

# Home-School Learning Collaboration – Computing



<b>Topics in this cycle:</b> Computer Processes	<b>Taught:</b> Spring 2	<b>Year Group: 7</b>
<b>Key knowledge/concepts to be learnt ('Tell me about...')</b>		<b>Websites/blogs/YouTube links and further reading to deepen and consolidate learning</b>
<ul style="list-style-type: none"> <li>• <b>What is the difference between computer hardware and software?</b>            Identify hardware devices and software programs.            Describe the different type of computer hardware and software programs.            Explain how different hardware devices and software programs can be used for different purposes.</li>   <li>• <b>How does the input, process, output cycle work in a computer system?</b>            Identify different input and output devices.            Describe how input &amp; output devices work together within a computer system.            Explain the input, process, output cycle works using real world examples.</li>   <li>• <b>What is a CPU?</b>            Identify the different parts of a CPU.            Describe the main features of a CPU.            Explain how the Fetch-Decode-Execute cycle works.</li>   <li>• <b>How is data represented as Binary?</b>            Identify the 2 different number systems.            Describe how data is represented as Binary.            Explain how we convert between the Binary and Denary number system.</li>   <li>• <b>What is the method for Binary addition &amp; Subtraction?</b>            Describe the rules for binary addition &amp; subtraction.            Explain the method for adding and subtracting two Binary numbers.</li>   <li>• <b>What are the advantages and disadvantages of different storage devices?</b>            Identify different data units.            Describe the different types of storage.            Explain the advantages and disadvantages of different storage devices.</li> </ul>		<p><b>Notes/Information</b></p> <p>Software  <a href="#">What is software?   BBC Bitesize   KS3 Computer Science   Hardware and Software</a></p> <p>The CPU &amp; Fetch-Decode-Execute Cycle  <a href="#">The CPU &amp; the Fetch-Decode-Execute Cycle   BBC Bitesize   KS3   Computer Science   Hardware and Software</a></p> <p>Binary Data – Conversions &amp; Adding Binary Numbers  <a href="#">Binary Data   BBC Bitesize   KS3   Computer Science   Data Representation</a></p> <p><b>Videos</b></p> <p>Hardware  <a href="#">Types of Hardware   Make It Easy Education   YouTube</a></p> <p>Input, Process, Output  <a href="#">CS Basics: Input, Process, Output   Mr Matthews   YouTube</a></p> <p>Storage Devices  <a href="#">Storage Devices   Simply Coding   YouTube</a></p>

# Home-School Learning Collaboration – Computing

Key Vocabulary and Definitions To Be Learnt		What Will The Assessment Look Like?
<b>Hardware</b>	The physical components that a computer system requires to function	<p><b>Extended writing</b> – The advantages and disadvantages of different storage devices.</p> <p><b>End of Unit test:</b> 35 minutes/25 marks</p> <ul style="list-style-type: none"> <li>• Short answer questions</li> <li>• Extended writing</li> <li>• 3 marks for SPAG</li> </ul>
<b>Software</b>	A set of instructions, data, or programs used to operate a computer and carry out specific tasks.	
<b>Data</b>	information that is stored and processed digitally on a computer	
<b>Process</b>	Is a series of actions which are carried out to achieve a particular result.	
<b>Input</b>	Any information or data that is entered into or received by a computer.	
<b>Output</b>	How the computer presents the results of the process, such as text on a screen, printed materials, or sound from a speaker.	<p><b>Family Learning Opportunities</b></p> <p>Binary conversion game – Try to complete as many levels as possible converting between Binary and Denary numbers as fast as you can.  <a href="#">Binary Numbers Game</a></p> <p>Spin the wheel activity- Spin the wheel and take turns with your family explaining the use of the different hardware and software used by a computer.  <a href="#">Spin The Wheel - Hardware &amp; Software</a></p> <p>Devise a quiz on the advantages and disadvantages of different storage devices and test your family.</p>
<b>Binary</b>	a numbering scheme in which there are only two possible values - 0 or 1	
<b>Denary</b>	is the number system most used by people. Containing the numbers 0 - 9	
<b>Storage</b>	the component of your computer that allows you to store and access data on a long-term basis	
<b>Internal Device</b>	Internal describes a device that's installed inside the computer	
<b>External Device</b>	Any device that is not housed inside the computer cabinet.	