

Welcome to *Teach Yourself: Computers, Windows and the Web*

This *Teach Yourself* tutorial explains the basic parts and functions of a computer so that you can make better use of it. If you consider yourself a computer beginner, you will find this tutorial helpful. By the end of the tutorial you should be familiar with the concepts listed below. This is the same tutorial we use in our Computer Basics class, but which has been adjusted so you can take the course on your own. If you would like to attend Computer Basics or any other class offered by LFPL, just go to the LFPL website www.lfp.org and click on 'Events' on the left side of the screen to find when and where the next class meets.



Computers, Windows, and the Web

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A few interesting websites



Things to remember before one starts using a computer

- 1) **You're not going to break the computer.** Computers aren't as fragile as you might think. Pushing one or two buttons isn't going to cause the computer to break or explode. Computers are tougher and smarter than we sometimes think. If you've been pressing keys you shouldn't, the computers will usually ask you if you're sure you want it to do what you told it to do.
- 2) **Computers do some strange things.** Sometimes, for no apparent reason, they freeze up and refuse to work, or a program doesn't work quite the way it's supposed to. More than likely in these weird circumstances, you didn't do a thing to cause the problem.

Parts of a Computer System

Two Types

Computers generally come in two flavors: desktop and notebook (or laptop). Desktops store the internal components of the computer in a big box (often called a tower) that can sit on a desk or on the floor. Desktops offer more power for less money, but they are larger, in many pieces, and not easily portable. Notebooks get their name from the traditional spiral notebooks you had in school: they're smaller, in one piece, and much more portable. However, they are usually much more expensive than a comparable desktop.

The CPU (Central Processing Unit)

Both desktops and notebooks carry their brains inside them, either in the desktop's case or in the part of the notebook under the keyboard. The actual brain is called a "processor" or "microprocessor."

The processor is a computer chip about half the size of your hand. That's where all the activity takes place in your computer. There are all sorts of processors and, as time has passed, processors have gotten smaller, more sophisticated, and faster.

A processor's speed is measured in gigahertz (GHz), which measures the rate at which the PC components work together. When comparing gigahertz measurements on machines, it's important to make sure you're comparing comparable devices (Intel to Intel, AMD to AMD, etc.) You shouldn't compare an "apple" to an "orange," i.e. an Intel processor to an AMD processor.

Drives

Among the other pieces of equipment in the CPU case are storage devices known as "drives." Computers typically have a "hard drive" and an optical drive. A hard drive is a

unit that stores large amounts of information, programs, and the operating system that runs when you turn on the computer. Storage space on hard drives is typically measured in gigabytes (GB). Most computers come with a hard drive built in, and you can purchase additional internal and external drives as well for more space.

CD/DVD Drives

The other drive you will likely find in a CPU case is the CD/DVD drive. CD-ROMs developed out of audio CD technology. At first, CD-ROMs simply contained programs that you would load onto your hard drive. However, as users data needs grew and technology improved, computer manufacturers started offering CD Writers that would allow users to save their personal data as well as back up their hard drive to CDs (several CDs in the case of a hard drive). In addition to offering much more space than a floppy disk, CDs were much more reliable over the long term than floppies. Eventually computers would also offer DVD drives to play DVDs and then to write to DVDs as well, offering six to thirteen times the space of even a CD. Finally, Blu-Ray drives have emerged that offer six times the storage space of DVDs.



USB Ports and Flash Drives.

Look on your computer CPU and you will likely see several small rectangular holes. These are called USB ports. USB stands for Universal Serial Bus, and is a standard interface designed to allow users to swap devices from these ports without having to reboot the computer. You might see your mouse or keyboard plugged into these ports, but you can also use them to plug in digital cameras, mp3 players, and flash drives. Flash drives (also known as thumb drives because they are about the size of your thumb) are not really drives, but rather circuit boards that can store up to several gigabytes of data. The circuit boards are protected in a plastic or metal casing, with only the USB connector visible. Flash drives are popular because they are small, durable, and even fashionable, as they can be secured to a keychain or lanyard.

Memory

You also have memory chips in your CPU case. There are two types of memory: The first is **ROM (read only memory), of which all CPUs contain a small amount. This ROM allows for fundamental computer operations to occur.**

The other type of memory, RAM, can be added to a computer. **RAM or random access memory is necessary for running the programs that you've loaded onto your hard drive.** Typically the larger and more complex the program, the more RAM will be required. Adding RAM is usually considered to be the most cost-effective way to upgrade your computer.

Monitor

The screen you're looking at is called a monitor. It may look like a television, but it works differently. It is an output device that displays the activity of the CPU or other computer hardware. Simply put, **the monitor displays what you've told the computer to do for you.**

Keyboard

The keyboard is reminiscent of the old typewriter keyboard, isn't it? In fact, keys are arranged on it very similarly to the way they were on the typewriter. **The biggest difference you will find between a typewriter and a keyboard is that the keyboard has many additional keys,** including function keys (at the top of your keyboard, designated F1, F2, etc.), cursor keys (the arrows near the bottom of the keyboard), and a set of number keys.

Mouse

The other primary input device is the mouse. In most cases, the mouse will have a left and right button. The left button is used primarily for selecting data, choosing options, and launching programs. The right mouse button is more commonly used for displaying submenus and options that may be available.

Modems

Modems are devices that allow you to communicate with other computers. While some modems still connect to the Internet by dialing your ISP (Internet Service Provider), an increasing number of them maintain a constant, high-speed connection via your phone line (DSL) or cable jack (cable). If you dial in to your ISP, you are said to have “dial-up” access, while if you have a constant connection you have “high-speed” or “broadband” access.

Printers

We should also talk about printers. Most people that create documents, forms, etc., will want a way to use them outside of the computer and, thus, a printer is needed. There are different types of printers (laser, inkjet, dot matrix) with different quality. Printers are measured by dpi (dots per inch) and PPM (pages per minute).

Scanners

A scanner is a piece of equipment that “digitizes” printed material like photographs and graphics, and stores it in a graphic file format (like .GIF or .JPG) for display on the computer. Scanners work similarly to copy machines, in that the light bounces off the original to create a replica. With the proper software, scanners allow one to edit text or manipulate the characteristics of a photo or other image.

Digital Cameras

Digital cameras are like traditional cameras in that they capture images. However, a digital camera digitizes the image (much like a scanner) and stores it on memory contained in the unit. These digital images can be displayed on the camera’s viewscreen and can be downloaded to a computer for manipulation using photo editor software.

Software

Operating System. This is software that is usually loaded on a new PC and serves as the platform for all other software on which to operate. PCs usually use Microsoft Windows. There’s an older operating system, called DOS, which works with Windows (versions 98 and older; Windows ME eliminated the last remnants of DOS) to provide instructions for the computer’s equipment.

Application software. These are the programs that come loaded onto your PC like Microsoft Word, Quicken, etc. These programs are not essential to the operation of your PC, but allow you to perform specialty tasks such as word-processing, accounting, etc.

Measuring Memory

OK – so what’s a gigabyte? Even though we’re going to stay away from a lot of technical terms, it’s important to talk about what bits and bytes mean.

Bits are the basic unit of data in a computer. Eight bits form real characters, such as letters of the alphabet, and are described as bytes.

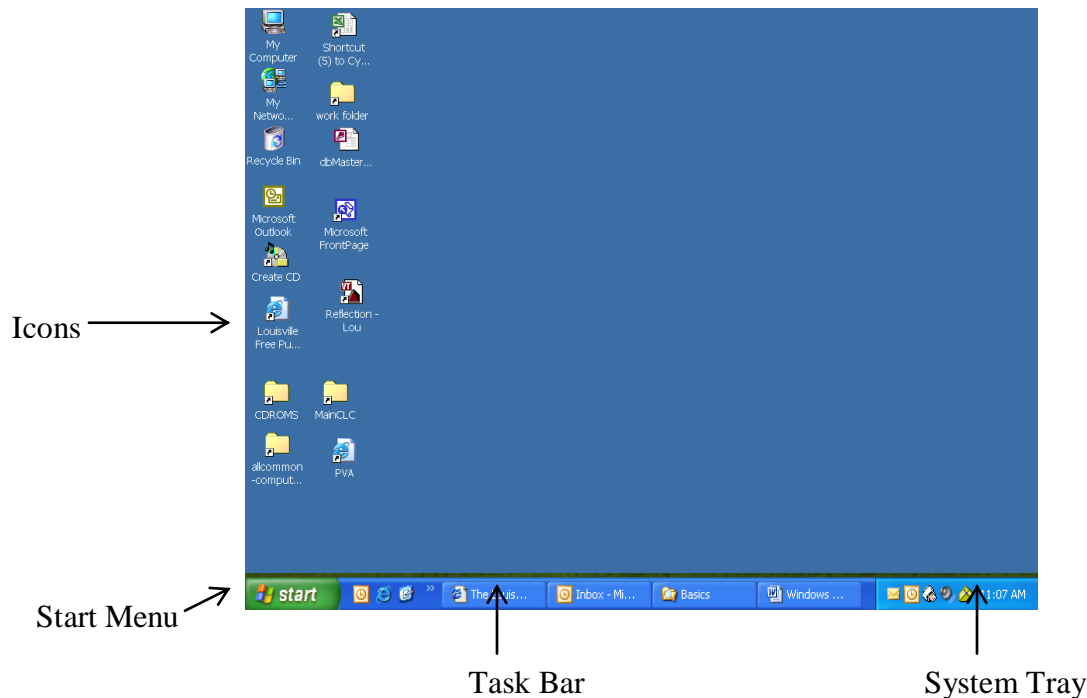
Kilobyte (K) is equivalent to 1,024 bytes.

Megabyte (MB) is equivalent to 1024 kilobytes.

Gigabyte (GB) is equivalent to 1024 megabytes. Memory and disk space are typically measured in GB.

What is Windows?

Windows is the operating system developed by Microsoft. It is a Graphical User Interface (GUI - pronounced “gooey”) which means you accomplish most tasks by clicking on pictures, buttons, or using menus. As you can imagine, this makes the interface very user friendly. Windows also makes it easy to have multiple programs open at one time.



The desktop is the entire screen you see when your computer has finished turning itself on. On your own computer, you can customize the appearance of your desktop at home by applying “wallpaper.” Wallpaper is just an image you choose to have displayed on your computer desktop. Regardless to what your desktop looks like, it will work the same way. You just need to be familiar with some of the parts.

Icons - **The** small pictures scattered around your desktop are called icons. Icons provide a quick way to access some of your more commonly used files and programs. In the simplest terms an icon is a shortcut. Icons on the desktop can vary from computer to computer depending on the user. Here are some standard icons:

- **Recycle Bin** – When you delete a file or program it is usually sent to the recycle bin. It acts as a safety net in case you accidentally delete a file because you can retrieve items from the recycle bin until it is emptied; however, because the files you send to the Recycle Bin are not erased from your hard drive, you will need to “empty” the recycle bin to accomplish this.
- **Specific Programs** – Most desktops have icons for specific programs that are accessed regularly by the user. Some of the most common ones include icons for Microsoft Office products (Word, Excel, Access, Power Point) and an icon for your Internet browser, (e.g., Internet Explorer). Remember, these icons are just quick ways to open these programs.

Taskbar – There is a light gray horizontal bar that usually runs across the bottom of your desktop. Don’t let it throw you, however, if it is along one of sides or the top. The taskbar lets you know what programs you have open. It also has the “Start” button on the left side and the system tray on the right side.

Start Menu – If you click on the start menu on your taskbar you will see several things – but some important ones for you to be aware of are:

- **Shut down** – lets you shut down your computer the correct way. It will also give you other options like log off or restart
- **Help and Support**– This is the help file for using windows. Information on just about every question you could have about windows can be found here.
- **Search** - Lets you look for specific files on your computer
- **Settings** – Lets you access various controls and set-ups for your computer
- **Documents** – Provides you a list of the last several documents that you have accessed.
- **Programs** - Lists all the programs located on your computer. Notice the little black arrow next to the word Program. Anytime you see an arrow like that you can rest your pointer on that word and submenu will appear.

System Tray – The system tray is sometimes called the Taskbar tray. It is located in your task bar. It can contain different items, but here at the library it contains a clock, volume control and the anti-virus software icon.

The Mouse

A Mouse is the device that you use to move a pointer around the screen and select actions. Learning to use a mouse can be awkward at first because it involves learning



a new skill– but once you get it down you’ll wonder why it seemed so hard. And all it takes is a little bit of practice.

Here are a couple of tips to help you get started:

- Rest your hand on top of the mouse – the curved part against your palm and the cord leading away from you.
- Place your thumb along the left side of the mouse. Rest your index finger on the left button and your middle finger on the right button. Your other two fingers hold on to the right side of the mouse. These directions are for a right-handed user – if you are left handed you will have to reverse them.
- Remember to hold the mouse tight enough that you can control it and its movement is steady.

Pointing – when you move the mouse around, you will notice there is a small pointer on your screen that moves around as well. Most of the time the pointer will look like a small arrow, but it can also look like a hand that is pointing or a capital I. It just depends on what the pointer is currently pointing to. You will move the mouse around until your pointer is pointing to the item you want.

Clicking – Clicking is used to select something. Once you have pointed to the item you want, you will “click” by pressing down once on the left button. This is a fairly quick action, so when you press down, go ahead and release the button immediately. If someone tells you to click on something, this is what they mean. However, there are a few variations on clicking that you will need to be familiar with such as double clicking and right clicking.

Double Clicking – This is just what it sounds like – instead of clicking once, you will click two times close together. It is important that you do not move your mouse between clicks. Usually when you are double clicking, the first click lets you select the item, and the second click lets you open it.

Right Clicking – You right click the same way as above, but instead of clicking on the left button, you will use the right button. Right clicking gives you access to special functions or sub-menus available from the screen you are clicking on. Using the right button is unusual enough that if someone means for you to use the right button, they will tell you to “right click.” So if you are attempting to click on something and you keep getting a menu of choices instead of what you want, be sure that you are using the correct mouse button.

Dragging – You will occasionally need to move items by dragging them. To do this, you click on the item, but this time hold down the button instead of immediately releasing it. While you have the button held down, move your pointer to where you want to place the item, and then release the button. The item should drop at that point. Try dragging one of the icons on the desktop to another spot.

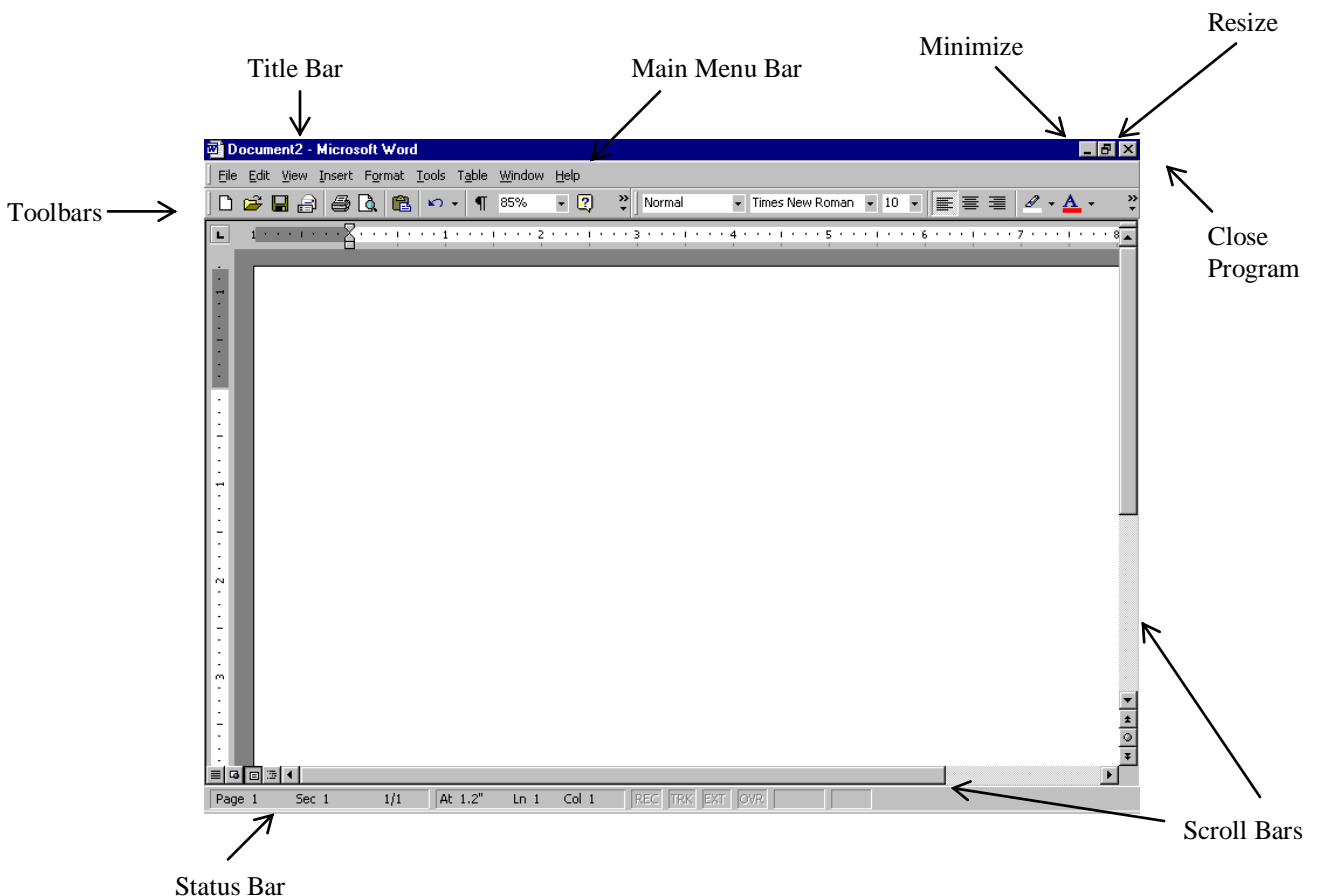
Opening a Program – There are three ways to open a program using your mouse

1. Click on the start menu and then move your pointer up to programs.
When you rest your pointers on Programs, another menu will appear with a list of programs to choose from. Move your pointer to the program you would like to open, and then click on it. The program should open.
2. Find the icon for the program you want to open. Click on it one time (to select it) and then hit the “enter” key on your keyboard.
3. Find the icon for the program you wish to open, and then double click on that icon.

Try opening Microsoft Word using one of these methods.



Using a mouse does take patience at first, and there are many fun things you can do to get practice. Playing online games such as solitaire is a great way to get practice (games.yahoo.com). Another site that will help you gain experience clicking and dragging is <http://home.freeuk.net/elloughton13/scramble2.htm> which takes you to Magnetic Poetry. Go to the website above by opening Internet Explorer, and then typing www.magneticpoetry.com/magnet/ into the address bar.

Anatomy of a Window



Title Bar – The Title Bar is the blue bar across the top of the window. It tells you the names of the document you are viewing as well as the program you are in. On the right side of the title bar you will find three buttons: Minimize, resize, and close.

Minimize Button – If you click on this button, it shrinks the window down to just a box on your task bar. It does not close down the program; it just moves it out of the way. To get the program back, simply click on the box in the task bar.

Resize/Restore - This button can appear in two ways. If it looks like two overlapping boxes , then your window is at full size. Clicking on this button will resize your window to allow you to move it around. If you need to resize the window further, move your pointer over the edge of the window until it turns into a double-headed, black arrow. Then click and drag the window to the desired size. If the button looks like one box , then your screen is not at full size. By clicking on this button, you can restore your window to full size.

Close – This is also on your title bar. It is the X in the far right corner. If you click on this you will close the program. Remember: X is for exit

Main Menu Bar – This bar lists the various menus that can be accessed. The Menu Bar in most programs starts at the left with File, Edit and View. Clicking on any of these will result in a drop down menu that lists different commands you can execute. What you will find in each menu will vary depending on the program. But here are some general highlights:

- File – this menu will allow you to open a new document, save, or print
- Edit – Use this menu when you want to copy, cut or paste
- View – This menu will allow you to change the layout of the screen and access toolbars.

Toolbars – These can differ based on the program you are using. But basically they are shortcuts to allow you to perform various functions quickly.

Scroll Bars – Oftentimes what you are trying to view is larger than the screen so you do not get to see everything at once. You can use your scroll bars to move around the document. You can move the scroll bars up and down by clicking and dragging them. You can also click on the arrows at either end of the scroll bar to move up or down.

Status Bar – This horizontal bar is usually at the bottom of your program just above the task bar. Depending on the program, the status bar will give you information about work being done in a program. For example, in Microsoft Word it will tell you what page you are working on.

Working in a Windows Environment

Switching between Programs – If you have two or more programs open at once you can switch between them by either clicking on the program in your task bar or by clicking on


any part of the window to bring that window to the forefront. You can also press Alt+Tab to do this.


Active/Inactive Windows – Each program that is open is represented in the task bar. The program you are currently working in, the active window, looks a lighter color on the task bar. Also, the Title Bar in an active window is blue. If the window is inactive (not currently being used but still open), the Title Bar is gray.

Moving Windows – It is easy to move windows around your desktop when they are not maximized. Simply click on the title bar and hold down the button while you drag it to where you want the window. Then release the button.

Resizing a Window - If you need to resize a window, move your pointer over the edge of the window until it turns into a double-headed, black arrow. Then click and drag the window to the desired size.

Help - Remember that each program has a help menu on the Main Menu Bar. If you are having trouble with a program or cannot remember how to do something – try using the help menu.

Printing – If you need to print a document, you usually have a couple of choices. If there is a button on your toolbar with a picture of a small printer () , you can use this. However, this print shortcut will give you one copy of the entire document. If you need more control over your printing, say you need multiple copies or only part of the document, go to your file menu and click on print. This will bring up a dialog box, which will give you several printing options.

Saving – To save a document you can either click on the save button on the toolbar (it looks like a small disk ) or go under your file menu to save.

The World Wide Web

A Few Useful definitions:

Internet – A decentralized global network of computers.

World Wide Web – A system of Internet servers that support HTML documents (web pages). The Internet and the Web are not the same thing--rather, the Web is one part of the Internet.

HTML – HyperText Markup Language is a computer language that is used to create web pages.

Browser - The application that allows you to see web pages and browse the Internet. Two common browsers are Internet Explorer and Firefox. The library uses Internet Explorer.

http:// - HyperText Transfer Protocol. It is the protocol most web pages use and therefore begins most Internet addresses. However, it is so common that you generally do not need to type in this part of an Internet address.

URL – Uniform resource locator. It is the same thing as an Internet address.

Home Page – The first page that comes up when you start your browser. You can typically set your home page from your browser, but here at the library it is locked to the Library's page (www.lfpl.org)

ISP: Internet Service Provider -- A company from which you buy your Internet access. This is a heading in the Yellow Pages.

Link: The electrical connection to further information indicated on the screen by a hand with a pointing finger.

Search Engine – a web site that helps you locate other websites that may contain information you are seeking. An example would be Yahoo or Google.

Opening your Internet Browser

There are several different ways to open your Internet browser (remember the library uses Internet Explorer). Which way you choose to open the browser will depend on your personal skill level and preference. Here are some options:

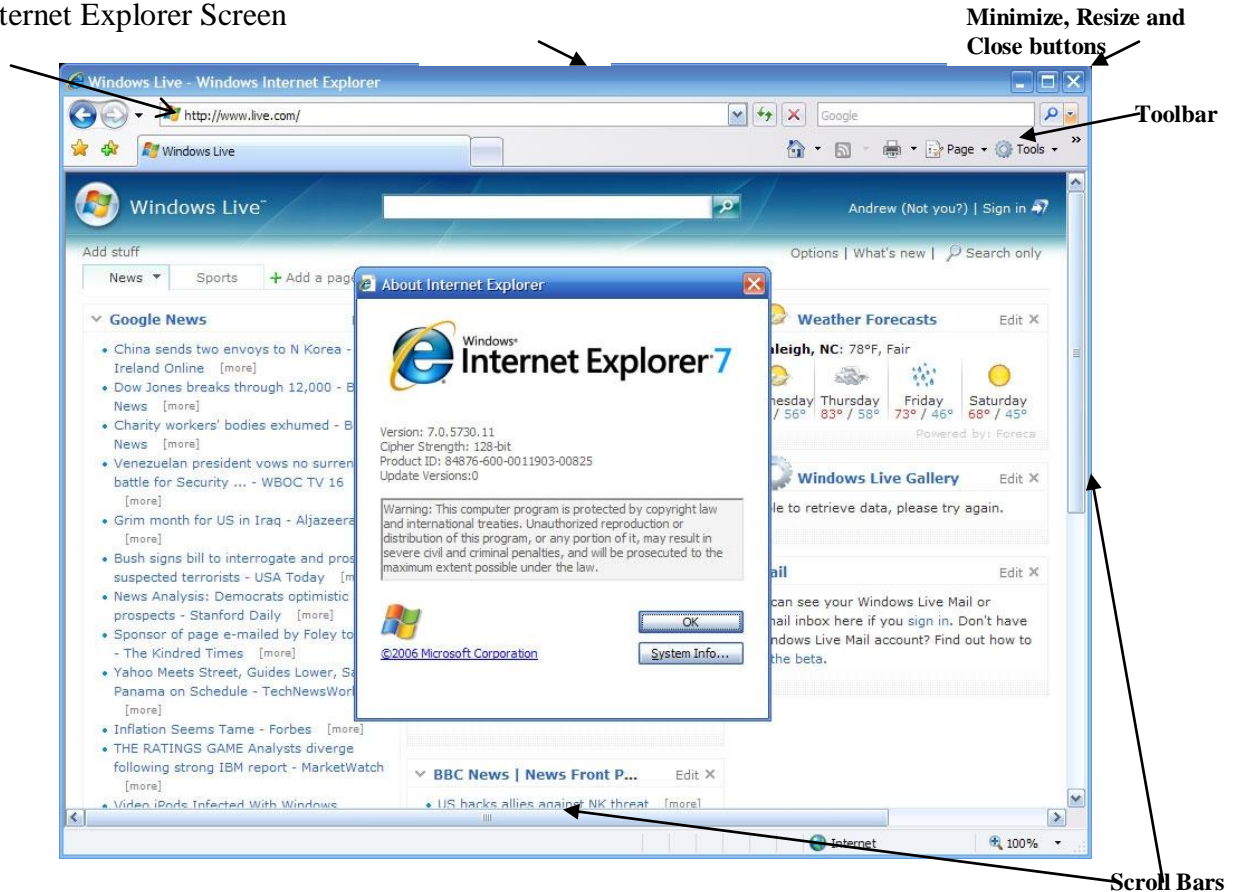
1. Double click on the browser's icon on the desktop,
2. Click the browser's icon on the taskbar.
3. Go to your Start Menu – then to programs – then select the browser.

Any of these three will open up the browser.

When you open Internet Explorer at the Library you should see the Library's website. Look around and you will see that there is a lot of information to be found there. Our website is a good place to get started when you are first learning how to get around on the Internet.

Navigating with Internet Explorer

The Internet Explorer Screen



Title Bar


The title bar tells you the name of the page you are viewing as well as the browser you are using to view it. In this case we are looking at the Louisville Free Public Library's page using Microsoft Internet Explorer. At the far right of the bar are three buttons. These are used to minimize, resize or close the window.


Address Bar

The address bar is where you type in addresses or URLs. It also shows the address of the page you are currently viewing.

Toolbar

You can navigate and browse the Internet by using the toolbar. Buttons on the toolbar are shortcuts for menu commands. Some of the buttons include:

Back  – lets you return to pages you have already viewed


Forward  – lets you move forward through pages (feature available only after you have used the back button)

Stop  – Stops the process of loading a Web page on your browser

Refresh  – Loads the most current copy of the current Web page


Home  – Takes you back to your designated homepage.

Google Toolbar– Provides a way to search Google without navigating to its web site www.google.com

Favorites  – brings up a separate window displaying the list of selected “bookmarked” sites. This feature is disabled on LFPL public computers.

History – Brings up a separate window displaying a list of sites visited during current and previous Internet sessions.

Mail – A link to Microsoft E-Mail. This feature is disabled on LFPL public computers.

Print  – Prints the page you are viewing.

Links on a webpage

A link is a shortcut to another webpage. A link could be a picture or text. When you move your pointer over a link, it turns into a hand or a pointing finger. Clicking on links is the primary way people browse, or surf, the Internet.

What to do when you know an Internet Address

You can get Internet addresses, or URLs, from just about anywhere. They are on commercials, bank statements, t-shirts, products, etc. But what do you do with an address once you have it?

There are two ways to enter an address into the computer.

1. From within your browser, type ctrl+O – this will bring up a box. Type the address into the box provided and then hit OK. This will take you to the page you requested.
2. Or you can position your mouse pointer over the address bar from within the browser. Click one time to select the current address and then type your new address in the box. Once you have typed in the new address hit your enter key.

A couple of things to remember about Internet addresses:

1. It is important that your address be correct when you type it in. Having just one letter wrong can send you to an entirely different page or result in an error message.
2. Do not put spaces in Internet addresses.
3. It is usually not necessary to type in the http:// The computer just assumes that's the kind of Internet page you are searching for unless you tell it otherwise. A lot of the time you don't have to type in the www either!

Looking for Information

Sometimes you are looking for specific information on the Internet and you do not have any idea what the address is and/or you don't even know where to begin looking. You have a couple of options in this situation. You can consult the Library's Internet Links try a search engine or directory.

Library Internet Links

Another way to get information when you don't know where to start is to use a mediated search. From the Library's homepage (www.lfpl.org) there is a link at the top that says Internet. When you click on this link it will take to a list of topics. You can click on a topic and be taken to a list of web pages that have information on that topic. The advantage to using the Library's links is that all the web pages that are listed have already been evaluated for accuracy and reliability by a member of the library staff.

Google

It is estimated that the Internet has more than a billion pages of information – and it grows larger every day! One of the great things about the Internet is that it is so big and there is so much information out there, that you can almost always find something that is relevant to your needs. However, looking for specific information can be like finding a needle in a haystack. That's why there are a multitude of search tools to help you look.

There are several kinds of search tools available. The most popular search tool today is Google. Google is a very powerful search tool. It is the most used search engine, and has indexed the most pages on the Internet. Google is also continuously adding new search features and products. You will notice that above the search box are several tabs (Web, Images, Groups, News, Froogle, and More). To search only for images, click on the **Image** tab and enter your search terms. Click on the **News** tab and enter your search terms to search only news stories. Click on the **Froogle** tab to search for products, which you can then rank by price and other information. Click on the **More** link and you will find Google's Directory, Google Scholar and other special services. Google works by using "PageRank" technology, which ranks pages based on how many other pages link to the page. For more information on PageRank see www.google.com/technology/index.html.

Web 2.0: Wikipedia, blogs, Myspace.com, YouTube, and More

You may have heard the term “Web 2.0” and wondered what it means (if you haven’t heard of it, you probably will as you get more into the Internet). The term does not refer to a second World Wide Web, but rather to those web services that use the Web to focus on the “ability for people to collaborate and share information online”

(www.webopedia.com). The popular and controversial online encyclopedia Wikipedia (www.wikipedia.org) exemplifies this philosophy because it in many cases allows users to submit revisions and corrections to content. Blogs (online journals) also share Web 2.0 status, and so do a growing number of web sites commonly referred to as social networking sites. One of the oldest and well-known social networking sites is myspace.com (www.myspace.com), which launched in 2003. Users register for a free account, which grants them their own web page. On this page, users can display a personal profile, publish a blog, and even play music tracks and video clips. Users can also invite other users to be their “friend,” which allows them into their personal network and lets them view their pages.

Another staple of Web 2.0 is YouTube (www.youtube.com). Currently owned by Google, YouTube hosts thousands of videos encompassing music, education, comedy, and many other categories. Users can rate videos and send links to specific videos to other users to invite them to view those videos. Finally, users can easily upload their own content to the service as well.

Evaluating Websites

Once you find information that appears to be relevant to your search, it becomes important for you to evaluate that information to determine its value. Determining the value of the information you find on the Internet is crucial. Apply these criteria each time you need to evaluate a website

Accuracy

How accurate is the information? What are the sources of the information presented on the site?

Authority

Where is the information coming from? Is the subject an “authority” – someone who is an expert or trained in the field discussed on the webpage? Links that tell about the webpage author or corporate entity producing the page are particularly helpful. Stay away from “phantom sources” – sites that feature information but nothing about the person(s) presenting it. Remember there is no organization that controls who puts information on the Internet. There is nothing to stop me from putting up a website on how to do brain surgery even though I don’t know the first thing about it.

Objectivity

Is the person or entity presenting the information presenting a well-rounded perspective of the topic? Information found on sites with particular bias or tendency to support one side of an issue shouldn't necessarily be dismissed as "bad" information, but it must be recognized as less than objective. Take into consideration what the purpose of the site is. If the purpose of the site is to sell you on a particular brand of microwave, then naturally they will tell you that it is the best.

Currency

How current is the information? Look for copyright information or the date that the page was last updated. This is particularly important when one is looking for information on a time-sensitive topic. It is not uncommon for someone to develop a page and never go back to update it so look for clues that would reveal the date.

Coverage

Is the site thorough? If it claims to be "the" site for a certain type of information, does it present a well rounded and in depth approach to the topic? Does the website link to other helpful and authoritative resources related to the topic?

Some Websites of Interest

biz.yahoo.com	Yahoo Finance
www.mozilla.org	The makers of the Firefox browser
www.theultimates.com	Metasearch phone directory
free.grisoft.com	Free version of AVG Anti-virus
maps.google.com	Maps and Driving Directions
www.citysearch.com	Information on US cities
www.allmusic.com	Music Reviews
www.topsecretrecipes.com	Recipes from restaurants
www.allmovie.com	Movie Reviews
www.webopedia.com	Online dictionary for computer and Internet terms
www.usps.com	Post office and zip code finders