**Overview**

**Work individually to understand and establish the specifications for a PC dedicated to a specific task or application.**

**My PC application topic Is: Gaming Computer**

**Answering student questions will help you to develop a deeper understanding of the main components of a personal computer. It will also help you to identify the features that are most important for your specific PC application topic and the features that are nice to have but are not as critical for your topic.**

**Preparing a brochure explaining your PC application topic and your selection of personal computer components and features will help you to summarize what you have learned from the student questions. The brochure will also help you to share your findings in a “tradeshow” to be held in class.**

**The date for the “tradeshow” is: Wednesday. October 23, 2019**

**Student Questions**

**1.       Think about your PC application topic. Do some research to find general answers to the following questions.**

**a.How important is computer speed for my topic ( High / Medium / Low)? Justify your answer using examples of how a computer is used to perform a task related to your application.**

**A clock speed of 3.5 GHz to 4.0 GHz is generally considered a good clock speed for gaming but it's more important to have good single thread performance. This means that your CPU does a good job understanding and completing single tasks. This is not to be confused with having a single core processor.**

**b.How important is data storage for my topic ( High / Medium / Low)? Justify your answer using examples of how a computer is used to perform a task related to your application.**

**Most non-professional users will be fine with 250 to 320GBs of storage. For example, 250GB can hold more than 30,000 average size photos or songs. If you're planning on storing movies, then you definitely want to upgrade to at least 500GB, maybe even 1TB. Granted, this is all for conventional hard drives.**

**c.How important is graphics and sound for my topic ( High / Medium / Low)? Justify your answer using examples of how a computer is used to perform a task related to your application.**

**The GPU is an extremely important component of a gaming system, and in many cases, even more crucial than the CPU when it comes to playing certain types ofgames. Simple description: A GPU is a single-chip processor that's used chiefly to manage and enhance video and graphics performance.**

**d.How important is internet connectivity for my topic ( High / Medium / Low)? Justify your answer using examples of how a computer is used to perform a task related to your application.**

**What's most important is the speed and stability of your connection to the game server, not how fast it can download data. Online games require very little data when transmitting and receiving data (though patching is another matter).The reason you want higher speeds is for ease of use when doing other things.**

1. **CPU Processor Chip**
   1. **What speed of CPU Chip do you require? (High / Medium / Basic)**

**A clock speed of 3.5 GHz to 4.0 GHz is generally considered a good clock speed for gaming but it's more important to have good single thread performance.**

* 1. **Provide an example of a high speed CPU using the list of suppliers provided in the appendix. List the Model Number, Price, and Vendor Source. Also list its main features**

**AMD Ryzen 9 3900X 12-Core/24-Thread 7nm Processor Socket AM4 3.8GHz/ 4.6 GHz Boost, RGB Wraith Prism Cooler, 105W (100-100000023BOX) $709.**

* 1. **Provide an example of a medium speed CPU using the list of suppliers provided in the appendix. List the Model Number, Price, and Vendor Source. Also list its main features**

**Intel Core i5-9600K Coffee Lake 6-Core/6-Thread Processor Socket LGA 1151, 3.7 GHz Base/ 4.6 GHz Max Turbo Frequency 95W Gen9 Retail Boxed Unlocked (BX80684I59600K) (Compatible with 300 series chipset $319**

* 1. **Provide an example of a basic speed CPU using the list of suppliers provided in the appendix. List the Model Number, Price, and Vendor Source. Also list its main features**

**AMD Ryzen 5 2600 6-Core/12-Thread Processor Socket AM4 3.40GHz Base/ 3.90 GHz Boost, Wraith Stealth cooler 65W (YD2600BBAFBOX) $169**

* 1. **What would be the least expensive CPU Chip that meets your requirements? List the Model Number, Price, and Vendor Source.**

**Intel Core i5-9400F Coffee Lake 6-Core/6-Thread Processor Socket LGA1151, 2.9 GHz Base/ 4.1 GHz Max Turbo Frequency 65W Gen9 Retail Boxed (BX80684I59400F) Discrete Graphics Required $199**

1. **RAM Memory**
   1. **What size of RAM Memory do you require? (Large / Medium / Basic)**

**8 GB is the minimum for any gaming PC. With 8 GB of RAM, your PC will be running most games without any problem, though some concessions in terms of graphics will probably be required when it comes to the newer, more demanding titles.**

* 1. **Provide an example of a large size RAM using the list of suppliers provided in the appendix. List the Model Number, Price, and Vendor Source. Also list its main features**

**Corsair Vengeance LPX 32GB (2x16GB) DDR4 3200MHz CL16 Memory Kit - Black (CMK32GX4M2B3200C16) $194.99 it is designed for high-performance overclocking. The heat spreader is made of pure aluminum for faster heat dissipation**

* 1. **Provide an example of a medium size RAM using the list of suppliers provided in the appendix. List the Model Number, Price, and Vendor Source. Also list its main features**

**G.SKILL Aegis 16GB (2x8GB) DDR4 3000MHz CL16 Dual Channel Memory Kit 1.35V (F4-3000C16D-16GISB) $89.99**

* 1. **Provide an example of a basic size RAM using the list of suppliers provided in the appendix. List the Model Number, Price, and Vendor Source. Also list its main features**

**G.SKILL Ripjaws V Series 16GB (2x8GB) DDR4 2400MHz CL15 Dual Channel Memory Kit 1.2V (F4-2400C15D-16GVR) $79.99**

* 1. **What would be the least expensive RAM Memory that meets your requirements? List the Model Number, Price, and Vendor Source.**

**G.SKILL Ripjaws Series 8GB DDR4 2133MHz CL15 1.2V SODIMMs (F4-2133C15S-8GRS) $40.99 it provides faster data transfer and higher energy efficiency**

1. **Graphics Card**
   1. **What graphics speed and resolution do you require? (High / Medium /Basic - On Motherboard)**
   2. **Provide an example of a high-end Graphics Card using the list of suppliers provided in the appendix. List the Model Number, Price, and Vendor Source. Also list its main features**

**Many PC gamers play on basic 1080p, 60Hz monitors, thanks to their compelling blend of resolution, speed, and affordable pricing. The best graphics card for feeding those displays is Nvidia's $220-and-up GeForce GTX 1660, which we crowned “the new 'sweet spot' champion” in our review.**

* 1. **Provide an example of a medium-end Graphics Card using the list of suppliers provided in the appendix. List the Model Number, Price, and Vendor Source. Also list its main features**

**ASUS ROG Strix GeForce GTX 1660 Ti 8GB | $295**

* 1. **What would be the least expensive Graphics Card that meets your requirements (or do you just need basic graphics provided by the motherboard)? List the Model Number, Price, and Vendor Source.**

**Nvidia released the original GT 1030 and it was regarded as a very affordable dedicated graphics card, ideal for first-time PC builders or buyers on a budget. ... That's nothing remarkable, but at a $70 launch price the GT 1030 could play a modest amount of games at 1080p and maintain 60 FPS.**

1. **Sound Card**
   1. **Do you require special sound support? (High / Medium /Basic - On Motherboard)**
   2. **Provide an example of a high-end Sound Card using the list of suppliers provided in the appendix. List the Model Number, Price, and Vendor Source. Also list its main features**

**ASUS Essence STX II - Sound card - 24-bit - 192 kHz - 124 dB SNR - stereo - PCIe - ASUS AV100 $362.99**

* 1. **Provide an example of a medium-end Sound Card using the list of suppliers provided in the appendix. List the Model Number, Price, and Vendor Source. Also list its main features**

**Creative Labs Sound Blaster E5 Sound Card – 600 AMP, 120dB DAC, USB 2.0 High Speed, Bluetooth, 24-Bit 192 kHz Stereo Direct, SBX Pro Studio Audio Enhancement Technology - 70SB159000001-CA $219.99**

* 1. **What would be the least expensive Sound Card that meets your requirements (or do you just need basic sound provided by the motherboard)? List the Model Number, Price, and Vendor Source.**

**Vantec NBA-200U - Sound card - 48 kHz - 7.1 - USB 2.0 - CM6206 $42.89**

1. **Motherboard**
   1. **Do you require any special motherboard features (based on your answers to the above questions)?**

**Motherboards are both extremely important and un-important at the same time. They are important because they provide the interconnectivity between the CPU/GPU/Ram/Storage/network - so without one nothing can be done.**

* 1. **Provide an example of a high-end Motherboard using the list of suppliers provided in the appendix. List the Model Number, Price, and Vendor Source. Also list its main features**

**ASUS ROG STRIX Z390-E Gaming Motherboard - ATX, Intel Z390 Chipset, LGA1151, Supports 9th and 8th Gen Intel Core / Pentium Gold / Celeron, 4x DDR4 DIMM Slots, 6x SATA-600 - ROG STRIX Z390-E GAM $344.99**

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**Features:**

* **LGA1151 socket for 9th/ 8th Gen Intel® Core™ desktop processors**
* **Aura Sync RGB: Synchronize LED lighting with a vast portfolio of compatible PC gear, including addressable RGB strips**
* **Comprehensive cooling: Dual onboard M.2 heatsink, water-pump header, fan-extension header and a MOS fan with bracket**
* **5-Way Optimization: Automated system-wide tuning, providing AI overclocking and cooling profiles tailor-made for your rig**
* **Gaming connectivity: Dual M.2 and USB 3.1 Gen 2 Type-A and Type-C connectors**
* **Gaming networking: Intel Gigabit Ethernet, Intel 2x2 802.11ac Wi-Fi with MU-MIMO support, LANGuard and GameFirst**
* **Gaming audio: SupremeFX S1220A teams with Sonic Studio III to create an aural landscape that draws you deeper into the action**
* **Easy DIY: Pre-mounted I/O shield, ASUS SafeSlot and premium components for maximum endurance**

* 1. **Provide an example of a basic Motherboard using the list of suppliers provided in the appendix. List the Model Number, Price, and Vendor Source. Also list its main features**

**PRIME B360M-C/CSM LGA1151 MAX 64G MATX**

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* 1. **What would be the least expensive Motherboard that meets your requirements? List the Model Number, Price, and Vendor Source.**

**Asus PRIME A320M-K AM4 MAX-32GB CPNTDDR4 M (PRIME A320M-K) $84.28**

**Features:**

1. **HDD (Hard Disk Drive or Solid State Drive)**
   1. **Do you require any special Hard Disk Drive features (based on your answers to the above questions)?**

**Generally, hard disk drives work well for gaming. As long as the HDD has enough capacity to store your games (the current average needed is about 525GB) and is fast enough to support the graphics, you should have no trouble.**

* 1. **Provide an example of a high-end HDD using the list of suppliers provided in the appendix. List the Model Number, Price, and Vendor Source. Also list its main features**
  2. **Provide an example of a basic HDD using the list of suppliers provided in the appendix. List the Model Number, Price, and Vendor Source. Also list its main features**
  3. **What would be the least expensive Hard Disk Drive that meets your requirements? List the Model Number, Price, and Vendor Source.**

**Answer to b, c, and d**

**-Best Overall: Seagate 2TB FireCuda. ...**

**-Runner-Up, Best Overall: Seagate 3TB BarraCuda. ...**

**-Best Kit for PS4: Fantom Drives PS4 Hard Drive Upgrade Kit. ...**

**-Best for Xbox One: Seagate Game Drive for Xbox One. ...**

**-Best for Cache Storage: Toshiba X300 4TB. ...**

**-Best Budget: WD Blue 1TB.**

1. **Removable Media (DVD / USB / Flash)**
   1. **Do you require any special Removable Media features? Explain what extra features are required for your PC application topic.**

**No**

* 1. **If so, List the Model Number, Price, and Vendor Source for any of these extra features.**

**No**

1. **Network Interface (Ethernet /Fiber / Wi-Fi / Bluetooth)**
   1. **Do you require any special Network Interface features? Explain what extra features are required for your PC application topic.**

**No**

* 1. **If so, List the Model Number, Price, and Vendor Source for any of these extra features.**

**No**

1. **Monitor, Mouse, Keyboard**
   1. **Do you require any special Monitor, Mouse, Keyboard, etc. add-ons? Explain what extra features are required for your PC application topic.**

**Yes**

* 1. **If so, List the Model Number, Price, and Vendor Source for any of these extra features.**

**Monitor:**

**-ASUS ROG Swift PG279Q. The best gaming monitor with G-Sync**

**Mouse:**

**-Logitech G502 – Highest Native DPI Mouse**

**Keyboard:**

**-Roccat Vulcan 120 Aimo.**

1. **Portability / Mobility**
   1. **Will you be using your PC in one place, do you need some portability, or do you need a high degree of mobility? Explain the need for portability  your PC application topic.**

**No, I will keep my pc in one place.**

* 1. **Do you require a Desktop / Laptop / Notebook or other PC format?**

**No**

* 1. **How will this affect the cost of your dream machine.**

**It Wont**

1. **Rank each personal computer component in order of priority (1-lowest, 10-highest) based on your research above. Each component must have its own priority number… no duplications.**
   * **CPU Processor Chip 1  2 3  4 5  6 7 8  9 10**
   * **RAM Memory 1  2 3  4 5  6 7  8 9 10**
   * **Graphics Card 1  2 3  4  5 6  7 8 9  10**
   * **Sound Card 1  2  3 4  5 6 7  8 9 10**
   * **Motherboard 1  2 3  4 5 6  7 8 9 10**
   * **HDD (Hard Disk Drive or Solid State Drive) 1  2 3  4 5 6  7  8 9  10**
   * **Removable Media (DVD / USB / Flash) 1  2 3  4 5 6  7 8  9 10**
   * **Network Interface (Ethernet /Fiber / Wi-Fi / Bluetooth) 1  2 3  4 5 6  7 8  9 10**
   * **Monitor, Mouse, Keyboard 1  2 3  4 5 6  7 8 9  10**
   * **Portability / Mobility 1  2 3  4 5 6  7 8 9 10**