

# Microsoft Office 2007: Essentials, Revised Edition



Lesson 1: Introducing Basic Computer Concepts

[Return to the Office 2007 web page](#)



LABYRINTH  
LEARNING™

# Looking at Computer Systems

- Personal computers



Desktop

Notebook



# Desktop Computer Components

- **System Unit**

- ▲ Houses the Central Processing Unit (CPU)



- **Peripherals**

- ▲ Hardware items outside the system unit box
  - ◆ Keyboard
  - ◆ Mouse
  - ◆ Monitor
  - ◆ Printer
  - ◆ Etc.



# Defining Units of Measure

## ■ Bits/Bytes

Letter	Morse Code	Byte (ASCII)*	
A	..	1000001	<b>A</b> = 1 0 0 0 0 0 0 1 Bit 1 Bit 2 Bit 3
B	----	1000010	
C	----	1000011	

Term	Description	Examples
Bit	A single on-off switch in a computer circuit	0 or 1
Byte	A single character of data	A, B, C, \$, @, {, \
Kilobyte (KB)	Approximately one thousand bytes of data	About one single-spaced typed page of text
Megabyte (MB)	Approximately one million bytes of data	About 3 average-length novels
Gigabyte (GB)	Approximately one billion bytes of data	3,000 novels' worth of text, or about 1,500 large color pictures



# Defining Units of Measure

- **Gigahertz**

- ▲ Typically measures the clock speed of a microprocessor

- **Resolution**

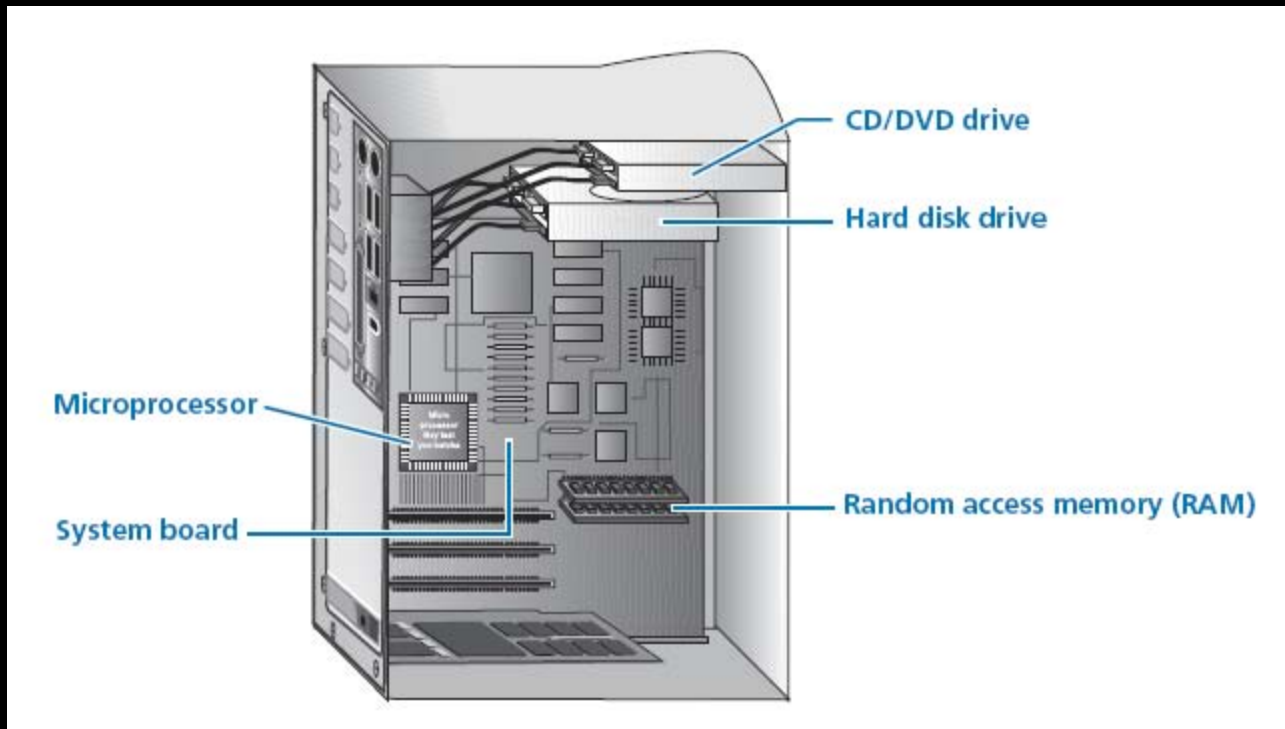
- ▲ Measured in pixels for computer screens and digital photos

- ▲ Measured in dots per inch for printers

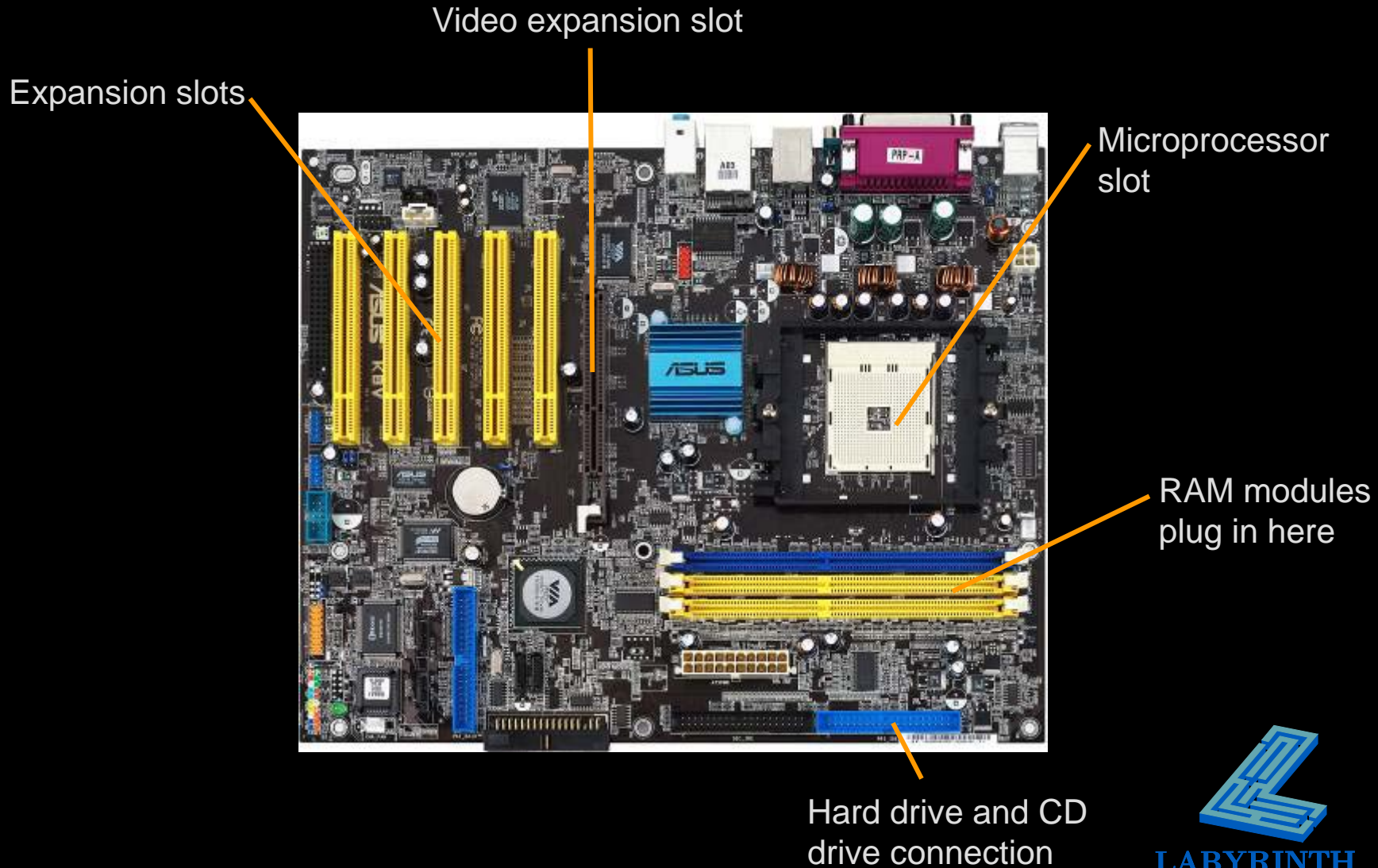


# Looking Inside the System Unit

## Part 1

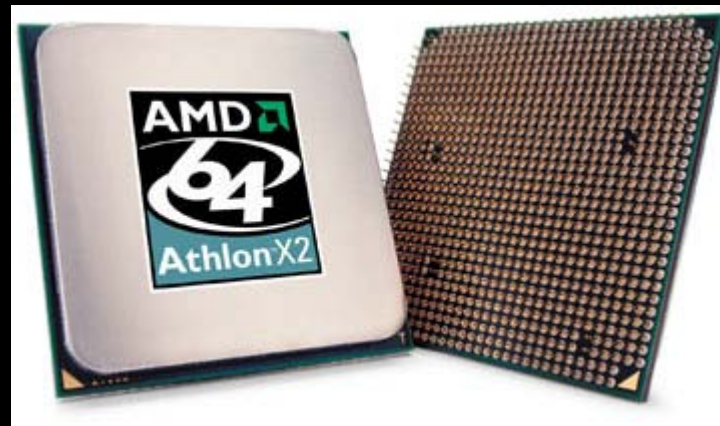


# The System Board



# The Microprocessor

- A computer on a single silicon chip





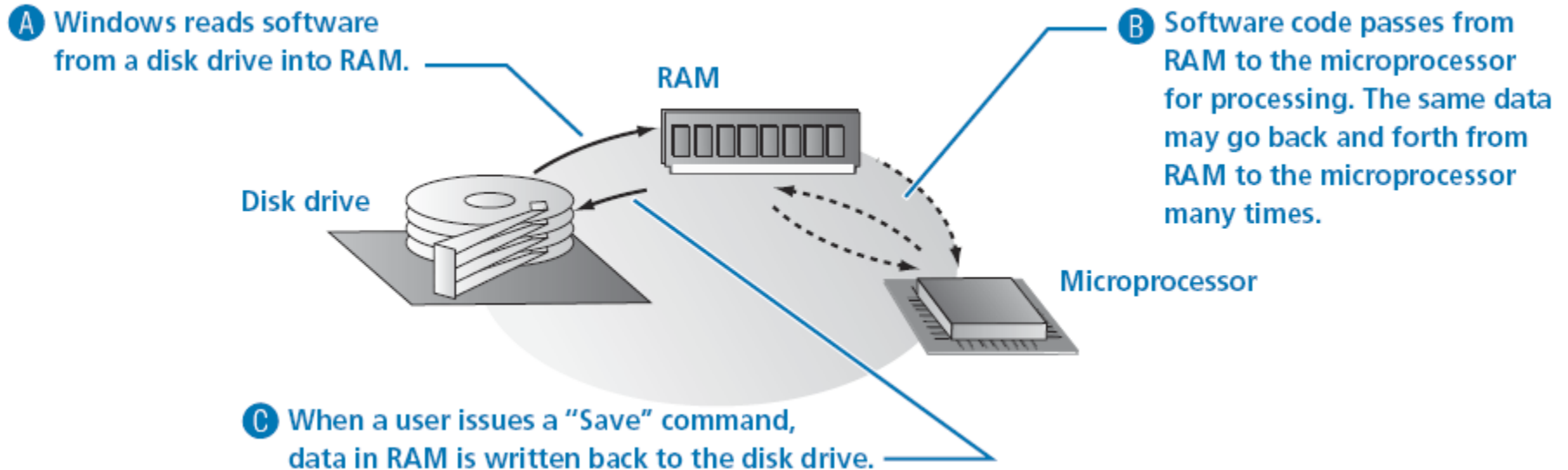
# Microprocessor Performance

- **Clock speed**
- **Design**
- **Multi-Core Processors**
- **Mobile Processors**
- **Performance/Cost trade offs**



# Random Access Memory

- Your computer's "workbench"



- Also called *volatile memory*
- Ram modules
- How much do you need?

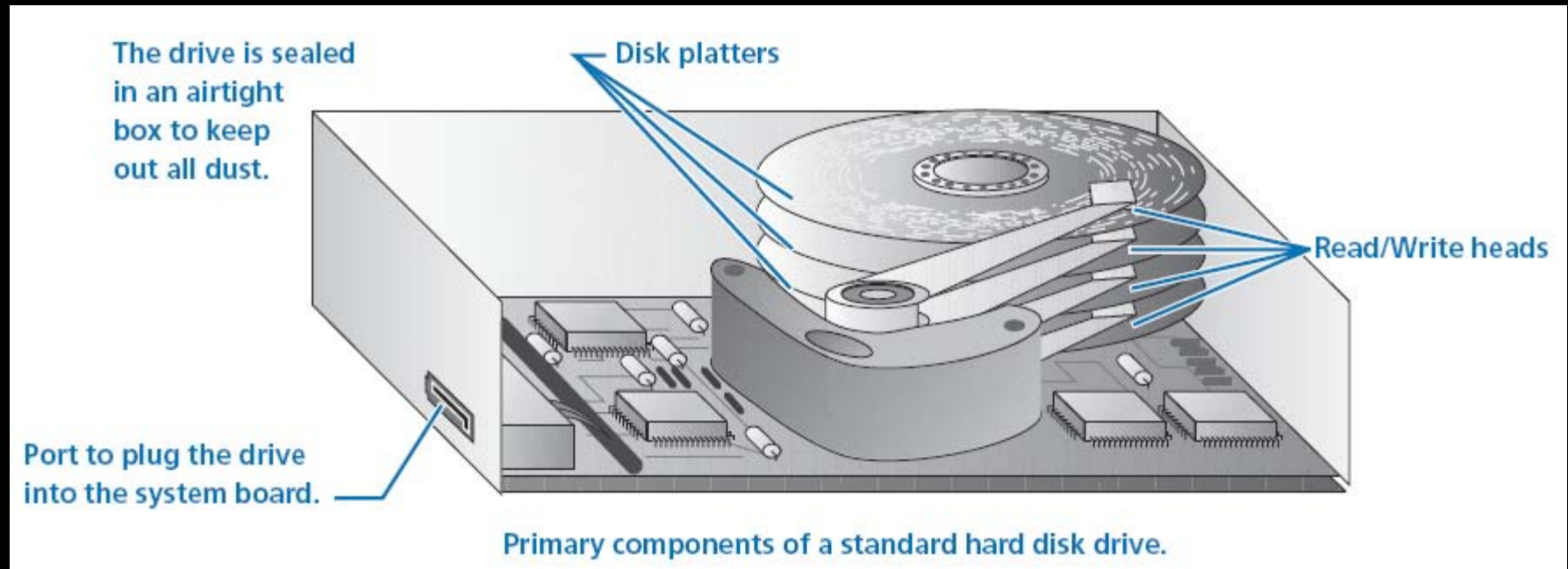


# Data Drives

- Drive Types
  - ▲ Hard Drive
  - ▲ USB Flash
  - ▲ CD/CDRW
  - ▲ DVD/DVD-RW
  - ▲ External Hard Drive
  - ▲ Floppy



# How Disk Drives Work



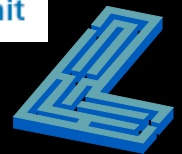
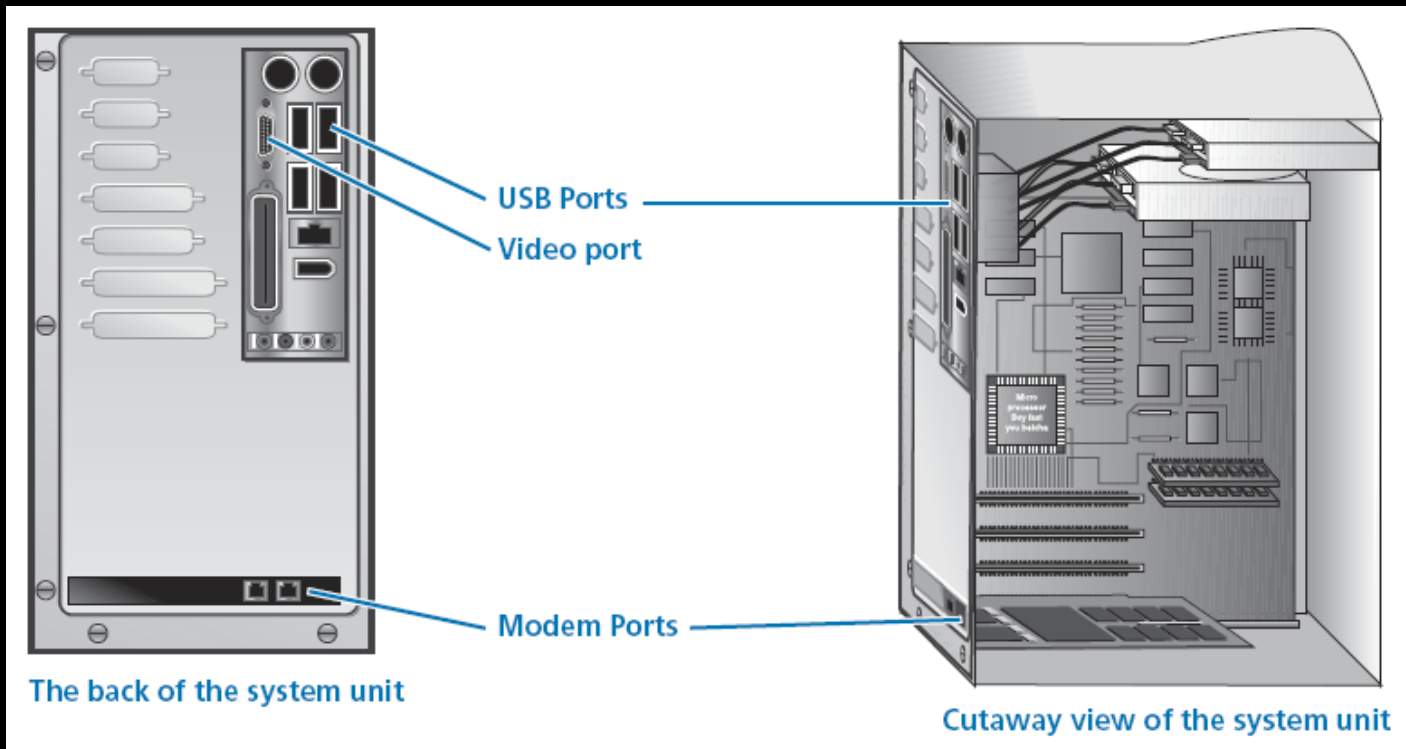
- **RAM Compared to disk drives**
  - ▲ Workbench memory – Storage memory



# Looking Inside the System Unit

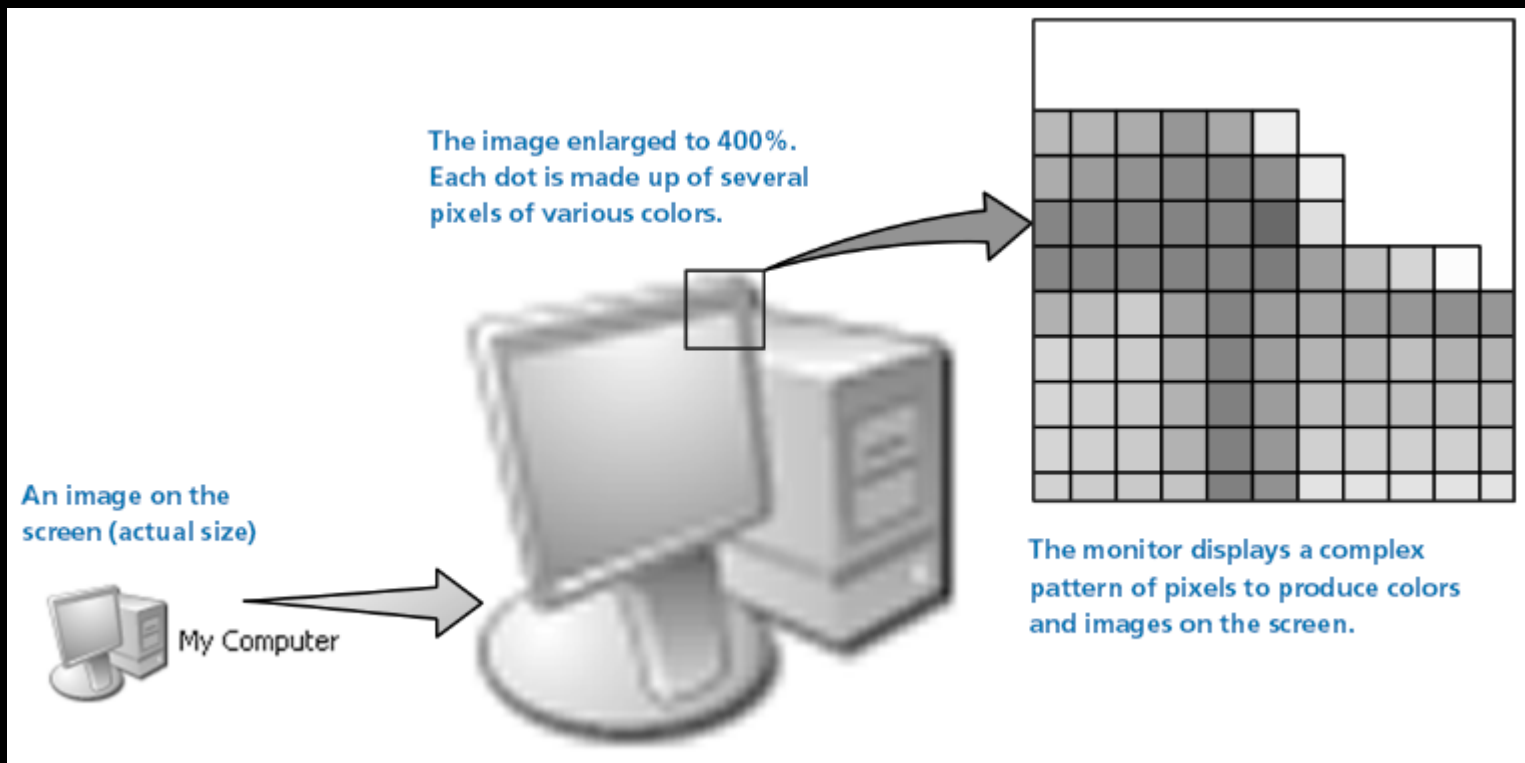
## Part 2

- Video
- Ports



# Computer Video

- The image on the monitor is composed of tiny dots called *pixels*



# Resolution

- **The higher the resolution setting, the more you can display on the monitor**
  - ▲ Images appear smaller at higher resolutions
  - ▲ You can view more on the screen at higher resolutions



My Computer

800 x 600



My Computer

1024 x 768



My Computer

1280 x 1024



My Computer

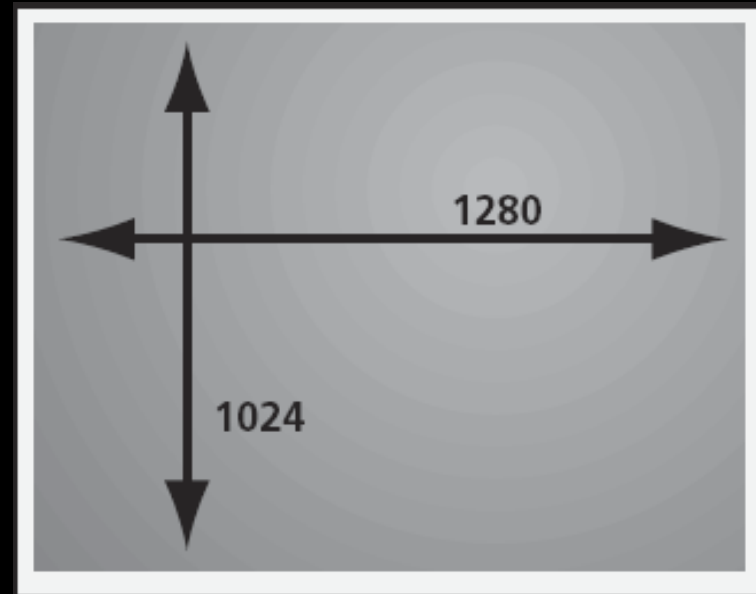
1600 x 1200



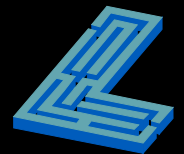
LABYRINTH  
LEARNING™

# Purchasing a Monitor

- **Features to consider...**
  - ▲ Screen size
  - ▲ Native resolution
  - ▲ Contrast ratio
  - ▲ Viewing angle
  - ▲ DVI or analog input



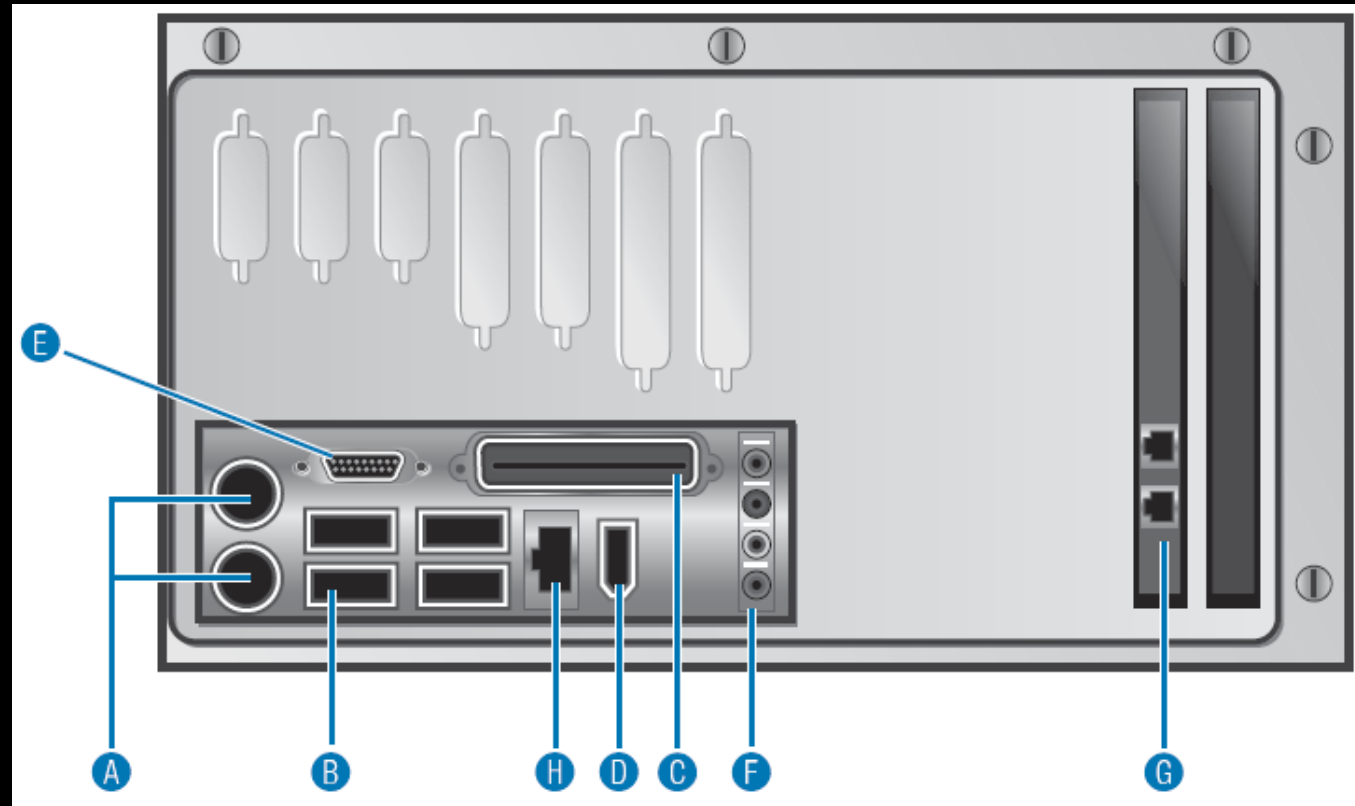
Screen resolution in pixels





# Examples of Ports

- A. PS/2
- B. USB ports
- C. Parallel
- D. Firewire
- E. Video
- F. Miniplugs
- G. Phone jack
- H. Ethernet



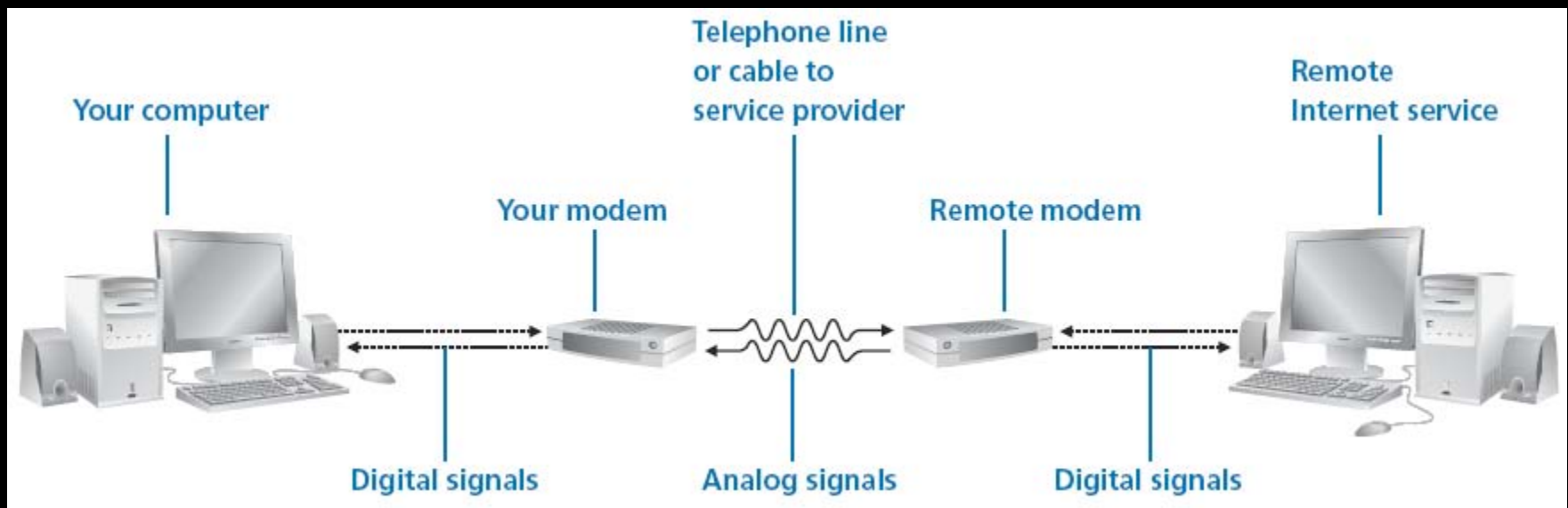
# Examples of Peripherals

- Keyboard
- Mouse
- Monitor
- Printer
- Scanner
- External Modem



# How Modems Work

- A modem takes a digital signal and converts it to sound—and vice versa



# Printers

- **Laser**
  - ▲ Fast, higher initial cost, less cost per page
- **Ink Jet**
  - ▲ Slower, lower initial cost, higher cost per page
  - ▲ Excellent for printing photos



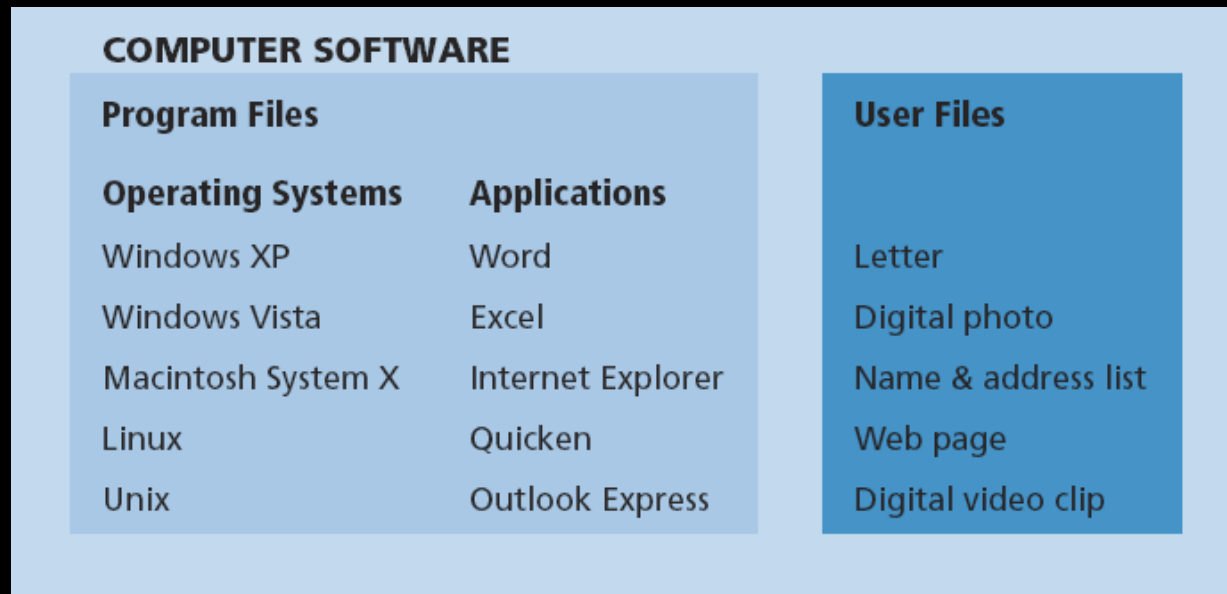
# Surge Protector

- Prevents power surges from ruining delicate computer circuitry
- Always connect your computer and peripherals to a surge protector



# Computer Software

- The logical component of a computer system
- Most software is distributed via CD and downloads from the Internet



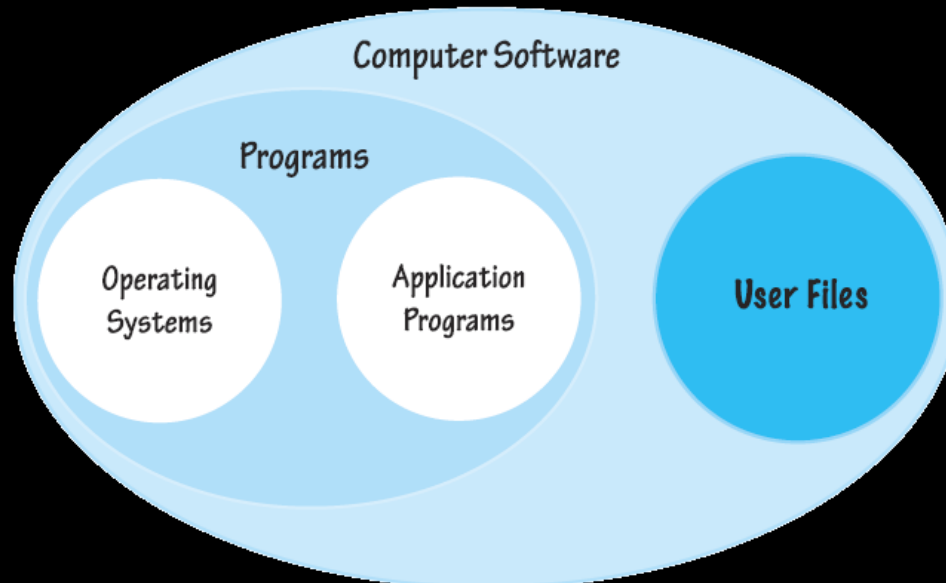
# Computer File

- **Collection of data with a common purpose**
  - ▲ All computer software is stored in the form of files
  - ▲ Some computer files are programs
  - ▲ Other computer files may contain work that you have created, such as a letter or picture



# Types of Software

COMPUTER SOFTWARE		
<b>Program Files</b>		<b>User Files</b>
<b>Operating Systems</b>	<b>Applications</b>	
Windows XP	Word	Letter
Windows Vista	Excel	Digital photo
Macintosh System X	Internet Explorer	Name & address list
Linux	Quicken	Web page
Unix	Outlook Express	Digital video clip



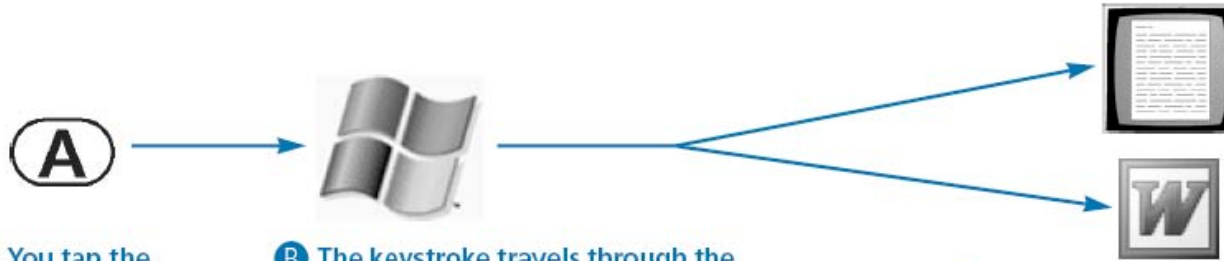


# The Operating System

- Controls all basic computer functions
- Lets you give simple commands to hardware
- Works with application programs to help you save and retrieve your work



# Examples of the Operating System at Work



**A** You tap the key for the letter "A" on the keyboard.

**B** The keystroke travels through the keyboard cable to Windows. Then, Windows decides how to handle the keystroke.

**C** In this case, Windows sends an alphabetic character to the screen and to the word processor.



**A** You want to print a letter you've just typed in a word processor.

**B** You issue a print command from the word processing program (Word).

**C** Word sends a print request to Windows.

**D** Windows tells the printer what to print.

**E** The printer prints the letter.



# Application Programs

- **Software that helps you get work done**

- ▲ Word Writing and editing
- ▲ Excel Electronic spreadsheet
- ▲ Outlook Email
- ▲ Access Electronic filing cabinet
- ▲ PowerPoint Graphic communication
- ▲ Publisher Page layout/desktop publishing
- ▲ Photoshop Image editing
- ▲ Quicken Personal finance
- ▲ Rosetta Stone Learn a foreign language



# User Files

- **Store work you have completed with an application program, such as a:**
  - ▲ Letter typed in a word processor
  - ▲ Digital photo or drawing
  - ▲ Database of names and addresses
  - ▲ Game saved to play later
  - ▲ Music downloaded or copied from a CD



# Computer Viruses

- **Small programs that can invisibly “infect” your system without your knowledge**
  - ▲ Can cause your computer to stall or erase files on disk drives
  - ▲ Many new viruses are discovered every week
- **Computer viruses are malicious programs created by programmers (i.e., people)**



# Antivirus Software

- Watches all activity on your system and can detect many viruses as they try to infect the system
- As new viruses are identified, antivirus software vendors update their software
  - ▲ Obtain updates on the web



# Researching Software

## ■ Research software first

- ▲ Before shopping for hardware, research the software you wish to run on the computer
- ▲ Every application program has requirements for the hardware and operating system that it needs to function properly
  - ◆ If your computer does not meet these requirements, the application program will not run

Component	Requirement
<b>Operating system</b>	Microsoft Windows XP Service Pack (SP) 2 or later or Microsoft Windows Server 2003 (or higher) required
<b>Computer and processor</b>	500 megahertz (MHz) processor or higher; 256 megabyte (MB) RAM or higher; DVD drive; 1 gigahertz (GHz) and 512 MB of RAM or higher is required to run Microsoft Office Outlook 2007 with Business Contact Manager
<b>Hard disk</b>	2 gigabyte (GB) necessary for install; a portion of this disk space will be freed after installation if the original download package is removed from the hard drive
<b>Monitor resolution</b>	Minimum 800x600; 1024x768 or higher recommended
<b>Internet connection</b>	Broadband connection, 128 kilobits per second (Kbps) or greater, for download and activation of products
<b>Additional components</b>	Microsoft Internet Explorer 6.0 with service packs, Microsoft Exchange Server 2000 or later required for Outlook 2007 users. To install Outlook 2007 with Business Contact Manager, you will need to first install Outlook 2007



# Purchasing Hardware after Selecting Your Software

- **Microprocessor**
  - ▲ Type (e.g. CoreDuo)
  - ▲ Speed (e.g. 3.4 GHz)
- **Operating system**
- **RAM**
- **Hard drive space**
- **Drive options**
- **Other hardware**

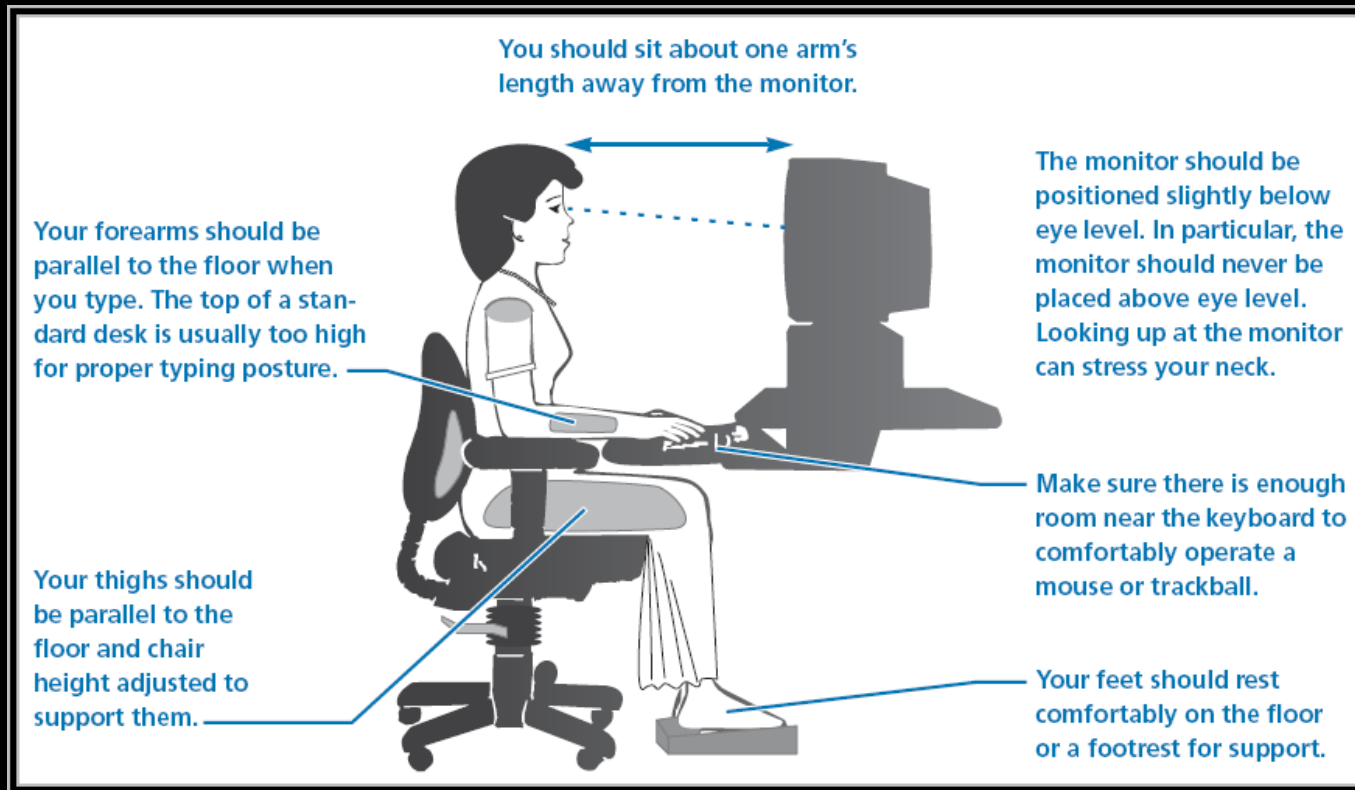




# Setting Up a Computer


## ■ Ergonomics

- ▲ Science of designing equipment to maximize productivity and reduce fatigue



# Healthy Work Habits with Computers

- Risks of computer use include:
  - ▲ Eye strain
  - ▲ Repetitive stress injuries

TIP  *With good work habits, you can significantly reduce these risks.*



# Microsoft Office 2007: Essentials, Revised Edition



Lesson 1: Introducing Basic Computer Concepts

[Return to the Office 2007 web page](#)



LABYRINTH  
LEARNING™