</a>.</p>				
<b>Evidencing Work</b>				

All work needs to be printed off and have a feedback sheet attached to it (see computing curriculum folder), completed work needs to be put in student folders