

A decorative graphic on the left side of the slide, consisting of white lines and circles on a teal background, resembling a circuit board or data lines.

ASK I.T. BUYING A COMPUTER

Melanie Bell, Assistant Director and Technology Coordinator

Mary Kelly, Electronic Services Librarian

Plymouth District Library

plymouthlibrary.org

*Updated: July 28, 2022
Plymouth District Library
mb/mk*

WHAT ARE YOU GOING TO USE YOUR NEW COMPUTER FOR?

- High End Gaming – Dedicated video card, lots of memory, lots of storage
- School & Classes – Good battery life, decent processor, memory and storage
- Browsing the Internet – Just the basics
- How frequently do you plan to replace your computer?
- How mobile do you need to be?
- Will a docking station work for you?
- What do you need for your screen size?

WHAT TYPE OF COMPUTER DO YOU WANT

*In general you will get more bang for you buck from a desktop.
However, a laptop is more versatile.*

Desktop

- Full size
- Compact
- All-In-One
- Mac Mini
- Mac Pro
- Gaming

Laptop

- Surface
- MacBook Air/Pro
- Gaming
- HP, Lenovo, ASUS, MSI, etc

Other

- Chromebook
- Tablets
- Smartphones
- Raspberry Pi

OPERATING SYSTEM - OS

Operating system controls how the user interacts with both the software and the hardware

Microsoft Windows

- Dependable
- Good for business and gaming
- Good for individual use

Apple Mac OS

- Dependable
- Best for individual use
- Easy to Use
- Not great for gaming or business networks

Chrome OS

- Easy to use
- Apps not programs can be a limitation
- Good for just browsing and specific functions

Linux

- Basics are easier than expected
- Very versatile
- Need to really know what your doing to do more than basics

MEMORY, & STORAGE

- Minimum for Mac or Windows is 8GB of RAM 128 GB SSD NOT HDD
- Minimum for Chrome is 4GB of RAM and 64GB eMMC – eMMC is SSD for small file storage.
- Average speeds of different storage drives
 - HDD = 150 MB/s
 - eMMC = 400 MB/s
 - SSD = 500 MB/s
 - NVME SSD = 3000MB/s

BEST & EASIEST UPGRADE FOR A COMPUTER

MEMORY

- Hardest part is finding the correct memory for you computer.
Crucial.com is a good place to start
- You just open up the machine add the memory and close it back up. Most laptops will have a specific easy access panel for memory.
- Biggest bang for you buck.

CPU/PROCESSOR* CORES & THREADS

- Cores – Multiple processing units can process multiple instructions at the same time. Like engine cylinders more cores = more power.
- Cores come in pairs (2,4,6,8)
- Threads/Hyper-threading – allow multiple tasks per core. Thread count is almost always double the cores.
- CPU descriptions usually use shorthand for example 8c/16T (meaning 8 cores and 16 threads.)
- Older software cannot take advantage of cores and threads. They only run at the speed of the processor. So if running lots of old software consider faster GHz over more cores.

* Information and analogy from PCMag.com

CPU/PROCESSOR

- AMD VS Intel
- Dual Core – minimum basic tasks
- Quad Core – standard - acceptable gaming performance
- Six Core – mid-range standards sweet spot for gaming- this is what most games program for
- Eight Core – amazing at all tasks. Not a huge increase over 6 for gaming but significant for productivity software like **Adobe Photoshop or Premiere.**
- Ten or more very very pricey and really recommended for servers

VIDEO CARDS

- NVIDIA & AMD
- Dedicated video cards are better than integrated video cards but also significantly more expensive
- Video cards have their own processor (GPU) and memory (VRAM)
- Minimum VRAM if getting a dedicated video card is 4GB
- Only get 4K if you have a 4K monitor or plan to get a 4K monitor
- RTX, RX, RDNA – Raytracing- advanced lifelike way of rendering light & shadow
- Gaming laptops with powerful video cards do not generally have great battery life.

SOFTWARE & PERIPHERALS

- Microsoft Office / Office 365 / Google Docs
- Anti-Virus
- Printers
- Mouse & Keyboard
- Docking station
- Monitors

WHERE TO SHOP

Direct from Manufacturer:

- Dell (<https://www.dell.com/en-us>)
- Lenovo (<https://www.lenovo.com/>)
- Hewlett-Packard (hp.com)
- Apple Computer (<https://www.apple.com/>)

Major Retailers:

- Amazon
- BestBuy
- Office Depot
- Walmart

Online Computer Suppliers:

- Newegg <https://www.newegg.com/>
- Tiger Direct <https://www.tigerdirect.com/>
- CDW <https://www.cdw.com/>

DISCOUNTS

Universities/Colleges often have discounted purchase options. Employers also might have discount programs with certain dealers. Check around and ask your HR or IT department for suggestions and options. Non Profit purchases should always check the availability of options from Techsoup (<https://www.techsoup.org/>)

MICHIGAN COLLEGE DISCOUNT PAGES

- University of Michigan: <https://techshop.umich.edu/>
- Michigan State: <https://techstore.msu.edu/>
- Wayne State University: <https://tech.wayne.edu/software-hardware/computer-discounts>
- Ferris State University: <https://www.ferris.edu/it/howto/studentlaptops.htm>

PURCHASING RESOURCES

Consumer Reports

- Plymouth Cardholders use our database link on our page

(<https://www.plymouthlibrary.org/legal-and-consumer-information/>)

PC Magazine (online and print)

<https://www.pcmag.com/>

- Best Laptops for 2022

<https://www.pcmag.com/picks/the-best-laptops>

Make Use of (<https://www.makeuseof.com/>)

A Technology website for beginners and experts

- Topics: Buying a used PC (<https://www.makeuseof.com/buying-a-used-pc/>)
- Hardware and Software deals/sales
- Other technology explained

RESOURCES AND CONTACT INFORMATION

- The library also has books and other resources for learning technology. Tutorials are available at this page:
<https://www.plymouthlibrary.org/adult-learning/>
- Our Computers are available during building hours.
- Visit our MakerLab/Creative Space for even more technology options. Learn more: <https://www.plymouthlibrary.org/technology-at-the-library/>
- Melanie and Mary (and our entire staff) are here to help. Drop by the upper level desk for more information.
- Contact us at info@plymouthlibrary.org or call 734-453-0750