**Overview**

https://ca.pcpartpicker.com/list/RvWPsk

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

My PC application topic Is: *Photo Editing & Organization*

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: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**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.

The CPU is a high use component for Photoshop as most of the work completed in Photoshop will be completed by the CPU and not the other components.

* 1. 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.

The storage is very important for Photoshop because Photoshop files can reach sizes of 500mbs at time which can eat into your storage quickly meaning mass storage is needed.

* 1. 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.

A high end graphics card is not required by Photoshop but can help in certain tasks by GPU acceleration. But a GPU is need heavily need for a Photoshop computer. An external sound card would not be needed as Photoshop and other image editors do not create any sound on regular use.

* 1. 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.

Internet connectivity can be important for Photoshop since files used for editing might be sent to a large server for storage and the file transfers will require high internet speeds.

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

Intel Core i9-9900K:

Price- 639.99$ CAD

Vendor – Newegg.ca

Main Features:

9th Gen Intel Processor

Intel UHD Graphics 630

Only Compatible with Intel 300 Series Motherboard

Socket LGA 1151 (300 Series)

Max Turbo Frequency 5.0 GHz

Unlocked Processor

DDR4 Support

* 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 i5-9400F:

Price – 199.99$

Vendor – Newegg.ca

Main Features:

9th Gen Intel Processor

Discrete GPU Required - No Integrated Graphics

Only Compatible with Intel 300 Series Motherboard

Socket LGA 1151 (300 Series)

Max Turbo Frequency 4.1 GHz

DDR4 Support

* 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

Intel Core i3-9100:

Price – 240.99

Vendor – Newegg.ca

Main Features:

9th Gen Intel Processor

Intel UHD Graphics 630

Only Compatible with Intel 300 Series Motherboard

Socket LGA 1151 (300 Series)

Processor Base Frequency 3.6 GHz

DDR4 Support

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

Ryzen 3 3200g

Price – 129.99

Features- Built-In Radeon Vega 8 Graphics

2nd GEN with Radeon Graphic

Socket AM4

Max Boost Frequency 4.0 GHz

Vendor – Newegg.ca

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

Corsair Vengeance: 2x16

Price – 199.99

Vendor Source – Newegg.ca

Main features :

DDR4 3200 (PC4 25600)

Timing 16-18-18-36

CAS Latency 16

Voltage 1.35V

* 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

Corsair Vengeance: 2x8

Price – 106.99

Vendor Source – Newegg.ca

Main features:

DDR4 3200 (PC4 25600)

Timing 16-18-18-36

CAS Latency 16

Voltage 1.35V

* 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

Corsair Vengeance: 2x4

Price – 89.99

Vendor Source – Newegg.ca

Main features:

DDR4 3200 (PC4 25600)

Timing 16-18-18-36

CAS Latency 16

Voltage 1.35V

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

Corsair Vengeance: 4

Price – 33.99

Vendor Source – Newegg.ca

Main features:

DDR4 2400 (PC4 25600)

Timing 16-18-18-36

CAS Latency 16

Voltage 1.35V

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

MSI GeForce RTX 2080

$1,035.00

Newegg.ca

8GB 256-Bit GDDR6

Core Clock 1515 MHz

Boost Clock 1860 MHz

1 x HDMI 2.0b 3 x DisplayPort 1.4

2944 CUDA Cores

PCI Express 3.0 x16

* 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

MSI GeForce RTX 2060

$519.99

Newegg.ca

6GB 192-Bit GDDR6

Boost Clock 1830 MHz

1 x HDMI 2.0b 3 x DisplayPort 1.4

1920 CUDA Cores

PCI Express 3.0 x16

* 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.

XFX RX 570

209.99

Neweg.ca

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~~
   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~~
   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.~~

Photoshop and other image editors do not require sound for the 99.99% of any workloads that will eventually be completed. Money would be better spent on an area like storage, which increase the speeds that work can be accessed**.**

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

A motherboard would need sufficient ports to allow m.2 or regular SSD’s to work at their full potential

* 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

SUS ROG Maximus XI Extreme LGA 1151

$789.99

Newegg.ca

Intel Z390

Intel Socket 1151 for 9th/8th Gen Intel Core, Pentium Gold and Celeron processors

DDR4 4400(O.C)/ 4266(O.C.)/ 4133(O.C.)/ 4000(O.C.)/ 3866(O.C.)/ 3733(O.C.)/ 3600(O.C.)/ 3466(O.C.)/ 3400(O.C.)/ 3333(O.C.)/ 3300(O.C.)/ 3200(O.C.)/ 3000(O.C.)/ 2800(O.C.)/ 2666/ 2400/ 2133

* 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

MSI B360 GAMING PLUS LGA 1151

$156.99

Newegg.ca

Intel B360

Supports 9th Gen Intel Core, Pentium Gold and Celeron Processors for Socket LGA1151

Supports DDR4 2666/ 2400/ 2133 MHz

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

ASUS Prime A320M-K AMD Ryzen AM4

85.99$

Newegg.ca

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)?
   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

SAMSUNG 970 EVO

$382.99

M.2 2280

1TB

PCIe Gen 3.0 x4, NVMe 1.3

Up to 3400 MBps

Up to 2500 MBps

* 1. 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

Team Group GX1 2.5" 960GB

$129.99

Newegg.ca

Up to 530 MBps

Up to 480 MBps

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

WD Blue 500GB Desktop

$66.99

7200 RPM

32mb Cache

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.

High speed usb ports can be highly useful to a Graphic Designer, Finished products such s work files might need to be moved onto a physical device such as an external drive or usb flash drive.

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

Rosewill RC-509 PCI-E (PCI Express) to USB 3.1 (Type A +Type C) Expansion Card

32.99$

Newegg.ca

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.
   2. If so, List the Model Number, Price, and Vendor Source for any of these extra features.
2. 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.
   2. If so, List the Model Number, Price, and Vendor Source for any of these extra features.
3. 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.
   2. Do you require a Desktop / Laptop / Notebook or other PC format?
   3. How will this affect the cost of your dream machine.
4. 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

**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**

|  |  |
| --- | --- |
| **Task** | **Student Name** |
| ***Game Computer*** |  |
| **Photo Editing & Organization** | Neil |
| ***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*** |  |