**Overview**

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

My PC application topic Is: Business Computers

Answering the 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.
   1. 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.
      1. The computer speed of the computer is high priority, since processing of commands needs to be very quick and without delay. An example of this can be someone trying to create a Microsoft spreadsheet, they want the work to be done quickly, and without computer problems.
   2. 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.
      1. Data storage for my topic is of high priority and is essential for a business computer, important documents and files need to be stored on the computer, this in turn requires a large amount of memory. This is especially in the RAM and ROM memory, and hard drive status.
   3. 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.
      1. Graphics and sound is not of high importance, since the processing of aesthetics and sound of a document is not needed when creating a document, or when creating a file with data. This is why the need for graphics or sound card isn’t necessary.
   4. 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.
      1. Internet connectivity is of medium importance; this is because projects done on the internet are more frequent for business class computers, since collaboration between office members is much more frequent, the projects done online would need much faster connectivity for maximum efficacy.
2. CPU Processor Chip
   1. What speed of CPU Chip do you require? (High / Medium / Basic)
      1. The speed of the microprocessor needs to be very high since the processing of folders and many commands simultaneously has to be done.
   2. 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
      1. The high-speed CPU I have chosen is the AMD Ryzen 7 Pro 3700 processor.
         1. Model Number: N82E16819113567
         2. Price: $429.99
         3. Vendor Source: Newegg.ca
         4. Main Features
            1. 8 CPU Cores
            2. Clock Speed 4.4GHz
   3. 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
      1. The medium-speed CPU I have chosen is the AMD Ryzen 5 Pro 3600.
         1. Model Number: N82E16819113569
         2. Price: $268.67
         3. Vendor Source: Newegg.ca
         4. Main features
            1. 6 CPU cores
            2. Clock Speed 4.2GHz
   4. 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
      1. The basic CPU I have selected is the AMD Ryzen 7 Pro 2700 Processor.
         1. Model Number: N82E16819113498
         2. Price: $419.99
         3. Vendor Source: Newegg.ca
         4. Main Features
            1. 8 CPU Cores
            2. Clock Speed 3.2GHz
   5. What would be the least expensive CPU Chip that meets your requirements? List the Model Number, Price, and Vendor Source.
      1. My ideal CPU Chip would probably be the AMD Ryzen 5 Pro 3600; its features are provided above.
3. RAM Memory
   1. What size of RAM Memory do you require? (Large / Medium / Basic)
      1. The size of the RAM Memory should be medium sized, especially since the need for quick commands is needed very hastily, and effectively.
   2. 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
      1. The RAM Memory I chose was the Dell Memory Upgrade - 32GB.
         1. Model #:  a7187321
         2. Price: $712.00
         3. Vendor Source: Dell.com
         4. Main Features
            1. 32Gb Capacity
            2. Memory Type: DDR3
            3. Speed: 1866MHz
   3. 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
      1. The RAM Memory I chose was the Dell Memory Upgrade - 16GB.
         1. Model #:  aa799064
         2. Price: $241.99
         3. Vendor Source: Dell.com
         4. Main Features
            1. 16Gb Capacity
            2. Memory Type: DDR4
            3. Speed: 3200MHz
   4. 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
      1. The RAM Memory I chose was the VisionTek Black Label Series 4GB.
         1. Model #:  a7075898
         2. Price: $59.99
         3. Vendor Source: Dell.com
         4. Main Features
            1. 4Gb Capacity
            2. Memory Type: DDR3
            3. Speed: 1333Mhz
   5. What would be the least expensive RAM Memory that meets your requirements? List the Model Number, Price, and Vendor Source.
      1. The Ideal RAM Memory I would choose would be the Dell Memory Upgrade – 16Gb, its essentials are stated above.
4. Graphics Card
   1. What graphics speed and resolution do you require? (High / Medium /Basic - On Motherboard)
      1. My graphics card requires basic speed and resolution, since the purpose of a business computer is not aesthetics, but the speed and memory of the computer.
   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
      1. The ideal high-end graphics card I would select would be the RTX 2080 Ti.
         1. Model #: N82E16814487418
         2. Price: $1 484.99
         3. Vendor Source: Newegg.ca
         4. Main Features
            1. Boost Clock: 1 545MHz
            2. Memory: 14 000MHz
   3. 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
      1. The ideal medium-end graphics card I would select would be the GIGABYTE GeForce RTX 2060.
         1. Model #: N82E16814932173
         2. Price: $574.99
         3. Vendor Source: Newegg.ca
         4. Main Features
            1. Boost Clock: 1 365MHz
            2. Memory: 1 680MHz
   4. 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.
      1. Since a graphics card is only of basic priority, the graphics card provided by the motherboard is and will be acceptable.
5. Sound Card
   1. Do you require special sound support? (High / Medium /Basic - On Motherboard)
      1. The sound card requirements are very basic, since my computer is business related, the sound experience is not needed.
   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
      1. An example of a high-end Sound Card would be the ASUS Essence STX II Sound Card.
         1. Model #: Essence STX II
         2. Price: $360.99
         3. Vendor Source: TigerDirect.ca
         4. Main Features
            1. DAC Resolution: 24-bit
            2. Sample Rate: 44.1kHz – 192kHz
            3. Frequency Response: 10 – 90 000Hz
   3. 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
      1. An example of a medium-end Sound Card would be the ASUS Xonar DG Sound Card.
         1. Model #: Xonar DG
         2. Price: $51.99
         3. Vendor Source: TigerDirect.ca
         4. Main Features
            1. Digital S/PDIF Output: High-Bandwidth Optical Connector 96kHz or 24-bit
   4. 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.
      1. Sound card quality is not of general importance to a business computer, therefore, the sound card and quality provided by the motherboard is more than enough to support the computer’s needs.
6. Motherboard
   1. Do you require any special motherboard features (based on your answers to the above questions)?
      1. No, but the motherboard does need compatibility to my CPU microprocessor, that is, said above. One variant that does match the requirements of my selected CPUs is the AMD AM4.
   2. 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
      1. The high-end motherboard I have selected is the ASUS AMD AM4 ROG X570 Crosshair VIII Hero ATX Motherboard.
         1. Model #: 9B-13-119-109
         2. Price: $379.99
         3. Vendor Source: Newegg.ca
         4. Main Features
            1. Onboard Wi-Fi
            2. AMD X570 Chipset
   3. 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
      1. The basic motherboard I would choose would be the GIGABYTE B450M DS3H AM4 AMD B450.
         1. Model #: 9B-13-145-083
         2. Price: $70.99
         3. Vendor Source: Newegg.ca
         4. Main Features
            1. SATA3: 6Gb/s
            2. M.2: 32Gb/s
   4. What would be the least expensive Motherboard that meets your requirements? List the Model Number, Price, and Vendor Source.
      1. The GIGABYTE B450M DS3H AM4 AMD B450 is probably the most cost effective and efficient model I could order.
7. HDD (Hard Disk Drive or Solid-State Drive) **SEAGATE IS THE BEST AND MOST RELIABLE!**
   1. Do you require any special Hard Disk Drive features (based on your answers to the above questions)?
      1. Since storage of the hard drive is key, and that the data stored in the hard drive is of extreme importance, the business computer requires a hard drive that can store the data disk well, and strong.
   2. 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
      1. The high-end Disk Drive I have chosen is the Seagate IronWolf 12TB Hard Drive.
         1. Model #: HDSEA00092
         2. Price: $439.00
         3. Vendor Source: CanadaComputers.ca
         4. Main Features
            1. SATA: 6GB/s
            2. Storage Capacity: 12TB
            3. 7200 RPM
   3. 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
      1. The basic Disk Drive I have chosen is the WD Blue 1TB Desktop Hard Drive.
         1. Model #: HDWDD001615
         2. Price: $57.99
         3. Vendor Source: CanadaComputers.ca
         4. Main Features
            1. SATA: 6GB/s
            2. Storage Capacity: 1TB
            3. 7200 RPM
   4. What would be the least expensive Hard Disk Drive that meets your requirements? List the Model Number, Price, and Vendor Source.
      1. The least expensive Disk Drive I have chosen is the Seagate BarraCuda 4TB Hard Drive.
         1. Model #: HDSEA00078
         2. Price: $109.99
         3. Vendor Source: CanadaComputers.ca
         4. Main Features
            1. SATA: 6GB/s
            2. Storage Capacity: 4TB
            3. Rotational Speed: 7200 RPM
            4. Cache: 256MB
8. 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.
      1. Business computers require the need for the transportation of data ever so increasingly since data is becoming of huge importance, and therefore sharing data in larger quantities in the form of a USB makes the mobility of data efficient, but since the ease of storing information has become ever so widespread, the use of removable media becomes unneeded, especially if transporting files can be done over the internet and the stored in the large capacity of hard drives. No, removable media is not needed in a business computer.
   2. If so, List the Model Number, Price, and Vendor Source for any of these extra features.
9. 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.
      1. Since internet connectivity is already at such supreme speeds, the need for Wi-Fi and Bluetooth really isn’t necessary, Ethernet cables could be used for higher speeds of internet connectivity, therefore; the network interface would need ethernet cables.
   2. If so, List the Model Number, Price, and Vendor Source for any of these extra features.
      1. The ethernet cable I have chosen is the C2G CAT6 Snagless Shielded cable.
         1. Model #: CACTG00130
         2. Price: $9.99
         3. Vendor Source: CanadaComputers.ca
         4. Main Features
            1. Length: 10ft
10. 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.
       1. Multiple monitors would greatly assist in multi-tasking, but they are unnecessary.
    2. If so, List the Model Number, Price, and Vendor Source for any of these extra features.
11. 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.
       1. Since my computer is an office business computer, mobility is completely disregarded for, and is considered unnecessary.
    2. Do you require a Desktop / Laptop / Notebook or other PC format?
       1. I require a Desktop for my office business computer.
    3. How will this affect the cost of your dream machine.
       1. This will increase the cost of my dream machine, however; this will not change the requirements of it, only the fulfillment of its wants.
12. 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 10
    * RAM Memory 9
    * Graphics Card 2
    * Sound Card 1
    * Motherboard 7
    * HDD (Hard Disk Drive or Solid State Drive) 8
    * Removable Media (DVD / USB / Flash) 3
    * Network Interface (Ethernet /Fiber / Wi-Fi / Bluetooth) 6
    * Monitor, Mouse, Keyboard 4
    * Portability / Mobility 5

**Brochure**

Work individually to create a 4-page brochure according to the following guideline.

**Page 1 – Your Application Topic**

Describe your topic and the top PC components for your topic.

Include the following on this page:

* Describe your application topic and how a PC is used
* In general terms, describe what the best PC for this application would look like (e.g. speed vs portability)
* Describe in more detail the top three most important PC components and explain why they are important for your application

**Page 2 – Would-Be-Nice Features**

Describe your decisions about what PC components are less important but would be nice to upgrade if you had the money.

Include the following on this page:

* Describe the would-be-nice components (just below your top 3 priorities) and what your options for upgrading them would be.
* Describe the components / features at the bottom of your priority list and why you would not spend extra money on them.
* Provide some details about different vendors / suppliers and the options they offer.

**Page 3 – Your Budget Machine**

Your budget is $800. Select a pre-packaged PC or customize / build a PC from parts to fit under this budget.

Include the following on this page:

* Your PC specs, model, cost, vendor, etc.
* Priority components that you were able to include for this price.
* Priority components that you had to leave out because of budget limitations.

**Page 4 – Your Dream Machine**

Your budget is $2000. Select a pre-packaged PC or customize / build a PC from parts to fit under this budget.

Include the following on this page:

* Your PC specs, model, cost, vendor, etc.
* Priority components that you were able to include for this price.
* Priority components that you were able to spend extra on.
* Also comment on any priority components that you had to leave out or down-grade.

**Appendix A: PC Vendors, Parts, & Customization**

Suggested on-line computer sources:

* [www.newegg.ca](http://www.newegg.ca)
* [www.dell.com/en-ca](http://www.dell.com/en-ca)
* [www.tigerdirect.ca/](http://www.tigerdirect.ca/)
* [www.canadacomputers.com](http://www.canadacomputers.com)

**Appendix B: Application Topics**

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| --- | --- |
| **Task** | **Student Name** |
| ***Game Computer*** |  |
| **Photo Editing & Organization** |  |
| ***Business Office Computer*** |  |
| ***Student Home Computer*** |  |
| ***Factory Floor Computer*** |  |
| ***Media Production and Streaming Computer*** |  |
| ***Web Surfing Computer*** |  |
| ***Game Computer*** |  |
| **Photo Editing & Organization** |  |
| ***Business Office Computer*** |  |
| ***Student Home Computer*** |  |
| ***Factory Floor Computer*** |  |
| ***Media Production and Streaming Computer*** |  |
| ***Web Surfing Computer*** |  |
| ***Game Computer*** |  |
| **Photo Editing & Organization** |  |
| ***Business Office Computer*** |  |
| ***Student Home Computer*** |  |
| ***Factory Floor Computer*** |  |
| ***Media Production and Streaming Computer*** |  |
| ***Web Surfing Computer*** |  |