



Computer Fundamentals

Day One Agenda:

1. Introduction (5 minutes)
2. Computer and peripheral devices (10 minutes)
3. Software (5 minutes)
4. Desktop (5 minutes)
5. Navigating through programs (5 minutes)
6. Word Processing (20 minutes)
7. Mousercise and practice (40 minutes)

Day Two Agenda:

8. Review Day One (5 minutes)
9. Organizing files (20 minutes)
10. Computer Safety (15 minutes)
11. Practice, Questions, and Evaluation (50 minutes)

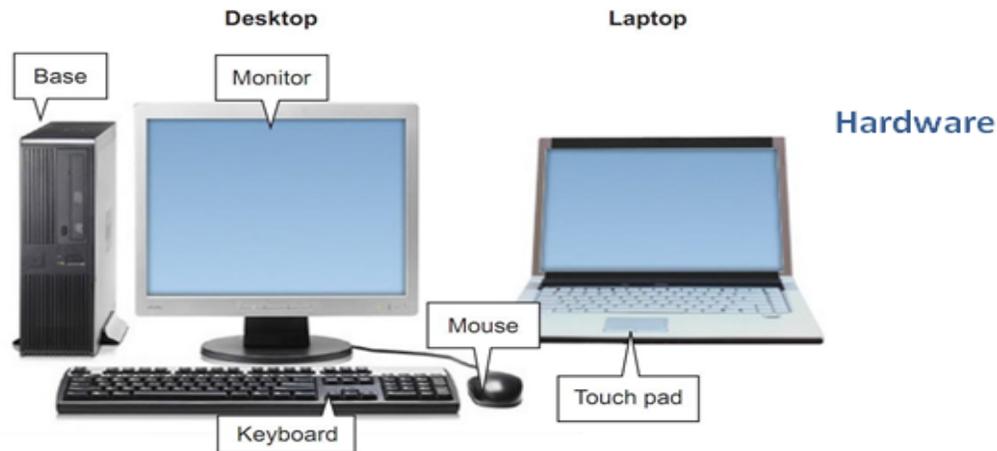
In order to keep computer literacy programs running in the future, we must demonstrate its positive impact on our community. We would be extremely grateful if you would share with us the experiences you have had attending our training sessions and how our program has impacted your life. Please send your responses via e-mail or snail mail. Responses may be used to promote the Utica Public Library and the Mid York Library System as part of grant reporting.

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Base/ CPU	The case that holds all the electronic components of the computer, including the hard disk, RAM chips, central processing unit (CPU), and motherboard. Inside the case is where everything takes place.
Monitor	Similar to a television, the monitor displays text, pictures, and other items from the computer on a screen.
Keyboard	The set of typewriter-like keys you use to enter information into or communicate with the computer
Mouse	The device that controls the movement of the pointer displayed on the screen. The Mouse lets you communicate with the computer.
Touchpad	Same function as a mouse and found on most laptops. Unlike a mouse, you can use two hands!
Laptop	Portable computers with the electronic component, monitor, keyboard and mouse all encased in a light-weight, battery-powered, portable unit which can fit on your lap. They are also sometimes referred to as 'notebooks.'

Software

Software means the same thing as Program or App (application). Whereas a piece of hardware is a mouse, keyboard, monitor, or digital camera, a piece of software is a program that runs on the computer. Examples include Microsoft Word and Internet Explorer. Software may come pre-loaded onto your computer or be purchased separately then downloaded.

Two key types of software:

- Operating System
- Application Programs

The Operating System is the most important software on your computer. Examples include: Windows 10, Windows 8.1, Windows 7/Vista/XP, Mac OS X, Linux, and Android.

The Operating System:

- Manages all other programs – kind of like the computer's brain
- Performs basic tasks, such as recognizing input from a keyboard, sending output to a monitor, and controlling external items like printers
- Determines what *application programs* you can run

Ports

A port is a socket in a computer into which a device can be plugged. Examples of such external devices include a flash drive, mouse, keyboard, monitor, printer, headphones, or digital camera SD card.



***Port locations vary among different computer models.

Security cable lock	Special locks may be purchased which are similar to bike locks
Power cord	Attach power cord here
USB ports	Stands for Universal Serial Bus. It is an outlet for connecting computers with electronic devices such as a flash drive, thumbnail drive, mouse, printer, etc.
VGA	Connects your laptop or desktop to a larger monitor or projector
Audio in	Attach a microphone here
Headphones (Audio out)	Plug headphones in or speakers
PC card/ Smart card	Credit card with a built-in microprocessor and memory used for identification or financial transactions.
Media card slot	Reads storage cards that most cameras, mp3 players, and cell phones use
CD/DVD drive	CD/ DVDs go here. You might need to push a button to get the carriage to come out or sometimes you simply push the CD/DVD into a slot
Ethernet	Allows user to connect to the Internet

Turning the Computer On

The power button's location is different on each machine model. But it usually looks like this:



Depending on how your computer is set-up you may or may not have to log in with a user name and password.



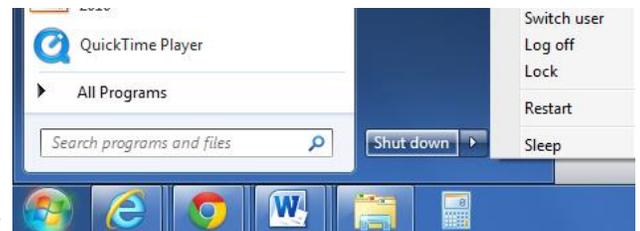
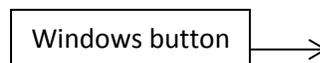
If you are using a public computer in the library, the computer will already be on. You will just need to log-in with your library card number.

If you had manually turned the monitor off, you will have to turn it back on. The power button for the monitor is usually in the bottom right corner. If you had not manually turned off the monitor, you do not need to turn it back on; it will come on automatically when the computer boots up.

Turning the Computer Off

Left click on the Windows button, and then on the shutdown button.

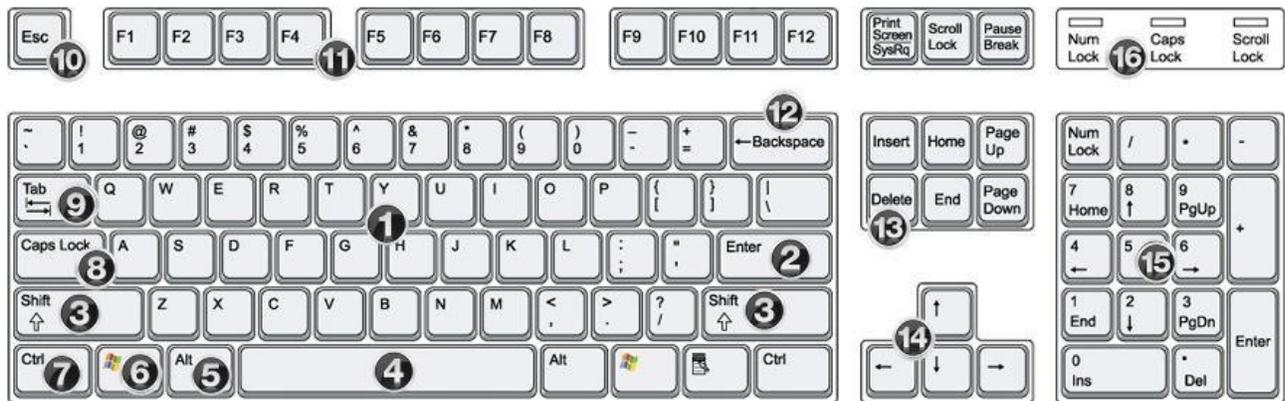
It will automatically shut down.



If you would like to do something other than turn the computer off, click on the triangle next to the shutdown button. Other options include:

Switch user	If you have multiple user accounts set up on your computer you can switch users without restarting the computer.
Log off	Choose this option to log out of your user account but keep the computer on.
Lock	Choose Lock if you want to walk away from your computer for a time. It will remain On and the programs you were working on will remain open. When you come back you will have to reenter your password to get back into your user account.
Restart	All of your programs close and your computer cuts all power. Then it turns itself back on.
Sleep	The computer maintains a fast state of readiness. Power is cut to the hard drive and monitor, but you are still using some power as the open programs are held open and ready for you to continue the next time you push the power button. You are up and running in seconds.

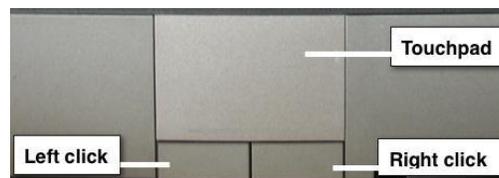
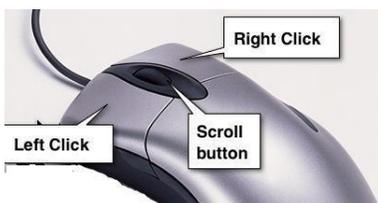
Keyboard



1	Letters	Letters are arranged in the Qwerty style, just as they are on typewriters.
2	Enter	Enter key performs a command, or as in a word document, brings cursor to the next line
3	Shift	Make one letter upper case; on keys with multiple characters, hitting the shift key will activate the top character. For instance, if you hit the “2” key, a 2 will appear. If you hit the shift key and then the “2” key a @ will appear.
4	Space bar	Moves cursor forward one space
5	Alt	Keyboard shortcut key
6	Ctrl	Stands for “Control.” Important keyboard shortcut key
7	Windows	Opens and closes the Start menu
8	Caps Lock	This key will make ALL YOUR LETTERS CAPITALIZED.
9	Tab	Indent text or use the tab key to navigate between boxes or fields.
10	Esc	Exit from some screens
11	F keys	“F” stands for function. Function keys are programmable shortcut keys. The functions may differ depending on which software program you are using.
12	Backspace	Removes text to the left of the cursor
13	Delete	Deletes text to the right of the cursor
14	Arrow keys	Often called Cursor Control Keys, these four keys move the text cursor in the direction of their arrows. Above them are more cursor-control keys — the six-pack of Insert, Delete, Home, End, Page Up, and Page Down
15	Number pad	An alternative to using the number keys at the top of the keyboard
16	Indicator lights	When these symbols are lit up it means that the Number lock, Caps lock and/or Scroll lock is on.

Mouse and Touchpad

- You use the mouse and the touchpad to move the cursor around the screen and perform commands.
- To perform a command, press the left button. The right button will open up a secondary, popup or shortcut menu.



Clicking

One of the most difficult things to learn when starting with computers is how to use the mouse. It takes coordination, finesse, and precision. Fortunately, every time you practice, you will get better.

For now, remember these rules:

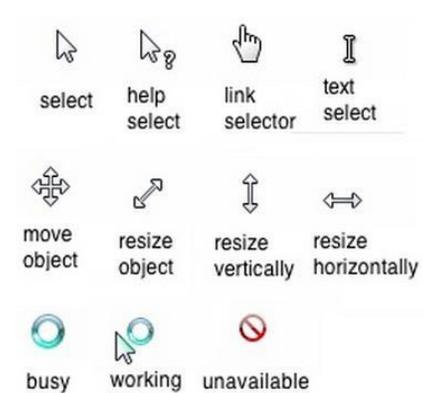
1. The LEFT mouse button SELECTS items
2. The RIGHT mouse button GIVES YOU MORE OPTIONS
3. Double-Clicking the LEFT mouse button EXECUTES options – like opening a shortcut on the desktop
4. Double-Clicking the RIGHT mouse button DOES NOTHING

NOTE: The mouse is intended for you to use with your right hand, regardless of whether or not you are right-handed.

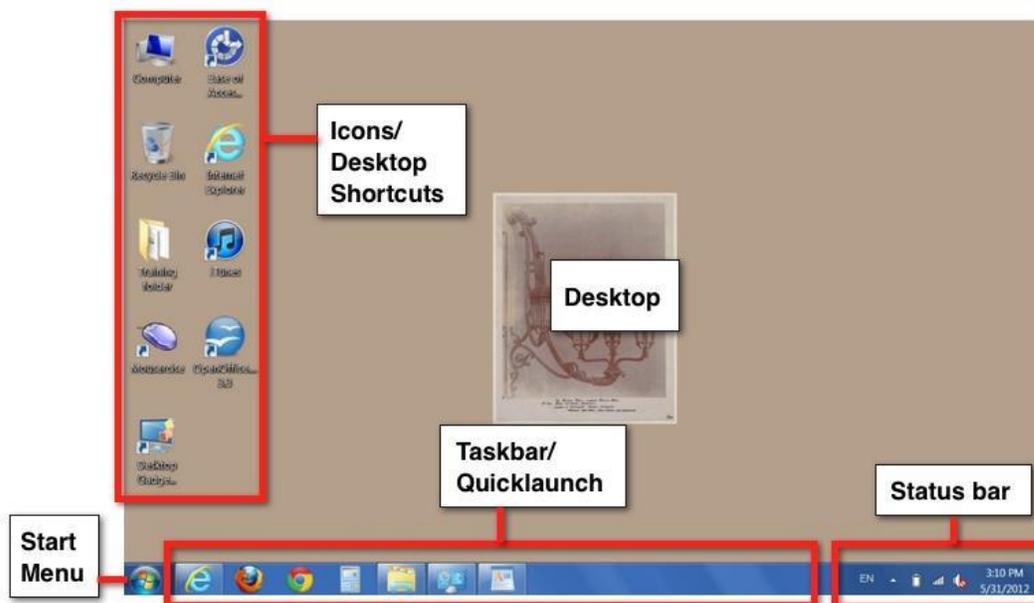
The Cursor

Select is the form your cursor will most frequently take. You move this arrow to a location to “click” on something that will perform an action.

Text Select	appears when you are in a location where you may enter text.
Link selector	lets you know that if you click with the hand visible, a link will open.
Resize	options allow you to make windows or images larger or smaller
Busy	means the computer is working and you need to wait for it to finish, this symbol was an hourglass in older operating systems
Working	means the computer is working but you should still be able to perform other tasks
Unavailable	will appear when you try to use your cursor in a location where you are not allowed to take action



Desktop (Windows 7)



The desktop is your work surface. It is the screen you see once your computer has finished booting up and ready to get started.

The small icons of pictures are shortcuts to programs. Double-click icons on the Desktop to start a program. Left-click once if the icon is in the Taskbar at the bottom. Clicking the Start button (also called the Windows button) shows a list of programs and other options on the computer.

The blue bar across the bottom of the screen is the Taskbar. Here you can see the clock in the far right, and also what programs are open on your computer.

Task Bar

Microsoft Windows is capable of running more than one program at once. In other words, you can write a letter in Microsoft Word, while surfing the Internet while using Microsoft Excel to create a spreadsheet and so on. This is multi-tasking and it is a feature of all operating systems.

To find out the programs running at once, check out the blue task bar at the bottom of your screen.

Windows 7 Task Bar:

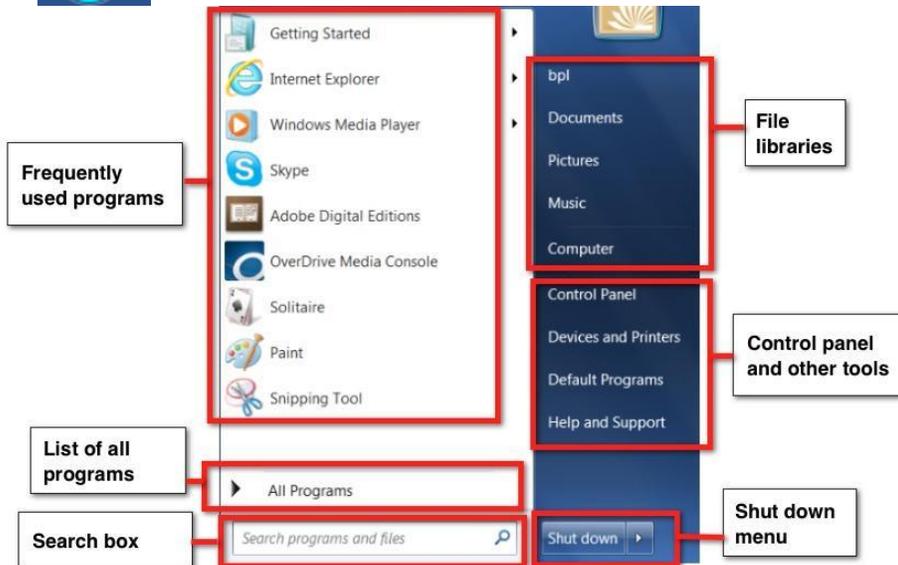


In Windows 7, programs that are open appear in 3-D (they are outlined and look raised). In the task bar above, there are five programs open. Even though there are eight icons pictured, not all of them are in 3-D. To open the application to see what is running, simply click on it OR you can hover the mouse pointer without clicking to view a small preview.

Hovering the mouse to preview a PowerPoint Program:



Start Menu



The start menu is located in the lower left hand corner of the screen. It might say start or be a circular window.

The **Start Menu** has many uses. It's one way to open a program. If you have trouble opening a program using the icons on the desktop or if your computer does not display an icon for a program you can look in the start menu. Other uses found under the Start Menu:

- **Search box**- you can quickly search your computer for files and programs
- **Control panel** – has many uses a few of which are:
 - Change wallpaper
 - Adjust mouse or keyboard settings
 - Adjust monitor settings
 - Change security settings
 - Defrag disc
 - Change network settings
- **All Programs** lists every program installed on your machine.
- **File libraries**- These are the default file folders your computer comes with. Files you create may be stored here.
- **Computer (or My Computer)**- See all the drives on your computer and see any external devices attached to your computer

Opening and Closing a Program

- Double click the icon on the desktop for the program you want to open.
- Click on the white X in the red box in the upper right corner of the window to close it.
- If you have trouble double clicking, click once on the icon for the program you want to open, then hit the **Enter** key on the keyboard.
- You can also close a program by clicking on the word **File** in the top left corner of the screen and then on **Close** (sometimes Exit instead of close).

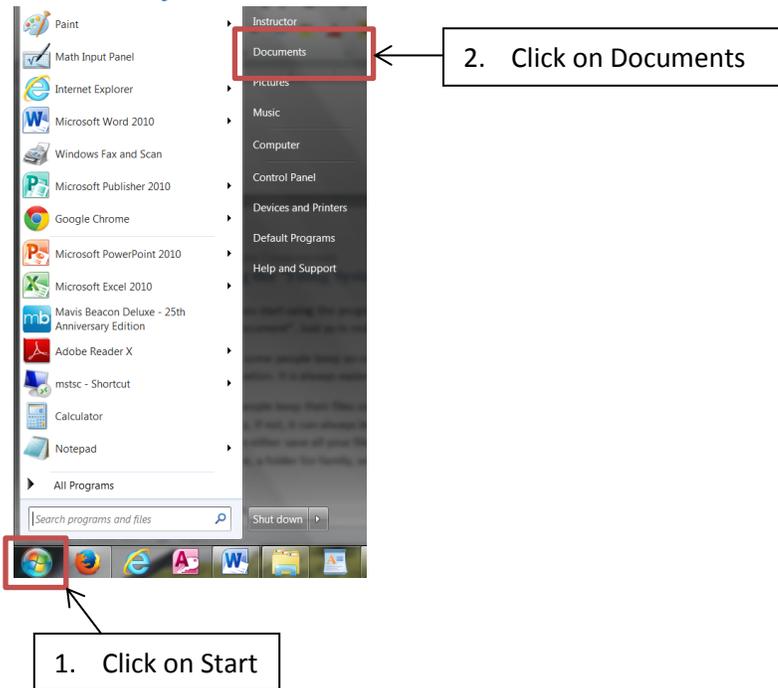


Once you start using the programs on your computer, you can save your work. Each piece of saved work is called a file or document. Just as in real life, you can organize these files into folders.

Just as some people keep an organized file cabinet and others keep a messy one, your computer will reflect your sense of organization. It is often easier to find things if you organize them well.

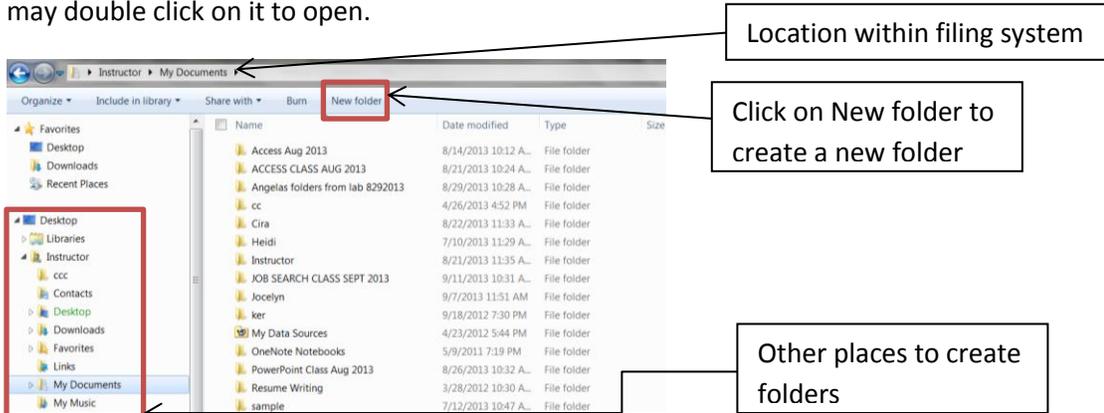
Most people keep their files organized in the “My Documents” folder. Sometimes there is a shortcut to it on your desktop, if not, it can always be found in the start menu under the “Documents” option. Once inside “My Documents” you can either save all your files in one big pile, or you can make separate folders for each area (for instance, a folder for family, work, financial records, etc).

To view “My Documents” in Windows 7



To create a new folder:

While in My Documents (see steps above), click on New Folder. A new folder will appear. The name will be by default called “New folder”, but it will be highlighted in blue ready for you to rename it. Once you name the new folder, you may double click on it to open.



Put an existing file into a folder

1. Find the file you want to move into a folder
2. Right click on the file (a menu will appear) then left click “Cut”
3. Find the folder you want to put the file in
4. Right click on the folder, then left click on “Paste”.

Variation: click and drag the file into the new folder. You will see the outline of the file icon move as you drag it. Once you are over the chosen folder and it is highlighted in blue, release the file into it. Be sure you don't drop the file into the wrong folder – it can be tricky to find when this happens.

You can also save a file directly to the folder of your choice. When you are ready to save the file/document, choose “Save As”. Navigate to the correct folder, name the file, and click Save.

Housekeeping Tips

Don't touch the screen.

The oils from your fingers will leave fingerprints that are hard to remove. Avoid touching the screen if you can. To clean a CRT screen, spray some glass cleaner, or a mixture of 50% water and 50% rubbing alcohol, on a lint-free rag, then wipe the screen. Don't spray anything directly on the screen. To clean an LCD screen use LCD cleaner or cleaning cloths sold at most computer and electronics stores.

Keep drinks and food away from the computer.

This is tough, but one cup of coffee or can of soda can ruin your keyboard. Also, crumbs can be a problem. To clean a keyboard, use compressed air, or a small clean paint brush to brush out lint and other debris.

Keep magnets away from your hard drive.

A magnet can ruin your hard drive, so don't put any around the computer.

A Word of Caution

Remember that computers are machines just like any other mechanical object. Sometimes, although rarely, they are subject to failure, and certain parts must be replaced. It is important to note that they also need to be maintained, just like your car or other machinery; adding a bit of sporadic care to your computer will return to you in the long run, allowing your system to run smoothly and efficiently. Remember to be careful with foods and liquids!

What is a computer virus?

A computer virus is a program that was written to intentionally harm your computer. Viruses are spread through email or other infected files, sometimes even from just visiting a web page.

How to prevent a computer virus

There are several things you can do to protect your computer from a virus. One is install anti-virus software on your computer and keep it up to date. Also, do not open suspicious emails that have attachments or that come from people or organizations you do not know. Before you download files to your computer be sure you know where the file is coming from and what it is.

Think you have a virus?

Don't panic! Even careful Internet users can accidentally get viruses. You don't necessarily have to go to Best Buy for an expensive anti-virus software program or buy a new computer. There are several options that will take care of most problems.

Microsoft Windows PCs:

Go to Microsoft's Safety and Security Center and download the Microsoft **Safety Scanner** - <http://www.microsoft.com/security/default.aspx>

The Microsoft Safety Scanner is not a replacement for using an antivirus software program that provides ongoing protection.

For on-going protection, guard your PCs against viruses, spyware, and other malicious software, download **Microsoft Security Essentials** if you have Windows 7 or Vista- <http://windows.microsoft.com/en-us/windows/security-essentials-download>

Build up your computer's defenses

- Never download anything in response to a warning from a program you didn't install or don't recognize that claims it will protect your PC or offers to remove viruses. It is likely to do the opposite.
- Get reputable anti-malware programs from a vendor you trust.
 - Windows 8 includes antivirus protection called **Windows Defender**. It's turned on by default.
 - If your computer is not running Windows 8, download **Microsoft Security Essentials** for free.
 - Choose security software that is compatible with your PC. Visit <http://www.microsoft.com/windows/antivirus-partners/windows-7.aspx> to see reputable security software that is compatible with Windows 7, Vista, and XP.

If you would like help choosing a computer to buy, you can check out these websites:

<http://www.quickanddirtytips.com/tech/how-buy-new-computer?page=all>

<http://www.pcworld.com/category/computers-all/>

Note: In the same way that there are plenty of car manufacturers, there are also plenty of companies that produce computers. Many computers fall into a category called PC computers.

However, there is also a company called Apple. Apple computers (also called “Macs”), are a different breed of computer system. Both types of computers are good and work well. The vast majority of the world’s computers are PCs, and they are what you will find at most libraries and homes.

Troubleshooting FAQ

Can I leave my computer on all the time?

Generally yes. If you use your computer frequently throughout the day then you will want to keep it on. You may want to at least turn your monitor off to prevent screen burn. However if you are on your computer for an hour or two per day then to save power and keep your machine cool you should turn it off when you are finished. You may also want to see other options on page 5.

What should I do when everything freezes and the mouse and the keyboard don’t work?

First, make sure the mouse and keyboard did not come unplugged from the back of the computer. If that is not the problem, try pressing the ESC key in the upper left corner of the keyboard. You can also press CTRL+ALT+DELETE to open the Task Manager, click on the program that is not responding, and then click on End Task. If nothing seems to help then you will have to re-start your computer (and you may lose whatever you were working on).

The computer is on, but the screen is blank.

Check to be sure the monitor is turned on, plugged in, and connected to the computer. If the computer has not been in use for several minutes a screen saver may have started. Jiggle the mouse or press the space bar to stop the screensaver.

Suddenly while I was typing EVERYTHING CAME OUT IN CAPITAL LETTERS.

You probably pressed the Caps Lock key on the keyboard by mistake. Press it again to turn off the caps lock.

Suddenly while I was typing the words that I am typing are replacing other words.

You probably pressed the Insert key by mistake. Press it again to turn off Insert and stop typing over existing text.

Basic Computing Skills:

<http://www.bbc.co.uk/webwise/>

<http://askabbystokes.com/>

Typing:

<http://www.powertyping.com/>

<http://www.gcflearnfree.org/computers/typing>

Practice using the Mouse:

Mousercise: <http://www.pbclibrary.org/mousing/mousercise.htm>

Glossary

Apps	Stands for Applications. Applications are software programs.
Back up	Make copies of files
Blog	Short for Web log, a blog is a Web page that serves as a publicly accessible personal journal for an individual.
Boot	Startup computer
Browser	Program for reading information on the Internet: Internet Explorer, Mozilla Firefox, or Safari
Cursor	Movable indicator used to indicate the insertion point
Database	Collection of related data organized for convenient access
Desktop	Starting screen for Windows or Mac
Dock	The bar of icons that sits at the bottom or side of your screen. It provides easy access to some of the Apple applications on your Mac
Download	Transfer information from one computer or website to your computer
Drop-down menu	A menu of commands or options that appears when you select an item with a touchpad or mouse
Email	Electronic mail send through the Internet
File	Any amount of information stored together as a single entity
Flash drive	A removable file storage device

Folder	Storage unit for one or more files
Hardware	The physical machinery and devices that make up a computer system.
Home page	First page of a website
Icon	Symbol or picture depicting a command or application. Usually a short cut.
Internet	A global network connecting millions of computers and users
Invisible web	Also referred to as the <i>Deep Web</i> , the term refers to either Web pages that cannot be indexed by a typical search engine or Web pages that a search engine purposely does not index, rendering the data "invisible" to the general user.
Keyword	Descriptive word used to locate information
Links or hyperlinks	A link to move from one web page to another or to include a web address in an E-mail
Log off	Closing a session on a computer, Internet or website.
Log on	Typing in a username and password to gain entry to a computer or the Internet. Also many websites require users to log on as well.
Menu bar	A row of commands usually in the top left hand corner of hte screen, which are specific to the program you are using.
Mouse	A pointing device, which controls the cursor
Online	Connected to the Internet
Operating system	The software that allows computer users to run applications with the hardware of a specific system. Microsoft® Windows® or Apple® Computer's OS are examples of operating systems.
Reboot	Restart computer, usually after a problem
Scroll bars	There may be vertical and horizontal scroll bars. Scroll bars allow you to view information that does not fit on the screen.
Search engine	Online software used to search for information on the Internet, for example Google
Sleep	An energy-saving mode of operation in which all unnecessary components are shut down
Software	The programs and other operating instructions used by a computer

Task bar	Open programs or applications appear in the Task bar, located at the bottom of the screen. You can use the Task bar to switch between open programs. When you close a program the name button for that program disappears from the Task bar.
Tool bar	Consists of rows of icons or buttons used to carry out specific and commonly used commands, such as printing.
Touchpad	A computer input device for controlling the pointer on a display screen by sliding the finger along a touch-sensitive surface
Upload	To transmit data from a computer to a bulletin board service, mainframe, or network.
URL	Stands for "Uniform Resource Locator." Identifies the address for a website
Username	Name assumed to identify oneself.
Web page	A document connected to the World Wide Web and viewable by anyone connected to the Internet who has a web browser
Web site	Sets of web pages on the Internet
Windows	The Microsoft operating system
windows	An enclosed, rectangular area on a display screen.
World Wide Web	Sets of interconnected multimedia documents on the Internet