



# How to Buy Technology

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# Today's Agenda



Laptops/PCs - Chromebooks

External Hard drives

Smart Devices

eReaders/Tablets

Printers

Smartphones

Smartwatches/Fitness

Reviews

# Why Are You Buying a Computer?

What will your primary use be?

- Email
- Internet
- Basic Applications (word processing)
- Digital Photography or Video
- Business Applications
- Home Office
- Gaming,
- Animation, Illustration

# What type of System?

## PC or Mac

### PC (Windows; IBM Compatible)

- Lower priced for Hardware
- Widely used in homes and businesses
- Mostly used by gamers
- More choices to personalize your system

### Mac (Apple's Macintosh)

- More expensive but includes everything you need
- Choices are limited
- Widely used in graphics, music and advertising industries



# Desktop System or Laptop/Notebook?

## Laptop

- Is Mobility Important?
- Use the PC in different rooms of your home
- Need wireless



## Desktop

- Portability is not an option
- Multiple users in the household will use computer
- More easily upgraded and has more expandability
- Usually lower price



Desktop or Laptop?

[https://youtu.be/\\_s5ixsQay2k](https://youtu.be/_s5ixsQay2k)

# Laptop Considerations

- Size & Weight
- Battery Life
- Is RAM upgradeable
- Widescreen
- Keyboard



# What Computer Should I buy?

- Gamers, Illustrators and Multimedia Producers: High End
- Business Applications (Word, Excel): Mid Range
- Home users (Internet Applications - Web Surfing, Email): Mid Range; Budget

Questionnaire - What Computer Should I Buy?  
<http://tinyurl.com/2t5ym9>



# Decide on System Components (Laptop or Desktop)



Several components to consider:

- Processor, Speed, Ram, Storage, Screen/Monitor



# Processor

- Microprocessor, CPU or Central Processing Unit
- The Brain of the Computer
- Carries out all commands

Popular Manufacturers:

- ▶ Intel
- ▶ AMD

What is a processor?  
<http://tinyurl.com/3wm3r>

# Processor Speed

- ▶ Measured by Ghz (Gigahertz)
- ▶ Computer's clock speed
- ▶ Instructions that the microprocessor can execute per second

- 
- Budget CPUs: 2.4 to 3.0 GHz
  - Mid-range: 2.8 to 3.2 GHz
  - High-end: above 3.4 GHz

Processor speeds

<http://tinyurl.com/2s56pz>

# Current Processor Choices

- ▶ Budget Processors:

  - Intel Celeron D

  - AMD Sempron

  - Intel Pentium 4

- ▶ Mid-Range Processors:

  - Intel Core – i5, i7

  - AMD Ryzen

  - AMD Athlon

- ▶ High-End Processors:

  - Intel Core – i9



# Memory aka RAM

- RAM - Random Access Memory
- RAM measures how many programs can run and process at the same time -

1 character = 1 Byte

1 Thousand bytes (1,024) = 1 Kilobytes (KB)

1 Thousand Kilobytes (1,048,576) = 1 Megabyte (MB)

1 Thousand Megabytes (1,073,741,824) = 1 Gigabyte (GB)

1 Thousand Gigabytes (1,099,511,627,776) = 1 Terabyte (TB)

# How Much Memory?

- Memory allows you to process multiple tasks:
  - Budget: 4 GB
  - Mid-Range: 6 GB to 8 GB
  - High End: 12 GB +
- The More RAM the Better!

# Hard Drive - Storage

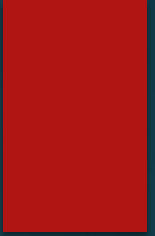


- Hard Disk - Disk Drive - C Drive
- Primary location where data is permanently stored.
- Newer Drive: Solid State -electronic circuitry that is built entirely out of semiconductors.
- Budget: 125 GB
- Mid-Range: 250 to 500 GB
- High End: 500GB to 1 TB or more

Solid State VS Hard Drive  
<http://tinyurl.com/y9sc8k8z>

How hard drives work  
<http://tinyurl.com/3xvooz>

# Modem- How will go Online?



- ▶ Ethernet / NIC - wired
- ▶ DSL / Cable Modem - rare
- ▶ Wi-Fi Wireless – common



# Desktop Monitor

- ▶ Type  
HD, 4K, Widescreen
- ▶ Size & Viewable Area  
15" - 17"  
19" - 21"  
+ 21"

\*\*Some monitors are ALL-in-ONE -  
The harddrive etc are located inside  
the monitor.



# Ports



USB Ports – mouse etc

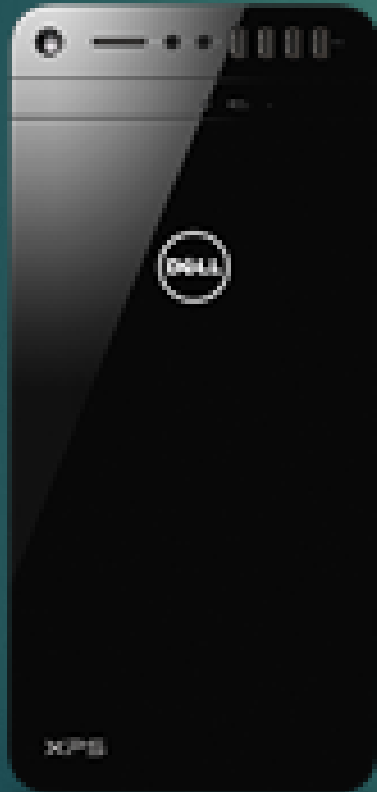
HDMI - Printers, MP3 players, Digital Camera and Video Camera

Parallel Port – Printer, Scanner

Video Port – Monitor, Projector

# DESKTOP - \$1,299 (CPU ONLY)

## Dell XPS Mid to High End



- 9th Generation Intel® Core™
- Windows 10 Home
- 16GB RAM – upgradeable to 64GB
- SSD 256GB and 2 TB HDD – Combo Storage

Prices subject to change

# \$1149.00 Dell Laptop



i7 Intel® Core™ - 8<sup>th</sup> Gen

Windows 10 Home

16GB RAM

256GB Solid State Drive  
Storage

Prices subject to change

# Chromebooks



1. An option for people who won't need to store files, and a tablet is too small, a Chromebook gives you the feel of laptop without the expense.
2. Chromebooks costs between \$200 to \$700
3. Chromebooks only run on the Chrome operating System. Great for those who prefer using Android over Mac.



4. All programs are used via the Internet, using Google Apps (Docs, Sheets etc). You can't download software to a Chromebook.  
\*If you need specific Windows or Mac application - don't get a Chromebook.

# Extern Hard Drives

Unlike an internal **drive (C drive)**, which is nestled firmly inside your computer, an **external hard drive** is a device that you plug into a computer port. An **external hard drive** gives you more **storage** space for you data



1. External Hard Drives connect to your computer with a wire.
2. External Hard Drives are used mostly to back up the data on your internal hard drive



# External HD Considerations

1. One of the biggest considerations for buying an External HD is the **storage size**. As small as 64GB and up to 2TB
2. Transfer Speed – incredibly important, especially if you need to transfer files back and forth several times a day

## Two Factors to determine the speed:

- A. An SSD Drive works faster than HDD – but SSD's are more expensive
- B. The connection – which USB port will you plug your External HD into?
  - USB 2.0 – most common port - will transfer slowly at 480MBPS
  - USB 3.0 - faster, not all computers have USB 3.0 port - speed 10GBPS
  - USB C - newest, smaller size port and fastest speed at 40GBPS

**More Information -** <https://www.digitaltrends.com/computing/how-to-buy-an-external-hard-drive/>



# Smart Home Devices



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



- ▶ A smart home speaker is a device plugged in at home that uses its internet connection to adhere to spoken commands such as turning on music, setting reminders and timers
- ▶ Smart speakers now work in conjunction with smart home devices such as lighting, thermostat and locks. Imagine not having to look for the remote to change the channel.
- ▶ Prices range from \$39.99 to \$300 – depending on their features

**Latest Information for Smart Home Products:**

**<https://www.cnet.com/news/the-best-smart-home-devices-of-2020-amazon-alexa-google-assistant-echo-dot-nest-hello-arlo/>**

# ...Don't Forget the Tablet!

Tablets: thin-and-light designs, touchscreen and offer desktop-style experiences

- Highly Mobile
- Wireless
- Touchscreen
- Great for reading books, emailing, navigating the internet, and playing games.
- Not customizable



# Latest Tablets/eReaders

## **Tablets:**

iPad, iPad Pro, iPad Mini

Samsung Galaxy Series, Galaxy View

Google Pixel C

Asus ZenPad

\*PRICES VARY BY STORAGE AMOUNT

Tech Radar Reviews - [techradar.com/news/best-tablet](http://techradar.com/news/best-tablet)



## **eReaders:**

Amazon Kindle

Barnes and Noble Nook

Kobra Libra

Ereader Reviews - [tinyurl.com/ybynxs9](http://tinyurl.com/ybynxs9)



# Printers

## Type:

Inkjet – less money

Laser – better quality

Dedicated Photo Printer

All-In-One –

Printer/Scanner/Copier/Fax Machine

## Things to consider:

Home use?

Purchase Price

Print Quality – Photos and Text

PPM – Pages Per Minute

Memory – enough for large jobs

Cost of Ink or Toner

Copies per Cartridge

Specialty Paper – Envelopes,  
Off Size Paper

How to Buy a Printer

<http://tinyurl.com/24gu8o>



# HP ALL IN ONE

\$249.99 Staples

## Wireless Printer / Scanner / Copier / Fax



- Color print up to 24 ppm
- B/W print to 30 ppm
- Built-in Wireless-g
- Compatible with Alexa
- Supports Apple AirPrint and Mobile Wifi Printing

Prices subject to change

# Smartphones – iPhone, Samsung, LG, Pixel

- Mobile phone that performs many of the functions of a computer, typically having a touchscreen interface, Internet access, and an operating system capable of running downloaded applications
- Smartphones require a plan with a cell phone company; Verizon, T-mobile, Sprint
- Apple iPhones run on the iOS operating system
- Samsung, LG and Pixel phones run on the Android OS



# Smartphones

- Samsung Galaxy Note 20
  - Apple iPhone 12
  - Google Pixel 4 and 5
  - LG V60
- Smartphone Reviews:  
• <http://tinyurl.com/ychuk4yj>



# Smartphone Prices

Smartphone prices vary – Model, Size, Storage

Cell phone companies offer many plans that will include the cost of the phone

- Cell phone calls aka Minutes

- Text messages

- Using data applications such as internet, email etc

Read the fine print!

# SMARTWATCHES

- Electronic bracelet - Wearable computer
- Ultimate smartphone accessory
- Touchscreen and does tell the time
- Beam important notifications straight to your wrist
- Runs native apps



Google's Android Wear OS

Samsung's Tizen OS

Apple's Smartwatch

- ▶ Smartwatch Reviews:
- ▶ <https://tinyurl.com/zt87whc>

# Smartwatch - Tips

1. **Don't buy** a smartwatch without confirming that it will work with your smartphone.
2. **Pick a watch with** a heart rate sensor and GPS if you're a fitness buff.
3. **Pay attention to rated battery life** - smartwatches with e-paper displays tend to last longer on a charge.
4. **Look for a smartwatch that continues to show the time** when it's not in use
5. **Check that the watch band's clasp** or buckle is easy to use and easy to swap.
6. **The selection of apps** is a factor but not as important as compatibility, design and other features such as Cell service and infrared sensor

## ► **Prices vary:**

Samsung – Approximately \$275

Apple Watches – Approximately - \$300-\$700

# Fitness Watches

- Fitbit
- Garmin
- Samsung
- Apple Watch (latest 5)

**Buyer's Guide Info** <https://tinyurl.com/yb78d8a7>

## **Fitness Watch Reviews:**

<https://www.techradar.com/news/wearables/10-best-fitness-trackers-1277905>

# Reviews



- Technology is constantly changing
- Technology purchases can be expensive
  - Reviews from experts in their field will make you an informed consumer
- The more you know the less likely you will be oversold

# Recommended Review Websites

- ▶ [CNET.com](http://CNET.com)
- ▶ [Engadget.com](http://Engadget.com)
- ▶ [TechCrunch.com](http://TechCrunch.com)
- ▶ [PCMag.com](http://PCMag.com)
- ▶ [DigitalTrends.com](http://DigitalTrends.com)



Happy Shopping!