



# Computer Basics

**Student Edition  
Complete**

*Your Organization's Name Here*

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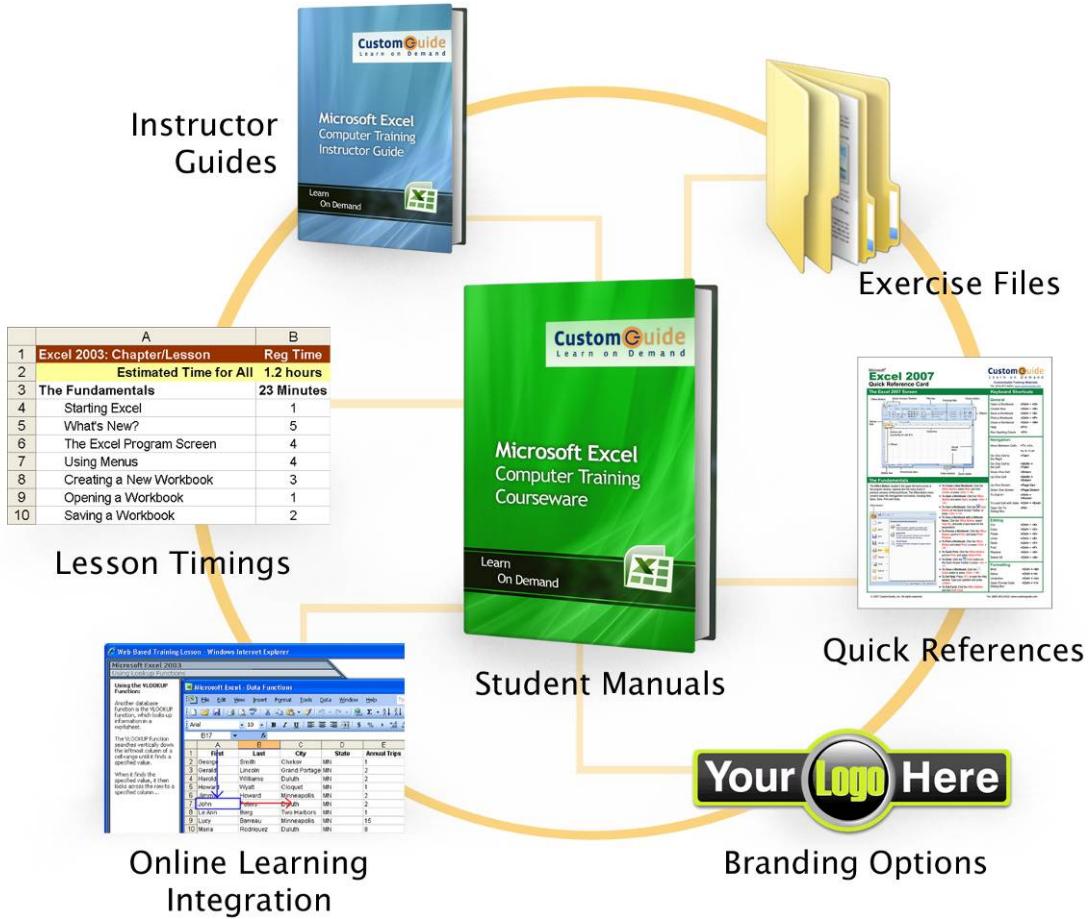
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# Courseware: Features

A Working with Shapes and Pictures

B Positioning Pictures

C Whenever you insert a graphic into a document, it is inserted inline with text by default. This means that the text in the document moves in order to accommodate the graphic. This lesson will show you how to adjust text wrapping and how to use the grid to position objects.

D If you want to use a graphic with other graphics or objects, they must be on a drawing canvas. See the lesson on *Inserting Shapes* for more information.

E Adjust text wrapping

F To adjust how text reacts to the objects in your documents, change the object's text wrapping.

G 1. Double-click the object whose text wrapping you wish to adjust.  
The Format contextual tab appears on the Ribbon.  
2. Click the **Text Wrapping** button in the Arrange group.  
A list of text wrapping styles appears. Take a look at the Text Wrapping Styles table for a description of each style.  
3. Select a text wrapping style from the list.  
The text wrapping style is applied to the image.

H Other Ways to Adjust Text Wrapping:  
Right-click the image, point to Text Wrapping in the contextual menu, and select an option from the submenu.

I To display/hide the grid

J Just like the graph paper you used to use in geometry class, the *grid* consists of horizontal and vertical lines that help you draw and position objects.

K 1. Click the View tab on the Ribbon.  
2. Click the **Gridlines** check box in the Show/Hide group.  
Horizontal and vertical gridlines appear on the page.

L Other Ways to Display the Grid:  
Press **<Shift> + <F9>**, or click the **Format** contextual tab on the Ribbon, click the **Align** button in the Arrange group, and select **Gridlines** from the list.

M Tip: Gridlines do NOT appear in the printed document.

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O Exercise

P • **Exercise File:** AmericanHistory7-3.docx  
• **Exercise:** Select the header row containing the month labels, the Income row, the Total Exp. Row, and the Net Inc. row (use the Ctrl key to select multiple rows). Create a 2-D Clustered Column chart.

Q Table 7-2: Text Wrapping Styles

Style	Description
In Line with Text	This places the object at the insertion point in a line of text in the document. The object remains on the same layer as the text.
Square	Wraps text around all sides of the square bounding box for the selected object.
Tight	Wraps text tightly around the edges of the actual image (instead of wrapping around the object's bounding box).
Behind Text	This removes text wrapping and puts the object behind text in a document. The object floats on its own layer.
In Front of Text	This removes text wrapping and puts the object in front of text in a document. The object floats on its own layer.
Top and Bottom	Wraps text around the top and bottom of the object, leaving the area to the right and left of the object clear.
Through	Similar to the Tight style, this style wraps text throughout the image.

R Figure 7-3: A document with the grid displayed.



A Lessons are presented on one or two pages, so you can follow along without wondering when a lesson ends and a new one begins.

B Clear step-by-step instructions answer "how-to" questions. Anything you need to click appears **like this**.

C Whenever there is more than one way to do something, the most common method is presented in the numbered step, while the alternate methods appear beneath.

D The table of contents, index, tables, figures, and quiz questions automatically update to reflect any changes you make to the courseware.

E Each lesson includes a hands-on exercise and practice file so users can practice the topic of the lesson.

F Tips let you know more information about a specific step or topic as a whole.

G Tables provide summaries of the terms, toolbar buttons, and options covered in the lesson.

H Icons and pictures show you what to look for as you follow the instructions.



# Chapter One: The Essentials

## Chapter Objectives:

- Learn the difference between hardware and software
- Discover the various types of computers and their roles
- See what's on the front, back, and inside of a computer
- Learn about the various ports on a computer
- Understand what determines a computer's performance
- See what you should look for when buying a computer

## Prerequisites

- A desire to learn about computers.

Computers are useful: they help us write letters, find information on the Internet, and even create our own music CDs. Some people *love* computers—they speak a different language that includes nonsensical words like *IP address* and *gigabytes*. But most of us are somewhat clueless when it comes to computers. We know how to turn our computer on, how to surf the Internet (maybe), and how to write a quick letter on a word processor. But that's about it—we have to ask our kids or friends for help when something goes wrong, which is all the time.

This guide takes some of the mystery out of computers. In this chapter we'll take a good hard look at a computer from the front, back, and yes, even inside. You'll understand what all those confusing ports on the back of the computer are for and why it's important for your computer to have a fast *CPU*. Best of all, we'll explain all of this in simple terms, so you won't need an engineering degree to understand everything.

Ready to tackle your computer? Great—turn the page and let's get started...

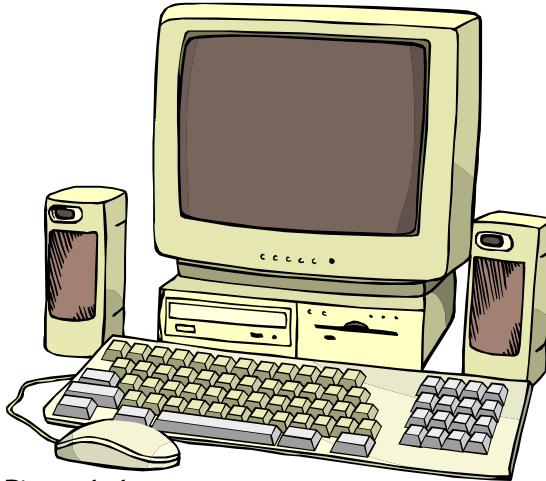
## Lesson 1-1: Hardware, Software, and Information Technology (IT)

**Figure 1-1**

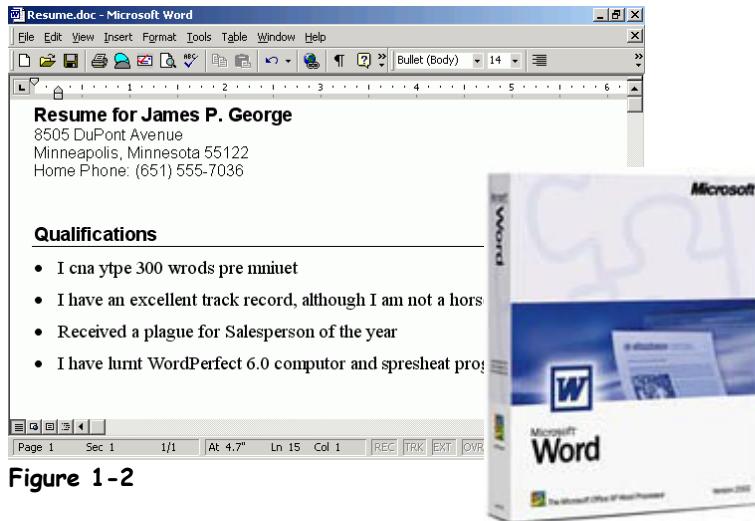
A typical computer setup

**Figure 1-2**

Microsoft Word is an example of a software application.



**Figure 1-1**



**Figure 1-2**

Your desk probably contains a jumble of equipment commonly known as a computer. But what is all that stuff? What does a computer do? Unlike many other tools or appliances that have limited purposes, a computer can do any number of things:

- Write letters
- Browse the Internet
- Send e-mail messages to people around the world
- Play games
- Help you balance your budget

...and that's just the beginning of what you can do with a computer!

Two basic components make up a computer: *hardware* and *software*. You simply can't have one without the other. All computer parts that you can physically see or touch are called *hardware*. Hardware includes the computer's monitor, case, keyboard, mouse, and printer. Computer programs that tell hardware how to operate are called *software*. You may have used software such as Microsoft Excel or Corel WordPerfect in the past. So breathe a giant sigh of relief—you don't have to know how to program a computer to use one. A computer programmer has already done the work for you by writing the program (software). All you have to do is tell the software what you're trying to do, and the software then directs the work of the hardware.

Figure 1-1 shows an example of a typical computer setup and its components, but don't worry if your setup is different. More than likely, you have all the parts that you need, and those parts are properly connected. In any case, Table 1-1: *Parts of a Computer*, provides more details about each individual component.

IT, short for *Information Technology*, is the broad subject related to computers and managing and processing information, especially within large organizations. Many large companies have departments full of computer experts called *IT departments*.



Your computer setup may differ from the one shown in Figure 1-1. For example, you might have a computer case that is tall and skinny (tower case) or a flat screen monitor.

**Table 1-1: Parts of a Computer**

Component	Description
Case or System Unit	The main computer box, technically known as the <i>system unit</i> , is the most important part of a computer. It contains the guts and brains of the computer—something we'll talk about later. The system unit contains a lot of holes or <i>ports</i> where you plug in the rest of the computer system.
Monitor	The monitor resembles a television set, and is where the computer displays information.
Keyboard	The keyboard is the thing you type on to tell your computer what to do.
Mouse	Like the keyboard, the mouse is another <i>input device</i> that you use to communicate with your computer.
Speakers	Most computers can make sounds, just like a stereo system. In fact, you can even listen to audio CD's on most computers or watch DVDs.
Printer	A printer is where a computer writes down information or <i>output</i> , onto paper, or a <i>hardcopy</i> .

#### Quick Reference

A typical computer includes the following:

- System unit
- Monitor
- Keyboard
- Mouse
- Speakers
- Printer

**Hardware:**

- A computer item you can physically see or touch.

**Software:**

- A computer program that tells computer hardware how to operate.

**IT:**

- Information Technology is the broad subject related to computers and managing and processing information.

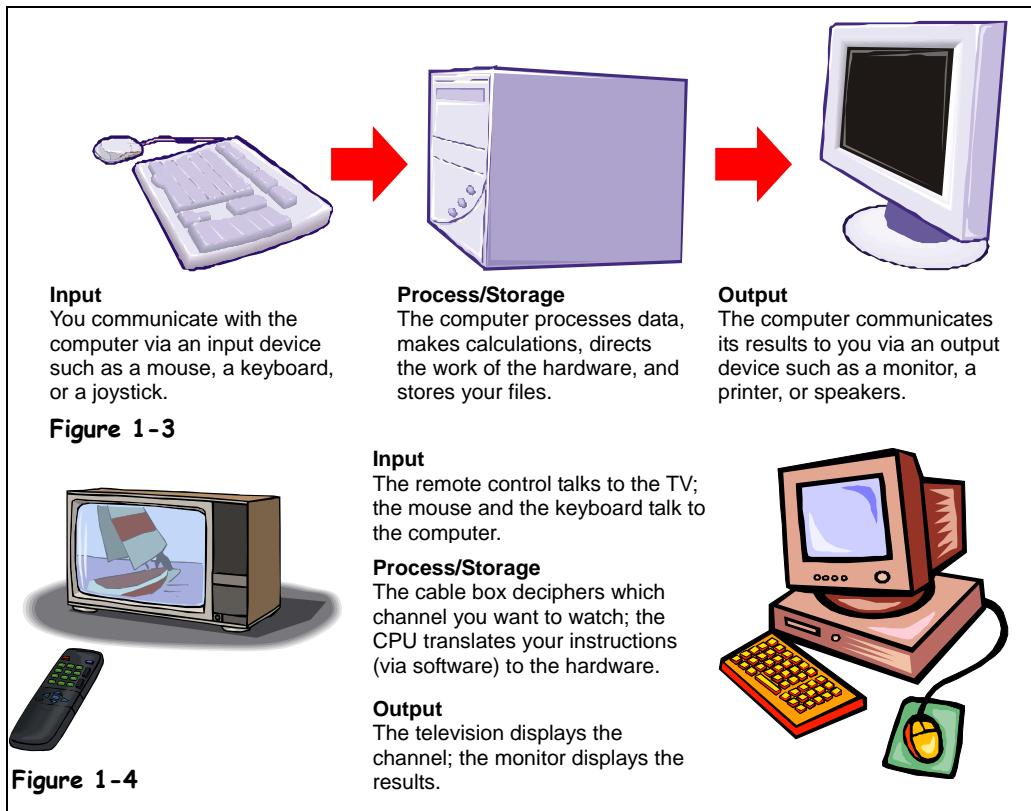
## Lesson 1-2: Computer Overview

**Figure 1-3**

How a computer works.

**Figure 1-4**

Comparing a TV to a PC.



Computers are not really as complicated as they initially seem. You just have to learn the basic functions of the various parts, and then you can separate them into three categories:

- **Input**  
Any device that lets you talk to the computer (such as a mouse or keyboard).
- **Process/Storage**  
Main functions of a computer, which happen inside the computer case. Not surprisingly, the Central Processing Unit (CPU) does all the processing; the storage function is handled by any number of drives (hard, floppy, Zip, tape-backup, CD/DVD-ROM) or disks (compact discs or floppy diskettes).
- **Output**  
Any device that lets the computer talk to you (such as a monitor or speakers).



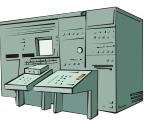
A remote control communicates with a television much like a mouse communicates with a computer.

If you're having trouble understanding this input/output stuff, think of your home television (TV) set. Televisions and computers are similar in several ways:

- The remote control is comparable to the mouse (or any other input device such as a mouse or joystick).
- The cable box (while not nearly as powerful as a computer) is similar to a computer in that it can process information (such as deciphering which channel you want to watch) and, if programmable, store information (such as when to show the film using a built-in timer).
- The TV displays the channel much like a monitor displays information.

There are several different types of computer systems out there. Here's a very brief description of the most common ones...

**Table 1-2: Types of Computers**

Computer	Description
Mainframe	 <p>A mainframe is a big, powerful, expensive computer that can support many users at the same time. Large businesses and organizations use mainframes.</p> <p><b>Capacity:</b> Enormous - the capacity of several hundred or even thousands of PCs</p> <p><b>Speed:</b> Very fast - much, much faster than a PC</p> <p><b>Cost:</b> Very, very expensive - can usually only be afforded by large organizations</p> <p><b>Users:</b> Only used by large businesses and organizations</p>
PC	 <p>A PC is a <i>personal computer</i>, originally designed by IBM way back in 1981. Many different companies make PCs, but all of them are IBM-compatible. What this means, according to Bill Gates, is that they will all run Microsoft Windows.</p> <p><b>Capacity:</b> Average hard disk size is 20 GB to 80 GB</p> <p><b>Speed:</b> Fast. Average speed is from 1 GHz to 3 GHz</p> <p><b>Cost:</b> Fairly inexpensive - under \$1,000 - and getting cheaper every day!</p> <p><b>Users:</b> Just about everyone uses a PC! Homes, offices, schools...</p>
Mac	 <p>Developed by Apple, a Macintosh is a computer, but it is NOT a PC. Macs have a different operating system and use their own software and hardware.</p> <p><b>Capacity:</b> Average hard disk size is 20 GB to 80 GB</p> <p><b>Speed:</b> Fast. Average speed is from 500 MHz to 2 GHz</p> <p><b>Cost:</b> Fairly inexpensive, but usually more than an equivalent PC</p> <p><b>Users:</b> Just about everyone, especially in the education and design fields</p>
Networked Computer	 <p>A network is a group of computers that are connected so that they can share equipment and information. Most people on a network use <i>workstations</i>, which are simply PCs that are connected to the network. A <i>server</i> is a central computer where users on the network can save their files and information.</p> <p><b>Capacity:</b> (Workstation) Same as a PC, only needs an inexpensive network card (Server) Greater than a PC, often more than 100 GE</p> <p><b>Speed:</b> (Workstation) Same as a PC (Server) Generally faster than a PC, may use multiple CPUs</p> <p><b>Cost:</b> (Workstation) Same as a PC (Server) More expensive than a PC but not as costly as a mainframe</p> <p><b>Users:</b> (Workstation) People in a networked office or organization (Server) Generally a network administrator or engineer</p>
Laptop	 <p>A laptop, or notebook, is a lighter and more portable version of a PC or Mac that can run on batteries.</p> <p><b>Capacity:</b> Average hard disk size is 10 GB to 40 GB</p> <p><b>Speed:</b> Fast, but slightly less than a PC. Average speed is from 700 MHz to 2 GHz</p> <p><b>Cost:</b> Fairly inexpensive, but more than an equivalent PC</p> <p><b>Users:</b> People on the move, especially business people and students</p>
Palmtop/PDA	 <p>A PDA (Personal Data Assistant) is a handheld computer that is generally used to keep track of appointments and addresses.</p> <p><b>Capacity:</b> Much smaller than a PC - 8 MB to 64 MB of storage space</p> <p><b>Speed:</b> Much slower than a PC - 8 MHz to 266 MHz</p> <p><b>Cost:</b> Expensive when compared to the capacities of a PC</p> <p><b>Users:</b> Business people and others who need to be organized</p>

### Quick Reference

The Basic Computer Processes Are:

1. Input
2. Processing
3. Output

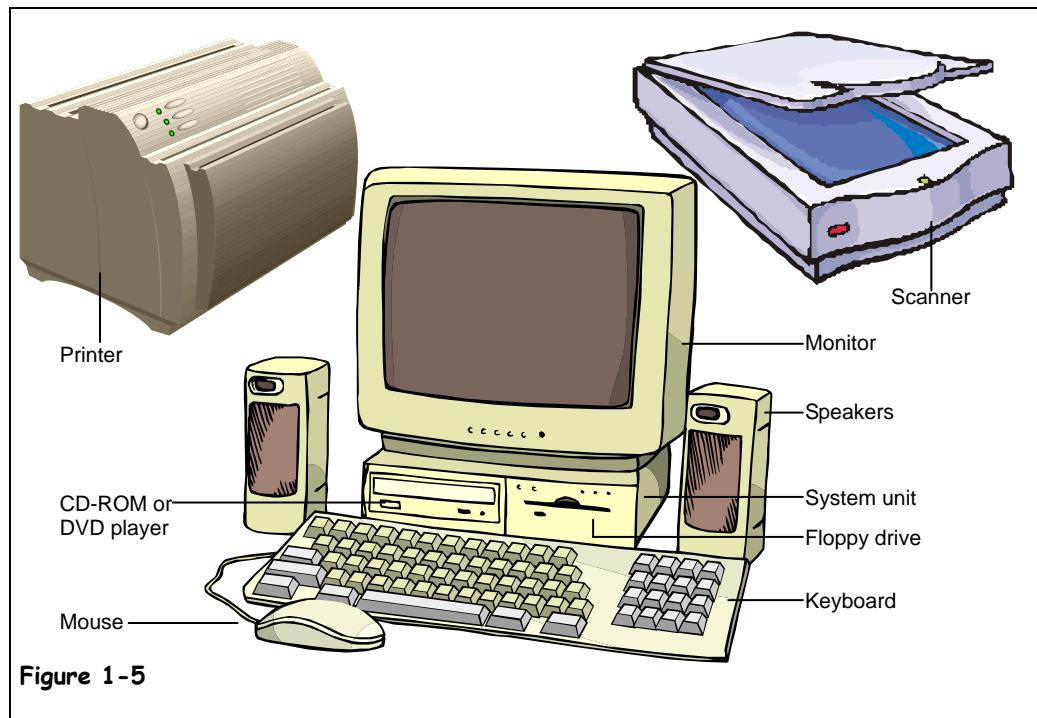
Different Types of Computers Include:

- Mainframes
- PCs
- Macs
- Servers
- Laptops
- Palmtops or PDAs

## Lesson 1-3: The Front of a Computer and Peripheral Devices

**Figure 1-5**

The front of a computer case.



**Figure 1-5**

The system unit or computer case is that plastic box that sits under your monitor or desk and is covered with slots, buttons, and lights. Computer cases come in several shapes and sizes. Older computers often have the horizontal desktop case, which has gradually been replaced by the vertical tower case. Manufacturers are now phasing out the tallest towers because the compact size of the smallest tower, known as a *mini-tower*, is attractive to consumers.

Everything outside of and connected to the system unit is called *peripherals*. You can add dozens of peripherals and accessories to make it more useful and fun. Common peripherals include printers, scanners, external hard drives, CD-ROM drives, and digital cameras. Many peripherals are considered to be *input devices*, because they allow you to talk to your computer by inputting information. Other peripherals are *output devices*, because they let your computer talk back to you. One more thing: all peripherals are considered to be part of a computer's hardware.

**Table 1-3: What's on the Front or Outside of a Computer Case?**

<b>Item</b>	<b>Description</b>
System Unit or Computer Case	A plastic or metal case with slots, buttons, and lights in the front and holes in the back. This is the most important part of a computer because it contains the Central Processing Unit (CPU). The system unit directs the computer, performs calculations, and stores information.
Floppy Drive	Reads and writes to 3½-inch floppy disks. A floppy disk can store about 1.5 MB of information—about as much as a novel.

Item	Description
Hard Drive (Not shown)	The computer's main, long-term storing device. Unlike floppy disks and CD-ROMs, you typically cannot remove a hard disk.
CD-ROM or DVD Drive	CD-ROMs and DVDs for your computer can store lots of information and look exactly like CDs for your stereo and DVDs for your home DVD player. In fact, you can listen to audio CDs on a CD-ROM drive and even watch DVD movies on a DVD drive.  The only real difference between a CD-ROM and a DVD is how much information they can store. A CD-ROM can store at least 700 MB (megabytes) of information, while a DVD can store much more—up to 4.7 GB (gigabytes) or 9.4 GB on a dual-layer DVD.  Most CD-ROMs and DVD are <i>read-only</i> , meaning you can't write information to them. You can buy special CD-ROM and DVD drives that <i>can</i> write or burn information to special CD-R, CD-RW, DVD-R, and DVD-RW discs.
Zip Drive (Not shown)	A special type of disk drive that can read and write to Zip disks. A Zip disk is a lot like a floppy disk, although they are faster and can store more information—from 100 to 250MB (megabytes).
Tape Backup (Not shown)	A device that you can use to store backups, or copies, of the information on a computer's hard drive.
Input Devices	Keyboard
	Like the keyboard, the mouse is another <i>input device</i> that you use to communicate with your computer.
	Scanners work like photocopiers, except the image is translated into a digital image in your computer rather than copied onto paper.
Output Devices	Monitor
	If visible, your computer speakers are similar to those on a stereo system (or at least a cheap stereo system). They allow your computer to play sounds.
	A printer is where a computer writes down information or <i>output</i> , onto paper, or a <i>hardcopy</i> .

 **Quick Reference**

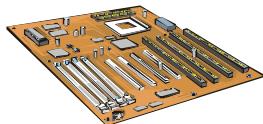
Components Visible from the Outside of the System Unit May Include:

- Floppy drive
- CD-ROM or DVD drive
- Zip drive or tape backup
- Keyboard
- Mouse
- Scanner
- Monitor
- Speakers
- Printer

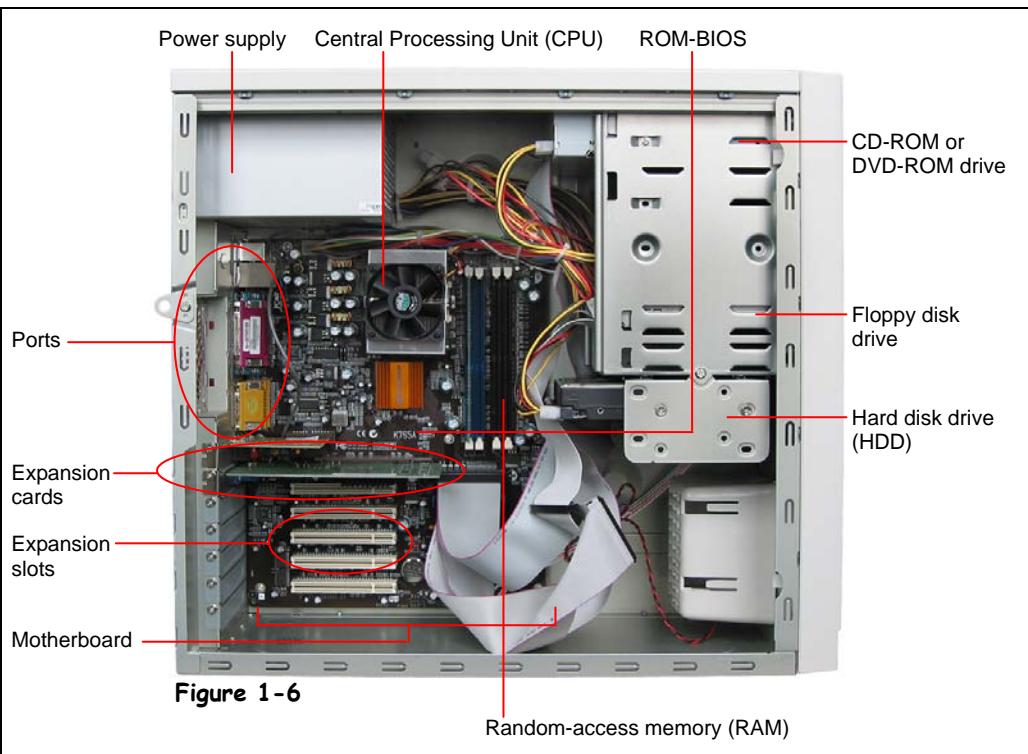
## Lesson 1-4: The Inside of a Computer

**Figure 1-6**

The side view of the guts of a tower case



Everything plugs into a computer's motherboard.



Now that you know what's on the outside, let's crank open that mysterious computer case and look inside. But no tools required—we've done all the work for you. Just compare Figure 1-6 with Table 1-4: *What's Inside a Computer Case?* to see what's important.

**Table 1-4: What's Inside a Computer Case?**

<b>Item</b>	<b>Description</b>
Motherboard	The main piece of circuitry in a computer. Everything connects to or is wired to the motherboard.
Central Processing Unit (CPU)	The computer's brain or heart, the CPU is a computer's main chip. The CPU is really nothing more than an incredibly fast and powerful calculator.
Random Access Memory (RAM)	A computer's temporary storage place, where it gets its work done. For example, when you use a word processor to type a letter, the letter is stored in the computer's memory.
ROM-BIOS	A computer's ROM-BIOS (stands for Read Only Memory – Basic Input/Output System) is a special chip with instructions for the computer to communicate with other hardware parts.
Expansion Slot	An expansion slot lets you add more features and capabilities to a computer by plugging in expansion cards.

Item	Description
Expansion Card	A card that allows you to expand your computer's capabilities, such as a modem card, a network card, a video card, or a sound card.
PCMCIA Cards	Notebook computers are too small to use expansion cards, so they use special credit-card sized PCMCIA cards instead. You plug in a PCMCIA card, or PC Card, into a notebook computer to give it more features and capabilities. Nobody's getting tested on this, but PCMCIA stands for Personal Computer Memory Card International Association.

 **Quick Reference**

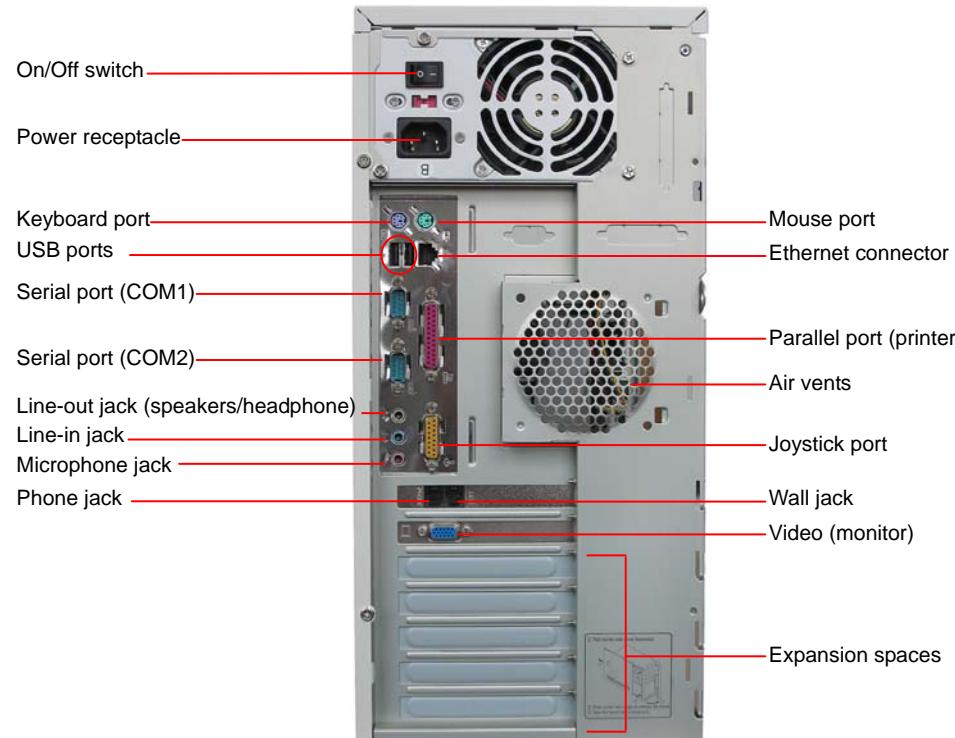
Components Inside the System Unit May Include:

- Motherboard
- CPU (Central Processing Unit)
- RAM (Random Access Memory)
- ROM-BIOS
- Expansion slots and cards
- PCMCIA cards (laptops only)

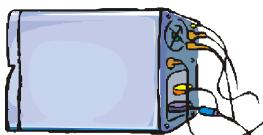
## Lesson 1-5: The Back of a Computer (Ports)

**Figure 1-7**

The back of a computer case.



**Figure 1-7**



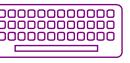
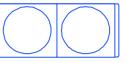
You may feel a bit overwhelmed the first time you look at the back of a computer.

When you look at the back of a computer, you may feel a bit overwhelmed by all the slots and holes. Fortunately, manufacturers have added some fairly standard icons and color coding to help you identify what should be plugged into your computer and where. Before long, you'll recognize those icons and colors, and the configuration won't seem so mysterious. It's rather like hooking up cable and a DVD player to the back of your television—unless you're one of those people who just wait for the cable guy to take care of that heinous task. In any case, this lesson will review each item piece by piece so you won't get completely lost.

Before we begin, let's define a couple of terms. The first thing you'll notice is that the back of your computer has lots of holes. Those holes are called (depending on who you ask) *jacks*, *ports*, or *connectors*. You may notice that some of the connectors have holes, but some have what look like stickpins (which are aptly named *pins*). The ones that have holes are called *female* connectors; the ones that have pins are called *male* connectors. Let's leave it at that.

Now let's begin. Compare Figure 1-7 to Table 1-5: *What's on the Back of a Computer Case?* The back of your computer may be arranged differently but should include the same elements.

**Table 1-5: What's on the Back of a Computer Case?**

<b>Port</b>	<b>Icon</b>	<b>Description</b>
Keyboard & Mouse		The keyboard and mouse jacks look identical on most PCs, so look for colors and icons to help you with plugging in these devices.
		Some mice and keyboards use USB ports. Older mice may use a serial port.
Serial or COM		Serial (or COM) ports are a very versatile type of port. Some of the things you can plug into a serial port include: a mouse, modem, scanner, or digital camera. Most computers have two serial ports: COM1 and COM2.
Parallel or Printer		You plug your printer into the parallel, or printer, port. Many newer printers may use a USB port.
USB		Designed to replace older Serial and Parallel ports, the USB (Universal Serial Bus) can connect computers with a number of devices, such as printers, keyboards, mice, scanners, digital cameras, PDAs, and more. Better yet, the USB port supports <i>plug-and-play</i> , so you can simply plug in a USB device and start using it. USB 1 ports can transfer information at a speed up to 12 Mbps (Megabytes per Second). Newer USB 2 ports can transfer information at a speed up to 480 Mbps. Most computers come with two USB ports.
Video or Monitor		You plug your monitor into the video port.
Line Out		Plug in your speakers or headphone into the Line Out jack.
Line In		The Line In jack allows you to listen to your computer using a stereo system.
Microphone		You can plug a microphone into this jack to record sounds on your computer.
Joystick or Game		If you have a joystick, musical (MIDI) keyboard, or other gaming device, this is where you plug it in.
Phone or Modem		The phone or modem jack is where you plug your computer into a phone line.
Network or Ethernet	< • • • >	You can connect your computer to a network by plugging in an Ethernet cable in this port.
SCSI		An SCSI port is one of the fastest ways to connect a hard drive, CD-ROM drive, or other device to a computer.
Firewire		A FireWire (IEEE 1394 or i.LINK) port lets you connect such devices as hard disks and digital camcorders to a computer. A FireWire port can transfer information at a speed up to 400 Mbps (Megabytes per Second).

 **Quick Reference**

Ports on the Back of a Computer Include:

- Keyboard and Mouse
- Serial or COM
- Parallel or Printer
- USB
- Video or monitor
- Line in, line out, microphone
- Joystick or game
- Phone or modem
- Ethernet or network
- SCSI
- Firewire

## Lesson 1-6: System Bus and Expansion Cards

**Figure 1-8**

Expansion cards plug directly into a computer's motherboard.

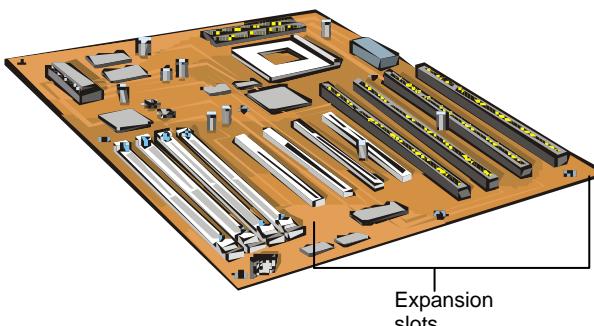
**Figure 1-9**

Most computers have around six expansion slots.



**Highway**

- The **number of lanes** determines how many cars can use the highway at once
- The **speed limit** determines how fast cars can **drive** on the highway



**System Bus**

- The **bus width** determines how much **information** can flow along the bus at a time
- The **bus speed** determines how fast information can travel



Expansion cards plug directly into the motherboard.

You're furious! You just bought an expensive digital camcorder only to find out that it can't connect to your computer because your computer apparently doesn't have a Firewire port. Don't worry—you can easily add a Firewire port to the computer by buying an *expansion card*.

Expansion cards allow you to add more gizmos and capabilities to a computer. You can also use expansion cards to replace a component of a computer that breaks, like a modem. Expansion cards plug into expansion slots on a computer's motherboard.

A computer talks to its expansion cards—and everything else on the motherboard—through its *bus*. A computer's bus is an electronic pathway that carries information between devices in a computer. Two factors determine how information flows through the bus: the *bus width* and the *bus speed*.

- **Bus Width**

The bus width determines how many "lanes" there are on a computer's electronic highway. Actually, the bus width isn't measured in lanes, but in *bits*. The wider the bus, the more information can travel across it at the same time.

- **Bus Speed**

The bus speed determines how fast information can travel through the bus. The higher the bus speed, the faster information can travel through it. Bus speed is measured in MHz.

As if this weren't confusing enough there are several bus types out there. They include:

- **ISA**

The *Industry Standard Architecture (ISA)* is the original, slowest, and oldest type of bus. The ISA bus has a width of 16 bits and a speed of 8 MHz. The ISA bus is going the way of dinosaurs and is no longer found on new computers.

- **PCI**

The *Peripheral Component Interconnect (PCI)* bus is the main bus found in computers. The PCI bus can have a width of 32 or 64 bits. The PCI bus supports *Plug and Play*, which lets you add new devices to a computer without a complicated installation process.

**PCI Express** is the next generation of PCI. PCI Express uses PIC programming concepts and communications standards, but is based on a much faster serial communications system.

- **AGP**

An *Accelerated Graphics Port (AGP)* is a blazingly fast bus that is currently only used for video cards. The AGP port has a width of 64 bits and supports Plug and Play.

So what kind of expansion cards are out there? Here are some of the more common expansion cards that you may come across...

**Table 1-6: Common Types of Expansion Cards**

Expansion Card	Description
 Modem	A modem allows computers to exchange information through ordinary telephone lines. Almost all computers already come with built-in modems, so you would probably only want to add a modem expansion card if the original modem in a computer breaks.
 Network	A network interface card (NIC) is an expansion card that connects a computer to other computers on a network.
 Video or Graphics	A video card or adapter is what generates the images and text displayed on a monitor. Computers come with a built-in video card, but some people like to upgrade their original video card with faster, more powerful video cards.
 Sound	A sound card lets a computer play and record sounds, just like a home stereo system.
 Additional Port(s)	You can use expansion cards to add additional ports to a computer, such as the newer Firewire or USB 2 ports.

### Quick Reference

- An expansion card plugs into a computer's motherboard to give it additional capabilities.
- A computer communicates with its expansion cards and devices through the system bus.
- How much information flows through the system bus depends on the bus width and bus speed.

There are several bus types:

1. ISA
2. PCI
3. AGP

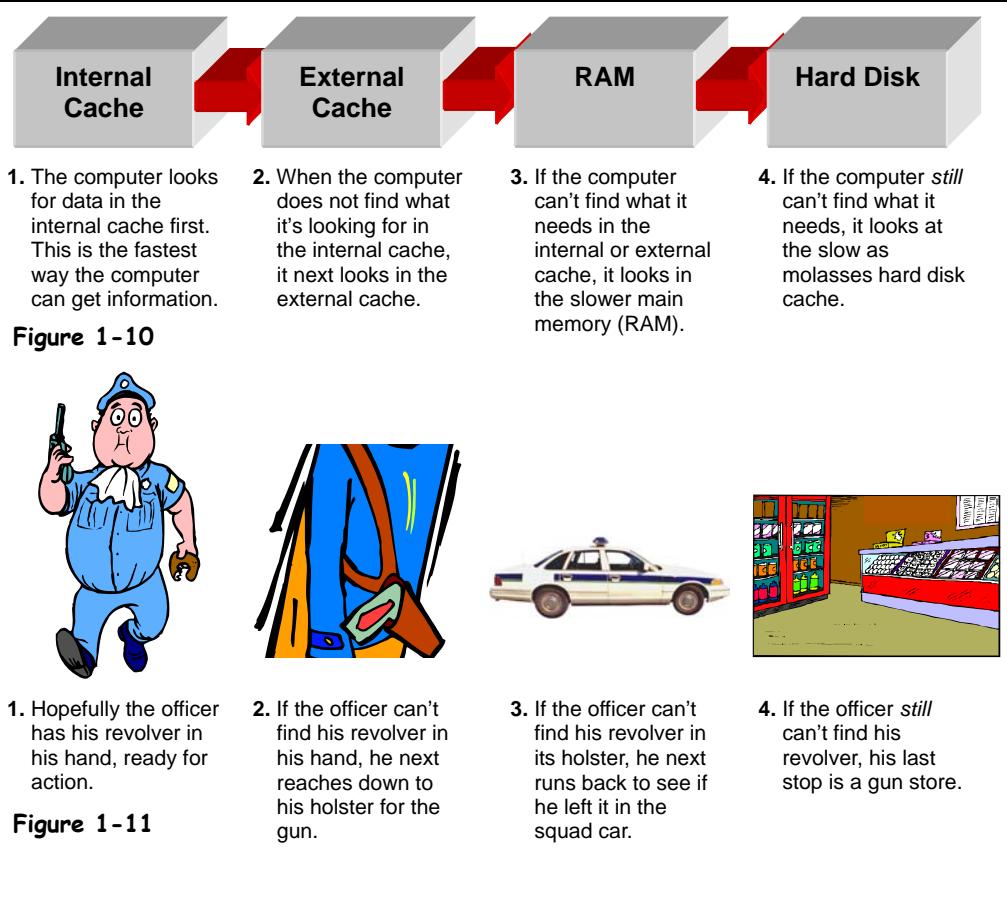
## Lesson 1-7: Memory Cache

**Figure 1-10**

An illustration of how a computer searches for information in a memory cache.

**Figure 1-11**

An illustration of how a police officer looks for a gun in a "weapons cache."



A *memory cache* increases a computer's performance by storing the most recently used data. There are two types of cache:

- **Internal Cache** (*also called primary or L1 cache*)

When the computer needs data it first looks in the internal cache. The internal cache is inside the CPU and is the fastest possible way for the computer to get information. The internal cache can normally only contain a very small amount of information.

- **External Cache** (*also called secondary or L2 cache*)

If the computer doesn't find the data in the internal cache, it then looks in the external cache. The external cache is slower than the internal cache, but much faster than the normal RAM memory. The external cache normally holds much more information than the internal cache, but still not as much as the main memory (RAM).

 **Quick Reference**

Memory Cache:

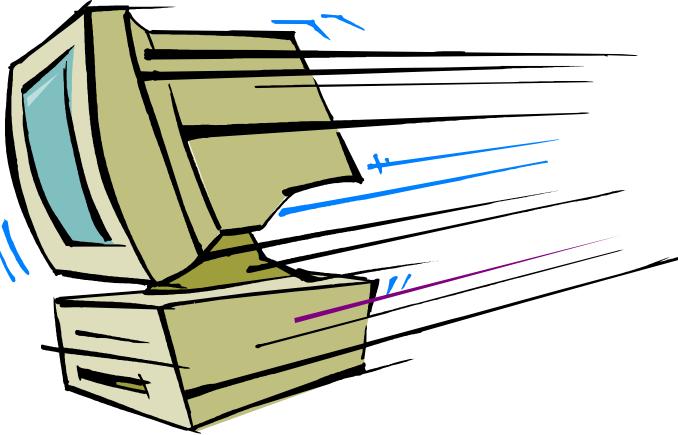
- A special type of memory that greatly increases a computer's performance.

## Lesson 1-8: Computer Performance

**Figure 1-12**

There are lots of factors that determine a computer's speed. Most of them are listed in Table 1-7: *Factors that Affect Computer Performance*.

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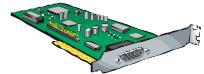
**Figure 1-12**

Wondering why your neighbor's computer is so much faster than your computer? There are a number of reasons why a computer may run faster or slower. You learn about each of them by reading Table 1-7: *Factors that Affect Computer Performance*.

A much simpler reason that your neighbor's computer is faster than your computer is probably because it's newer.

---

**Table 1-7: Factors that Affect Computer Performance**

<b>Factor</b>	<b>Description</b>
 CPU Speed	Arguably the single most important factor that determines a computer's performance is the speed of its CPU. The speed of the CPU is measured in megahertz (MHz) and gigahertz (GHz). The faster the CPU, the faster the computer. The first PC in 1981 ran at 4.77 MHz, while today's computers can run at speeds exceeding 3,000 MHz, or 3 GHz.
 Amount of RAM	The amount of RAM, or memory, is another very important factor in a computer's performance. Generally, the more RAM a computer has the better its performance. However, you usually won't see much of an improvement after 1 GB of RAM.
 Type of Video Card	Video cards have their own processor and memory, just like the computer does. The faster the processor and the more memory a video card has, the faster it can draw images on the monitor. Video card performance is especially important if you're interested in playing newer, 3D computer games.

---

Factor	Description
	A hard drive's average access time is how fast it can find information. Average access time is measured in milliseconds (ms), or 1/1000 of a second. The lower the access speed, the faster the hard drive. Most newer computers have an average access time of 8 to 15 ms.
Hard Drive Speed	Another factor that determines hard drive performance is how fast it spins, in revolutions per minute (rpms). Faster IDE hard drives may have speeds as fast as 7,200 rpm, while high-end SCSI hard drives have speeds of 15,000 rpm.
	Not only do you need a fast hard drive, you have to make sure that it has plenty of free storage space. Microsoft Windows uses this hard disk space to create a cache on the hard drive where it stores temporary information.
	Normally a computer stores a file in the same location on a hard drive. Over time, a hard drive can become <i>fragmented</i> , and instead of storing a file in the same location it begins storing parts of it all over. When the computer needs to read a fragmented file, it must read several different parts of the hard drive instead of just one. Defragmenting a hard drive puts the fragmented files back together in one place. You should defragment your computer's hard drive about once a month.
	Microsoft Windows can <i>multitask</i> , or run more than one program or task at a time—probably no different than your job. And, just like your job, the more programs or tasks you throw at Windows, the longer it takes to complete each one, and hence a drop in computer performance.
Multitasking Considerations	

 **Quick Reference**

Computer Performance is Determined By:

- CPU speed
- Amount of memory or RAM
- The type and speed of the video card
- A hard disk's speed, free space, and fragmentation
- How many programs are running, or multitasking, at the same time

## Lesson 1-9: Buying a Desktop Computer

**Figure 1-13**

What should you look for when you're buying a new computer? That depends on what you want it to do. Table 1-8: *Desktop Computer Buyer's Guide* lists some of the more important factors and features to be aware of when buying a new computer. Just make sure the information listed isn't too out of date!

The screenshot shows a promotional page for the Dell Dimension 8300. At the top, it says "DIMENSION 8300 DETAILS". It features an image of a desktop computer system with a tower and monitor. Below the image, the price is listed as "From \$1,679" and "Now from \$1,429 After \$250 Mail-in Rebate Online Only! Rebate Details". Financing is offered at "As low as \$50/month<sup>1</sup>" with a "Dell Apply Now | Learn More" button and "No Interest until September". To the right, a box titled "Dimension 8300 Special Offers" lists four promotions: "FREE Shipping - Online Only! Offer expires 4/29/2003", "FREE 512MB Memory Upgrade - Online Only! Offer expires 4/29/2003", "FREE 120GB Hard Drive Upgrade - Online Only! Offer expires 4/29/2003", and "FREE 2nd Bay CD-Burner! Offer expires 4/29/2003".

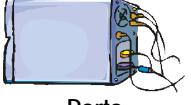
**Figure 1-13**

Nothing's worse than going to the computer store and listening to a know-it-all salesperson tell you to buy the most expensive computer in the store because the Radon graphics accelerator with 128 megabytes of RAM is something he thinks you're definitely going to need.

Instead of listening to a nerdy computer salesperson, who may be on commission or a sales quota, call one of your computer-geek friends or relatives, tell them how you're going to use your computer, and ask what they would recommend. If a computer-geek friend isn't readily available, Table 1-8: *Desktop Computer Buyer's Guide* will give you a good idea of what you should look for when you buy a new computer. Just remember that computer technology changes about as quickly as the latest fashions (every six months), so this information will probably be out of date shortly after you read it.

**Table 1-8: Desktop Computer Buyer's Guide**

Factor	Budget	Middle of the Road	High End, Gaming
CPU	Duron or Celeron at 2GHz	Pentium 4 at 2GHz, Athlon at 1.7 GHz	Pentium 4 at 3GHz, Athlon at 2.1GHz
RAM	256MB	512MB	1GB
Monitor	15-inch or 17-inch CRT	17-inch CRT or 15-inch flat panel/LCD	19-inch CRT or 17-inch flat panel/LCD

<b>Factor</b>	<b>Budget</b>	<b>Middle of the Road</b>	<b>High End, Gaming</b>
 Video Memory	32MB	64MB to 128MB	128MB or more
 Hard Drive	40GB to 60GB	80GB	120GB or more
 CD or DVD Drive	CD-ROM Drive	CD-RW Drive	DVD+R/RW & CD-R/RW Drive
 Ports	USB 1.0	USB 2.0	USB 2.0, Firewire
 Included Devices		Ethernet, 56K modem	Ethernet, 56K modem

\* This information was updated May 2003.

## Lesson 1-10: Buying a Notebook Computer

**Figure 1-14**

What should you look for when you're buying a new computer? That depends on what you want it to do. Table 1-9: *Notebook Buyer's Guide* lists some of the more important factors and features to be aware of when buying a new computer. Just make sure the information listed isn't too out of date!

**Figure 1-14**

Deciding on which notebook to buy is even more confusing than buying a desktop computer. That's because there is much more variance in features and prices between various notebooks. Notebook computers can't be upgraded as easily as desktop computers, so your decision is pretty much final.

Table 1-9: *Notebook Buyer's Guide* will give you a good idea of what you should look for when you buy a new notebook computer. Just remember that notebook technology changes incredibly fast, so don't use Table 1-9: *Notebook Buyer's Guide* after December 2003.

Some other important factors to consider when buying a notebook include:

- **Size**

Generally speaking, while convenient and cool looking, smaller notebooks aren't as powerful or fast as larger notebook computers. If you travel frequently and need to lug your notebook around with you, you might want to consider a smaller notebook. If your notebook doesn't move around much you're probably better off with a larger notebook.

- **Battery Life**

A notebook's battery life can range anywhere from 2 to 7 hours. Some notebooks can even accept a second battery for extra long life. Battery life probably isn't much of an issue if you only use your notebook when it's plugged into the wall.

- **Warranty**

Notebook computers are notorious for breaking down. What's worse, they're not very easy to open and they have their own unique notebook parts, so they're much harder and more expensive to repair than their desktop counterparts. Most of us hate the old three-year extended warranty sales pitch, but if you're buying a notebook computer the cost of the extra warranty is probably worth it.

- **Included Devices and Features**

Notebook computers usually have several devices and gizmos built-in—often more than a desktop computer! A modem and Ethernet port are usually a standard part of most notebooks today. Some notebooks also have memory card readers (especially useful if you have a digital camera or PDA), Firewire ports, and even wireless networking, known as *WiFi*. If you're comparing various notebook models, make sure that you know what devices are or aren't included.

**Table 1-9: Notebook Buyer's Guide**

<b>Factor</b>	<b>Budget</b>	<b>Middle of the Road</b>	<b>High End</b>
CPU	Duron, Celeron, Pentium 3, or Athlon at 700MHz or better	Duron, Celeron, Pentium 3 or 4, or Athlon at 1GHz or better	Pentium 4 at 2GHz or better
RAM	256MB	256MB	512MB
Video Memory	16MB	32MB to 64MB	32MB to 64MB
Hard Drive	20GB	30GB	60GB
CD or DVD Drive	CD-ROM Drive	CD-RW Drive	DVD & CD-R/RW Drive
Ports	USB 1.0	USB 2.0	USB 2.0, Firewire
Included Devices	56K modem	Ethernet, possibly WiFi (wireless networking) 56K modem	Ethernet, WiFi (wireless networking), 56K modem, Bluetooth (a next-generation wireless port)

\* This information was updated May 2003.

## Lesson 1-11: Upgrading a Computer

**Figure 1-15**

Computer upgrades can get expensive! There's a fine line between when it's more cost effective to upgrade an older computer, or to simply buy a new computer altogether.

**Figure 1-16**

Most computer upgrades require that you, or better yet someone who actually knows about computers, opens up the computer case.



**Figure 1-15**



**Figure 1-16**

When you *upgrade* a computer, you usually replace older components with newer components to improve the computer's performance. You can also upgrade a computer by adding additional components, such as more memory or a second hard drive. Upgrading a computer to improve its performance is often cheaper than buying a new computer. For most upgrades you will need someone with a lot of computer experience to do the upgrade for you.

It's often difficult to determine which is better—upgrading an old computer or simply buying a new computer. If you're an average computer user, plan on buying a new computer every four or five years (sorry—someone has to break this news to you). By then, the cost of a new computer will be less expensive than any effective upgrades you do.

So what can you do to upgrade a computer? The following table lists some of the more common upgrades.

**Table 1-10: Typical Things to Upgrade on a Computer**

<b>Upgrade</b>	<b>Description</b>
 Memory (RAM)	Increasing the amount of memory in a computer is probably the most effective and inexpensive upgrades you can make. More memory can significantly increase the performance of your computer. 512MB to 1GB of memory is all you should ever need—for the next year or so anyway.
 Hard Disk	The hard drives in newer computers have become so huge that you may never need to buy another one. If you do somehow run out of room on your hard drive, you can buy a second one, since most computer can handle two internal hard drives.
 CPU and Motherboard	It's often better to buy a whole new computer than to upgrade the CPU and motherboard. That way you get <i>all</i> new components all once—which is a lot cheaper than buying them all individually.
 Add Devices and Peripherals	There are an endless variety of devices that you can add to a computer. You can add CD-ROM, DVD, and Zip drives, graphics cards, tape backups, and more.

#### **Quick Reference**

Make sure any upgrades you make to a computer are worth the cost—sometimes it's simply better to buy a new computer.

#### **Upgrades to Improve Performance Include:**

- Adding more memory or RAM
- Adding a bigger hard drive
- Adding a new CPU and motherboard (usually not recommended)
- Adding new devices, such as a DVD drive

# Chapter One Review

## Lesson Summary

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### Hardware, Software, and Information Technology (IT)

- A typical computer includes the system unit, monitor, keyboard, mouse, speakers, and printer.
- **Hardware:** A computer item you can physically see or touch.
- **Software:** A computer program that tells computer hardware how to operate.
- **Information Technology (IT):** The broad subject related to computers and managing and processing information.

### Computer Overview

- The basic computer processes are input, processing, and output.
- Different types of computers include mainframes, PCs, Macs, servers, laptops, and PDAs.

### The Front of a Computer and Peripheral Devices

- Components visible from the outside of the system unit may include the floppy drive, CD-ROM or DVD drive, Zip drive or tape backup, keyboard, mouse, scanner, monitor, speakers, and printer.

### The Inside of a Computer

- Components inside the system unit may include the motherboard, CPU (Central Processing Unit), RAM (Random Access Memory), ROM-BIOS, expansion slots and cards, and PCMCIA cards in laptops.

### The Back of a Computer (Ports)

- Ports on the back of a computer include: keyboard, mouse, serial or COM, printer or parallel, USB, video or monitor, line in, line out, microphone, joystick or game, phone or modem, Ethernet or network, SCSI, and/or Firewire.

### System Bus and Expansion Cards

- An **expansion card** plugs into a computer's motherboard to give it additional capabilities.
- A computer communicates with its expansion cards and devices through the system bus.
- How much information flows through the system bus depends on the bus width and bus speed.
- There are several bus types, including ISA, PCI, and AGP.

### Memory Cache

- **Memory Cache:** A special type of memory that greatly increases a computer's performance.

## Computer Performance

- Computer performance is determined by CPU speed, amount of memory or RAM, the type and speed of the video card, the hard disk speed, free space, and fragmentation, and the number of programs running at the same time.

## Upgrading a Computer

- Make sure any upgrades you make to a computer are worth the cost—sometimes it's simply better to buy a new computer.
- Upgrades to improve performance include adding more memory or RAM, adding a bigger hard drive, adding a new CPU and motherboard (usually not recommended), and adding new devices, such as a DVD drive.

## Quiz

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1. **Hardware is any software that is installed on a computer's hard disk. (True or False?)**
2. **Laptops are faster than desktop PCs, generally speaking. (True or False?)**
3. **Which of the following moves the pointer to another location on-screen?**
  - A. Pressing the arrow keys on the keyboard.
  - B. Moving the mouse until the pointer points to that spot.
  - C. Moving the mouse until the pointer points to that spot and clicking the left mouse button.
  - D. Moving the mouse until the pointer points to that spot and clicking the right mouse button.
4. **Which of the following is NOT a type of computer port?**
  - A. USB
  - B. Parallel or printer
  - C. Backup
  - D. Network or Ethernet
5. **When you type a document on a computer, every letter you type is saved to the computer's \_\_\_\_\_ or temporary storage area.**
  - A. Hard drive
  - B. RAM
  - C. ROM
  - D. CPU
6. **What is the 'brain' or main chip of a computer called?**
  - A. The RAM
  - B. The ROM-BIOS
  - C. The motherboard
  - D. The CPU

7. ROM stands for 'Read-Only Memory' (True or False?)
  
8. Which of the following does NOT affect a computer's performance?
  - A. The amount of memory or RAM.
  - B. The speed of the CPU.
  - C. The type and speed of the video or graphics card.
  - D. The number of keys on the keyboard.

## Quiz Answers

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1. False. Hardware is any physical part of the computer you can see and touch.
2. False. Laptops are generally slower than desktop PCs.
3. B. Move the pointer by moving the mouse until the pointer points to that spot.
4. C. There isn't such a thing as a backup port.
5. B. RAM or Random Access Memory.
6. D. The CPU, or Central Processing Unit, is the main chip in a computer.
7. True. ROM stands for Read-Only Memory.
8. D. The number of keys on the keyboard does not affect a computer's performance.

# Chapter Two: Understanding Hardware

## Chapter Objectives:

- Understand what a **CPU** does
- Learn how **memory** is measured
- Learn about **input devices**: mouse, keyboard, and digital cameras
- Learn about **output devices**: monitor, graphics, and printers
- Learn about **storage devices**: hard drives, CD-ROMs, and DVDs

## Prerequisites

- A desire to learn about computers.

*Hardware* is any physical part of a computer that you can see or touch. A computer's monitor, CD-ROM or DVD drive, mouse, keyboard, and printer are all different types of hardware. This chapter takes a closer look at the physical parts that constitute a computer.

This chapter is broken up into several sections, since there are several different categories of hardware devices. First we'll examine *processing devices*, such as computer's CPU and memory. You'll finally understand what those technical sounding words megahertz and gigabyte mean. From there we'll move on to *input devices*, such as the keyboard and mouse and *output devices*, such as the monitor and printer. The last part of this chapter discusses *storage devices*, such as hard drives and CD-ROM drives.

That's a lot of material to cover, so let's get started!

## Lesson 2-1: Central Processing Unit (CPU)

**Figure 2-1**

The Intel Pentium 4 is the fastest and most recent CPU available.

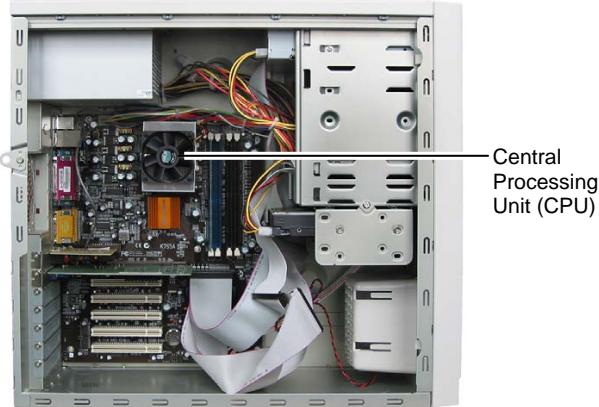
**Figure 2-2**

The CPU can get hot! Most CPUs have a built-in fan to keep them from burning out.

---



**Figure 2-1**



**Figure 2-2**



A CPU's speed is measured in megahertz (MHz) or gigahertz (GHz).

Inside the computer case, hidden amongst all the wiring and gizmos, is a particularly important part of the computer known as the *central processing unit* (or *CPU*, for short). The CPU is also known as the *computer chip* (because that's what it is) or the *microprocessor* (or *processor*, for short).

Some say the CPU is the brain of the computer while others describe it as the heart. In any case, it's the thing that makes your computer a computer. The CPU does all the work: It calculates, it processes, it keeps things running smoothly. You might think of it as a talented stage manager. When it does its behind-the-scenes job well, you don't notice it; you simply enjoy the performance.

Originally, CPUs were given wildly inventive names like *Chip*. Okay, maybe not. The names were actually based on numbers like 8088. The next few names in the series—the 286, the 386, and the 486—were actually just shortened names for 80286, 80386, and 80486. Then, what would have been the 586 was dubbed the *Pentium*. After that, the names became rather mysterious: Pentium Pro and Pentium MMX. Finally, the names returned to a semi-ordered numbering system (albeit a mix of Roman and Arabic numerals): Pentium 2, Pentium 3, and Pentium 4. And that's where we are at the moment. Both the Pentium 3 and the Pentium 4 are still quite common.

Intel makes most CPUs. In fact, Intel is the company that came up with the name *Pentium*. However, AMD and VIA Technologies are two other well-known CPU manufacturers. Their CPUs are less expensive and use a different naming system (such as the AMD Athlon and the AMD Duron). Intel actually makes a less expensive version of the Pentium as well, which it calls the *Celeron*. The Celeron does what the Pentium does, but not as quickly.

Speaking of which, speed is what the CPU is all about, and each successive version of the CPU gets progressively faster. A CPU's speed is measured in megahertz (MHz) or, for newer models, in gigahertz (GHz). A megahertz equals millions of cycles per second; a gigahertz equals billions of cycles per second. Higher numbers equate to higher speeds. You might see an Intel Pentium 4 at 3.06 GHz, a Pentium III at 1.40 GHz, and a Celeron at 2.20 GHz.

Another common measure of a CPU is how many bits it can handle at a time. A bit is the tiniest piece of information processed by a computer. Eight bits make up one byte, and one byte equals one character. Computers used to handle 8 or 16 bits; now they're up to 32 and 64

at a time. Don't worry if all of this seems a bit confusing—we'll cover bits and bytes in greater detail in a later lesson.

**Table 2-1: Types of CPUs**

CPU	Speed	Description																					
	1 GHz to 3 GHz	<b>Intel Pentium 4 Processor</b> The Pentium 4 is Intel's more recent and fastest generation of CPUs, with processing speeds over 3 GHz.																					
	450 MHz to 1 GHz	<b>Intel Pentium III Processor</b> Launched in 1999, Pentium 3 CPUs are still found in some new computers.																					
	1.06 to 2 GHz	<b>Intel Celeron Processor</b> Intel's Celeron CPU is an inexpensive processor designed for people on budget. Celeron processors are very similar to Pentium processors, but they have less built-in memory.																					
	500 MHz to 3 GHz	<b>Intel Xeon Processor</b> Don't expect to see any Xeon-based computers at your local computer store—it's designed for high-end servers.																					
	850 MHz to 1.67 GHz	<b>AMD Athlon Processor</b> The Athlon processor is equivalent to Pentium processors—only it's less expensive.																					
	1.5 GHz to 1.8 GHz	<b>AMD Sempron Processor</b> The Sempron CPU is AMD's answer to Intel's Celeron processor. It has less built-in memory and is designed for people on a budget.																					
Older Processors		Here's a summary of the other most common—and obsolete—processors out there:																					
		<table> <thead> <tr> <th>Processor</th> <th>Release Date</th> <th>Average Speed</th> </tr> </thead> <tbody> <tr> <td>Pentium II</td> <td>1997</td> <td>266 MHz</td> </tr> <tr> <td>Pentium</td> <td>1993</td> <td>133 MHz</td> </tr> <tr> <td>486</td> <td>1989</td> <td>66 MHz</td> </tr> <tr> <td>386</td> <td>1985</td> <td>25 MHz</td> </tr> <tr> <td>286</td> <td>1982</td> <td>12.5 MHz</td> </tr> <tr> <td>8088</td> <td>1979</td> <td>8 MHz</td> </tr> </tbody> </table>	Processor	Release Date	Average Speed	Pentium II	1997	266 MHz	Pentium	1993	133 MHz	486	1989	66 MHz	386	1985	25 MHz	286	1982	12.5 MHz	8088	1979	8 MHz
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386	1985	25 MHz																					
286	1982	12.5 MHz																					
8088	1979	8 MHz																					

#### Quick Reference

- The CPU, or Central Processing Unit, is the computer's main chip. It calculates and processes information.

#### CPU Speed is Measured In:

- Megahertz (MHz).
- Gigahertz (GHz).

#### Common CPUs Include:

- Intel Pentium III
- Intel Pentium 4
- Intel Celeron
- AMD Athlon
- AMD Duron

## Lesson 2-2: Memory

**Figure 2-3**

A hard drive might have 60GB of memory.

**Figure 2-4**

A recordable CD (CD-R) can have up to 700MB of memory.

**Figure 2-5**

A memory chip might have 512MB of memory.

**Figure 2-6**

A zip disk can have between 100MB and 250MB of memory.



Figure 2-3



Figure 2-4

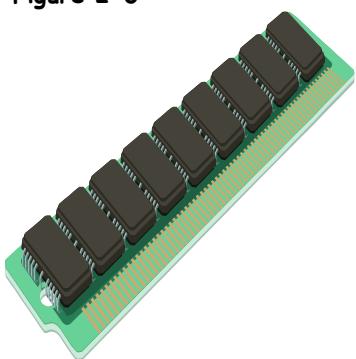


Figure 2-5

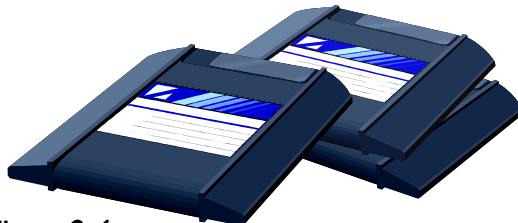


Figure 2-6



Everything that a computer does is based on a combination of ones and zeros, which is known as the *binary system*.

Most people know that a computer has memory. But what does that really mean? You often hear techies toss around numbers like “60GB hard drive.” Okay, that sounds impressive, but what does it tell you? This lesson breaks memory into measurable units.

The first thing you need to know is that, at its most basic level, a computer only understands the concept of “on and off.” *On* is represented by the number one (1); *off* is represented by the number zero (0). Everything that a computer does is based on this combination of ones and zeros, which is known as the *binary system*. These ones and zeros are digits, known as *bits*, which are the smallest memory unit. The term *bit* is short for *binary digit*.

The second thing you need to know is that a computer saves information in *bytes*, not bits. So what is a byte? The term *byte* is short for *binary digits eight*. So one byte is made up of eight bits. And a byte is the equivalent of a character, which can be a letter, a number, or a symbol. So let’s say that you’re a self-involved poet whose latest creation is simply titled “I.” That one-word title would equal one byte.

Of course, it would be fairly tedious if a computer stored everything in single bytes. The next largest unit is the *kilobyte*. A kilobyte (abbreviated *K* or *KB*) equals 1,024 bytes or characters. Now let’s say you’re a short-story writer. The one-page, double-spaced masterpiece you submit to your editor would be the equivalent of a kilobyte.

After the kilobyte, the next largest unit is the megabyte. A megabyte (abbreviated *M* or *MB*) equals 1,048,576 bytes or characters. If you were a novelist, your latest bestseller would equal a megabyte.

The next unit after the megabyte is the gigabyte. A gigabyte (abbreviated *G* or *GB*) equals 1,073,741,824 bytes or characters. Let's pretend you are a researcher. A whole shelf of books devoted to your favorite subject would be the equivalent of a gigabyte.

Finally, after the gigabyte comes the terabyte. A terabyte (abbreviated *T* or *TB*) equals 1,099,511,627,776 bytes or characters. Let's imagine that you're an egomaniac who owns an entire bookstore filled only with books by authors you like. Such a single-minded store would be the equivalent of a terabyte.

Okay, let's review. The following table summarizes all the units of memory.



*MB* is an abbreviation for *megabyte*. *GB* is an abbreviation for *gigabyte*.

**Table 2-2: Bits and Bytes**

Unit	Abbreviation	Size	Symbol	Equivalent
Bit	—	—	—	An atom or speck, the smallest unit of memory.
Byte	—	8 bits		A single letter, a number, or a symbol.
Kilobyte	K or KB	1,024 bytes		A one-page, double-spaced letter.
Megabyte	M or MB	1,048,576 bytes		A best-selling novel.
Gigabyte	G or GB	1,073,741,824 bytes		An encyclopedia set.
Terabyte	T or TB	1,099,511,627,776 bytes		A bookstore.

#### Quick Reference

Computers function based on the binary system:

- *On* is represented by a one (1).
- *Off* is represented by a zero (0).
- Ones and zeros are digits, known as *bits*.

**Bit:**

- Short for *binary digit*
- Smallest memory unit
- Eight bits equal one byte

**Byte:**

- Short for *binary digits eight*.
- One byte equals one character (letter, number, or symbol)

**Kilobyte (K or KB):**

- 1,024 bytes

**Megabyte (M or MB):**

- 1,048,576 bytes

**Gigabyte (G or GB):**

- 1,073,741,824 bytes

**Terabyte:**

- 1,099,511,627,776 bytes

## Lesson 2-3: RAM and ROM

**Figure 2-7**

RAM, or Random Access Memory, works like a notepad; you can read from it and write to it.

**Figure 2-8**

ROM, or Read Only Memory, works like a novel, you can read from it but not write to it.



Figure 2-7

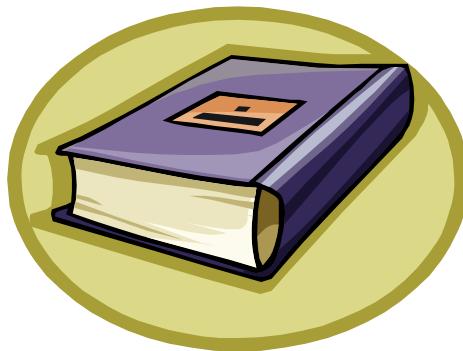


Figure 2-8



When you work with a file on your computer, you're using RAM.

So now you know that computer memory is measured in various byte-sized units: kilobytes, megabytes, gigabytes, petabytes, and philabytes. Okay, those last two were just made up to see if you were paying attention.

Next you need to know that computers have two major types of memory: *random-access memory* (or *RAM*) and *read-only memory* (or *ROM*). Let's discuss these two types of memory in greater detail.

- **RAM (random-access memory)**

When someone at a computer superstore tells you how much memory a new computer has, they're really talking about RAM. RAM is the computer's main memory, which it uses to process information. Whenever you work with a file on your computer, you're using RAM. And the data in that file is temporarily stored in RAM. However, RAM is volatile, which means that the data is stored only as long as the computer has power. Once you shut off your computer, the data is gone. However, you can and should save your data (read: your file). That's where storage comes in, but more on that later. For now, think of RAM like a notebook: You can read from it and write to it. Technically, it could be called "read and write memory." And, as with a notebook, you can overwrite it many, many times—provided you have an eraser!

- **ROM (read-only memory)**

ROM is the computer's low-level memory, which it uses to perform its most basic functions. This memory is permanent; the data remains even if you shut off the computer. This only makes sense because ROM is required to restart your computer. You never hear people discuss how much ROM you have because the manufacturer usually installs it, and you never touch it. It does all the behind-the-scenes work and then disappears once you're underway, much like a party planner. You can also think of ROM like a novel: You can read from it, but you can't write to it (and thus, its name).

**Table 2-3: Comparing RAM and ROM**

RAM	ROM
Random-access memory	Read-only memory

<b>RAM</b>	<b>ROM</b>
Main memory.	Low-level memory.
Necessary to process information (example: work with a file).	Necessary to perform the most basic functions (example: start the computer).
Volatile: If not saved, data disappears when you shut off the computer's power. It's temporary.	Nonvolatile: Data remains even when you shut off the computer's power. It's permanent.
Often discussed when buying a computer.	Seldom mentioned when buying a computer.
You can read from and write to it. Comparable to a notepad.	You can read from it, but you can't write to it. Comparable to a novel.

 **Quick Reference**

Computers have two types of memory:

- Random-access memory (RAM).
- Read-only memory (ROM).

**RAM:**

- Computer's main memory, which is used to process information (example: work with a file).
- Volatile: Unless saved, data disappears when you shut off the computer.
- You can read from it and write to it. Comparable to a notebook; you can read and write to it.

**ROM:**

- Computer's low-level memory, which is used to perform its most basic functions (example: start the computer).
- Nonvolatile: Data remains even when you shut off the computer. It's permanent.
- You can read from it, but you can't write to it. Comparable to a novel; you can only read it.

## Lesson 2-4: Mouse

**Figure 2-9**

Double-clicking with the mouse.

**Figure 2-10**

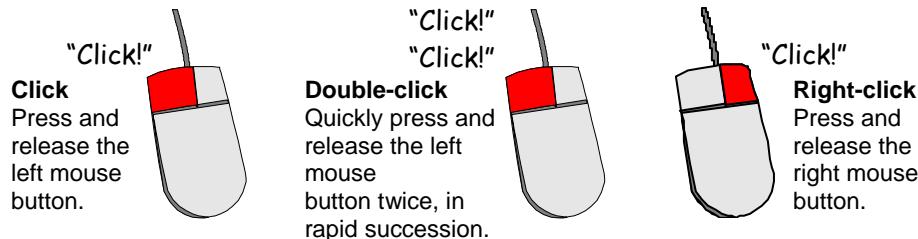
Right-clicking with the mouse.

**Figure 2-11**

Dragging and dropping with the mouse.

**Figure 2-12**

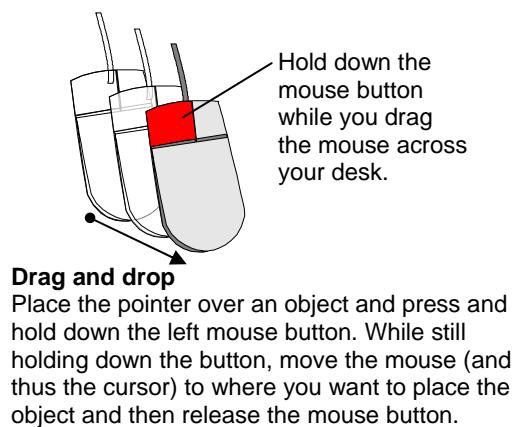
Using the scroll wheel.



**Figure 2-9**

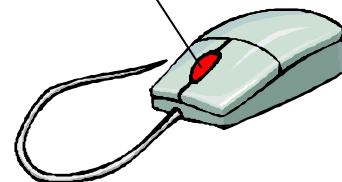
**Figure 2-9**

**Figure 2-10**



**Figure 2-11**

Use the center wheel to scroll through screens of information.



**Figure 2-12**

A computer would be useless if you had no way to communicate with it. That's why you need an *input device*. Essentially, an input device lets you talk to your computer. Two examples of input devices are the keyboard and the mouse. We'll discuss keyboards later; for now let's concentrate on the mouse.

That funny-looking object that, frankly, looks like a mouse (with its oval body and long tail-like cord connecting it to the computer) *is* the mouse. Originally, computers only came with a keyboard. But in 1968 Doug Engelbart invented the mouse. In 1984, Apple Computers introduced the mouse with its Macintosh computers. Shortly thereafter, the mouse was standard equipment on all computers.

The mouse acts as a handheld pointing device that allows you to control the actions of that blinking item on your screen known as a *cursor*. Depending on the software you are using and the task you are doing, the cursor may resemble such symbols as a slanted arrow ( $\searrow$ ), an "I" ( $\text{I}$ ), or a vertical line ( $|$ ). A cursor is essentially a place-marker that appears on your computer screen. You move the mouse to place the cursor over an object on your screen and click the mouse buttons to *select* that object. Once an object has been selected, you can move it or manipulate it. We'll cover mouse buttons in greater detail in a later lesson.

The standard mouse has two buttons and a *rollerball* on the underside, which moves the cursor on the screen when you move the mouse. A rollerball mouse works best when used on a mouse pad, especially one that has a rough texture on its surface. Some mouse pads now come with a wrist rest to help users keep their hands and wrists in better alignment.



The underside of a roller ball mouse.



Some mouse pads have a wrist rest to help users keep their hands and wrists in better alignment.

Like other computer components, mice come in several shapes and sizes. Some mice have three (or more) buttons, which are programmable, and some include a trackball on the top (instead of a rollerball on the underside). Most new mice include a center scroll wheel between the two buttons. Not surprisingly, this scroll wheel lets you scroll through screens of information in a fluid motion. Many new mice are also ergonomically designed to fit the user's hand. And some new mice have Forward and Back buttons off to the side of the mouse, which help you navigate the Internet.

One of the latest innovations is the *optical mouse*, which is becoming quite common. An optical mouse operates by using an infrared sensor, which means it uses neither a rollerball nor a mouse pad. You can identify an optical mouse by the telltale red glow emanating from its underside.

One other hot innovation is the *wireless mouse* (and keyboard). A wireless mouse and keyboard run on batteries and communicate with the computer the same way a remote control communicates with a television.



A wireless mouse works just like a remote control.

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#### Quick Reference

Input devices on a standard computer:

- Keyboard.
- Mouse.

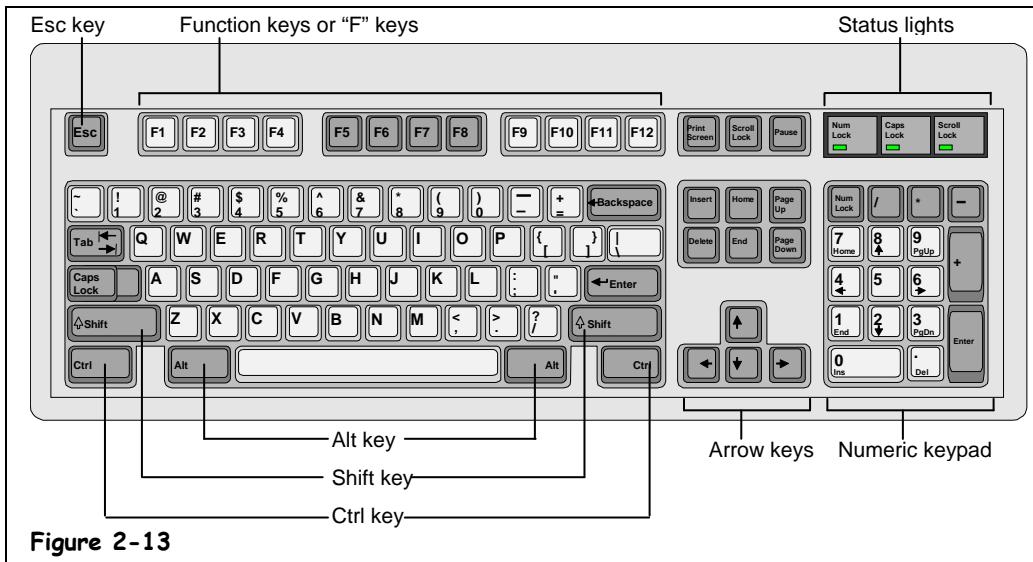
What a mouse does:

- It acts as a handheld pointing device and controls the actions of that blinking item on your computer screen known as a *cursor*.

## Lesson 2-5: Keyboard

**Figure 2-13**

The 101-key enhanced keyboard



**Figure 2-13**



An ergonomic keyboard is designed to relieve the stress of typing for long periods of time.

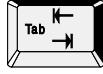
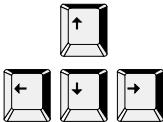
Like the mouse, the keyboard is an input device that allows you to talk to the computer. The keyboard is easily recognizable because it resembles a typewriter keypad. If the typewriter predates you, then look for the component that's covered with buttons that have letters, numbers, and symbols on them.

If you've ever used a typewriter, you probably recognize many of the keys on a keyboard. In any case, the alphanumeric, symbol, and punctuation keys are self-explanatory. And we'll review the rest of the keys that are unique to a (101-key and 104-key) keyboard. However, we will ignore the three keys found above the numeric keypad (<Print Screen/Sys Req>, <Scroll Lock>, and <Pause/Break>) because they are all fairly useless on most computers today.

**NOTE:** If your keyboard includes multimedia and Internet buttons above the keys, consult the manual that comes with your keyboard to learn their functions.

**Table 2-4: Special Keys and Their Functions**

Key(s)	Description
	The <Alt> key doesn't do anything by itself—it needs another key to make things happen. For example, pressing the <Tab> key while holding down the <Alt> key switches between any programs that are currently running.
	Just like the <Alt> key, the <Ctrl> key doesn't do anything by itself—you need to press another key with it to make things happen. For example, pressing the <X> key while holding down the <Ctrl> key cuts whatever is selected.
	The <F1> key is the help key, and pressing it displays helpful information about what you're doing.
	The <Esc> (Escape) key is the "Wait, I've changed my mind" key and is the same as clicking Cancel in a dialog box. For example, if you click something and an unfamiliar dialog box appears, you can close it by pressing the <Esc> key.

Key(s)	Description
	The <Enter> key is the “Carry out my orders” key and is the same as clicking the OK button in a dialog box. For example, after you’ve typed the name of a program you want to run in a dialog box, press <Enter> to run the program. The <Enter> key also adds new lines and starts new paragraphs if you’re entering text.
	When you’re in a dialog box, pressing the <Tab> key moves to the next field. When you’re using a word processor, the <Tab> key works just like you’d think it would and jumps to the nearest tab stop whenever you press it.
	The arrow keys move your computer’s cursor across the screen.
	Nothing surprising here. The <Delete> key deletes or erases whatever you select—files, text, or graphical objects. If you’re working with text, the <Delete> key erases characters to the right of the insertion point.
	Use the <Backspace> key to fix your typing mistakes—it erases characters to the left of the insertion point.
	The <Home> key jumps to the beginning of the current line when you’re working with text.
	The <End> key jumps to the end of the current line when you’re working with text.
	The <Page Up> key moves up one screen.
	The <Page Down> key moves down one screen.

#### Quick Reference

- A keyboard lets you enter information and commands into a computer.

## Lesson 2-6: Digital Cameras and Web Cams

**Figure 2-14**

A digital camera.

**Figure 2-15**

A Web cam usually sits on top of a computer's monitor.

**Figure 2-16**

Cameras with more megapixels can take sharper and more detailed pictures.



Figure 2-14

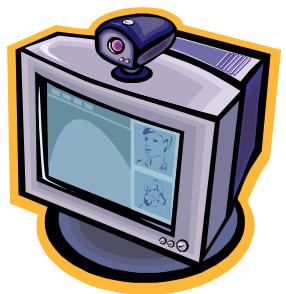


Figure 2-15

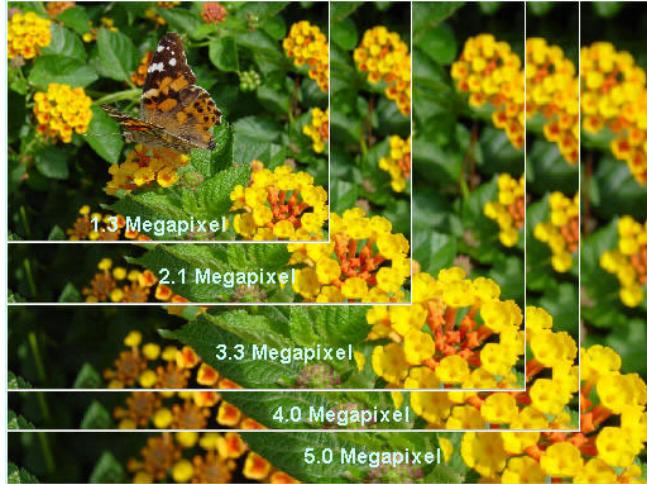


Figure 2-16

A megapixel contains one million pixels.

A digital camera lets you take pictures that you can transfer to a computer. Once you've transferred your pictures you can print them, insert them in word processing document, or send them in an e-mail message. You can also edit digital photos, to remove such undesirable objects as redeye or an ex-boyfriend.

The quality of the pictures a digital camera takes depends on its resolution, which is measured in *megapixels*. One megapixel is equal to one million, or  $1000 \times 1000$  pixels. The higher the number of megapixels, the clearer and more detailed the picture.

Digital cameras don't use film—they store their pictures on a type of removable memory called *flash cards*. Flash cards can store anywhere from a dozen to several hundred pictures, depending on how much memory they have. There are three different types or formats of flash cards out there:



**CompactFlash:** Definitely the most common type of "digital film" out there, CompactFlash cards can typically store anywhere from 8MB to over 1GB.



**SmartMedia:** SmartMedia is another a very popular type of memory card because of its small size. SmartMedia cards are also widely used in many PDAs. SmartMedia cards are available in capacities ranging from 2 MB to 128 MB.



**Memory Stick:** Sony makes this type of memory card for use in its own products: Sony digital cameras, Sony PDAs, etc. Memory sticks are available in capacities ranging from 4 MB to 128 MB.

Another popular toy you can add to your computer is a *Web cam*. A Web cam is a tiny digital video camera that usually sits on top of a computer's monitor. People use Web cams for videoconferencing and to send live images over the Internet.

**Table 2-5: Comparison of Megapixels**

Megapixels	Image Size	Description
Under 1	640×480	Entry level and obsolete digital cameras have a measly resolution of 640x480 pixels. These cameras are fine if you want to e-mail someone a picture or send someone a photo on a computer, but the quality of a printed image is terrible when printed as 4x6in photo.
1	1024×768	Supposedly 1024×768 resolution is this is enough to make sharp 4x6 inch prints. The truth is, at this point it depends more on the quality of the digital camera than the resolution. Many printed photos can still look "digital" or blurry at this resolution.
2	1600×1200	Two-megapixel cameras can take fine 4x6 inch prints and even respectable 8x10s, about what you'd expect from a low-end film camera.
3	2048×1536	Once you reach the three-megapixel bracket the quality of print is normally excellent up to 8x11 prints. If you're looking for a really good digital camera with strong features and good image quality, three megapixels is a good range to search in.
4	2272×1740	Four-megapixel cameras are starting to get into the "enthusiast" territory. They take exceptionally sharp photos and can print even larger prints than 8x11.
5	2560×1920	We're definitely in enthusiast professional territory now. Five-megapixel cameras are even used by professional photographers to take really big prints.

#### Quick Reference

- A digital camera lets you take pictures and transfer them to a computer.
- The quality, or resolution of the pictures a digital camera can take are measured in **megapixels**, or millions of pixels (dots). The more pixels, the better the resolution.

## Lesson 2-7: Other Input Devices

**Figure 2-17**

There's usually not enough room to use a mouse on an airplane or on the beach. It's for this reason that most laptops have built-in touch pads and AccuPoint® Pointing Devices.



**Figure 2-17**

The keyboard and mouse are the two most common input devices for a computer, but there are many more. Most respectable laptops have a built-in touch pad or AccuPoint® Pointing Device or pointing stick that works like a mouse. Other mouse alternatives include track balls and light pens.

Other common computer input devices include scanners for copying images to a computer, joysticks for playing games, and microphones for recording sound. You can learn about these input devices by taking a look at the table on the next page.

**Table 2-6: Other Input Devices**

<b>Input Device</b>	<b>Description</b>
 Touch Pad	A touch pad is a small, touch-sensitive pad used as a pointing device on some portable computers. By moving a finger or other object along the pad, you can move the pointer on the display screen.
 AccuPoint® Pointing Device	An AccuPoint® Pointing Device, or pointing stick, is another mouse substitute that is found on many laptop computers. An AccuPoint® Pointing Device usually sits in the middle of the keyboard and resembles an eraser at the end of a pencil.
 Track Ball	A track ball is essentially a mouse lying on its back. To move the pointer, you rotate the ball with your thumb, your fingers, or the palm of your hand.
 Light Pen	A light pen is input device that utilizes a light-sensitive detector to select objects on a display screen. A light pen is similar to a mouse, except that with a light pen you can move the pointer and select objects on the display screen by directly pointing to the objects with the pen.
 Scanner	A scanner is a lot like a photocopier. Instead of producing copies, a scanner converts images into digital information and stores it in a computer.
 Joystick	Mostly used for computer games, a joystick is a lever that moves in all directions and usually controls some type of movement on the computer.
 Microphone	If your computer has a sound card (and most computer have one) you can plug in a microphone to digitally record sounds to your computer.

 **Quick Reference****Other Input Devices****Include:**

- Touch pads
- AccuPoint® Pointing Devices
- Track balls
- Light pens
- Scanners
- Joysticks
- Microphones

## Lesson 2-8: Monitor

**Figure 2-18**

Similar in appearance to a television screen, a monitor displays images and text on its screen.

**Figure 2-19**

Flat-panel monitors are more expensive than traditional monitors, but they take up less space and use less electricity.

**Figure 2-20**

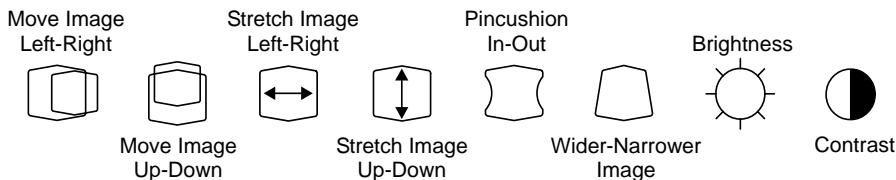
Common controls found on the front of a monitor.



**Figure 2-18**



**Figure 2-19**



**Figure 2-20**

A computer's monitor looks and works a lot like a TV screen. The monitor is really only half of what makes text and images appear on the screen. The other half is the graphic card, or video/display adapter. The monitor plugs into the graphics card in the back of the computer.

Flat panel or LCD (Liquid Crystal Display) monitors, like the one in Figure 2-19, will eventually replace older CRT monitors, like the one shown in Figure 2-18. A flat panel monitor is the same type of display that is found in laptop computers. Flat panel monitors are thin, lightweight, and use a lot less electricity than traditional monitors. Flat panel monitors are also considerably more expensive than traditional monitors, although the price is dropping. Flat panel monitors are wider than traditional monitors are; in fact a 15-inch flat panel monitor has almost the same viewing area as a 17-inch traditional monitor!

- **Size**

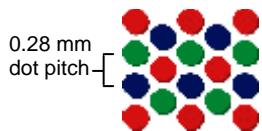
The size of a monitor is measured diagonally across the screen, just like TVs. Common monitor sizes are 15, 17, 19, and 21 inches. The most popular monitor size is currently 17 inches.

- **Dot Pitch**

Dot pitch refers to the distance between each pixel, or dot, on the screen, as measured in millimeters (mm). The smaller the dot pitch, the closer the dots, and the sharper the image is. If you're in the market for a monitor try to find one with a 0.28 mm or less.

- **Refresh Rate**

The refresh rate determines how quickly the monitor redraws, or updates, the image on the screen. Higher refresh rates are better, since they flicker less and are easier on the eyes. The refresh rate is measured in herz (Hz), or the number of times per second the monitor redraws the entire screen. If you're buying a new monitor, make sure to get one with a refresh rate of 72 Hz or better.



Dot pitch is the distance between pixels or dots on a screen. Dot pitch is measured in millimeters (mm).

- **Screen Savers and Energy Star Compliance**

A screen saver is a moving picture that appears on your computer screen when you don't use your computer for a while. Screen savers originally prevented phosphor burn, which occurred when a static image became etched onto the screen after a long period of time. Today's monitors aren't susceptible to phosphor burn, but some people still use screen savers for fun.

Most monitors are *Energy Star compliant*. This means they automatically turn themselves off after a period of time to save electricity. You turn the monitor back on by simply moving the mouse or pressing a key on the keyboard.

 **Quick Reference****CRT Monitors:**

- Older type of monitor that looks like a television set.

**Flat Panel LCD Monitors:**

- Newer type of monitor that is thin, lightweight and somewhat more expensive.

**Other Things to Know about Monitors:**

- The size of a monitor is measured diagonally across the screen. Average monitor sizes range from 15-inches to 21-inches.
- The monitor **refresh rate** determines how quickly the monitor redraws, or updates, the image on the screen. Most monitors have a refresh rate of 72MHz or better.
- A **screen saver** is a moving picture that appears on your computer screen when you don't use your computer for a while.

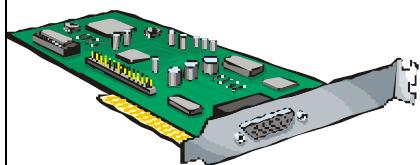
## Lesson 2-9: Graphics Card

**Figure 2-21**

A computer's monitor plugs into the graphic card, an expansion slot that plugs into a computer's motherboard.

**Figure 2-22**

Newer computer games have fantastic graphics—but you'll need a 3D graphics accelerator card to see them.



**Figure 2-21**



**Figure 2-22**

The second part of a computer's video system is the graphic card or video adapter. A graphics card is an expansion card that plugs into a computer's motherboard and is responsible for all the text and pretty images that appear on your computer's monitor. Many computers don't have a graphics card at all—all the video capabilities are instead built into the computer's motherboard.

Graphics cards come in many models and prices. More expensive graphics cards are faster and can display more complex, 3D graphics—something especially useful if you're into computer games. Here are the basics about graphic cards:

- **Screen Resolution**

Resolution has to do with how much information can fit on the computer screen. Obviously you can't adjust how large or small your computer's monitor is (without buying a new one that is), but you can make all the images on your screen larger or smaller so you can see more information at once. You can adjust the screen resolution to suit your needs and preferences. For more information about screen resolution see Table 2-7: *Common Screen Resolutions*.

- **Color Depth**

Color depth is the number of colors that are displayed on the screen at once. So why would you want to change the number of colors displayed on your screen? Perhaps you want to use higher color depth settings to make videos and photographs more realistic. Or some finicky games also require you to use a specific color depth. For more information about color depth see Table 2-8: *Common Color Depths*.

- **Graphics Card Memory**

**Graphics** cards have their own memory, or RAM, just like a computer. You'll need more memory to display higher screen resolutions and color depths. Video cards can have anywhere from 1 MB all the way up to 128 MB of memory. If you're buying a new computer, make sure it has at least 64 MB of memory.

- **3D Graphics Accelerator**

A 3D graphics accelerator card has its own CPU that is used to create 3D graphics. If you're even considering playing games on your computer, you should have a 3D graphics accelerator card, as most newer games require one.

**Table 2-7: Common Screen Resolutions**

<b>Resolution</b>	<b>Description</b>
 640 by 480	No longer supported in most computers, 640 by 480 used to be the lowest resolution setting. Larger and cheaper monitors have made 640 by 480 resolution effectively obsolete.
 800 by 600	This has been the standard resolution setting for most computers, and is the lowest setting on newer monitors. This is a good in-between resolution, allowing you to display quite a bit of information on the screen without having to use a magnifying glass to read it. Use this setting if you have a 15-inch or 17-inch monitor.
 1024 by 768	The new standard, 1024 by 768 puts a lot of information on your screen, but the images can start getting small and difficult to read at this point (unless you have a large monitor). Use this setting if you have a 17-inch or larger monitor or when you want to see a lot of information at the same time, for example if you're working on a large spreadsheet, graphic files, or multiple windows.
 Higher resolutions	Depending on how expensive the graphics card in your computer is, there may be several higher modes of resolution which continue to display more and more information and smaller and smaller images.

**Table 2-8: Common Color Depths**

<b>Color Depth</b>	<b>Description</b>
 256 Colors	No longer supported on many computers, 256 colors was the standard color depth years ago, but most computers and video cards are fast enough to run with more colors without taking a performance hit, making this color depth almost obsolete.
 16-bit	16-bit color displays roughly 65,000 colors at once. This is the point where pictures become photo-realistic. This is a good color depth setting because it can display photo-realistic images without slowing your computer down. You have to really squint to see much difference between 16-bit color and higher levels of color depth.
 24-bit	24-bit color displays 16.7 million of colors at once. Depending on how expensive the graphics card in your computer is there may be several higher modes of color depth, which continue to display more and more colors on the screen.
 32-bit	32-bit color displays 16.7 million of colors at once. 32-bit color is faster and more efficient than 24-bit color.

**Quick Reference****Screen Resolution:**

- Determines how much information can fit on the computer screen at once. Common screen resolutions include 800 by 600 and 1,024 by 768.

**Color Depth:**

- Color depth is the number of colors that are displayed on the screen at once. Common color depths include 16-bit and 24-bit color.

**Video Cards:**

- Have their own memory and processor. Generally speaking, the more memory a video card has, the higher the resolution and color depth it can display.

## Lesson 2-10: Printer Basics

**Figure 2-23**

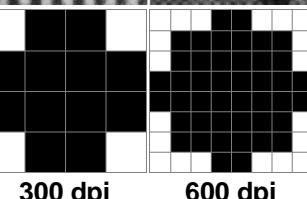
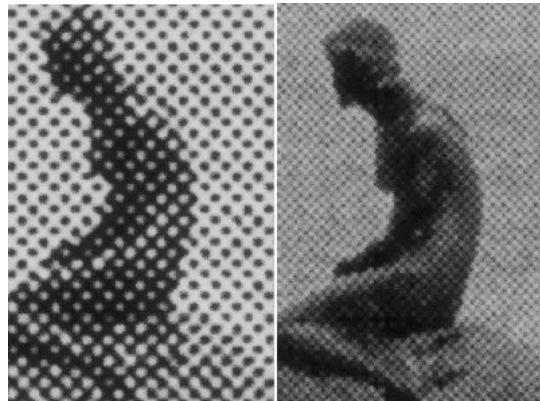
InkJet printers are the most inexpensive and popular type of printer sold today.

**Figure 2-24**

A printer's resolution determines the quality of the images it can produce.



**Figure 2-23**



**Figure 2-24**

A printer is an output device that puts text and graphics on paper. Using the printer is often the last step in creating something on a computer, whether it's a letter, spreadsheet, or digital photograph.

Unfortunately, there's a lot to know about printers—especially if you're buying one. Here are the main printer concepts you should know:

- **Type of Printer**

There are several different types of printers out there: InkJet and Laser printers are the most common. InkJet printers are the cheapest and most common type of printer and can be found in both homes and businesses. Laser printers are usually faster than InkJet printers, but they normally can only print in black and white. Laser printers are used mainly by businesses.

- **Color vs. Black and White**

Color used to be an expensive option for printers, but not any more. Most InkJet printers can print in color and so can an increasing number of laser printers. Most laser printers still print in black and white—great for text but not for images and graphics.

- **Resolution**

A printer's resolution helps determine the quality of the images it can produce. Higher resolution means higher quality images. Printer resolution is measured in dots per inch (dpi). Generally, 600-dpi resolution works great for text documents, while you will probably want 1200 dpi or better resolution for printing images. See Figure 2-24 for a good illustration of varying resolutions.

- **Speed**

A printer's speed determines how quickly it can print pages. Speed is measured two ways: in characters per second (cps) or in pages per minute (ppm). Either way you want a higher number if you want to have a faster printer. Printers usually slow down quite a bit when printing pages with a lot of complicated graphics, or color images.

- **Ink Cartridges and Toner**

Today many InkJet printers are cheap—about as much as dinner for two at a very fancy restaurant. Sound too good to be true? Here's the catch: the ink for most printers costs a *lot* of money. InkJet printers use ink cartridges that seem to run dry at an alarming speed. Laser printers use toner cartridges filled with the same messy black powder that is found in copy machines. Laser toner cartridges last a lot longer than InkJet cartridges, but they also cost significantly more.

- **Memory**

Laser printers have their own memory, or RAM, just like a computer. This memory is used to store pages before they are printed. Memory is important for printing complex or high-resolution images. Most laser printers have anywhere from 2 MB to 8 MB of memory.

- **Print Buffer and Spooler**

Computers are a lot faster than most printers are, so they can send information faster than the printer can accept it. A printer buffer or spooler fixes this problem. A print buffer works like a dam: it holds back the information and releases it at a rate that the printer can handle.

 **Quick Reference**

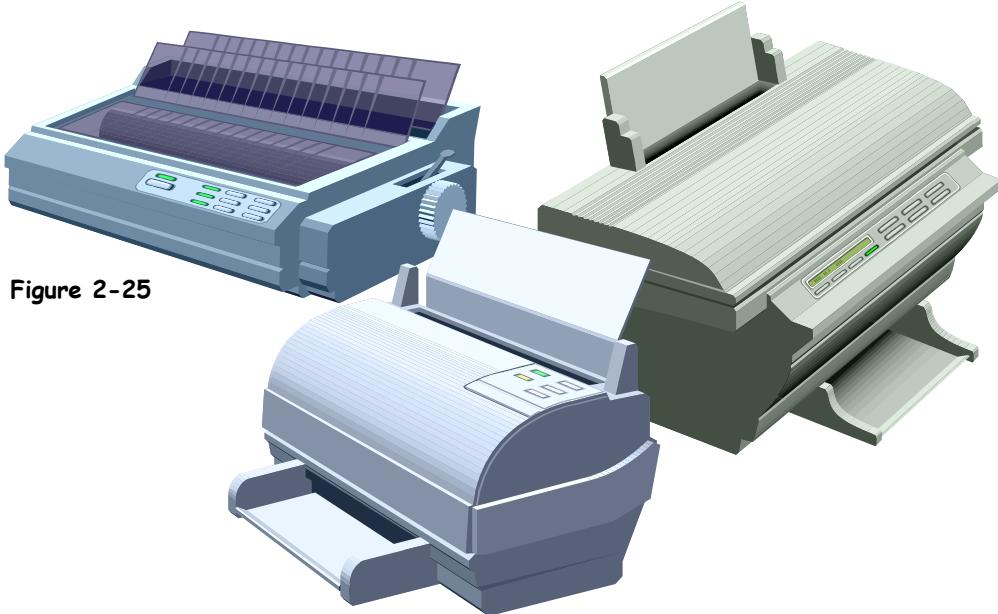
- InkJet and Laser printers are the most common printer types.
- Printer resolution determines the quality of the images a printer can produce. Printer resolution is measured in dots per inch (dpi).
- A printer's speed determines how quickly it can print pages.
- Printers get their ink from expensive cartridges (InkJet printers) and toners (laser printers)
- Many printers have their own memory, which is required for printing more complex images.
- A print spooler or buffer temporarily stores large print jobs and releases them when the printer is able to print them.

## Lesson 2-11: Types of Printers

**Figure 2-25**

There are many different types of printers available, with an enormous range of prices and features.

**Figure 2-25**



Leonardo da Vinci didn't limit himself by using only paint and brushes to create his masterpieces; he also used chalk to make sketches and a chisel and hammer to make sculptures. Maybe Leonardo would have used an airbrush or spray paint if they had been invented yet. Hmm... maybe not. Because there are different types of print jobs there are different types of printers. Are you a home user that prints an occasional letter or two? You'll probably want to buy a cheap *InkJet* printer. Are you a busy office that has lots of people who need to print lots of documents? You're probably looking at getting a *Laser* printer.

The following table describes the main types of printers out there and how or why you would use them, so you'll have no excuse for buying the wrong kind of printer when you get around to buying one.

**Table 2-9: Types of Printers**

<b>Printer Type</b>	<b>Description</b>
 <b>Ink Jet</b>	<p>Inkjet printers are easily the most popular and inexpensive type of printer out there. If you have a printer for your home computer, chances are it's an InkJet printer. InkJet printers create images by spraying ink onto a page. The inexpensive InkJet printer gets its ink from very expensive InkJet cartridges.</p> <p>Most InkJet printers can print in color, and their speeds vary from 2 to 16 pages per minute (ppm).</p>

Printer Type	Description
 Laser	<p>Laser printers have blazing speed—anywhere from 4 to 20 pages per minute (ppm), great resolution—anywhere from 300 to 1,200 dots per inch (dpi), and recently have become relatively inexpensive. Laser printers are great for businesses and people who need to produce large amounts of text documents or correspondence.</p> <p>Laser printers use the same technology as photocopy machines to create black and white images on paper. Laser printers use powdered black ink, called toner, just like photocopy machines do. When the toner cartridge runs out, you have to replace it with a new toner cartridge. Toner cartridges cost a lot more than InkJet cartridges do, but they also last a lot longer.</p>
 Color Laser	<p>A color laser printer works just like an ordinary laser printer, except that it can print in color, of course. Color laser printers are quite expensive and the color toner cartridges for them are even costlier.</p>
 Multifunction	<p>As its name implies, a multifunction printer can perform more than one task. Multifunction printers can usually operate as a fax machine, copier, and scanner in addition to their traditional printing duties.</p>
 Dot Matrix	<p>Popular in the 1980's, noisy dot-matrix printers have gone the way of the dinosaurs, except in businesses that need to print on carbon copies.</p> <p>Dot matrix printers usually use a type of paper with holes punched along each side called continuous form paper, and loads it through something called a tractor feed. Dot-matrix printers range in speed from 25 to 450 characters per second (cps), or 1 to 18 pages per minute (ppm).</p> <p>Resolution is measured differently with dot-matrix printers. Instead of using dot per inch (dpi) dot matrix resolution is measured by how many little pins are on the dot-matrix print head. Dot-matrix printers are available with 9-pin (terrible quality) and 24-pin (higher quality) print heads.</p>
 Plotter	<p>Don't expect to find a plotter at your local computer store. Plotters are special, very expensive printers that are used to create posters and blueprints.</p>

 **Quick Reference****Print Types Include:**

- InkJet
- Laser and color laser
- Multifunction
- Dot matrix
- Plotter

## Lesson 2-12: Sound and Speakers

**Figure 2-26**

Older computers had a sound card, which plugged into the motherboard of the computer. Newer computers have sound capabilities built into the motherboard.

**Figure 2-27**

You'll need to connect a pair of speakers or headphones to your computer if you want to hear sound.

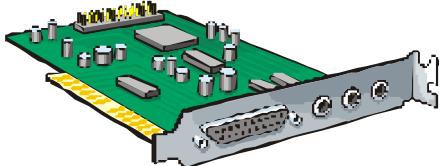


Figure 2-26

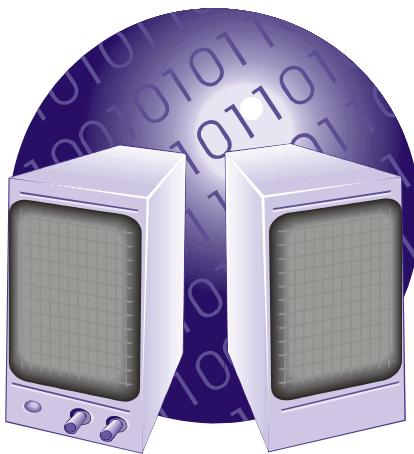


Figure 2-27

The term *sound card* is a little misleading; sound cards used to be expansion cards that plugged into a computer's motherboard. Although such sound cards still exist, today most computers have sound capabilities built-in to their motherboards. Either way, a sound card basically does two things: it plays and records digital sounds.

The types of sounds your computer can play range from the sounds you hear when you turn on your computer, to explosions in a computer game. A sound card can also play MP3 music files. An MP3 is a highly compressed sound file that lets you play CD-quality music on your computer.

While it's not nearly as important, sound cards also let you record sounds if you plug in a stereo or microphone. For example, you could use a sound card to record your aging cassette tape collection to MP3 files. Newer speech recognition software also requires that you have a microphone plugged into your computer.

Sound cards have the most confusing ports or jacks on the entire computer. Most of them look almost exactly the same—especially if you're crouched in the dark under a desk trying to plug in a pair of speakers to your computer. The table on the following page might make things a little easier by describing each of these ports.

**Table 2-10: Sound Card Jacks and Ports**

Jack	Picture	Description
Speaker		This is the main jack where you connect your speakers or headphones to hear the sounds produced by the sound card.

Jack	Picture	Description
 Microphone		This jack lets you connect a microphone to your computer so that you record sounds and use speech recognition software.
 Line Out		You can listen to your computer through your home stereo system if you plug it into this jack. This is especially useful if you want to play MP3 files on your stereo.
 Line In		You can record a cassette, audio CD, or the radio by plugging a stereo system into this jack.
 Game Port		This port lets you connect a joystick, used for playing games, to your computer.

 **Quick Reference****Sound Cards:**

- Allow computer to play and record digital sounds.

## Lesson 2-13: Modem

**Figure 2-28**

An internal modem plugs into an expansion slot inside a computer.

**Figure 2-29**

An external modem plugs into a serial port and sits outside a computer.

**Figure 2-30**

Most laptops have a built-in modem.

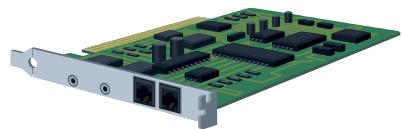


Figure 2-28



Figure 2-29

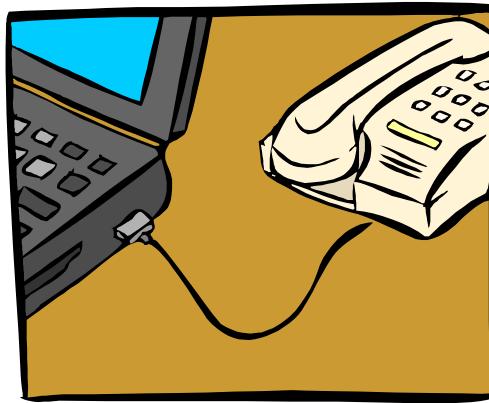


Figure 2-30

Just about every new computer comes with a built-in *modem*. A modem translates a computer's ones and zeros into audio tones, so that it can transmit information over the phone lines to other modems. The speed of a modem is measured by how fast it can transmit information in bits per second (bps).

- **Internal:** Most computers have an internal modem, like the one shown in Figure 2-28. Internal modems often plug into an expansion slot and are cheaper than external modems.
- **External:** An external modem, like the one shown in Figure 2-29, plugs in to a computer's serial port. Newer, *broadband* modem may plug into the USB or Ethernet port. A broadband modem transmits information directly over a connection, unlike older traditional modems that have to convert the information to tones or sounds first. Because of this, broadband modems are very, very fast—much faster than standard modems. DSL and Cable are the most common types of broadband connections.

Here's a quick overview of the major types of modems that are available:

**Table 2-11: Modem Types and Speeds**

Type	Speed (in bps)	Description
Standard	56K	Standard modems connect to a standard telephone line and are used for dial-up connections to the Internet.
ISDN	56K to 128K	One of the older broadband connections. It's only twice as fast as a traditional modem and pretty much obsolete.
DSL	256K to 6,000K	DSL modems take advantage of unused frequencies in the phone line, such as a pause in conversation. DSL modems are very fast; the problem is that you have to be close to a phone company in order to get DSL service.
Cable	640K to 4,000K	A cable modem is the fastest modem you can buy for home use. The problem is your cable company has to offer cable Internet access in order to use it.

### Quick Reference

#### Standard Modems:

- Transmit information over standard phone lines to other computers. Maximum speed is 56K bps.

#### Broadband and Digital Modems:

- Much faster than standard modems, with speeds up to 4,000K bps. Broadband modems include ISDN, DSL, and Cable.

## Lesson 2-14: Input/Output Devices



Figure 2-31



Figure 2-32

Figure 2-31

A touch screen monitor is an example of an input/output device.

Figure 2-32

A multifunction printer is another example of an input (scanner)/output (printer) device.

Some computer devices can be categorized as *both* an input device and an output device. For example, a multifunction printer, like the one shown in Figure 2-32 has a scanner (input) and a printer (output). Touch screen monitors are another example of an input/output device; they display images (output) and also let users interact with the computer by pressing areas of the screen (input).

### Quick Reference

- Some computer devices have both input and output functions. Examples include touch screen monitors and multifunction printers.

## Lesson 2-15: Hard Drive

**Figure 2-33**

How information is stored in a file cabinet.

**Figure 2-34**

How information is stored on a hard disk.

### Storage Notes: Internal Hard Disk

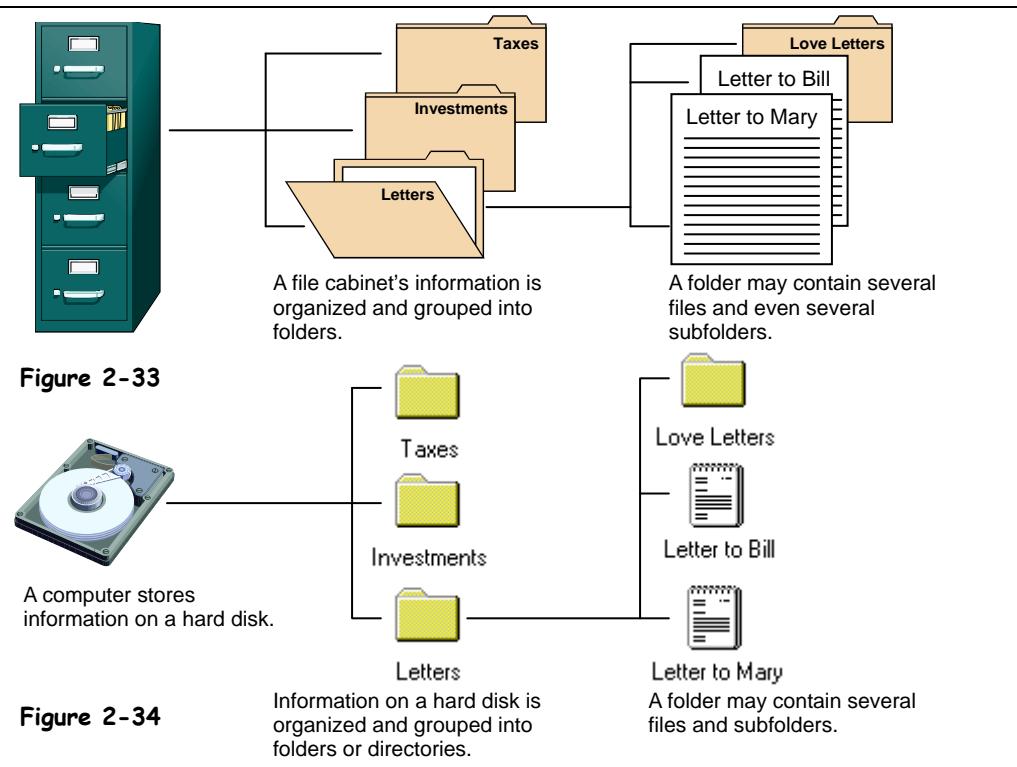
**Speed:** Very fast. Most hard disks have an average access speed of between 8 to 15 milliseconds (ms).

**Capacity:** Enormous. Many hard disks have more than 200 Gigabytes (GB) of storage.

**Cost:** Hard disks are becoming more and more inexpensive. Byte for byte they are the most inexpensive way to store data.



Unlike floppy disks and CD-ROMs, most hard disks reside inside of the computer or system unit and cannot be easily removed.



A hard drive or hard disk is a computer's main storage device. Most hard drives are tucked away in the system unit of a computer and hidden from view. Although you normally can't see a computer's *internal* hard drive you can usually hear it whirring inside when you start the computer or a program. An external hard drive sits outside the computer's system unit and plugs into a USB, Firewire, or SCSI port.

The hard drive is like the file-cabinet portion of your desk. And files really are saved in folders on a computer, so this really is the perfect analogy. Most computers have a single hard drive located inside of the computer case labeled C. When a computer has more than one hard drive they are labeled D, then E, and so on. Unlike RAM, a hard drive retains its information even when you turn the computer off.

So what's stored on a hard drive? Let's take a look...

- **Operating System Files**

A computer's operating system, like Windows XP, is stored on the hard drive.

- **Program Files**

Program files are the programs you work with, like your word processor, your Internet software, or your games. Programs usually come on floppy disks or CD-ROM's, to use it first install, or copy, it to your hard drive in order to use the program.

- **Data Files**

Whenever you create a document or data file on your computer, like a word processing document, the computer stores it in its temporary memory (RAM.) You must save your documents to the hard drive or they will be lost when you turn off your computer.

Most hard drives are connected to a computer's motherboard through something called an **IDE** (Integrated Drive Electronics) connection. You can also connect CD-ROM and DVD drives to an IDE connection. A slight problem with IDE is that it only supports a total of four devices or drives. This isn't a big deal for most home users, but it is if you're a business and need a server with lots of hard drives. So there's another way to connect hard drives to a computer: through a **SCSI** (pronounced—get this—*scuzzy*) port. SCSI connections are often faster than IDE and they can connect up to seven devices instead of four. **SATA** (Serial ATA) connections are currently emerging as the most dominant connection, however.

OK, so what else do you need to know about hard drives?

- **Hard Disk Size (or Capacity)**

How much information (how many programs and data) a hard drive can store is measured in bytes, just like RAM. Hard drive sizes in newer computers range from 20 Megabytes (MB) all the way up to 200 Gigabytes (GB)! How big a hard drive should you get when you buy a computer? Normally try to get at least 40 Gigabytes if you're a home or small business user. More is better in hard drives, because programs keep getting bigger.

- **Average Access Time**

A hard drives average access time is how fast it can find information. Average access time is measured in milliseconds (ms), or 1/1000 of a second. The lower the access speed, the faster the hard drive. Most newer computers have an average access time of 8 to 15 ms.

 **Storage Notes:**  
**External Hard Disk**

**Speed:** Very fast, though normally slower than internal hard disks.

**Capacity:** Enormous – same as internal hard disks.

**Cost:** Slightly more expensive than internal hard disks.

 **Quick Reference**

**Hard Drive:**

- A computer's main storage device, sometimes called the C drive.
- Modern hard drives can store anywhere from 20GB to 250GB of information.
- **Average access time** is how fast a hard drive can find information.
- Hard drives are connected to a computer through either an **IDE**, **SCSI** or **SATA** interface.

## Lesson 2-16: Hard Drive Maintenance

**Figure 2-35**

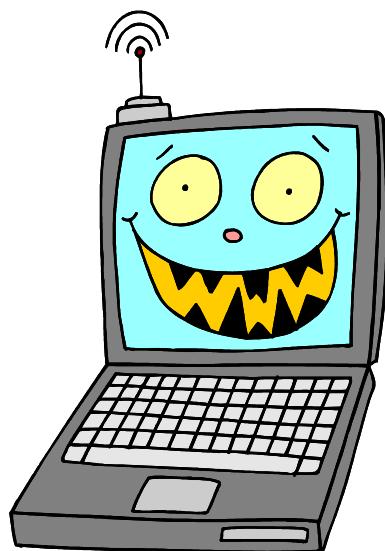
Routine hard drive maintenance keeps computers happy and running smoothly.

**Figure 2-36**

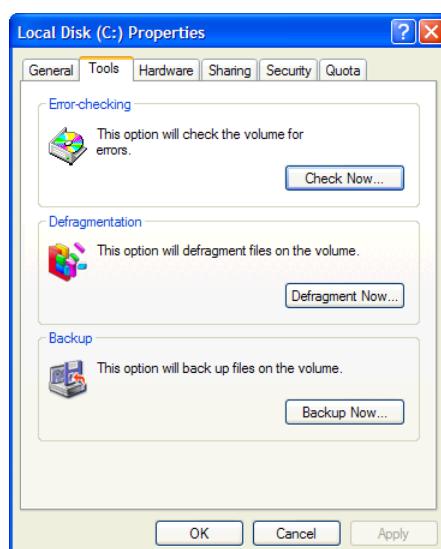
Most hard disk repair tools can be found in Microsoft Windows by right-clicking the hard drive, selecting Properties from the shortcut menu, and clicking the Tools tab.

**Figure 2-37**

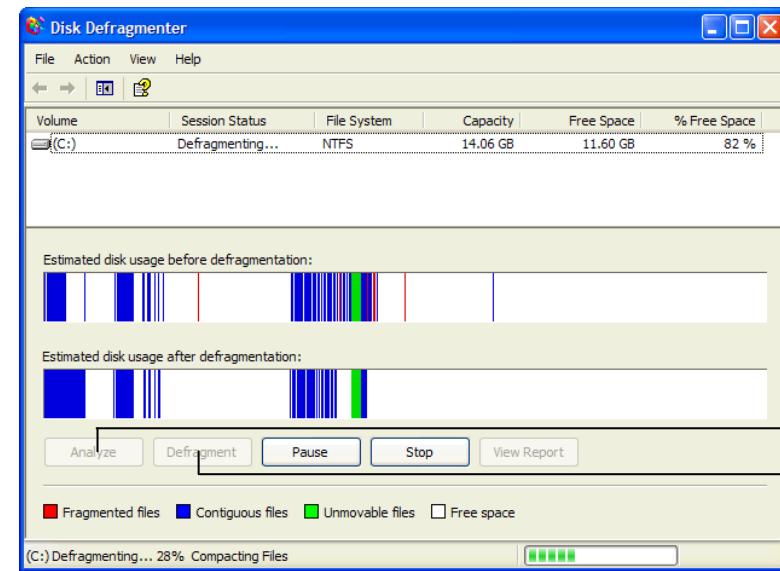
Hard drives need to be defragmented periodically to make them more efficient.



**Figure 2-35**



**Figure 2-36**



**Figure 2-37**

Create a fragmentation report on the selected drive  
Defragment the selected drive

Cars require maintenance to keep them running at their peak performance. Some car maintenance tasks are simple and routine, such as changing the oil every 3,000 miles. Others are more complicated, such as installing a new radio. Hard drives are no different—they require routine maintenance to prevent and/or correct problems and to keep them running at their best performance.

By now you're probably wondering, "How does one maintain a hard drive?" There are quite a few ways:

- **Repair a Hard Drive**

Over time, hard drives can become damaged, effecting their performance. Fortunately most of the hard drive damage is caused by normal wear and tear and is not serious. You can diagnose and correct most hard drive problems with a hard drive repair program. Microsoft Windows comes with a built-in hard drive repair program.

- **Defragmenting a Hard Drive**

Normally a computer stores a file in the same location on a hard drive. Over time, a hard drive can become *fragmented*, and instead of storing a file in the same location it begins storing parts of it all over. When the computer needs to read a fragmented file, it must read several different parts of the hard drive instead of just one. Defragmenting a hard drive puts the fragmented files back together in one place. You should defragment your computer's hard drive about once a month.

- **Backing up a Hard Drive**

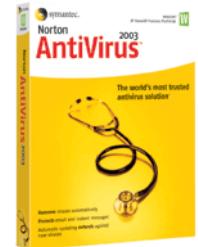
A computer's hard drive stores information even when the computer is turn off, but you should still back up the documents you create to some type of removable storage, like a CD-RW or tape backup. This will give you an extra copy of your files in case your hard drive is damaged.

- **Virus Protection**

A computer virus is actually a small computer program written by a malicious person with the purpose of vandalizing computers by erasing information on their hard drive and causing other problems. Anti-Virus programs that protect computers against viruses, like Norton AntiVirus or McAfee VirusScan, are available at most computer stores. If you're even thinking about connecting to the Internet, you need to have AntiVirus software installed on your computer.

- **Hard Drive Compression**

A computer can increase space on a hard drive by using a special program to compress, or squeeze together, the files stored on a hard drive. Most data compression programs can effectively double the amount of information a hard drive can store. Sounds great, so why don't many people use disk compression? First, data compression slows your hard drive because the computer has to uncompress files before it can read them. Second, data compression often causes more problems in hard drives. Third, several programs won't run on the computer with compressed hard drives. Don't compress your hard drive unless you absolutely have to, and even then it might be better to start looking for a new, larger hard drive than to use data compression.



Make sure you install antivirus software on your computer to prevent malicious computer viruses.

## Quick Reference

### Hard Drive Repair and Fragmentation:

- Over time, small errors and fragmentation can degrade the performance of a hard drive. These problems can be corrected by a hard drive utility program.

### Hard Drive Backups:

- Should be performed to give you an extra copy of your files if your hard drive becomes damaged.

### Virus Protection:

- Software should be installed on every computer to protect against malicious computer viruses.

### Compression:

- Increases the space on a hard drive by compressing, or squeezing together, its files.

## Lesson 2-17: CD-ROM Drive

**Figure 2-38**

A CD-ROM drive.

**Figure 2-39**

A CD-ROM drive can also play the same, great audio CDs that a stereo system does.

**Figure 2-40**

Newer CD-ROM drives can transfer data faster than older drives, as this table shows.

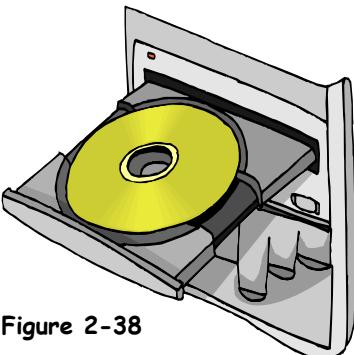


Figure 2-38

CD-ROM Speed	Transfer Rate
8x	1,000 KB/s
10x	1,600 KB/s
12x	1,800 KB/s
16x	2,400 KB/s
24x	3,600 KB/s
32x	4,800 KB/s
40x	6,000 KB/s
48x	7,200 KB/s
60x	9,000 KB/s

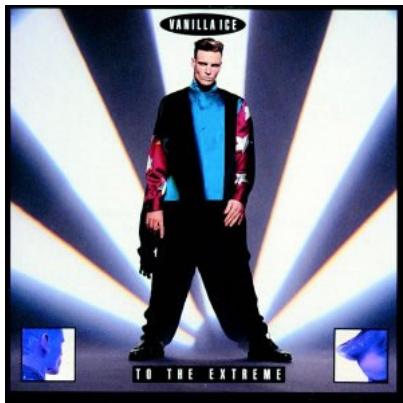


Figure 2-39

Figure 2-40

### Storage Notes: CD-ROM

**Speed:** Much slower than a hard disk, but still faster than a floppy.

**Capacity:** About 650 Megabytes (MB).

**Cost:** Very inexpensive.

Another type of drive almost all computers have is a CD-ROM drive (CD-ROM stands for Compact Disc-Read Only Memory). CD-ROM drives play CD-ROM discs—the same kind of compact discs you can play in your stereo system. CD-ROMs can store lots of information: a single CD-ROM can hold more than 700 Megabytes (MB) of data—more than an encyclopedia set! Unlike a hard drive, most CD-ROMs can only read information—you can't save, or record anything on them (that's what the ROM in CD-ROM stands for: *Read Only Memory*!) On the other hand, CD-RW drives *can* read and write (or burn) to special CD-R and CD-RW discs (the RW in CD-RW stands for *ReWritable*.) The CD-ROM drive is usually labeled D on most computers.

The speed of a CD-ROM drive determines how quickly the computer can read information stored on the CD-ROM. Faster CD-ROM drives produce better sound and video quality. The original CD-ROM drive was no faster than an audio CD player, so the speed of all subsequent CD-ROM drives is measured by how many times faster they are than the original, 1x CD-ROM drive. Today's CD-ROM drives are up to *sixty times* (60x) faster than the original.

Here are some things you can do with CD-ROMs:

- **Install Programs**

More programs are coming on CD-ROMs because of their large storage capacity. Instead of installing and copying 20 floppies to your hard drive, you only have to install a single CD-ROM.

- **Run CD-ROM Programs**

CD-ROM-based programs are usually the coolest programs available for your computer. CD-ROM programs often have rich, exiting multimedia content: high quality sounds, music, videos, and animations. For example, a popular CD-ROM program is a complete, searchable encyclopedia set which contains high quality pictures, sounds, music, and videos.

- **Play Audio CDs**

Most CD-ROM drives are capable of playing audio CDs—the same kind your stereo uses! So your computer can play music while you work.

**Table 2-12: Types of CDs**

CD Type	Description
CD-ROM	The original, standard CD, CD-ROM stands for Compact Disc, Read-Only Memory. What this means is that you can only read information from a CD-ROM; you can't add new information.
CD-R	If you have a CD-RW drive you can permanently store information on a CD-R (Compact Disc-Recordable) disc. The information you write or <i>burn</i> to a CD-R is permanent and can't be changed or erased.  You can also use CD-R discs to create musical CDs that you can listen to in a stereo system.
CD-RW	Unlike CD-R discs, a CD-RW (Compact Disc-ReWritable) disc can be written to many times. You can also modify and erase information on a CD-RW disc—if you have a CD-RW drive, of course.

 **Quick Reference**

**CD-ROM:**

- Stands for Compact Disc-Read Only Memory. A CD-ROM drive lets you install programs, run CD-ROM based programs, and play audio CDs. A CD-ROM holds about 650MB of information.

**CD-R:**

- Stands for Compact Disc-Recordable. Lets you permanently write or burn information.

**CD-RW:**

- Stands for Compact Disc-ReWritable. Can be written to and modified many times.

## Lesson 2-18: DVD Drive

**Figure 2-41**

A DVD disc looks almost identical to a CD-ROM disc.

**Figure 2-42**

The DVD logo.

**Figure 2-43**

A single DVD can store as much information as several CD-ROMs.

**Figure 2-44**

A DVD drive can also play the same, great movies that you can watch on a DVD player.



Figure 2-41



Figure 2-42

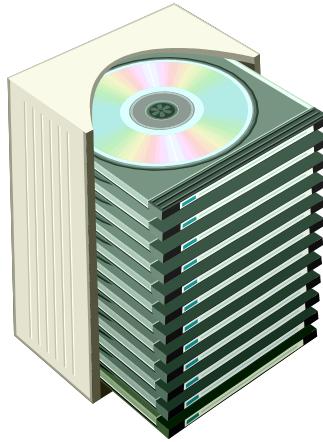


Figure 2-44

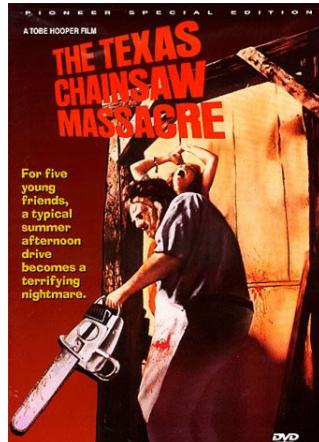


Figure 2-43

Next generation DVD drives are quickly replacing CD-ROM drives in newer computers. A DVD (stands for Digital Versatile Disc) disc looks just like a CD-ROM, but it can store more than 4 Gigabytes (GB) of information—as much as seven CDs. There are even rumored to be future DVD discs that can hold up to 17 Gigabytes! Unfortunately there still really isn't a lot of software that is available on DVD discs. Most people simply use their DVD drive to watch DVD movies. The CD-ROM drive is usually labeled D or E on most computers.

### Storage Notes: DVD

**Speed:** Faster than a CD-ROM drive but not as fast as a hard disk.

**Capacity:** Usually about 4 Gigabytes (GB), although future DVD discs are rumored to hold up to 17 Gigabytes (GB).

**Cost:** Slightly more than a CD-ROM but still very inexpensive.

New rewritable DVD drives, that can record or burn information to special type of DVD discs have recently become available on the market. Unfortunately for the consumer, the greedy DVD manufacturers couldn't agree on a universal recordable DVD standard, so there are several different competing formats out there. Hopefully consumers will eventually make the decision for the DVD manufacturers, like they did between Betamax and VHS videotapes. Until then there isn't really any clear answer about which recordable and rewritable DVD format to go with, although both DVD+RW and DVD-RW discs work in most newer DVD drives and players. We can tell you that recordable DVD-RAM format is almost universally *not* compatible with most DVD players. Table 2-13: *DVD Formats* tries to make sense of all the available formats. For more information on recordable DVD standards, visit <http://www.dvdrhelp.com/dvdplayers.php> on the Web.

**Table 2-13: DVD Formats**

DVD Format	Description
DVD-ROM	The original, standard DVD. ROM stands for Read-Only Memory. This means you can only read information from a DVD; you can't add new information.
DVD-R	If you have a DVD-RW drive you can permanently store information on a DVD-R (DVD-Recordable) disc. The information you write or burn to a DVD-R is permanent and can't be changed or erased.  DVD-RW drives can also write to DVD-RW discs

DVD Format	Description
DVD-RW	If you have a DVD-RW drive you can use DVD-RW (ReWritable) discs, which can be re-written up to 1,000 times. You can also modify and erase information on a DVD-RW disc. DVD-RW discs have some compatibility problems with older DVD Players and DVD ROM drives.  DVD-RW drives can also write to DVD-R discs.
DVD+R	If you have a DVD+RW drive you can permanently store information on a DVD+R (DVD+Recordable) disc. The information you write or burn to a DVD+R is permanent and can't be changed or erased.  DVD+RW drives can also write to DVD+RW discs.
DVD+RW	If you have a DVD+RW drive you can use DVD+RW (ReWritable) discs, which can be re-written up to 1,000 times. You can also modify and erase information on a DVD+RW disc. DVD+RW discs have some compatibility problems with older DVD Players and DVD ROM drives.  DVD+RW drives can also write to DVD+R discs.
DVD-RAM	DVD-RAM is a rewritable DVD format that can be re-written to many times. DVD-RAM discs are beginning to look like an orphan format, since they won't work in most DVD players.

 **Quick Reference****DVD:**

- Stands for Digital Versatile Disc. A DVD disc looks like a CD-ROM, but can store much more information.

**Recordable and Rewritable DVDs:**

- There are several competing, non-compatible formats out there, including DVD-R /DVD-RW and DVD+R/ DVD+RW.

## Lesson 2-19: Floppy Drive

**Figure 2-45**

A relic of the past, floppy disks don't have the speed or capacity to be very useful in the 21<sup>st</sup> century.



**Figure 2-45**

### Storage Notes: Floppy Disk

**Speed:** Very slow.

**Capacity:** Very small – 1.44 Megabytes (MB).

**Cost:** Very cheap.

### Quick Reference

#### Floppy Disks:

- Are slow and can only store 1.44MB. They are all but obsolete.

Most desktop computers still have a floppy drive, although most laptops have dropped the all-but-obsolete floppy drive. Floppy drives read flat, 3½-inch floppy disks. Floppy drives are as slow as a glacier when compared to hard drives and CD-ROM drives. Floppy disks can only store a scant 1.44 Megabytes (MB) – just a little more than your typical novel.

So why are these relics from the 1980's still around? Floppy disks can still be useful for transferring and backing up small documents. Some other uses for floppy disks include:

- A mini cutting board
- An eye patch (for one-eyed software pirates)
- A room divider for hamsters
- An accessory for aging computer nerds

## Lesson 2-20: Zip and Jaz Drives



Figure 2-46



Figure 2-47

Removable storage drives have features of both hard drives and floppy drives. Removable storage drives work like a floppy drive because they read and write information on small, removable cassettes that are about the size of a floppy disk. They are like hard drives because each cassette can usually hold more than 100 megabytes (MB) and is much faster than a floppy disk, but still not quite as fast as a hard drive. Two of the most popular removable storage drives are the Zip drive and Jaz drive, both made by Iomega.

Zip disks can store 100 to 250 Megabytes (MB) on a removable disk—about 70 to 170 times as much as an old floppy disk. Zip drives are available in both 100MB and 250MB versions. You'll need a 250MB version to read both 100MB and 250MB Zip disks. Zip disks are a great way to transfer and backup information—but they're not much of a value when compared to newer CD-RW and even newer DVD-RW discs.

Jaz disks can store 1 to 2 Gigabytes (GB) on a single removable disk—as much as an older hard drive! Jaz drives are also fast, though not as fast as a hard disk, so they're great for backing up information. Despite their huge storage capacities, Jaz drives really never caught on.

### Figure 2-46

A Zip drive can store 100MB or 250MB on removable Zip disks.

### Figure 2-47

A Jaz drive can store 1GB or 2GB on a removable Jaz disk.

#### Storage Notes: Zip Drive

**Speed:** Significantly slower than most hard disks.

**Capacity:** 100 to 250 Megabytes (MB).

**Cost:** Expensive when compared to costs of equivalent CD-RW discs and other storage devices.

#### Storage Notes: Jaz Drive

**Speed:** Slower than most hard disks, but faster than a Zip disk.

**Capacity:** 2 Gigabytes (GB).

**Cost:** Fairly expensive when compared to costs of equivalent CD-RW discs and other storage devices.

#### Quick Reference

- Zip and Jaz drives are removable storage devices that have features of both floppy and hard disks.

## Lesson 2-21: Other Storage Devices

**Figure 2-48**

Flash cards are most commonly used as the 'film' in digital cameras and can also be read by many PDAs and most computers.

**Figure 2-49**

A tape backup automatically makes a copy, or backup, of all the files on a computer's hard drive.



**Figure 2-48**



**Figure 2-49**

We've covered the main storage devices that are out there, but it seems as if one or two new storage devices are invented and released every year; some catch on, some don't. Here's a run-down on some of the less common storage devices that are out there:

**Table 2-14: Other Storage Devices**

Device	Description
	A tape drive creates copies, or backups, of the files on a computer's hard drive onto a tape cartridge. The backed up files can be restored in case the original files are lost due to disaster or stupidity.
	The LS-120 drive was meant to be an alternative to Zip disks, because it could store 120 MB of data on a disk, and a replacement for floppy drives, because it could also read and write to traditional 1.44 MB floppy disks. Unfortunately LS-120 never really caught on with the general public.
	Flash cards are commonly used as the 'film' for digital cameras. Flash cards can store anywhere from a dozen to several hundred pictures, depending on how much memory they have. There are three different types of flash cards: CompactFlash cards, SmartMedia cards, and Memory Sticks. Flash cards can store anywhere from 4 MB all the way up to 1 GB. Wow!
	A USB flash drive is really another type of Flash Card that plugs into a USB port. USB flash drives range in sizes from 16 MB to 512 MB.

### Quick Reference

Other Storage Devices  
Include:

- Tape drives
- LS-120 Super drives
- Flash cards
- USB flash drives

## Lesson 2-22: Formatting a Disk

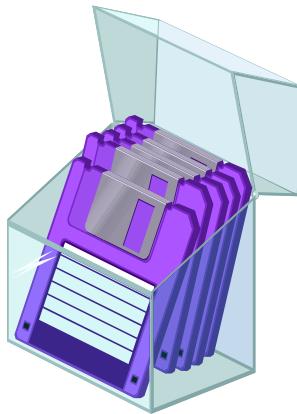


Figure 2-50

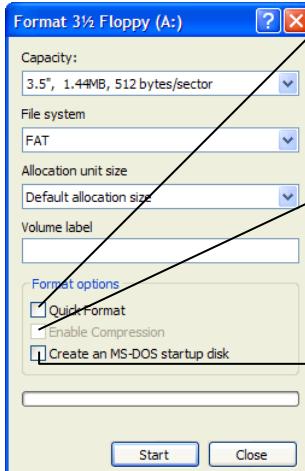


Figure 2-51

### Quick (erase)

Erases all information from the disk, but doesn't scan the disk for damaged areas. Only works on disks that have previously been formatted.

### Enable Compression

Formats the volume so that folders and files on it are compressed. Compression is supported only on NTFS drives.

### Create an MS-DOS startup disk

If you're having problems with your computer, use a startup disk to help remedy your problems.

Figure 2-50

Most floppy disks and hard drives come pre-formatted

Figure 2-51

Formatting a floppy disk in Microsoft Windows XP.

Floppy disks must be formatted before you can use them. Fortunately, today most floppy disks you can buy come pre-formatted, so you don't have to do it yourself. When you *format* a disk, you erase *everything* on it and prepare it so that it can be read and used by the computer's operating system. Actually, you can format most storage devices, such as a hard disks and Zip disks, only you'll want to be extra careful about formatting these devices, as there's a lot more information that will be erased when you format them.

It's easy to format a floppy disk. Here's the procedure for formatting a floppy disk in Windows XP...

### 1. Click the Start button and select My Computer.

The My Computer window will display your computer's various storage devices.

### 2. Right-click the drive containing the floppy disk you want to format (usually A:), and select Format from the shortcut menu.

The Format dialog box appears. There are several options you can specify when formatting a floppy disk—see Figure 2-51 to see what they are.

### 3. Click Start.

The floppy drive will whir as it formats the floppy disk. Formatting a floppy disk usually takes about a minute, formatting a hard disk takes a long time—over an hour if you have a slow computer and large hard disk.

### Quick Reference

#### Formatting a Disk:

- Prepares it for use, so that it can be read and used by the computer's operating system.
- Formatting a disk erases *everything* on it.

## Chapter Two Review

### Lesson Summary

#### **Central Processing Unit (CPU)**

- The CPU, or Central Processing Unit, is the computer's main chip. It calculates and processes information.
- CPU speed is measured in megahertz (MHz) and gigahertz (GHz).
- Common CPUs include: Intel Pentium III, Intel Pentium 4, Intel Celeron, AMD Athlon, AMD Duron.

#### **Memory**

- Computers use the binary system, where *on* is represented by a one (1) and *off* is represented by a zero (0).
- A **Bit** is the smallest memory unit. Bit stands for *binary digit*.
- Eight bits make one **Byte**. A byte equals one character (letter, number, or symbol).
- 1,024 bytes make one **Kilobyte** (K or KB) which is equivalent to a one-page, double-spaced letter.
- 1,048,576 bytes make one **Megabyte** (M or MB) which is equivalent to a novel.
- 1,073,741,824 bytes make one **Gigabyte** (G or GB) which is equivalent to an encyclopedia set.
- 1,099, 511,627,776 bytes make one **Terabyte** (T or TB) which is equivalent to a small bookstore.

#### **RAM and ROM**

- **RAM:** Stands for Random Access Memory. This is the computer's main memory, which is used to process information. You can read from and write to RAM. RAM is volatile, and any data disappears when you shut off the computer.
- **ROM:** Stands for Read Only Memory. This is the computer's low-level memory, which is used to perform its most basic functions. You can read from ROM but you can't write to it.

#### **Mouse**

- A mouse acts as a handheld pointing device and controls the actions of that blinking item on your computer screen known as a *cursor*.

#### **Keyboard**

- A keyboard lets you enter information and commands into a computer.

#### **Digital Cameras and Web Cams**

- A **digital camera** lets you take pictures and transfer them to a computer.

- The quality, or resolution of the pictures a digital camera can take is measured in **megapixels**, or millions of pixels (dots). The more pixels, the crisper the image will appear when it is printed.

## Other Input Devices

- Other input devices include touch pads, AccuPoint® pointing devices, track balls, light pens, scanners, joysticks, and microphones.

## Monitors

- A **CRT Monitor** is an older type of monitor that looks like a television screen.
- A **Flat Panel LCD Monitor** is a newer type of monitor that is thin, lightweight and somewhat expensive.
- The **size** of a monitor is measured diagonally across the screen. Average monitor sizes range from 15-inches to 21-inches.
- The monitor **refresh rate** determines how quickly the monitor redraws, or updates, the image on the screen. Most monitors have a refresh rate of 72MHz or better.
- A **screen saver** is a moving picture that appears on your computer screen when you don't use your computer for a while.

## Graphics Cards

- **Screen Resolution** determines how much information can fit on the computer screen at once. Common screen resolutions include 800 by 600 and 1,024 by 768.
- **Color Depth** is the number of colors that are displayed on the screen at once. Common color depths include 16-bit and 24-bit color.
- **Video Cards** have their own memory and processor. Generally speaking, the more memory a video card has the higher the resolution and color depth it can display.

## Printer Basics

- **InkJet** and **Laser** printers are the most common printer types.
- **Printer resolution** determines the quality of the images a printer can produce. Printer resolution is measured in dots per inch (dpi).
- A printer's speed determines how quickly it can print pages.
- Printers get their ink from expensive cartridges (InkJet printers) and toners (laser printers).
- Many printers have their own memory, which is required for printing more complex images.
- A **print spooler** or **buffer** temporarily stores large print jobs and releases them when the printer is able to actually print them.

## Types of Printers

- Print types include InkJet, laser and color laser, multifunction, dot matrix, and plotters.

## Sound and Speakers

- A **sound card** lets a computer digitally play and record sounds.

## Modems

- A **standard modem** transmits information over standard phone lines to other computers and has a maximum speed of 56K bps.
- A **broadband or digital modem** is much faster than a standard modem, with speeds up to 6,000 Kbps. Broadband modems include ISDN, DSL, and Cable.

## Input/Output Devices

- Some computer devices have both input and output functions. Examples include touch screen monitors and multifunction printers.

## Hard Drive

- A hard drive is a computer's main storage device, usually labeled C.
- Modern hard drives can store anywhere from 20GB to 250GB of information.
- **Average access time** is how fast a hard drive can find information.
- Hard drives are connected to a computer through either an **IDE** or **SCSI** interface.

## Hard Drive Maintenance

- **Hard Drive Repair and Fragmentation:** Over time, small errors and fragmentation can degrade the performance of a hard drive. These problems can be corrected by a hard drive utility program.
- **Hard Drive Backups:** Should be performed to give you an extra copy of your files if your hard drive becomes damaged.
- **Virus Protection:** Software should be installed on every computer to protect against malicious computer viruses.
- **Compression:** Increases the space on a hard drive by compressing, or squeezing together, its files.

## CD-ROM Drive

- **CD-ROM:** Stands for Compact Disc-Read Only Memory. A CD-ROM drive lets you install programs, run CD-ROM based programs, and play audio CDs. A CD-ROM holds about 650MB of information.
- **CD-R:** Stands for Compact Disc-Recordable. Lets you permanently write or burn information.
- **CD-RW:** Stands for Compact Disc-ReWritable. Can be written to and modified many times.

## DVD Drive

- **DVD:** Stands for Digital Versatile Disc. A DVD disc looks like a CD-ROM, but can store much more information.
- **Recordable and ReWritable DVDs:** There are several competing, non-compatible formats out there, including DVD-R /DVD-RW and DVD+R / DVD+RW.

## Floppy Drive

- **Floppy disks** are slow and can only store 1.44MB. They are all but obsolete.

## Zip and Jaz Drives

- Zip and Jaz drives are removable storage devices that have features of both floppy and hard disks.

## Other Storage Devices

- Other storage devices include tape drives, LS-120 Super drives, flash cards, and USB flash drives.

## Formatting a Disk

- Formatting a disk prepares it for use, so that it can be read by the computer's operating system. Formatting a disk erases *everything* on it.

## Quiz

---

**1. The speed of a CPU is measured in what?**

- A. Megahertz (MHz) and gigahertz (GHz)
- B. Horsepower
- C. Bits per second (Bps)
- D. Lux

**2. How much information can be stored in a kilobyte?**

- A. As much as a one page letter.
- B. As much as a novel.
- C. As much as an encyclopedia set.
- D. As much as a bookstore.

**3. Generally speaking, which of the following storage devices can hold the most information?**

- A. A hard disk
- B. A Zip disk
- C. A CD-ROM
- D. A DVD

**4. What is another name for a computer's main volatile memory?**

- A. RAM
- B. ROM
- C. RUM
- D. Flash

**5. You can read and write to a computer's ROM. (True or False?)**

**6. Which of the following modems is the slowest?**

- A. ISDN
- B. DSL
- C. Cable
- D. Standard

**7. Which of the following can you read and write to many times?**

- A. CD-ROM
- B. CD-R
- C. CD-RW
- D. DVD-ROM

## Quiz Answers

---

- 1. A. The speed of the CPU, or Central Processing Unit, is measured in megahertz (MHz) and gigahertz (GHz).
- 2. A. A kilobyte holds 1,024 characters; about as much information as a single page letter.
- 3. A. A hard disk will generally have more storage capacity than a Zip disk, CD-ROM, or even DVD.
- 4. A. RAM or Random Access Memory.
- 5. False. A computer can read from ROM but not write to it.
- 6. D. A standard modem is much slower than the other digital modems.
- 7. C. You can read and write to a CD-RW, or CD ReWritable disc many times.

# Chapter Three: Understanding Software

## Chapter Objectives:

- Learn about operating systems
- Learn about application software
- Learn about word processors, spreadsheets, databases, and more
- Learn about programming

## Prerequisites

- A desire to learn about computers.

This chapter is all about software. *Software* is a computer program that tells computer hardware how to operate. Software is even more diverse than hardware—there are thousands and thousands of software programs out there. Software ranges from the Windows XP operating system that manages your computer, to the word processor you use to print letters, to the Web browser you use to peruse the Internet.

This chapter will give you an incredibly broad overview of the various types of software out there. We'll explain what an operating system does and provide a quick history of various operating systems. Next we'll take a quick tour of the most popular types of programs out there, from word processors to databases. Finally we'll take a glance at some of the more common *programming languages* that are used to write software.

## Lesson 3-1: Understanding Graphical User Interfaces

**Figure 3-52**

The procedure for deleting a file in a text-based operating system.

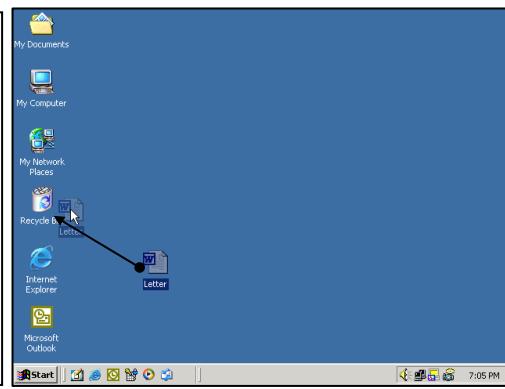
**Figure 3-53**

The procedure for deleting a file in a GUI-based operating system. Which is easier?



Graphical user interfaces (GUIs) allow computer users to point and click.

```
Microsoft(R) MS-DOS
(C)Copyright Microsoft Corp
C:\>DEL LETTER.DOC
```



**Figure 3-52**

**Figure 3-53**

Originally, the information on a computer screen was strictly text, and that text was manipulated using a keyboard. Then computers started using graphical images on the screen to represent a program or file. Those images are called *icons*. Along with the introduction of icons came the development of *graphical user interfaces (GUIs)*. GUIs allow computer users to point at pictures and icons and then click the icon to manipulate that program or file, thus the phrase *point and click*. Obviously, the mouse is a manifestation of this point-and-click mentality because the mouse controls the onscreen cursor.

Figure 3-52 and Figure 3-53 make a good illustration of how much easier a GUI makes it to do things, like delete a file. The following table describes some of the most common icons you'll see in the Windows XP GUI.

**Table 3-1: Things You'll See in the Windows XP GUI**

Object	Object
You use the arrow or pointer to point and click at things.	The Recycle Bin stores your deleted files.
Click the Start button to access the programs on a computer.	Click the Close button to close the current window or program.
Double-click My Computer to access the drives and files on a computer.	Click the Minimize button to temporarily hide a window or program.
Double-click the Hard Drive to access the hard drive's folders and files.	Click the Maximize button to expand a window or program to fill the entire screen.
Double-click the CD-ROM Drive to play or run the contents of the CD-ROM.	A thumbnail displays a tiny preview of a digital picture or photograph.
Folders hold files and subfolders, just like a filing cabinet.	

### Quick Reference

- A Graphical User Interface, or **GUI**, makes computers easier to operate by using pictures and icons to represent files and programs.

## Lesson 3-2: Types of Software

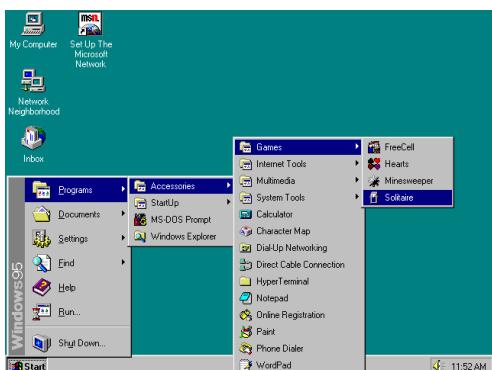


Figure 3-54



Figure 3-54

Microsoft Windows is an operating system.

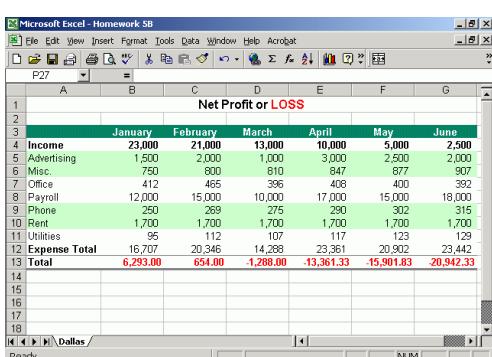


Figure 3-55



Figure 3-56



Figure 3-55

Microsoft Excel is an application program.

Figure 3-56

Not again! Software manufacturers release new versions of their software regularly to add features and fix bugs (and line their pockets).

Before we delve into the world of software we need to ask and address a few basic questions:

- What is an operating system?**

An operating system is a software program that loads automatically and controls just about everything on your computer. There are a number of operating systems out there, including MS-DOS and Microsoft Windows XP.

- What is an application program?**

An application program helps you accomplish a certain task, such as writing a letter, browsing the Internet, or playing a game. Examples include word-processing programs, spreadsheets, databases, and games.

- Why are new versions of software released year after year?**

Software manufacturers will tell you need a new version of their program because it has new features and fewer bugs. Other people will tell you it's so the software manufacturers can continue to make money year after year. Each software release is given a new name or number, such as Windows 95, Windows 98, to help distinguish the software from older versions.

Got it? Great! Let's continue our tour into the world of computer software.

### Quick Reference

#### An Operating System:

- Loads automatically and controls just about everything on your computer.

#### An Application Program:

- Helps you accomplish a certain task, such as writing a letter, browsing the Internet, or playing a game.

#### New Software Versions and Releases:

- Come out periodically that add new features to a program...and make its manufacturers more money.

## Lesson 3-3: Operating Systems

**Figure 3-57**

MS-DOS is a text-based operating system from the Stone Age.

**Figure 3-58**

Introducing... the Start menu! Microsoft Windows 95 was a very popular operating system that features long file names, better performance, and a easy-to-use interface.

C:\>

A command prompt is where you type commands in MS-DOS.

```
C:\>WINDOWS>cd ..
C:\>dir
Volume in drive C is HARDDISK
Volume Serial Number is 2050-0B06
Directory of C:\

COMMAND.COM      99,812  08-24-96  11:11a
WINDOWS          <DIR>    09-25-95  4:136a
CONFIG.SYS        0  10-23-93  7:0000b
MITCHELL         <DIR>    09-24-93  7:0000c
SCAMDISK.LOG     514  10-20-93  7:120a
NETLOG.TXT       2,577  09-26-97  5:120a
PROGRAMS\        <DIR>    09-26-97  5:120a
QBOOKSW          <DIR>    09-26-97  5:020a
CONTRACT.DOC     19,968  10-08-97  8:35a
INTROT.DOC       706,560  10-21-97  8:35a
MYDOCU.DOC       <DIR>    10-20-97  4:41b
BACKUP.WBK       674,816  10-20-97  6:12a
? file(s)        1,498,247 bytes
5 dir(s)         2,206,556,160 bytes free
C:\>
```

**Figure 3-57**



**Figure 3-58**

An operating system is a software program that loads automatically and controls just about everything on your computer. Here's what an operating system does:

- **Controls Your Computer's Hardware**

Windows controls the different devices of your computer system. It's what makes your printer print, what makes graphics and text appear on your monitor, and what makes your mouse point and click.

- **Runs Your Computer's Programs**

An operating system is what runs all your programs. Without an operating system, your word processor, Web browser (Internet), and games wouldn't work. An operating system lets your programs talk to your hardware, so, for example, your word processor can print things to the printer.

- **Organizes Files**

An operating system stores information in files and folders on your computer's local disk, just like you store files and folders in a filing cabinet.

An operating system is like an orchestra conductor who makes sure all the parts of your computer—your hardware and programs—work together. Operating systems have been around for a long time—here's a brief history of the various operating systems out there:

**Table 3-2: Types of Operating Systems**

Operating System	Released	Description
MS-DOS	1980	MS-DOS stands for Microsoft Disk Operating System. MS-DOS was one of the earliest PC operating systems that displayed boring lines of text on the screen instead of icons and pictures. You performed tasks in MS-DOS by typing text commands. MS-DOS file names could only be eight characters long.
Windows 3.1	1992	Windows 3.1 was the first <i>successful</i> operating system <i>for the PC</i> that featured a GUI (Graphical User Interface) that used easy to use pictures instead of hard-to-remember MS-DOS commands. Technically speaking, Windows 3.1 was not a true operating system, since it still required MS-DOS to operate.

Operating System	Released	Description
Windows 95	1995	The incredibly successful successor to Windows 3.1, Windows 95 was a true operating system (no more MS-DOS). It featured long file names, better performance, and a greatly improved interface.
Windows 98	1998	Very similar with Windows 95, Windows 98 included several new and improved features. More importantly, Windows 98 came with support for many of the new hardware devices out there.
Windows ME	2000	Windows ME was the successor to Windows 98. ME stands for <i>Millennium Edition</i> or <i>Mistake Eternal</i> , depending on who you talk to. Windows ME was very similar to Windows 95 and 98 but it included new multimedia features, new utilities and lots of new bugs.
Windows NT	1993	Windows NT (stands for <i>New Technology</i> ) was a powerful 32-bit operating system that was faster, more secure, and much more stable than Windows 95 or 98. Windows NT was designed for use in large companies where stability and security were especially important.
Windows 2000	2000	Windows 2000 was the successor to Windows NT. Windows 2000 includes the best features of Windows 98 (easy Plug and Play hardware installation) and Windows NT (security and stability). Windows 2000 is still widely used in many businesses.
Windows XP Home	2001	Windows XP (stands for eXPerience—huh?) Home is designed for home and consumer computing and is the successor to Windows ME. Windows XP has the same technology found in Windows NT and 2000, so it's much more stable than earlier versions of Windows.
Windows XP Professional	2001	Windows XP Professional is the business edition of Windows and is the successor to Windows NT and Windows 2000.
Windows CE / Pocket PC	Varies	Windows CE (stands for Consumer Electronics) is the operating system made by Microsoft used to power handheld computers or PDAs (Personal Data Assistants).
Palm OS®	Varies	The Palm OS is another operating system that can be found on handheld computers or PDAs.
UNIX	Varies	UNIX is an older, very powerful operating system that can run on a computer, mainframe, or network. UNIX features great performance, security, and reliability.
Linux	Varies	Linux is a newer UNIX-base operating system that is available for FREE on the Internet. Linux is becoming a popular alternative to Microsoft Windows.
Mac OS X	2001	Mac OS X is the latest operating system for Macintosh computers.

 **Quick Reference**

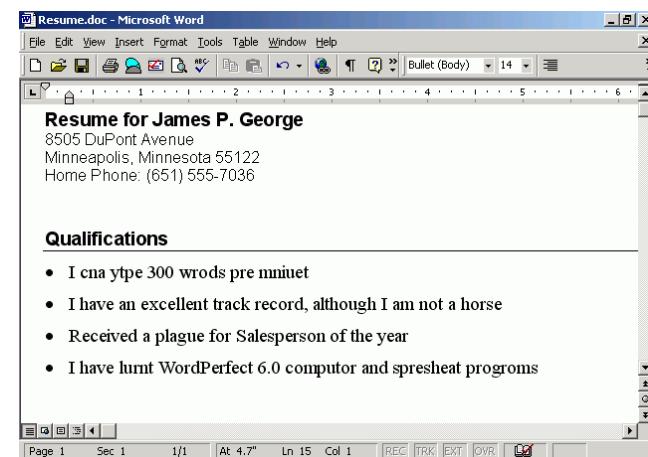
An Operating System...

- Loads automatically and controls just about everything on your computer.

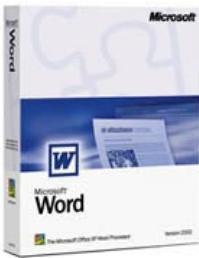
## Lesson 3-4: Word Processing

**Figure 3-59**

A word processor lets you write letters, resumes, and much, much more.



**Figure 3-59**



Microsoft Word is the world's most popular word processing software program.

### Quick Reference

- A word processor is a program that lets you create letters and documents.

Perhaps the most widely used and recognized computer application, word processing software lets you create letters, reports, and many other documents on a computer.

- **Create Letters and Documents**

Whether it's a 500 page steamy romance novel or a quick thank-you note to your neighbor, a word processor makes writing things easier. Best of all, a word processor lets you change, or *edit*, the text in a document before it appears on paper. You can easily add, delete, or rearrange the text in a word processing document. Most word processors also allow you to check your documents for spelling and grammar errors.

- **Format Text**

Most word processors can make the text in your documents look pretty—even if you're a terrible writer. For example, you can use various fonts, or typefaces, create bulleted or numbered lists, and change the alignment of text on the page.

- **Create Tables**

Tables are great: they are ranked right up there with the spell checker as one of the neatest word processing features. A table neatly arranges text and data in a grid, organized by columns and rows.

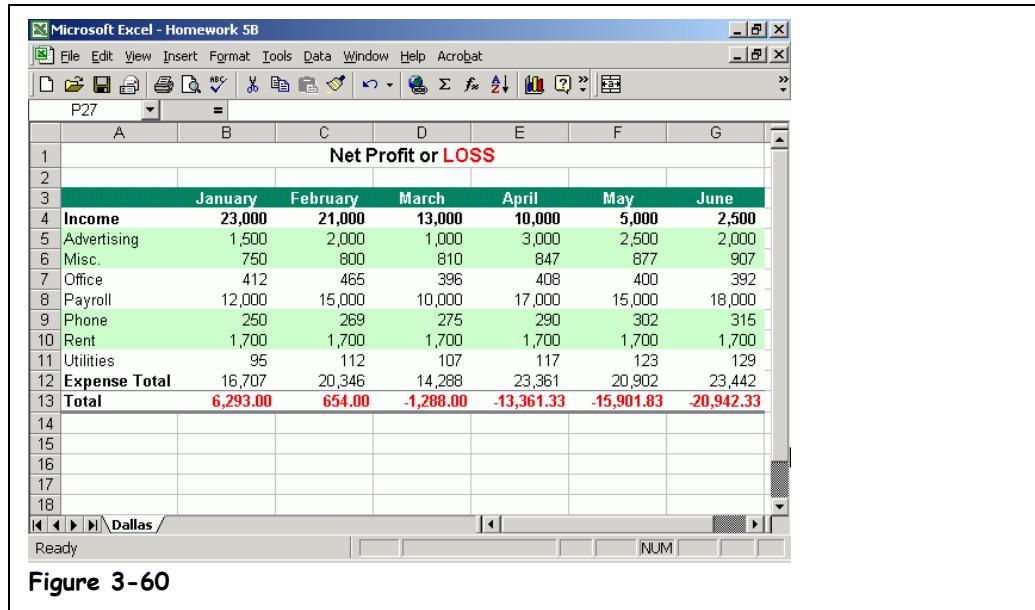
- **Add Images**

Most word processors let you insert pictures and images to create all kinds of neat documents: newsletters, greeting cards, pamphlets, and more.

- **Perform Mail Merges**

Mail merge letters are used to send the same or similar documents to many different people at once. Since they contain the recipient's name, address, and other information, mail merge letters feel more personal—just like a typical sweepstake letter: *If you have the winning number, Bob Boyarski, You are the winner of \$10 Million Dollars!*

## Lesson 3-5: Spreadsheets



Spreadsheet programs are super-powered calculators. Have you ever found yourself using a calculator to add together more than 5 or 6 numbers? If so, you probably could be using a spreadsheet program to make working with numbers faster, easier, and more accurate. You can also analyze data and make it into charts with a spreadsheet.

- Perform Calculations**

A spreadsheet can add various cells, perform powerful formulas, and calculate and analyze information. The entire spreadsheet is updated and recalculated every time you change a value. That way you can change one number to see how it affects everything else.

- Manage and Organize Information**

Spreadsheets neatly arrange values in a grid, organized by columns and rows. You can use a spreadsheet to present information in a professional and easy-to-read format. You can also use a spreadsheet to store large collections of data, such as mailing and product lists.

- Format and Present Information**

You can enhance the appearance of all those numbers by using various fonts, or typefaces, borders, shading, and more.

- Create Charts**

Like the saying “a picture is worth a thousand words,” charts are often better at presenting information than hard-to-read numbers in a spreadsheet. A chart illustrates data, relationships, or trends graphically.

Figure 3-60

A spreadsheet program is useful for calculating and presenting information—even if it's not what you want to see...



Microsoft Excel is the world's most popular spreadsheet software program.

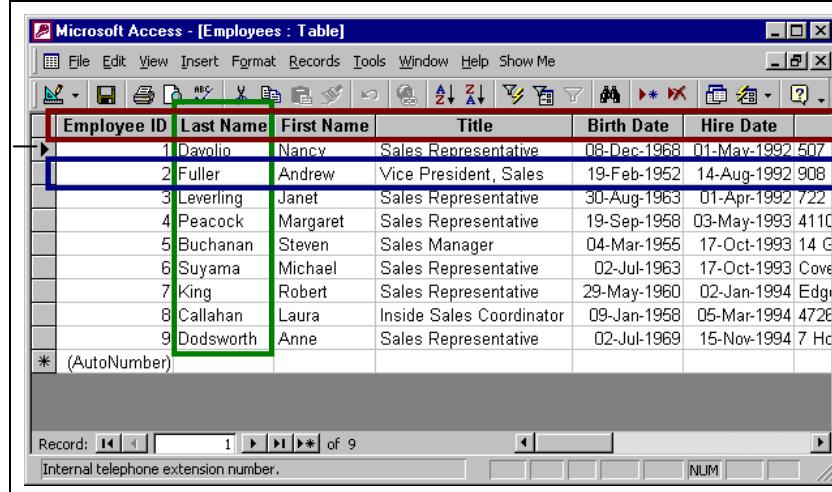
### Quick Reference

- A spreadsheet is a program that organizes, calculates, and presents numbers.

## Lesson 3-6: Databases

**Figure 3-61**

A database stores and manages information related to a particular subject or purpose.



The screenshot shows the Microsoft Access application window titled "Microsoft Access - [Employees : Table]". The window displays a table with the following columns: Employee ID, Last Name, First Name, Title, Birth Date, and Hire Date. The data in the table is as follows:

Employee ID	Last Name	First Name	Title	Birth Date	Hire Date
1	Davolio	Nancy	Sales Representative	08-Dec-1968	01-May-1992
2	Fuller	Andrew	Vice President, Sales	19-Feb-1952	14-Aug-1992
3	Leverling	Janet	Sales Representative	30-Aug-1963	01-Apr-1992
4	Peacock	Margaret	Sales Representative	19-Sep-1958	03-May-1993
5	Buchanan	Steven	Sales Manager	04-Mar-1955	17-Oct-1993
6	Suyama	Michael	Sales Representative	02-Jul-1963	17-Oct-1993
7	King	Robert	Sales Representative	29-May-1960	02-Jan-1994
8	Callahan	Laura	Inside Sales Coordinator	09-Jan-1958	05-Mar-1994
9	Dodsworth	Anne	Sales Representative	02-Jul-1969	15-Nov-1994
*	(AutoNumber)				

Record: 1 of 9

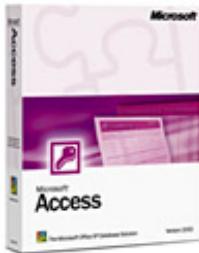
Internal telephone extension number.

**Field Names**  
A name that identifies the information in a field.

**Field**  
A specific type of information, such as the last names of your employees.

**Record**  
A collection of information about one person or thing, such as the name and address of one employee.

**Figure 3-60**



Microsoft Access is the world's most popular database software program.

In its simplest form, a *database* is a collection of information that is organized into a list. Whenever you make a list of information, such as names, addresses, products, or invoices, you are, in fact, creating a database. Technically speaking, you don't even have to use a database program to create a database.

A database program, however, is much more powerful than a simple list you keep on paper. A database program lets you:

- **Store Information**

A database stores lists of information that are related to a particular subject or purpose. A database stores personal information, such as a list of aunt Mildred's home recipes, or business information, such as a list of hundreds of thousands of customers. A database also makes it easy to add, update, organize, and delete information.

- **Find Information**

You can easily and instantly locate information stored in a database. For example, you can find all the customers with the last name "Johnson" or all the customers who live in the 55417 Zip code and are older than 65.

- **Analyze and Print Information**

You can perform calculations on information in a database. For example, you could calculate what percentage of your total sales comes from the state of Texas. You can also present information in a professional-looking printed report.

- **Manage Information**

Databases make it easy to work with and manage huge amounts of information. For example, with a few keystrokes you can change the area code for hundreds of customers in the (612) area code to a new (817) area code.

- **Share Information**

Most database programs allow more than one user to view and work with the same information at once. Such databases are called *multi-user databases*.

Databases usually consist of several parts. The table on this page identifies the main components of a database.

**Table 3-3: Database Objects**

<b>Object</b>	<b>Description</b>
 Tables	Tables store a database's data in rows (records) and columns (fields). For example, one table could store a list of customers and their addresses while another table could store the customers' orders. A database must always contain at least one table where it can store information—all the other database objects are optional.
 Queries	Queries ask a question about data stored in a table. For example, a query might ask Access to display only customers who are from Texas.
 Forms	Forms are custom screens that provide an easy way to enter and view data in a table or query.
 Reports	Reports present data from a table or query in a printed format.
 Codes	Programming codes help you perform routine tasks by automating them into a single command.

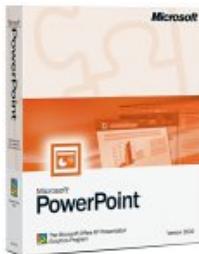
 **Quick Reference**

- A database program stores, manages, and organizes lists of information.

## Lesson 3-7: Presentation Software

**Figure 3-62**

Even if your presentation stinks, a presentation program can at least make it look pretty.



Microsoft PowerPoint is the world's most popular presentation software program.

### Quick Reference

- A presentation software program is used to create professional, convincing presentations, or slide shows.



**Figure 3-62**

A presentation program turns your ideas into professional, convincing presentations, or slide shows. If you've ever used an overhead projector, flip chart, or even a black board, you'll love presentation software. A presentation program lets you create slides that include text, graphics, charts, and even digital movies. Once you have created a presentation, you can display it as an electronic slide show on any computer.

- Create Professional Presentations**

There really wasn't much to the movie *Star Wars I: Attack of the Clones*, but it sure looked impressive. Presentation software can do the same thing for presentations, making even the dullest speech look more professional.

- Add Drawings, Charts, and Illustrations**

Presentations with pictures, graphics, and visuals are much more compelling and effective at conveying messages than ones that contain only boring text. A presentation software application like Microsoft PowerPoint makes it easy to add pictures and drawings to your slides, making them look as though you hired a professional graphic design company to create them.

- Outline What You Want to Say**

If you think way back to your high school speech class, you might remember that you learned to organize a presentation by writing down its major points in an outline (if only some public speakers could remember this). Most presentation software has built-in outlining tools to help you organize your presentation. Just remember to stick to that outline during your presentation!

## Lesson 3-8: Accounting

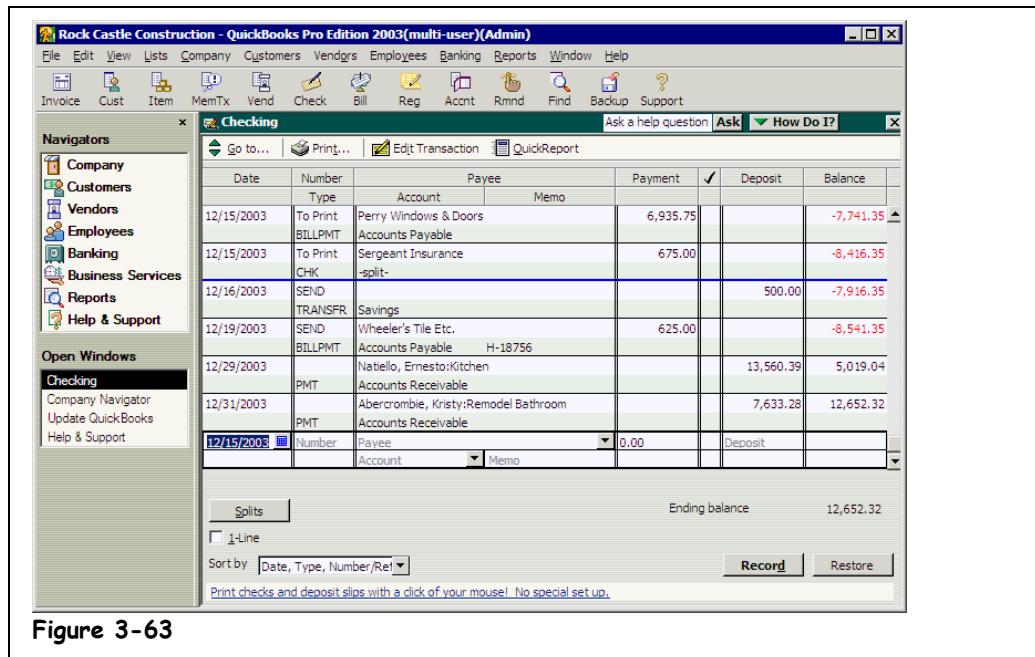


Figure 3-63

Personal finance and accounting software keep track of your personal or business finances. A personal finance program can show you what your current checking, savings, or credit card balances are, where you're spending your money, and will even help you reconcile your account when you get a bank statement. Business accounting programs go a step further—they will create invoices, keep track of your receivables and payables, and even do payroll. Once you use a personal financing program for your home finances or an accounting program for your business, you'll never know how you ever got along without one.

- Balance Your Checkbook and Manage Finances**

Accounting software automatically keeps a running balance of your bank accounts—if you remember to enter your checks and deposits. If you don't, many account programs can download your banking statements.

- Write Checks and Pay Bills**

You can purchase special checks that you print out on your computer's printer to save time and present a more professional image.

- Create Invoices**

If you run a business, an account program can print invoices and keep track of who owes you money.

- Perform Payroll**

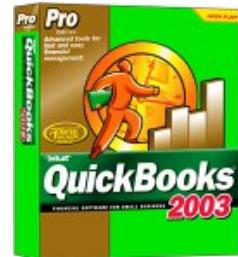
Many accounting programs have a payroll module, which deducts, and tracks Social Security, Medicare, and state and federal employee taxes.

- Bank Online**

Online banking lets you view your current checking and savings balances, pay bills, and even accept online credit card payments.

Figure 3-63

Accounting software, like Intuit's Quicken or QuickBooks (shown below) can help you pay bills, balance your bank account, and even perform payroll.



QuickBooks is a very popular accounting software program for small businesses.

### Quick Reference

- Accounting software helps manage personal and/or business finances and balance accounts.

## Lesson 3-9: Web Browsing

**Figure 3-64**

A Web browser lets you view Web pages on the Internet.



**Figure 3-64**

Web addresses and pages are everywhere—on television advertisements, in magazine and newspaper articles, and even on business cards. Together, these Web pages make up what is known as the *World Wide Web* (WWW) or *Web* for short. To view a Web page you'll need a piece of software called a *Web browser*. Luckily you won't need to buy a Web browser, since it comes standard on most computers. In fact, Microsoft has spent a considerable amount of money and time in court determining that Windows is actually a Web browser.

- **Browse and View Web Pages**

Web pages are written in a simple language called HTML, which stands for *Hypertext Markup Language*. A Web browser converts the HTML in a Web page into a readable format and displays that information on your computer screen.

- **Find Information**

You can use a *search engine* to find just about anything on the World Wide Web. A search engine catalogs the billions of Web pages on the Internet so that you can find information on the topics that interest you. Google and Yahoo are two of the most popular search engines out there.

- **Download Files**

The Internet is filled with files and programs that you can *download*, or save to your computer. You can download images and pictures, programs, even MP3 files that you can listen to.

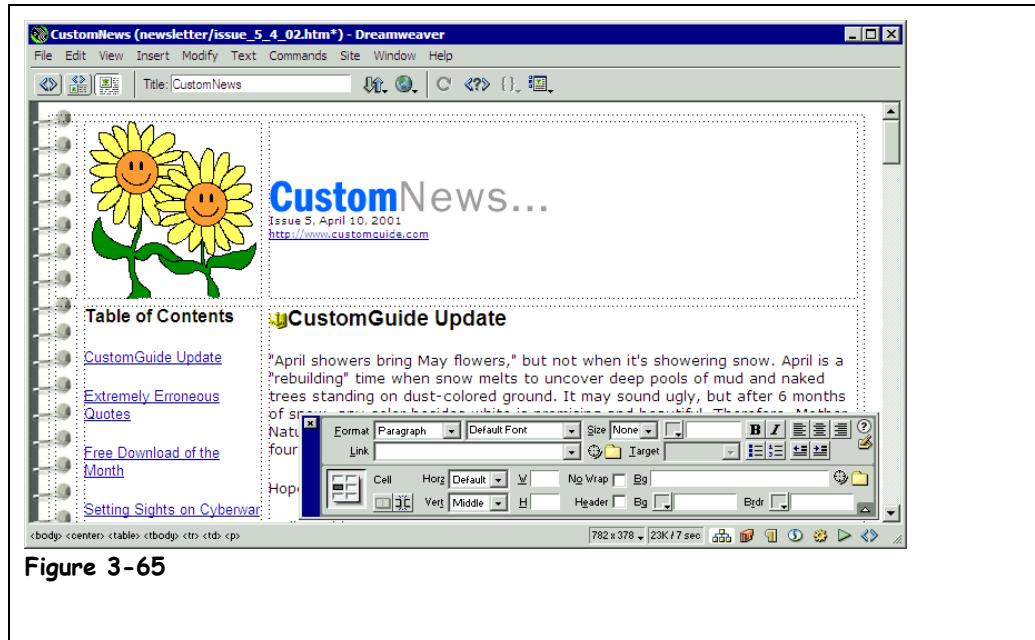
- **Shop**

You can spend lots of money on the World Wide Web. Anything that you can buy in a store you can probably buy on the Internet. People use the Internet to shop for books, computers, clothes, and even cars.

### Quick Reference

- A Web browser allows users to view Web pages on the Internet.

## Lesson 3-10: Web Authoring



A few years ago, only the brainy computer types knew how to write their own Web pages. Today *Web authoring programs* make it easy for even a novice to get their own Web site up on the Internet for the whole world to see.

- **Create Web Pages**

All those pretty Web pages you visit on the Internet are written in a simple language called HTML (stands for HyperText Markup Language). It's actually *possible* to create a Web page by writing it directly in HTML using a simple text editor or word processor, but most people use Web Authoring software because it's so powerful and easy to use.

- **Insert Images**

Web Authoring software makes it easy to add pictures and graphics to a Web page, whether it's a professional logo for a corporate Web site or a fake photograph for an online dating service.

- **Add Hyperlinks**

You can easily add *hyperlinks* to a Web page that point to other sites of interest on the Internet.

- **Publish Your Web Pages to the Internet**

A Web site isn't any good if people can't see it. Most Web Authoring programs have tools to help you *upload*, or save your Web pages on to the Internet.

**Figure 3-65**

Web Authoring software can help you create spectacular Web pages, like the newsletter shown here.



**Macromedia**  
Dreamweaver is a very popular Web authoring software program.

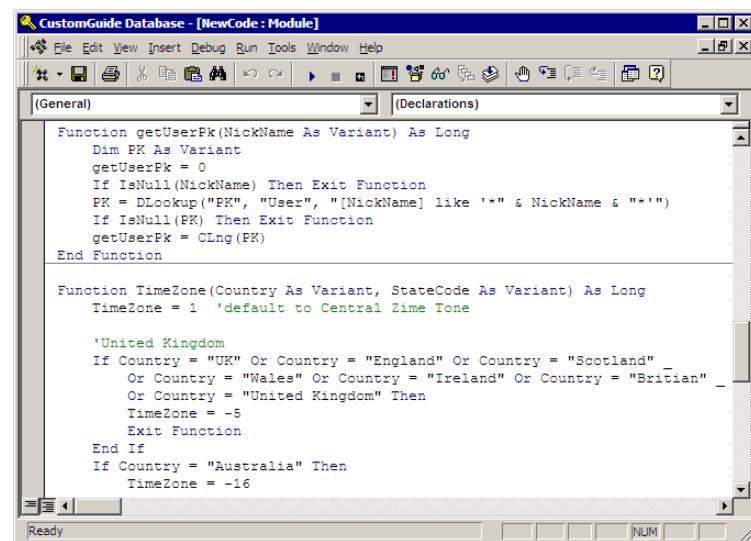
### Quick Reference

- A Web Authoring program lets users create Web pages in HTML that they can then publish to the Internet.

## Lesson 3-11: Programming Languages

**Figure 3-66**

Microsoft Visual Basic lets users create programs using a graphical programming environment and painting metaphor.



```

CustomGuide Database - [NewCode : Module]
File Edit View Insert Debug Run Tools Window Help
(General) (Declarations)
Function getUserPk(NickName As Variant) As Long
    Dim PK As Variant
    getUserPk = 0
    If IsNull(NickName) Then Exit Function
    PK = DLookup("PK", "User", "[NickName] like '" & NickName & "'")
    If IsNull(PK) Then Exit Function
    getUserPk = CLng(PK)
End Function

Function TimeZone(Country As Variant, StateCode As Variant) As Long
    TimeZone = 1 'default to Central Time Zone

    'United Kingdom
    If Country = "UK" Or Country = "England" Or Country = "Scotland" _
        Or Country = "Wales" Or Country = "Ireland" Or Country = "Britain" _
        Or Country = "United Kingdom" Then
        TimeZone = -5
        Exit Function
    End If
    If Country = "Australia" Then
        TimeZone = -16
    End If
End Function

```

**Figure 3-66**

All software programs, from Microsoft Windows XP to Word 2000 are written in a *programming language*. A programming language is a vocabulary and set of grammatical rules for instructing a computer to perform specific tasks.

Computers can only understand special machine languages, which consist almost entirely of numbers. Humans, however, can't understand these huge series of numbers, so they use high-level programming languages, such as C++ and Java to write software programs and then translate or *compile* them into machine language.

Every language has its strengths and weaknesses. For example, FORTRAN is a good language for processing numbers, but it's not well suited to for large programs. C++ has powerful object-oriented features, but it is complex and difficult to learn. There are literally hundreds, if not thousands, of programming languages out there. The following table briefly describes some of the more common programming languages you might overhear computer nerds discussing.

**Table 3-4: Common Programming Languages**

Language	Description
Machine Language	The lowest-level programming language, machine languages can be read by computers, but are almost impossible for humans to use because they consist entirely of numbers.
Assembly Language	Assembly languages have the same structure and set of commands as machine languages, but they enable a programmer to use names instead of numbers when writing code.

<b>Language</b>		<b>Description</b>
SQL		SQL, or Structured Query Language, is a standardized language for requesting information from a database.
High-Level	BASIC	Acronym for Beginner's All-purpose Symbolic Instruction Code, BASIC is one of the earliest and simplest high-level programming languages and was taught by educators to students during the 1970s and 80s.
	C, C++	A high-level programming language developed in the mid-1970s, it is still one of the most popular programming languages in use today. C is similar assembly language and allows programmers to write very efficient code. C++ adds many object-oriented features to its predecessor, C.
	COBOL	COBOL, or Common Business Oriented Language, was developed back in the late 1950s, and despite its age is still used on many mainframe computers.
	FORTRAN	Acronym for formula translator, FORTRAN is the oldest high-level programming language. Despite its age, FORTRAN is still popular for scientific applications that require extensive mathematical computations.
	Java	An object-oriented language developed by Sun Microsystems, similar to C++, but simplified to eliminate language features that cause common programming errors. Compiled Java code can run on most computers, including UNIX, Macintosh, and Windows. Small Java applications called <i>applets</i> can be downloaded from the Internet and run on your computer.
Web Development	Visual Basic	Based on BASIC, Microsoft Visual Basic allows users to create programs with a graphical programming environment and painting metaphor. Visual Basic, or VB, is sometimes called an event-driven language because each object can react to different events such as a mouse click.
	ASP, JSP	Active Server Pages and Java Server Pages are programming languages that generate dynamic HTML code and send it back to the browser.
	HTML	HTML, or HyperText Markup Language, is the authoring language used to create documents, or Web pages on the World Wide Web. HTML defines the structure and layout of a Web document by using tags and attributes.
	JavaScript	A scripting language that enables Web authors to design interactive sites. Javascript can interact with HTML source code, enabling Web authors to spice up their sites with dynamic content.
	Perl	Short for Practical Extraction and Report Language, Perl is a programming language designed for processing text.
	PHP	An open source, server-side, HTML embedded scripting language used to create dynamic Web pages.
	XML	Short for Extensible Markup Language, XML allows designers to create their own customized tags, enabling the definition, transmission, validation, and interpretation of data between applications and between organizations.

 **Quick Reference**

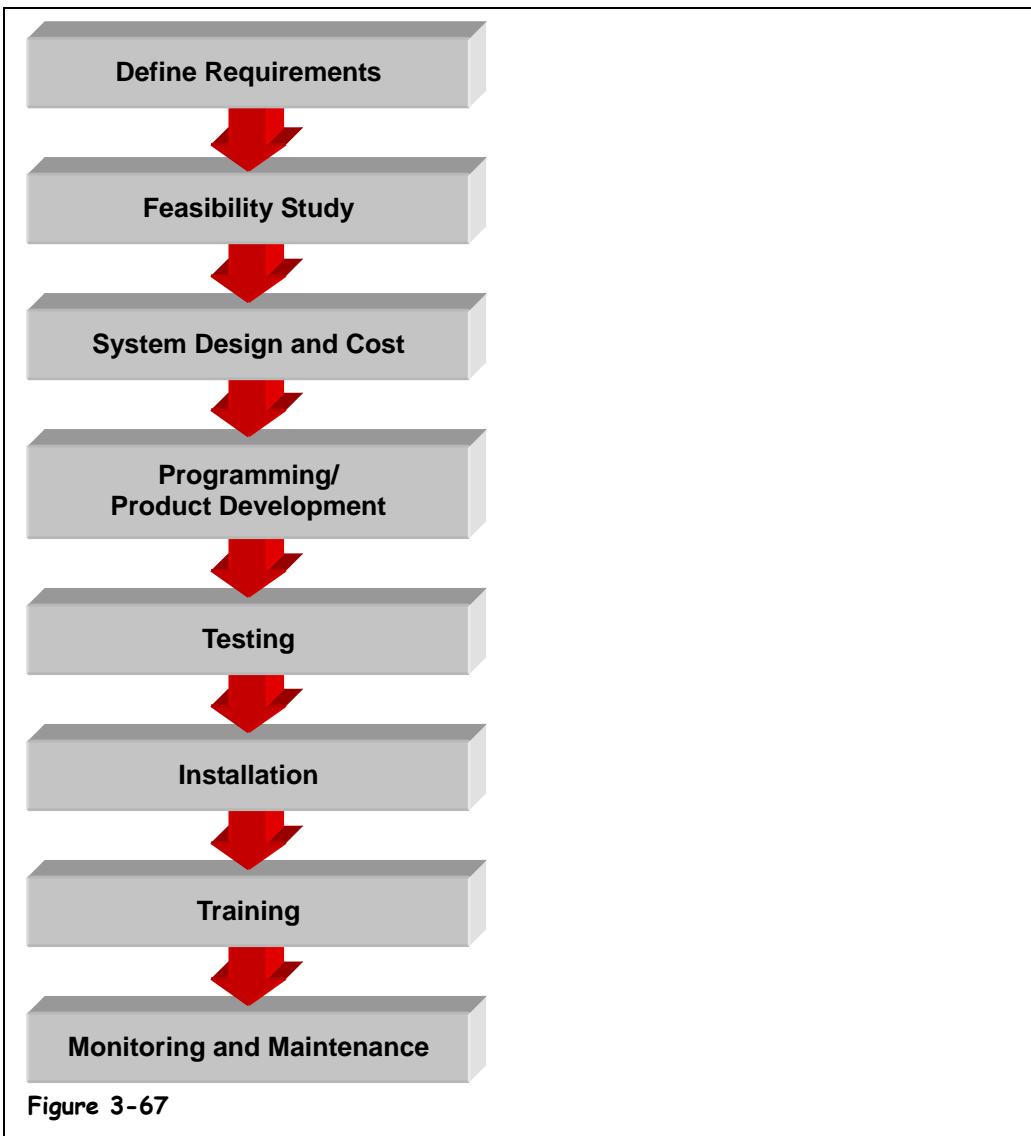
- A programming language is a vocabulary and set of grammatical rules for instructing a computer to perform specific tasks.

## Lesson 3-12: Systems Development

**Figure 3-67**

Possible steps in developing a computer system.

---



Computer programs and systems don't appear out of thin air; there are a series of procedures that are normally followed. The steps and procedures for system development are very similar, whether it's a small company replacing its employee time clock with a computerized attendance system or a huge software company releasing a new software program.

---

**Table 3-5: Common Stages in System Development**

Stage	Description
Define Requirements	Determine the purpose of the system, all inputs, outputs, and control mechanisms.

---

Stage	Description
Feasibility Study	Determine if the system is economically and technically practical.
System Design and Cost	Create an action plan or blueprint for creating the system, and determine how much the system will cost.
Programming/Product Development	Write the programs necessary for the system using a high-level programming language. Purchase any hardware required by the system.
Testing	Test the completed system using real data to identify and correct any bugs.
Implementation	Install the completed system and put it to use.
Training	Train users on how to use or operate the new system.
Monitoring and Maintenance	Problems usually arise soon after implementation that must be corrected. Computer systems often require upgrades and routine maintenance.

 **Quick Reference**

Common Steps in Systems Development:

1. Define Requirements
2. Feasibility Study
3. System Design and Cost
4. Programming/Product Development
5. Testing
6. Implementation
7. Training
8. Monitoring and Maintenance

## Chapter Three Review

### Lesson Summary

#### **Understanding Graphical User Interfaces**

- A **Graphical User Interface**, or **GUI**, makes computers easier to operate by using pictures and icons to represent files and programs.

#### **Types of Software**

- An **operating system** loads automatically and controls just about everything on your computer.
- An **application program** helps you accomplish a certain task, such as writing a letter, browsing the Internet, or playing a game.
- **New software versions and releases** come out periodically that add new features to a program ... and make the software manufacturers rich!

#### **Operating Systems**

- An **operating system** loads automatically and controls just about everything on your computer.

#### **Word Processing**

- A **word processor** is a program that lets you create letters and documents.

#### **Spreadsheets**

- A **spreadsheet** is a program that organizes, calculates, and presents numbers.

#### **Databases**

- A **database** program stores, manages, and organizes lists of information.

#### **Presentation Software**

- A **presentation software program** is used to create professional, convincing presentations, or slide shows.

#### **Accounting**

- **Accounting software** helps manage personal and/or business finances and balance accounts.

#### **Web Browsing**

- A **Web browser** allows users to view Web pages on the Internet.

## Web Authoring

- A Web Authoring program lets users create Web pages in HTML that they can then publish to the Internet.

## Programming Languages

- A programming language is a vocabulary and set of grammatical rules for instructing a computer to perform specific tasks.

## Systems Development

- Common Steps in Systems Development
  1. Define Requirements
  2. Feasibility Study
  3. System Design and Cost
  4. Programming/Product Development
  5. Testing
  6. Implementation
  7. Training
  8. Monitoring and Maintenance

## Quiz

---

1. An operating system is built-in to a computer's ROM-BIOS. (True or False?)
2. Which of the following is a text-based operating system?
  - A. Windows 95
  - B. Windows 2000
  - C. Windows CE
  - D. MS-DOS
3. Which of the following programs would be best suited for helping you calculate a monthly budget?
  - A. A word processor
  - B. A spreadsheet
  - C. A database
  - D. COBOL
4. Which of the following programs would be best suited for storing a list of customers and their orders?
  - A. A word processor
  - B. A spreadsheet
  - C. A database
  - D. COBOL

## Quiz Answers

---

1. False. An operating system is software that the computer loads when it first starts up.

## **100 Computer Basics**

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- 2.** D. MS-DOS is a text-based operating system.
- 3.** B. A spreadsheet would be the program best suited to help you balance your budget.
- 4.** C. A database would be best suited for storing a list of customers and their orders.





# Chapter Four: Information Networks

## Chapter Objectives:

- Learn about networks
- Learn the difference between a LAN and WAN
- Learn the basics about the Internet
- Learn what Intranets and Extranets are
- Understand telephone networks used to connect to the Internet

## Prerequisites

- A desire to learn about computers.

This chapter will give you an incredibly brief look into the world of *networking*. A network is several computers, printers, and other devices that are connected together. When you think of a network, you probably think of how your computers are connected at work—and that's definitely one type of network. But did you know that the Internet itself is one vast network? We'll cover these topics and more in this chapter.

## Lesson 4-1: Introduction to Networks

**Figure 4-1**

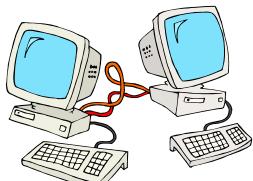
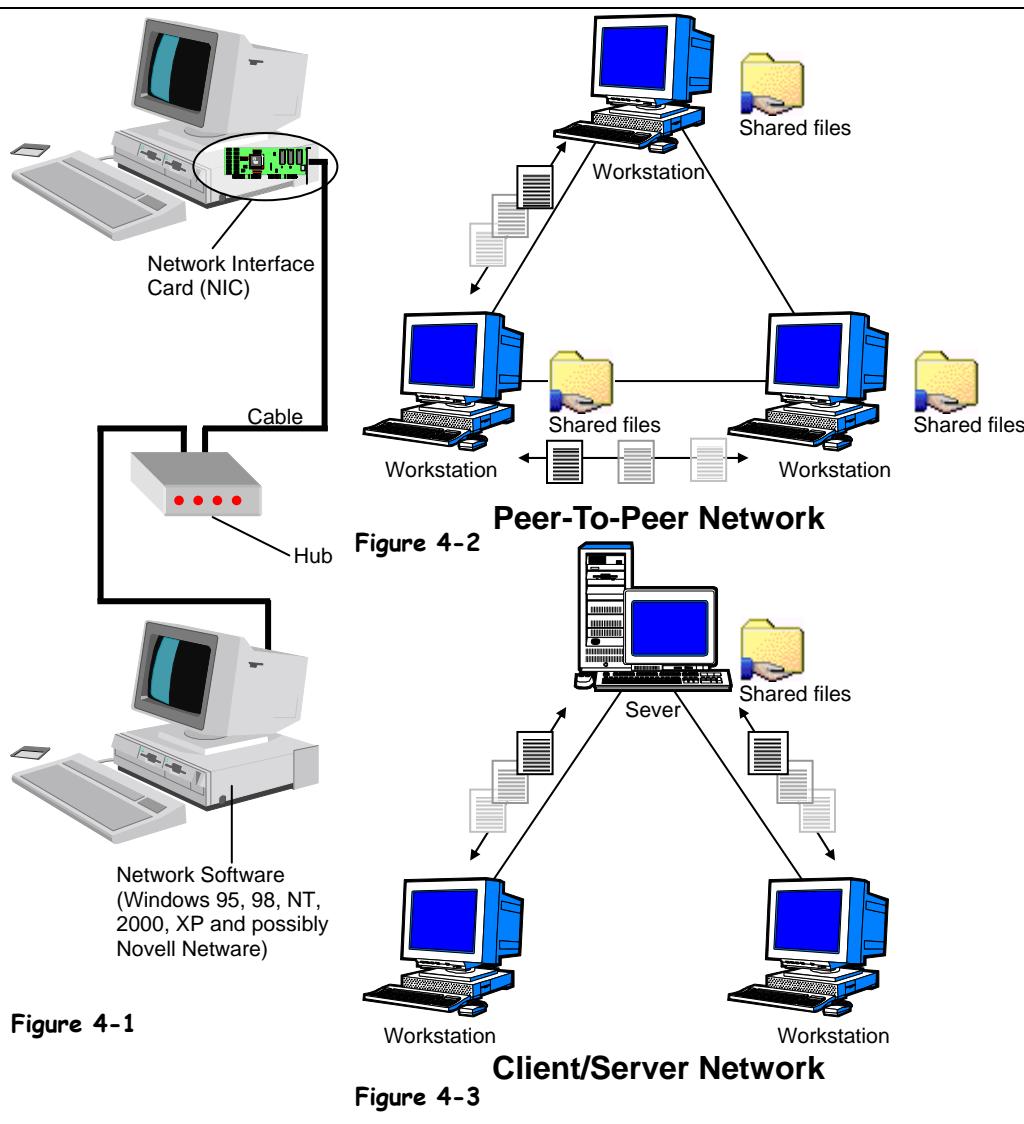
The parts of a network (see Table 4-1: *Network Components* for a description of everything)

**Figure 4-2**

In a peer-to-peer network, everyone stores their files on their own computer. Anyone on the network can access files stored on any other computer.

**Figure 4-3**

In a client/server network, everyone stores his or her files on a central computer called a server. Everyone on the network can access the files stored on the server.



A Local Area Network (LAN) connects computers in the same building or facility.

So what are the benefits of networking? Plenty:

- **Share Information:** Networks allow you to share files and programs. Before networks, people had to save their files on floppy disks to exchange information. This wasted a lot of time—especially if the computers were located in opposite ends of the building!
- **Share Equipment:** Computers connected to a network can share equipment to reduce costs. For example, rather than buying a printer for each computer, everyone can share one central network printer.

- **Use Network Software:** Software designed for networks lets people send and receive electronic mail (e-mail) with other users on the network, schedule meetings with other users on the network, and share databases. When you're browsing the Web, you're actually using software designed for a network!

There are two basic types of networks:

- **Local Area Networks (LAN):** A network that connects computers in the same geographic area or building, using cables. Local Area Networks are what most people think of when they think of a network—and that's what we'll be discussing throughout the chapter.
- **Wide Area Networks (WAN):** A network that connects computers across a large geographic area. The Internet is actually a huge Wide Area Network.

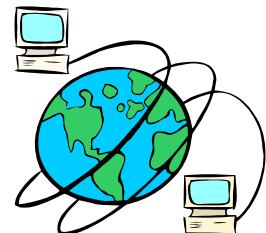
Local Area Networks (LANs) are subdivided into two types of network subcategories: peer-to-peer and client/server, as shown in Figure 4-2 and Figure 4-3:

- **Peer-to-Peer Network or Workgroup:** In a peer-to-peer network, everyone stores their files on their own computer, and anyone on the network can access files stored on any other computer. Because you don't need any additional software, peer-to-peer networking is an inexpensive way to connect computers in a small office or home. The disadvantages of a peer-to-peer network are that it doesn't offer as much security as client/server networks, and it can be difficult to find files that are stored on many different computers. Both versions of Windows XP—Home and Professional—support peer-to-peer networking.
- **Client/Server Network:** In a client/server network, everyone stores their files on a central computer called a server. Everyone on the network can access the files stored on the server. Client/server networks are more secure, easier to administer, and much more powerful than peer-to-peer networks. That's why they are used to connect computers in most businesses. The disadvantages of client/server networks are that they require special, expensive software, such as Windows XP Server or NetWare, and they are more complicated to install and configure than peer-to-peer networks. Only Windows XP Professional supports client/server networking.

Figure 4-1 shows the basic parts in a network. The following table explains what they are:

**Table 4-1: Network Components**

Component	Description
Network Interface Card (NIC)	A network interface card is a device that plugs into your computer and physically connects each computer to the network and allows your computer to talk to other computers and devices on the network.
Cables	Cables are the wires that physically connect the computers, printers, and other equipment on a network.
Hub	A hub is a device where all the cables on a network connect, similar to a power strip.
Network Operating Software	Your operating system must provide networking capabilities. Windows XP and Windows XP Professional have peer-to-peer networking capabilities. Windows XP Professional and NetWare have client/server capabilities.



A Wide Area Network (WAN) connects computers over wide geographic areas. The Internet is an example of a WAN.

### Quick Reference

#### LAN:

- Stands for Local Area Network and connects computers in the same geographic area or building, using cables.

#### WAN:

- Stands for Wide Area Network and connects computers across a large geographic area.

#### Peer-to-Peer/Workgroup:

- Files and resources are shared on every computer. Easier to setup but very insecure.

#### Client/Server Network:

- Files are stored on a single central computer, or server. More secure and expensive.

## Lesson 4-2: The Internet

**Figure 4-4**

The Internet is the largest network in the world, consisting of millions of computers, all over the world, all connected together.

**Figure 4-5**

Web pages are stored on Web servers—computers that are permanently connected to the Internet.



Figure 4-4

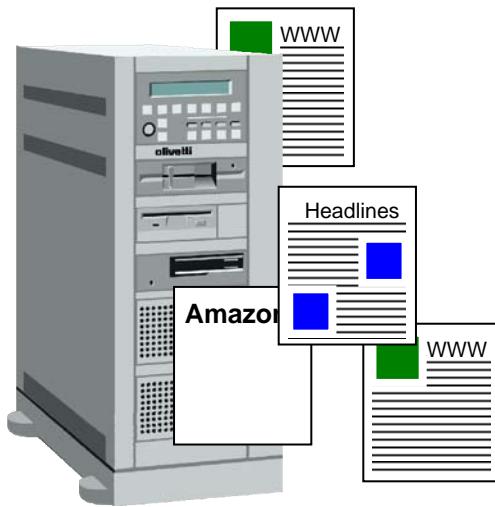


Figure 4-5

The Internet is the largest computer network in the world. It consists of millions of computers all over the planet, all connected to each other.

The Internet was born in the 1960s when the United States military worried that a nuclear bomb could destroy its computer systems (there weren't many of them back then). So it placed several computers far apart from each other and connected them with some super-fast telephone lines so that the computers could talk to each other. If a nuclear bomb blew up one computer, another computer could instantly take over; thus, the computer network wouldn't go down. Years passed and other organizations, such as colleges and universities, started connecting their computers to this growing network to share information.

Although the Internet has been around a long time, it wasn't until the 1990's that someone thought of a wonderful idea called the *World Wide Web*. Many people use the terms Internet and World Wide Web or Web interchangeably, but in fact the terms are two separate but related things. The Internet is a massive network of networks that connects millions of computers to one another. A good analogy would be the cables that provide cable television. The World Wide Web is simply one way to communicate and share information over the Internet. Using our cable television analogy, the World Wide Web would simply be single channel that is broadcast over the cable system.

The World Wide Web consists of millions of documents that are stored on hundreds of thousands of computers that are always connected to the Internet. These documents are called *Web pages*, and you can find Web pages on every subject imaginable—from your local newspaper to online catalogs to airline schedules, and much, much more.

Web pages are stored on *Web servers*. A Web server is a computer, not unlike your own computer, only bigger and faster. There are hundreds of thousands of Web servers located all over the world. Web servers are always connected to the Internet so that people can view their Web pages 24 hours a day.

So what can you do once you're connected to the Internet? Plenty. Table 4-2: *What Can I do on the Internet?* shows just a few of the many things there are to do on the Internet.

**Table 4-2: What Can I do on the Internet?**

<b>Task</b>	<b>Description</b>
Send and Receive E-mail	Exchanging electronic mail (or e-mail) is the most used and most popular feature on the Internet. Just like regular paper mail, you can send and receive e-mail with people around the world, as long as they have access to a computer and the Internet. Unlike regular paper mail, e-mail is usually delivered to its destination almost instantly.
Browse the World Wide Web	The World Wide Web is what most people think of when they think of the Internet—although it's really only a part of the Internet. The World Wide Web is an enormous collection of interconnected documents stored on Web servers all over the world. The World Wide Web has information on every subject imaginable.
Join online discussions with newsgroups	Newsgroups are discussion groups on the Internet that you can join to read and post messages to and from people with similar interests. There are thousands of newsgroups on topics such as computers, education, romance, hobbies, politics, religion, and more.
Chat with other online users	Chatting lets you communicate with people on the Internet instantly—no matter how far away they are! Most chats are text-based, meaning you have to type when you converse with people on the Internet. A growing number of chats have voice and even video capabilities—all without having to pay long distance charges.
Download software	You can download pictures, demo programs, patches and drivers for your computer, and many other types of files and save them to your computer.
Listen to music and watch videos	You can listen to sound on the Web, such as radio stations, or music by your favorite artists.

**Quick Reference****Internet:**

- The Internet is the largest computer network in the world, connecting millions of computers.

**World Wide Web:**

- A way of accessing information over the Internet.

## Lesson 4-3: Intranets and Extranets

**Figure 4-6**

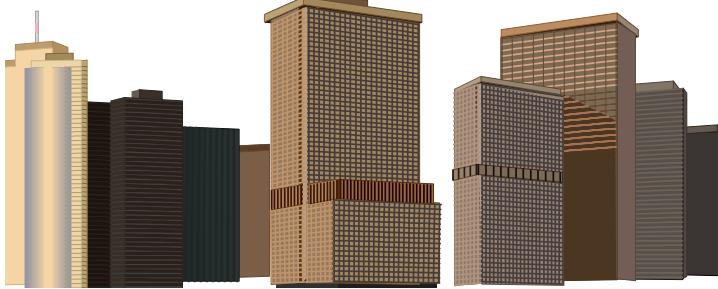
An Intranet is a miniature version of the Internet that works within a company or organization.

**Figure 4-7**

An Extranet is also like a miniature version of the Internet, but Extranets are accessible to authorized users outside of a company or organization.



**Figure 4-6**



**Figure 4-7**

An *Intranet* is a miniature version of the Internet that works within a company or organization. Web sites on an Intranet look and act just like any other Web sites, but can only be viewed by users within the company or organization. A *firewall* surrounds the Intranet and fends off unauthorized access.

An *Extranet* is similar to an Intranet, but while an Intranet is generally only accessible to users within same company or organization, an Extranet is accessible by authorized outside users. Business partners use Extranets to share information.

Like the Internet itself, Intranets and Extranets are used to share information. Secure Intranets are now the fastest-growing segment of the Internet because they are much less expensive to build and manage than private networks based on proprietary protocols.

So what are the advantages of Intranets and Extranets? Both Intranets and Extranets can:

- **Share Information:** Intranets and Extranets offer a very simple and inexpensive way to make internal company documents, such as a phone directory, available to employees.
- **Connect Documents:** Documents on an Intranet or Extranet can be connected by hyperlinks, so users can easily jump from one related document to another.
- **Use Special Software:** Some software can only be used on an Intranet or Extranet, such as Web based e-mail programs.

#### **Quick Reference**

##### **Intranet:**

- A miniature version of the Internet that works on a network within a company or organization.

##### **Extranet:**

- A miniature version of the Internet that allows access to authorized outside users, such as business partners.

## Lesson 4-4: Telephones and Networks

**Figure 4-8**

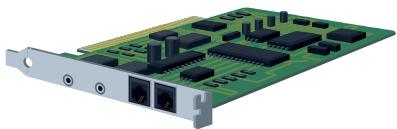
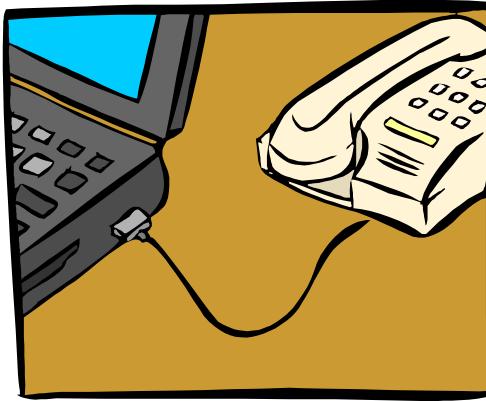
An internal modem plugs into an expansion slot inside a computer.

**Figure 4-9**

An external modem plugs into a serial port and sits outside a computer.

**Figure 4-10**

Most laptops have a built-in modem.

**Figure 4-8****Figure 4-9****Figure 4-10**

A *modem* is a device that translates a computer's ones and zeros into audio tones, so that it can transmit information over the phone lines to other modems. The speed in which a modem can transmit and receive data is measured in bits per second (bps), or baud. For example, a 300-baud modem can transmit 300 bits per second. The most common way people use modems is to connect to the Internet. By the way, modem stands for *modulator-demodulator*.

Modems come in two basic flavors:

- **Analog Modems:** Computers store information digitally, while telephone lines transmit conversations and sounds. An analog modem converts a computer's ones and zeros to tones than can then be transmitted over standard phone lines. Analog modems are limited to speeds of 56Kbps.
- **Digital Modems:** Use binary ones and zeros to transmit data like a computer. Digital modems can transmit information much faster than analog modems. Digital modems are often referred to as *broadband* modems.

Table 4-3: *Modem Types and Speeds* describes the most common analog and digital modems out there.

**Table 4-3: Modem Types and Speeds**

	Type	Speed (in bps)	Description
Analog	PSTN, PSDN	56K	PSTN stands for Public Switched Telephone Network, and is nothing more than your everyday, ordinary telephone system based on copper wires. PSTN is often referred to as POTS, or plain old telephone service. PSDN stands for Public Switched Data Network and is just another technical term for the telephone system in use today.
Digital, Broadband	ISDN	56K to 128K	One of the older broadband connections. It's only twice as fast as a traditional modem and pretty much obsolete.
	ADSL, DSL	256K to 8,000K	ADSL modems take advantage of unused frequencies in the phone line, such as a pause in conversation. DSL modems are very fast; the problem is that you have to be close to a phone company in order to get DSL service.
	Cable	640K to 4,000K	A cable modem is the fastest modem you can buy for home use. The problem is your cable company has to offer cable Internet access in order to use it.

**Quick Reference****Analog Modem:**

- Converts a computer's ones and zeros to tones that can then be transmitted over standard phone lines. Analog modems are limited to speeds of 56Kbps.

**Digital Modem:**

- Uses binary ones and zeros to transmit data like a computer. Digital modems can transmit information much faster than analog modems.

**PSTN, PSDN:**

- Ordinary, everyday telephone network, limited to 56Kbps.

**ISDN:**

- An older broadband connection, twice as fast as a traditional modem at 128Kbps.

**ADSL, DSL:**

- Fast digital connection with speeds up to 8,000Kbps.

**Cable:**

- Fast digital connection with speeds up to 4,000Kbps.

## Chapter Four Review

### Lesson Summary

#### **Introduction to Networks**

- **LAN:** Stands for Local Area Network and connects computers in the same geographic area or building, using cables.
- **WAN:** Stands for Wide Area Network and connects computers across a large geographic area.
- **Peer-to-Peer/Workgroup:** Files and resources are shared on every computer. Easier to setup but very insecure.
- **Client/Server Network:** Files are stored on a single central computer, or server. More secure and expensive.

#### **The Internet**

- **Internet:** The Internet is the largest computer network in the world and connects millions of computers.
- **World Wide Web:** A way of accessing information over the Internet.

#### **Intranets and Extranets**

- **Intranet:** A miniature version of the Internet that works on a network within a company or organization.
- **Extranet:** A miniature version of the Internet that allows access to authorized outside users, such as business partners.

#### **Telephones and Networks**

- **An analog modem** converts a computer's ones and zeros to tones that can then be transmitted over standard phone lines. Analog modems are limited to speeds of 56Kbps.
- **A digital modem** uses binary ones and zeros to transmit data like a computer. Digital modems can transmit information much faster than analog modems.
- **PSTN, PSDN:** Ordinary, everyday telephone network, limited to 56Kbps.
- **ISDN:** An older broadband connection, twice as fast as a traditional modem at 128Kbps.
- **ASDL, DSL:** Fast digital connection with speeds up to 8,000Kbps.
- **Cable:** Fast digital connection with speeds up to 4,000Kbps.

**1. A LAN connects computers in the same building or facility. (True or False?)**

**2. What does LAN stand for?**

- A. Linked Area Network
- B. Lots of Anarchy and Nonsense
- C. Local Area Network
- D. Linked Applications Node

**3. An *Intranet* is a miniature version of the Internet that allows access to authorized outside users, such as business partners. (True or False?)**

**4. Which of the following modems is the slowest?**

- A. ISDN
- B. DSL
- C. Cable
- D. Standard

## Quiz Answers

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1. True. A LAN connects computers in the same building or facility.
2. C. LAN stands for Local Area Network.
3. False. An *Extranet* is a miniature version of the Internet that allows access to authorized outside users, such as business partners
4. D. A standard modem is much slower than the other digital modems.







# Chapter Five: Introduction to Windows XP

## Chapter Objectives:

- Start and log on to Windows
- Understand the Windows XP screen
- Understand the new Windows XP interface
- Use the mouse to: point, click, double-click, right-click, click, and drag
- Use the keyboard
- Exit Windows and turn off the computer

## Prerequisites

- Windows XP installed on the computer.

Welcome to Windows XP! If you're new to Windows, or to computers altogether, you're starting at the right chapter. This chapter covers the "bare-bones" basics about learning how to start your computer and load Windows. You'll learn how to operate the mouse by clicking, double-clicking, clicking and dragging, and right-clicking. You'll also learn about your computer's keyboard and what those cryptic-looking keys are used for. Finally, you'll learn how to exit Windows and shut down your computer.

Before we start, take a deep breath and relax. You may find this difficult to believe, but computers aren't nearly as difficult and complicated as you probably think they are. No matter what your previous experience with computers has been, this chapter assumes you're the most computer-illiterate person in the world and keeps everything as simple as possible. Actually, you're probably going to find that some of the lessons in this chapter are a little *too* easy. When you come across something you already know how to do, go ahead and skip the lesson (unless you're in a classroom of course—then go ahead and show everyone what a computer whiz you are!).

Ready? Did you take that deep breath? Then turn the page and let's get started!

## Lesson 5-1: Starting and Logging On to Windows XP Home

**Figure 5-1**

The Welcome screen is the default log in screen.

**Figure 5-2**

The Log On to Windows dialog box appears if the Welcome screen has been turned off.

### Quick Reference

To Log On To Windows XP Home Using the Welcome Screen:

- Click your account user name. Enter your account password if prompted.

To Log On To Windows XP Home Without the Welcome Screen:

1. Enter your user name and password. If your account doesn't have a password, leave the text box blank.  
Or...
2. Press **<Enter>** or click **OK**.



To log in, click your user account.

**Figure 5-1****Figure 5-2**

After taking off your jacket and grabbing a cup of coffee, you probably begin your day by turning on your computer and starting Windows. Windows XP should automatically start after you turn on your computer. This lesson also explains what you need to do next...

The default log in screen is the Welcome screen, as shown in Figure 5-1.

#### **1. Click your account user name.**

If your account has a password, you will be prompted to enter it.

**NOTE:** If someone has turned off the Welcome screen, logging in will be a little different, as shown in Figure 5-2.

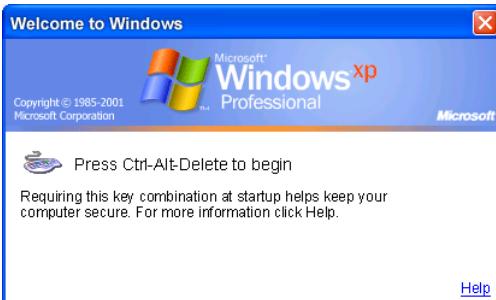
#### **2. Enter your user name and password. If your account doesn't have a password, leave the text box blank.**

Remember that when you enter your password, Windows will display a series of \*\*\*\*\*'s to protect your password from prying eyes.

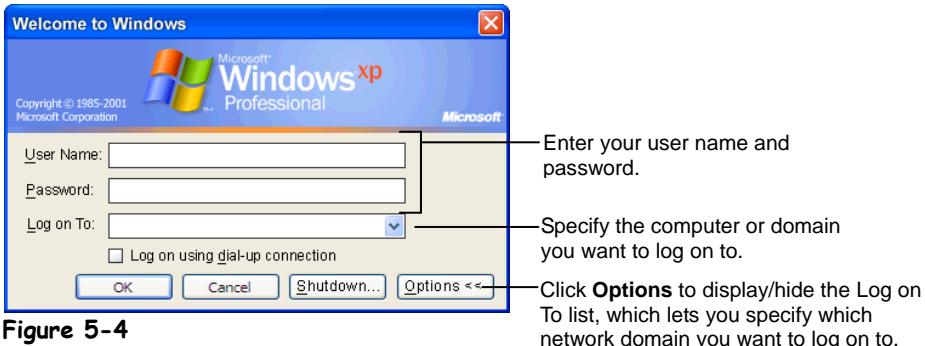
#### **3. Press <Enter> or click OK.**

Windows logs in using your account settings.

## Lesson 5-2: Starting and Logging On to Windows XP Professional



**Figure 5-3**



**Figure 5-4**

**Figure 5-3**

The Welcome to Windows dialog box.

**Figure 5-4**

The Welcome to Windows dialog box.

Logging on to a computer using Windows XP Professional is a little different because you are logging in to a network, not just a computer, so security needs to be tight.

The first screen is a defense against hackers or worms that might try to hack into your computer while you're not using it.

**1. Press `<Ctrl> + <Alt> + <Delete>`.**

The Welcome to Windows dialog box appears, as shown in Figure 5-4.

**2. Enter your user name and password.**

Remember that when you enter your password Windows will display a series of \*\*\*\*\*s to protect your password from prying eyes.

**3. If necessary, click Options and click the Log on To list arrow to select the domain name that you want to log on to.**

This setting probably won't ever change, but you should be aware that it is required to log in to the domain.

**4. Press `<Enter>` or click OK.**

Presto! You're logged on to Windows XP and are ready to get back to work.

**Quick Reference**

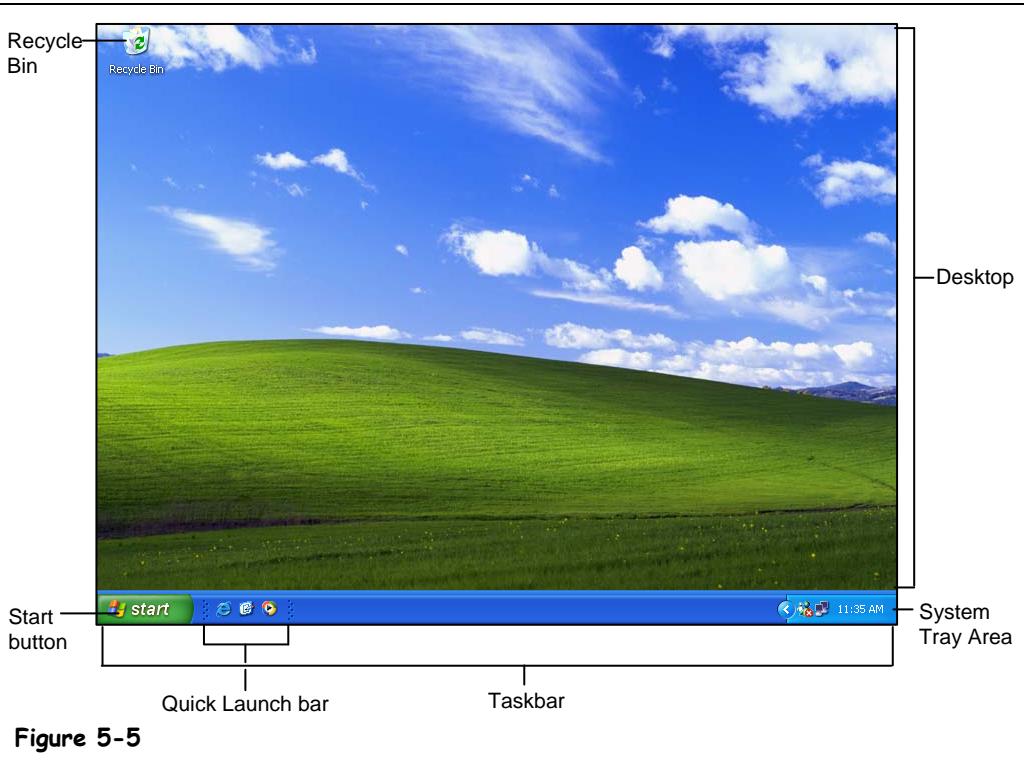
To Log On to Windows XP Professional:

1. Press `<Ctrl> + <Alt> + <Delete>`.
2. Enter your user name and password.
3. Make sure you are logging in to the correct domain.
4. Press `<Enter>` or click **OK**.

## Lesson 5-3: Understanding the Windows XP Screen

**Figure 5-5**

The major parts of the Windows XP screen. More items may appear on your computer, depending on how it is set up.



**Figure 5-5**

You might find the Windows screen a bit confusing and overwhelming the first time you see it. Nothing on the screen appears familiar to you—where do you even start? This lesson will help you become familiar with the main Windows screen, known as the *desktop*. There isn't a step-by-step exercise anywhere in this lesson—all you have to do is look at Figure 5-5 and then refer to Table 5-4: *Major Parts of the Windows XP Screen*, to see what everything you're looking at means. And, most of all, relax! This lesson is only meant to help you get acquainted with Windows—you don't have to memorize anything.

**NOTE:** If you're upgrading to Windows from previous versions, you may be surprised at the lack of icons and features on the screen. Don't be alarmed: My Documents, My Computer and other useful functions are still around, they've just been moved under the Start button.

**Table 5-4: Major Parts of the Windows XP Screen**

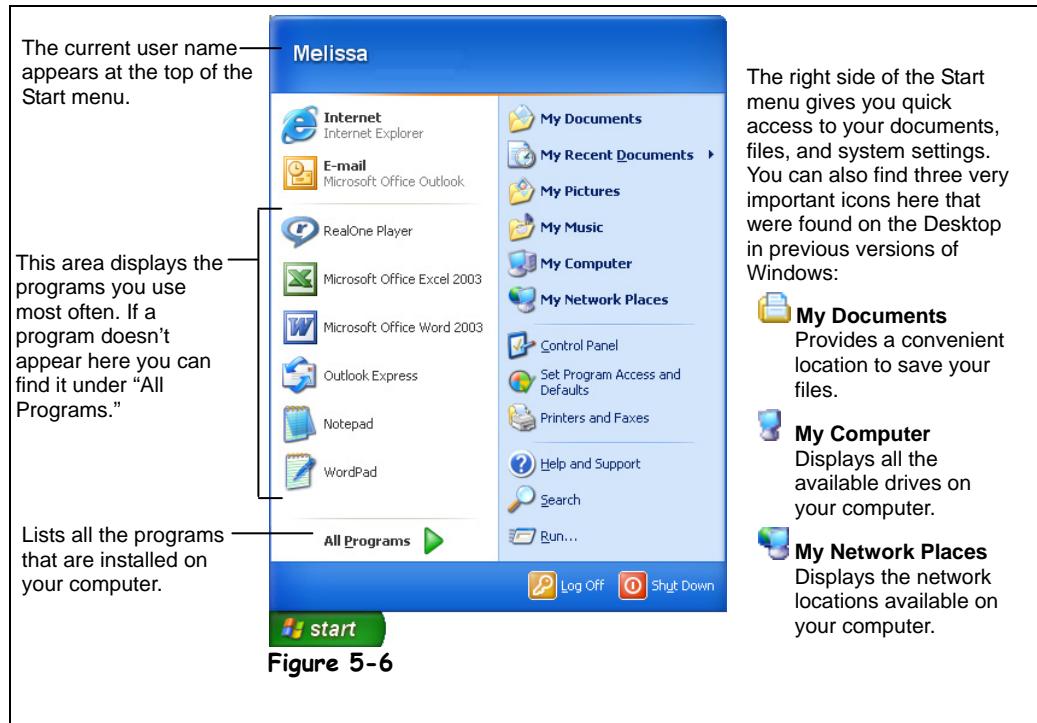
<b>Item</b>	<b>Description</b>
Desktop	This is the large background area of the Windows screen. You can customize the desktop by adding shortcuts to your favorite programs, documents, and printers. You can also change the appearance of the desktop to fit your mood and personality.
Recycle Bin	The Recycle Bin stores all the files you delete from your computer. You can use the Recycle Bin to retrieve files you've accidentally deleted. Create more disk space by emptying the Recycle Bin.
Taskbar	The Taskbar usually appears at the bottom of your screen and contains the famous Start button, which you use to start your programs. Whenever you open a program, document, or window, an icon for that program appears on the taskbar. This lets you see which programs are currently running and allows you to easily switch between them.
Start button	The Start button lets you quickly open your programs and documents. You can also use the Start button to find files and change the settings for Windows.
Quick Launch bar	The Quick Launch bar gives you quick access to your most frequently used applications. Internet Explorer, Outlook Express and the Windows desktop are included in the Quick Launch bar by default.

Don't worry if you find some of these things confusing at first—they will make more sense in the upcoming lessons, after you've actually had a chance to use them.

## Lesson 5-4: A Look at the New Windows XP Start Menu

**Figure 5-6**

The new Windows XP Start menu.



The right side of the Start menu gives you quick access to your documents, files, and system settings. You can also find three very important icons here that were found on the Desktop in previous versions of Windows:

**My Documents**  
Provides a convenient location to save your files.

**My Computer**  
Displays all the available drives on your computer.

**My Network Places**  
Displays the network locations available on your computer.

You've probably already noticed that Windows XP's Start menu is drastically different than the Start menu in earlier versions. All the icons that were formerly stored on the desktop, such as My Computer and My Documents, are now on the Start menu, making it your single source for launching applications, finding documents, and changing computer settings.

The new Windows XP Start menu takes a lot of getting used to—especially if you're familiar with the Start menu in previous versions of Windows. Once again, there isn't a step-by-step exercise in this lesson—all you have to do is look at Figure 5-6 and then refer to Table 5-5: *Items in the Windows XP Start Menu*, to see what everything in the new Windows XP Start menu does.

**1. Click the **Start** button.**

The Windows XP Start menu appears, as shown in Figure 5-6.

**2. Keep the Start menu open and refer to Table 5-5: *Items in the Windows XP Start Menu* to find out what's new in the Windows XP Start menu.**

The new Windows XP Start menu takes a *lot* of getting used to—especially if you're familiar with the Start menu used in earlier versions of Windows. Don't worry if you just *can't* get used to the new Windows XP Start menu—it's easy to change back to the classic Start menu that you're more familiar with—we'll cover that very topic in another chapter.

**Table 5-5: Items in the Windows XP Start Menu**

	<b>Item</b>	<b>Description</b>
<b>Left Side</b>	 Internet Explorer	Opens your Internet browser.
	 Outlook Express	Opens your default e-mail software.
	Recently Used Programs	Gives you quick access to the programs you use most often. If a program doesn't appear here you will have to look under "All Programs".
	 All Programs	Gives you access to all the programs installed on your computer, although you may have to wade through several submenus in order to find the program you're looking for.
<b>Right Side</b>	 My Documents	Provides a convenient location to save your files. In previous versions of Windows, My Documents was located on the Windows Desktop.
	 Recent Documents	Opens files you have recently worked on.
	 My Pictures	Provides a convenient location to save your photos and pictures.
	 My Music	Provides a convenient location to save your music files.
	 My Computer	Gives you access to the drives, folders, and files on your computer. In previous versions of Windows, My Computer was located on the Windows Desktop.
	 My Network Places	Access the drives, folders, and printers on the network. In previous versions of Windows, My Network Places was located on the Windows Desktop.
	 Control Panel	Opens the Windows Control Panel.
	 Connect To	Connects to the Internet or a network.
	 Set Program Access and Defaults	Sets the default programs that handle certain activities on your computer.
	 Printers and Faxes	Shows installed printers and faxes. Also provides access to wizards that help install new printers and faxes.
	 Help and Support	Gets help on how to use Windows.
	 Search	Finds a file on your computer.
	 Run...	Runs a program.
	 Log Off	Logs off of Windows so that another user can log on to your computer.
	 Shut Down	Provides options for turning off or restarting your computer.

## Lesson 5-5: Using the Mouse: Pointing, Clicking and Double-clicking

**Figure 5-7**

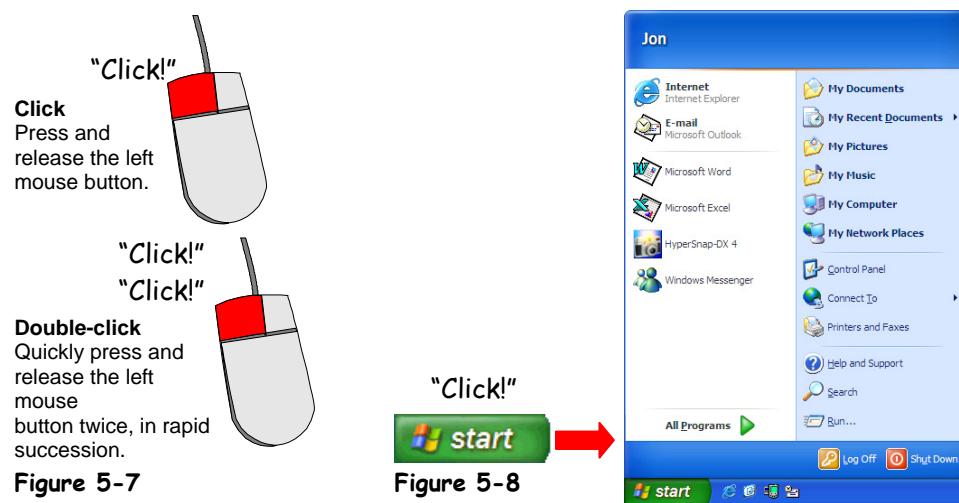
Clicking and double-clicking with the mouse.

**Figure 5-8**

Click the Start button to open the Windows XP Start menu.

**Figure 5-9**

Double-click the Recycle Bin icon to open it and display its contents.

**Figure 5-7****Figure 5-8****Figure 5-9**

Just like you control your television set using a remote control, you control Windows by using the mouse and keyboard. A mouse is a palm-sized device that lets you point at, select, and move objects on your computer screen. The mouse is linked to the pointer on your computer screen—when you move the mouse on your desk, the pointer moves on the computer screen. Think of the mouse as an electronic extension of your hand. This lesson will show you how to perform the two most basic mouse actions: clicking, and double-clicking.

1. Rest your hand on top of the mouse, then move the mouse and watch as the arrow moves across the screen.

The arrow (also called the cursor or pointer) follows the mouse as you move it across the desk or mouse pad.

*Pointing* is the most basic action you can do with the mouse. To point to something, simply place the mouse pointer over it by moving the mouse.

**2. Move the mouse pointer until the tip of the pointer is over the Start button. Leave the pointer there for a few seconds.**

The message “Click here to begin” appears by the pointer after several seconds.

Clicking means pressing and releasing the left mouse button one time. The mouse makes a clicking noise whenever you press and release one of its buttons, hence the term “clicking”. The next steps will show you how to open the Start menu by clicking it.



Start button

**3. Move the pointer over the Start button and then click the left mouse button.**

When you click the Start button, the Windows XP menu pops up, as shown in Figure 5-8. Congratulations! You’ve just made your first click!

**NOTE:** Most mice have two mouse buttons. Normally you will use the left mouse button (unless someone has changed the mouse options and reversed the buttons!). You can assume that you will use the left mouse button whenever you see the words click or double-click. The right mouse button has its own purpose—and we’ll discuss it in an upcoming lesson.

You can close the Windows XP Start menu without selecting anything by clicking anywhere outside the menu.



Recycle Bin

**4. Move the pointer anywhere outside the Windows XP Start menu and click the left mouse button.**

Now that you’re feeling comfortable with pointing and clicking, we’ll move on to something a little more tricky: *double-clicking*. Just as it sounds, double-clicking means pressing and releasing the mouse button twice in rapid succession. You will usually open an object, such as a file, folder, or program by double-clicking it.



Close button

**5. Position your pointer over the Recycle Bin icon and double-click it with your left mouse button.**

The Recycle Bin opens to reveal its contents, as shown in Figure 5-9.

**NOTE:** A lot of people have problems the first time they try double-clicking. If your double-click doesn’t seem to work, it’s probably because you’re either not holding the mouse steady while you’re double-clicking, or you’re not double-clicking fast enough. If you click the mouse button too hard, you may accidentally slide the mouse before you’ve finished double-clicking and your double-click won’t register. If you’re certain that you’re holding the mouse steady while you double-click, you can adjust the double-click speed in the Windows Control Panel, which we’ll talk about more in a later lesson.

**6. Close the Recycle Bin window by clicking its Close button, as shown in Figure 5-9.**



Quick Reference

To Point:

- Move the mouse so that the pointer is over the object.

To Click:

- Point to the object and press and release the mouse button.

To Double-click:

- Point to the object and click the mouse button twice in rapid succession.

Table 5-6: Things you can click and double-click

Click when you want to:	Double-click when you want to:
Select something.	Open a file.
Open a menu.	Open a folder.
Press a button on a toolbar or a control in a dialog box.	Display the properties or settings for an object (in certain programs).
Move to the area or field you want in a program or dialog box.	

## Lesson 5-6: Using the Mouse: Clicking and Dragging

**Figure 5-10**

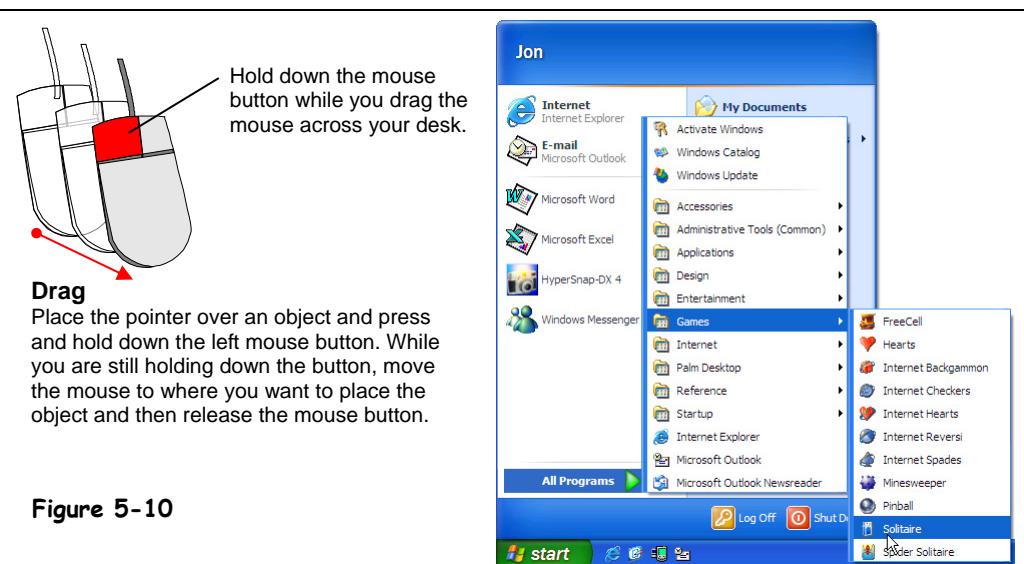
Clicking and dragging with the mouse.

**Figure 5-11**

Opening a game of Solitaire.

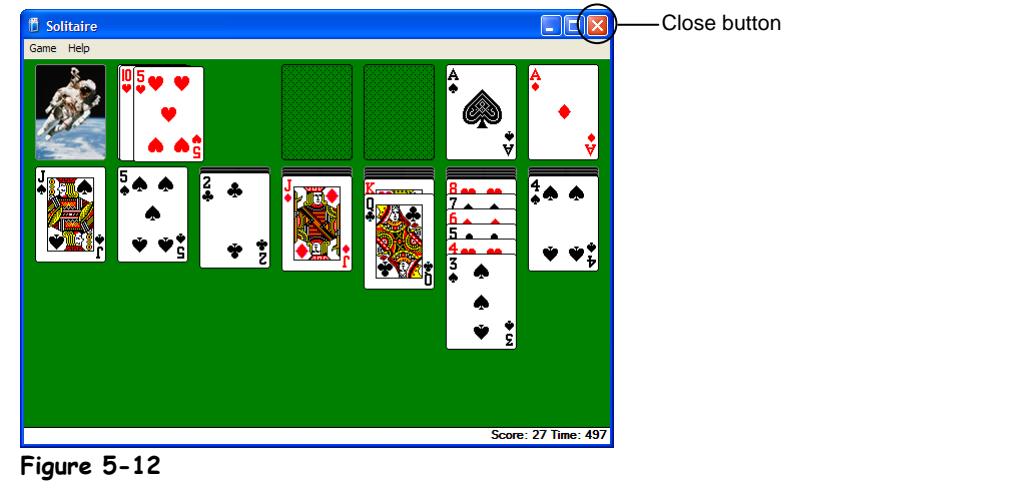
**Figure 5-12**

The Solitaire game, which comes with Windows.



**Figure 5-10**

**Figure 5-11**



**Figure 5-12**

You can move items around your computer screen by *clicking and dragging* them with the mouse. To click and drag something: (1) Move the mouse pointer over the object you want to move, then click and *hold down* the mouse button. (2) While you are still holding down the mouse button, move the mouse until the pointer is over the place you want to put the object. Then, (3) release the mouse button.

This will probably be the most entertaining lesson in the book, because your assignment is to master clicking and dragging by playing a game of Solitaire! Microsoft included Solitaire with Windows to help people improve their mouse skills. You've probably noticed that a lot of people never stop practicing these skills with Solitaire. Here's how to open Solitaire:



**1. Click the Start button.**

Remember the Start button is located in the bottom-left corner of your screen. The Windows XP Start menu appears.

**2. Point to the word All Programs.**

The All Programs menu pops out to the right.

**3. Point to the word Games.**

Another menu, the Games menu, pops out, as shown in Figure 5-11.

**4. Click the word Solitaire.**

You're finally there! The Solitaire program opens, as shown in Figure 5-12.

**5. Play a game of Solitaire and practice clicking and dragging the cards.**

If you don't know how to play Solitaire, you can still practice your clicking and dragging. Just point to a card, click and hold down the mouse button, and move the card around the screen. Release the mouse button to drop the card. If you try dropping a card in an invalid location, the card will be whisked back to its original pile.

**6. Click the Close button located in the top right corner of the Solitaire program to exit the program when you've finished playing.**

The Solitaire program closes.

You may have trouble mastering click and drag right away. Don't get discouraged; this is a tricky task for beginners. Just keep practicing and you'll improve.



**Close button**

Okay, there have to be more things to click and drag besides cards! Although we'll be covering this stuff later on, Table 5-7: *Things you can click and drag* gives some examples of when you can use click and drag.

**Table 5-7: Things you can click and drag**

<b>You can do this:</b>	<b>By dragging this:</b>
Move a window to a new location on the screen.	Drag the window by its title bar and drop it in a new location on the screen.
Move a file to a new folder.	Drag the file and drop it in the desired folder.
Change the size of a window.	Drag the borders or corners of the window.
Scroll a window to see something located off-screen.	Drag the scroll box (the little elevator) up or down the scroll bar and drop it in a new location.
Move just about anything on your computer's screen.	Point to the object, click, and hold down the mouse button, drag the object to a new place, and then release the mouse button.

### Quick Reference

#### To Click and Drag:

1. Point to the object you want to click and drag and click and hold down the mouse button.
2. While you're still holding down the mouse button, drag the object to the desired location on the screen.
3. Release the mouse button.

## Lesson 5-7: Using the Mouse: Right-clicking

**Figure 5-13**

Right-clicking with the mouse.

**Figure 5-14**

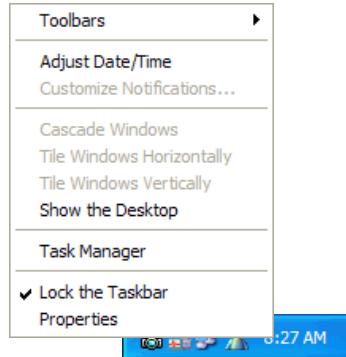
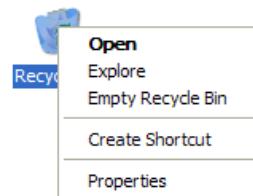
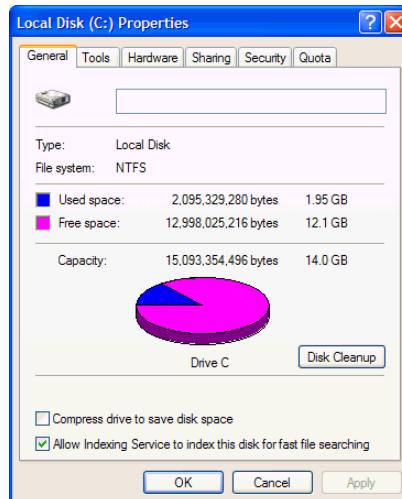
The shortcut menu for the Recycle Bin.

**Figure 5-15**

The shortcut menu for the clock.

**Figure 5-16**

The Local Disk (C:) Properties dialog box.

**Figure 5-13****Figure 5-15****Figure 5-14****Figure 5-16**

You already know that the left mouse button is the primary mouse button, used for clicking and double-clicking, and it's the mouse button you will use over 95 percent of the time when you work with Windows. So what's the right mouse button used for? Whenever you *right-click* something, it brings up a shortcut menu that lists everything you can do to the object. Whenever you're unsure or curious about what you can do with an object, point to it and click it with the right mouse button. A shortcut menu will appear with a list of commands related to the object or area you right-clicked.

Right mouse button shortcut menus are a great way to give commands to Windows because you don't have to wade through several levels of menus to do something.

- 1. Move the pointer over the Recycle Bin icon and click the **right mouse button**.**

A shortcut menu appears with a list of commands related to the Recycle Bin, as shown in Figure 5-14.

**Recycle Bin**

Right-click an object to open a shortcut menu of commands for the object.

**2. Point to and click the **Empty Recycle Bin** option on the shortcut menu with the **left mouse button**.**

You still use the left mouse button to select menu items, even if they are found in a right-mouse button shortcut menu. A dialog box appears, asking you if you are sure you want to delete the contents of the Recycle Bin. Better play it safe and...

**3. Click **No** with the **left mouse button**.**

Next, you realize the clock displayed on the far right side of the taskbar is ten minutes fast. You can display the clock's properties by right-clicking the clock.

**4. Move the pointer over the **clock**, located on the far right end of the taskbar, and click the **right mouse button**.**

Another shortcut menu appears, with commands related to the Windows clock, as shown in Figure 5-15.



**Windows clock**

Notice one of the commands listed on the shortcut menu is **Adjust Date/Time**. You would select this menu item if you needed to adjust the date and/or time. But you don't want to adjust the date or time, so you can move on to the next step and close the shortcut menu without selecting anything.

**5. Click anywhere outside the shortcut menu with the left mouse button.**

The final object we'll right-click in this lesson is the computer's Local Disk drive. To get to the Local Disk Drive you have to open My Computer.



**My Computer**

**6. Click the **Start button**. Click **My Computer** from the menu.**

The My Computer window opens, displaying the contents of your computer. You want to see how much space is left on your computer's local disk.



**Local Disk (C:)  
icon**

**7. Right-click the **Local Disk (C:)** icon.**

A shortcut menu appears, with a list of commands related to the local disk.

**8. Click the **Properties** option on the shortcut menu with the left mouse button.**

A dialog box appears, showing a graph that illustrates how much space is left on your hard drive, as shown in Figure 5-16.

**9. Click **Cancel**.**

The dialog box closes.

You're done! You've learned all the actions you can perform with the mouse: pointing, clicking, double-clicking, clicking and dragging, and right-clicking. What an accomplishment!

### Quick Reference

To Display an Object's Shortcut Menu:

- Point to the object and click the **right mouse button**. Select items from the shortcut menu with the **left mouse button**.

To Close a Shortcut Menu Without Selecting Anything:

- Click anywhere outside the shortcut menu with the **left mouse button**, or press the **<Esc>** key.

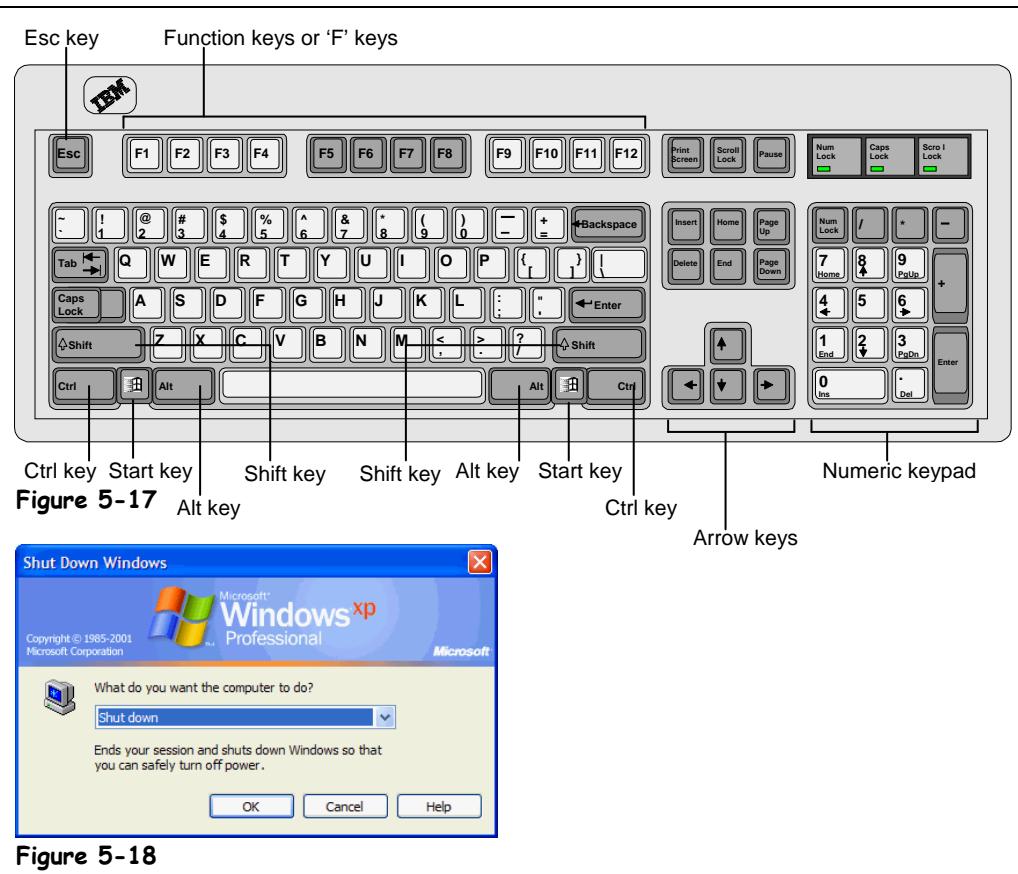
## Lesson 5-8: Using the Keyboard

**Figure 5-17**

A standard keyboard  
(Your computer may have a slightly different layout than the one pictured here).

**Figure 5-18**

The Shut Down Windows dialog box.



Now that you've mastered the mouse, it's time to move on to the other device that you use to control your computer: the keyboard. The keyboard may seem more familiar and easy to use than the mouse at first, but don't be fooled! Computer keyboards sneak in some extra keys that are very useful. This lesson explains what these extra keys on the keyboard are and when to use them.

1. Press and hold down the **<Alt>** key, press the **<F4>** key, then release both keys.

Pressing these keys commands the current program to close. Since you're using the Windows Desktop, the Shut Down Windows dialog box appears, as shown in Figure 5-18.

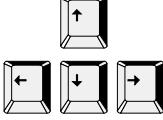
We're not ready to shut Windows down just yet. Follow the next step to back out of the Shut Down Windows dialog box without selecting anything.

2. Press the **<Esc>** key.

Pressing **<Esc>** does the same thing as clicking the Cancel button. The Shut Down Windows dialog box disappears and you're back at the Windows desktop.

Table 5-8: *Special Keys and Their Functions* describes the **<Alt>** and **<Esc>** keys you just used, as well as some of the other confusing keys on the keyboard.

**Table 5-8: Special Keys and Their Functions**

<b>Key(s)</b>	<b>Description</b>
	The <Alt> key doesn't do anything by itself—it needs another key to make things happen. For example, pressing the <Tab> key while holding down the <Alt> key switches between any programs that are currently running.
	Just like the <Alt> key, the <Ctrl> key doesn't do anything by itself—you need to press another key along with it to make things happen. For example, pressing the <X> key while holding down the <Ctrl> key cuts whatever is selected.
	The <F1> key is the Help key for most programs. Pressing it displays helpful information about what you're doing and answers your questions about the program.
	The <Esc> (Escape) key is the "Wait, I've changed my mind!" key. Its function is the same as clicking Cancel in a dialog box. For example, if you click something and an unfamiliar dialog box appears, you can close it by pressing the <Esc> key.
	The <Enter> key is the "Carry out my orders" key. Its function is the same as clicking OK in a dialog box. For example, after you've typed the name of a program you want to run in a dialog box, press <Enter> to run the program. The <Enter> key also adds new lines and starts new paragraphs if you're entering text.
	When you're in a dialog box, pressing the <Tab> key moves to the next field. When you're using a word processor, the <Tab> key works just like you'd think it would: it jumps to the nearest tab stop whenever you press it.
	The arrow keys move your computer's cursor on the screen.
	Nothing surprising here. The <Delete> key deletes or erases whatever you select—files, text, or graphical objects. If you're working with text, the <Delete> key erases characters to the right of the insertion point.
	Use the <Backspace> key to fix your typing mistakes—it erases characters to the left of the insertion point.
	The <Home> key jumps to the beginning of the current line when you're working with text.
	The <End> key jumps to the end of the current line when you're working with text.
	The <Page Up> key moves up one screen.
	The <Page Down> key moves down one screen.

**Quick Reference****To Use a Keystroke Combination:**

- Press and hold down the first key, press the second key, then release both keys. For example, press the <Tab> key while you're holding down the <Alt> key.

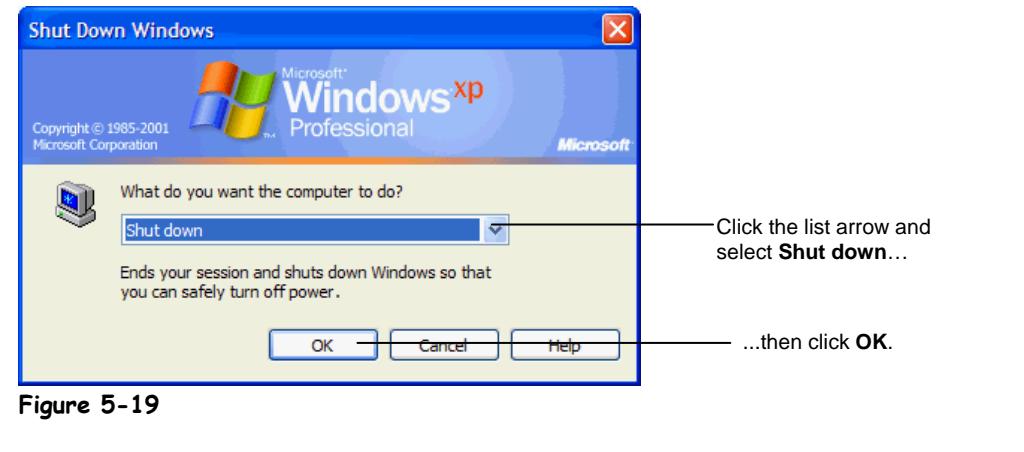
**To Use the Special Keys on the Keyboard:**

- Refer to Table 5-8: *Special Keys and Their Functions*.

## Lesson 5-9: Exiting Windows and Turning Off Your Computer

**Figure 5-19**

The Shut Down Windows dialog box.



**Figure 5-19**

At the end of the day when you've finished using your computer, you need to shut down Windows before you turn your computer off. Shutting down gives Windows a chance to tidy up after itself, saving information in the computer's memory to the local disk, cleaning up temporary files, and verifying that you've saved any changes you made to any files you worked on.



**Should I turn my computer off at all?** One of the great computer debates is whether you should turn your computer off at all. Some people turn off their computer whenever they're finished with it, just like a television set. Others don't turn their computers off—*ever*. People who turn their computers off at night say that keeping the computer on 24 hours a day, 7 days a week wears out the computer's mechanical components and wastes electricity. Other people say that leaving your computer on keeps temperature fluctuations down, which is better for the computer's delicate internal components. Plus, most new computers enter a standby or hibernate mode after a period of time, so they don't really consume that much power. Which method is best? That's a decision you'll have to make on your own. Some people turn their *home* computer off when they finish using it and leave their *office* computer on 24 hours a day.

Whether or not you turn your computer off, you should *always* follow the next few steps when you shut down your computer.

### 1. Save all your work and exit all your programs.

Saving any files you've been working on is the most important step of all when you shut down your computer. You should also consider backing up any vital information if you have a tape backup, Zip drive, or other backup device. You can also save any important files to a disk.

### 2. Click the Start button.

The Start menu appears.

### 3. Click the Shut Down button in the Start menu.

The Shut Down Windows dialog box appears, as shown in Figure 5-19.



### Shut Down button

Other Ways to Shut Down:

- Press **<Ctrl> + <Alt> + <Delete>** and click **Shut Down**.

**4. Click the **What do you want your computer to do?** list arrow and select **Shut down** from the list. Click **OK**.**

The computer's hard drive hums as Windows cleans up and shuts itself down.

**NOTE:** Leaving nothing to chance, Windows checks to make sure you've saved everything you've been working on, such as documents you created in your word processing program. If Windows notices you haven't saved a file, it asks if you want to save the changes you made to the file before it begins the shut down procedure.

Eventually Windows finishes shutting down and turns off your computer.

**5. Make sure your computer and monitor are off.**

Congratulations! You've completed the chapter and are well on your way to mastering Windows XP! You're probably wondering "What were those other Shut Down options for?" Table 5-9: *Shut Down Windows Options* explains them:

**Table 5-9: Shut Down Windows Options**

<b>Shut Down Option</b>	<b>What it Does</b>
Stand by	Use Stand by if you have a laptop and are going to leave your computer briefly but want to conserve as much energy as possible while you are away. After you return your computer to its original running state, you will be able to pick up exactly where you left off. (Make sure you save everything you were working on first!)
Shut down	Use this option if you want to turn your computer off. It saves your Windows settings and saves any information stored in memory to the local disk.
Restart	Saves any Windows settings, writes any information stored in your computer's memory to the local disk, and restarts your computer. Use this option if Windows or your Windows-based programs start acting flaky. You often have to restart your computer after installing new software.
Log Off As...	This option appears only if your computer is connected to a network. This option closes all your programs and disconnects your computer from the network, preparing your computer to be used by someone else.
Hibernate	Hibernate goes one step further than Stand by, allowing you to keep programs and documents open and shut off power. Hibernate saves your desktop status to the hard disk so the power can be turned off.

 **Quick Reference**

To Shut Down Windows:

1. Save any files you've been working on and exit all your programs.

2. Click the **Start button** and click the **Shut Down button** in the menu.

Or...

Press **<Ctrl> + <Alt> + <Delete>** and click **Shut Down**.

3. Click the **What do you want your computer to do?** list arrow and select the **Shut Down** option from the list. Click **OK**.

## Chapter Five Review

### Lesson Summary

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#### Starting and Logging On to Windows XP Home

- To Log On To Windows XP Home Using the Welcome Screen: Click your account user name. Enter your account password if prompted.
- To Log On To Windows XP Home Without the Welcome Screen: Enter your user name and password. If your account doesn't have a password, leave the text box blank. Press **<Enter>** or click **OK**.

#### Starting and Logging On to Windows XP Professional

- To Log On To Windows XP Professional: Press **<Ctrl> + <Alt> + <Delete>**. Enter your user name and password. Make sure you are logging in to the correct domain. Press **<Enter>** or click **OK**.

#### Understanding the Windows XP Screen

- Be able to identify the main components of the Windows screen.

#### A Look at the New Windows XP Start Menu

- Be able to identify the new components of the Windows XP Start menu.

#### Using the Mouse: Pointing, Clicking and Double-clicking

- To Point: Move the mouse so that the pointer is over the object.
- To Click: Point to the object and press and release the left mouse button.
- To Double-click: Point to the object and click the left mouse button twice in rapid succession.

#### Using the Mouse: Clicking and Dragging

- Point to the object you want to click and drag and click and hold down the mouse button. While you're still holding down the mouse button, drag the object to the desired location on the screen and then release the mouse button.

#### Using the Mouse: Right-clicking

- To Display an Object's Shortcut Menu: Point to the object and click the **right mouse button**. Select items from the shortcut menu with the **left mouse button**.
- To Close a Shortcut Menu Without Selecting Anything: Click anywhere outside the shortcut menu with the **left mouse button**, or press the **<Esc>** key.

## Using the Keyboard

- **To Use a Keystroke Combination:** Press one key while holding down the other key. For example, press the <Tab> key while holding down the <Alt> key.

## Exiting Windows and Turning Off Your Computer

- **To Shut Down Windows:** Save any files you've been working on and exit all your programs. Click the **Start button** and click the **Shut Down button** in the menu, or press <Ctrl> + <Alt> + <Delete> and click **Shut Down**. Click the **What do you want your computer to do?** list arrow and select the **Shut Down** option from the list. Click **OK**.

## Quiz

---

**1. Microsoft Windows is a (an):**

- A. Word processing program.
- B. Database program.
- C. Operating System.
- D. Graphics program.

**2. Windows uses only the left mouse button. (True or False?)**

**3. How do you move the pointer to another location onscreen?**

- A. Press the arrow keys on the keyboard.
- B. Move the mouse until the pointer points to that spot.
- C. Move the mouse until the pointer points to that spot and then click the left mouse button.
- D. Move the mouse until the pointer points to that spot and click the right mouse button.

**4. A keystroke combination is:**

- A. Pressing two or more keys at the same time.
- B. A way to lock your computer to prevent unauthorized access. To unlock the computer, simply retype your keystroke combination.
- C. Using the keyboard in conjunction with the mouse.
- D. A type of mixed drink.

**5. To display a shortcut menu for an object, do the following:**

- A. Point to the object and press <Ctrl> + <P>.
- B. Touch the object onscreen with your finger.
- C. Click the object.
- D. Right-click the object.

**6. The <F1> key displays help on whatever it is that you're working on. (True or False?)**

## Homework

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1. Turn on your computer and start Windows XP.

2. Find, point to, and click the Start button, then close the Start menu without selecting anything.
3. Find and double-click My Computer.
4. Shut down Windows by selecting Shut down from the Start menu, verifying the Shut down option is selected, and clicking the OK button.

### Quiz Answers

---

1. C. Microsoft Windows is an Operating System.
2. False. Windows uses both the left and right mouse buttons.
3. B. Move the pointer by moving the mouse until the pointer points to that spot.
4. A. A keystroke combination is when you press two or more keys at the same time. For example, pressing the <Shift> and <Tab> keys simultaneously.
5. D. Right-click the object.
6. True. Pressing the <F1> key displays help on whatever it is that you're working on.

# Chapter Six: Working with a Window

## Chapter Objectives:

- Starting a program
- Understanding the parts of a window
- Minimizing, maximizing, and restoring a window
- Moving and closing a window
- Changing the size of a window
- Switching between several programs
- Tiling and cascading windows

## Prerequisites

- How to start and shut down Windows
- How to use the mouse to click, double-click, drag and drop, and right-click

No doubt about it: computers are sophisticated, complex machines. To make computers easier to use, Microsoft designed Windows to operate how you work at the desk in your office.

When you work at your desk, you spread everything out, grab a piece of paper, work on it for a while, and then shuffle another piece of paper on top of it. That's how Windows works, except instead of working with papers, you work with *windows*—boxes that contain programs and information.

You can shuffle these windows around the screen just like you shuffle papers on your desk—which is why the main Windows screen is called the *desktop*. Just like your desk, if you're working with a lot of things at the same time, the Windows desktop can become messy and difficult to find things on.

This chapter explains how to manage the windows and programs on your screen. First, you'll learn how to open a window. Next, you'll discover the parts that constitute a window (which are A LOT different than the ones on your house). Then you'll learn how to change the size of a window—*minimizing* it to a tiny little icon that appears only on the Taskbar and *maximizing* it so that it fills the entire screen. You'll also learn how to “shuffle” windows around, sending some to the background and bringing others up to the forefront. Let's get started!

## Lesson 6-1: Starting a Program

**Figure 6-1**

Click on the Start button to open the menu, and then point to All Programs to open the menu.

**Figure 6-2**

Click on Accessories to open the menu, and then click on WordPad to open the program.

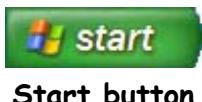
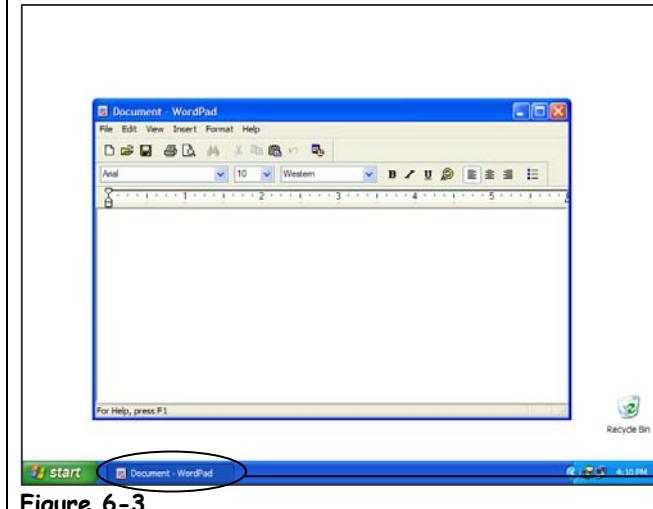
**Figure 6-3**

The WordPad program



**Figure 6-1**

**Figure 6-2**



To do just about anything with your computer, you need to run a program. A *program* is a complex set of instructions that tells your computer how to do something. Your word processor is a program, and so is the Solitaire game that comes with Windows. The easiest way to start a program is by clicking the Windows Start button and then selecting the program from the All Programs menu. This lesson explains one of the most basic operations you can do with Windows: starting a program.

### 1. Click the Start button.

Remember that the Start button resides in the bottom-left corner of the computer screen. The Start menu pops up.

**2. Point to All Programs.**

A menu listing the different program categories pops out above the Start menu, as shown in Figure 6-1.

**3. Point to the word Accessories.**

Another menu, the Accessories menu, shoots out to the side of the All Programs menu, as shown in Figure 6-2. The program you want to load, WordPad, is in the Accessories menu. Can you find it?

**4. Click the word WordPad.**

The WordPad program appears on the screen in its own window, as shown in Figure 6-3. WordPad is a simple word processing program that is included with Microsoft Windows.



**NOTE:** The All Programs menu is merely a list of the programs that should be available on your computer. When installed, programs should automatically add themselves to the Start menu. Occasionally, old MS-DOS programs or programs that are poorly written may not put themselves on the Start menu when you install them, and you will have to find and add the program to the All Programs menu yourself. You'll learn how to manually add programs to the Start menu in an upcoming lesson.



Great! You've just started your first program. Turn the page and we'll examine the parts of the WordPad window.

Most programs run in their own separate window on the screen.

### Quick Reference

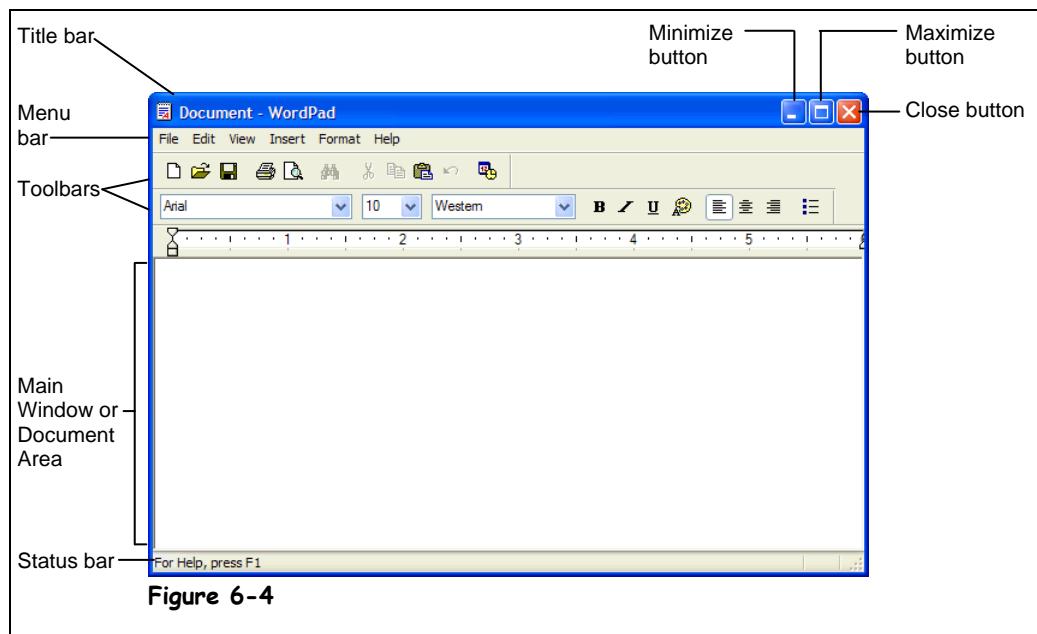
#### To Start a Program:

1. Click the **Start button**.
2. If the program appears on the Start menu click it, otherwise point to the **All Programs** option.
3. Click the menu and any submenus where the program you want to run is located.
4. Click the name of the program you want to run.

## Lesson 6-2: Understanding the Parts of a Window

**Figure 6-4**

The parts of a typical window



Located in every window are several little buttons, menus, and controls that you use to control the program and window. Because they appear in every Windows program, you're going to have to learn what these little buttons, menus, and controls are and learn how to use them. Here's the good news: once you can find your way around a window for one program, you'll be familiar with the windows for most programs since this window/menu/button concept appears in just about every Windows program.

There are no exercises or homework for you in this lesson—it's just here to help you become familiar with the parts of a window. All you have to do is look at Figure 6-4 and then refer to Table 6-1: *Parts of a Window* to identify what you're looking at.

And don't worry; you'll get a chance to play with some of these buttons and menus later on.

**Table 6-1: Parts of a Window**

<b>Part</b>	<b>Description</b>
Title bar	Displays the name of the program or window
Minimize button	Minimizes a window, hiding it from your screen but keeping it running in your computer's memory, ready for quick use. You can minimize a program you're not using so that it is still running, but is out of sight.
Maximize/Restore button	Depending on the size of the window, this button toggles between maximize and restore. Here's what each one does:  <b>Maximize:</b> Enlarges the window so that it fills the entire screen. This lets you see more of the window's contents. The Maximize button only appears when the window isn't maximized (doesn't fill the entire screen).  <b>Restore:</b> When a window is maximized (fills the entire screen), clicking the Restore button returns the window to its previous size.
Close button	Closes the window or program when you're finished working with it, removing it from the screen and the computer's memory.
Menu bar	Controls what the program does. The items listed on the menu bar change from program to program, but the menu bar's location doesn't—it's always perched near the top of a window, right below the Title bar.
Toolbar	Some (but not all) windows and programs have one or more toolbars, which contain buttons you point and/or click to access frequently used commands.
Main Window or Document Area	This is where all the action takes place—where you work on whatever you're working on. If you were using a word processor, this is where your letter would appear. If you were browsing the Internet, this is where the Web pages would appear.
Status bar	Displays information such as instructions, messages about the state of the computer, or your location in the window.

Got everything down? Don't worry if you don't; this lesson is just a quick-guided tour of a typical window. The rest of the lessons in this chapter focus on how to use a window's controls, buttons, and menus.

## Lesson 6-3: Minimizing, Maximizing, and Restoring a Window

**Figure 6-5**

The Minimize, Maximize, and Restore buttons appear in the upper right corner of most programs.

**Figure 6-6**

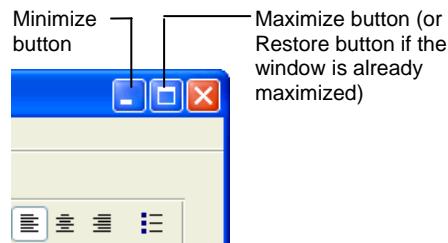
A window in a restored state only fills up part of the screen.

**Figure 6-7**

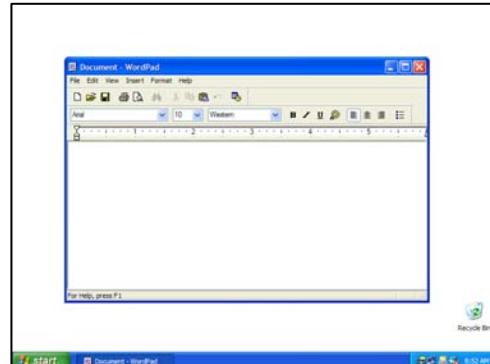
A window in a maximized state fills up the entire screen.

**Figure 6-8**

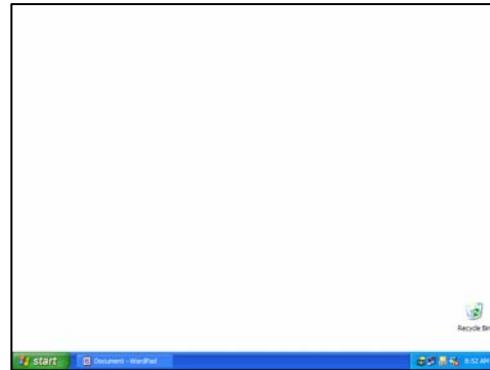
A window in a minimized state appears only as an icon on the taskbar.



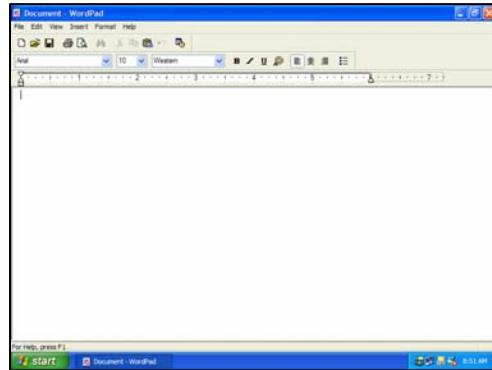
**Figure 6-5**



**Figure 6-6**



**Figure 6-7**



**Figure 6-8**

One of the benefits of Windows XP is that it enables you to open and work with several programs at the same time. To make working with several programs at once easier, you can change the size of the windows. You can *maximize*, or enlarge, a window so it takes up the entire screen; *minimize*, or reduce, a window so that it only appears as a button in the Windows taskbar; or size a window somewhere in between. This lesson explains how to change the size of a window by *maximizing*, *minimizing*, and *restoring*.

First, let's look at how to *maximize* a window. Some programs, such as word processors and Web browsers, are easier to work with and fill the entire screen. To enlarge a window to fill your computer screen, click the Maximize button.

1. Click the WordPad window's **Maximize button**—the middle button in WordPad's titlebar.

The WordPad program maximizes, filling the entire screen. You can change a maximized window back to its original size by clicking the Restore button. The Restore button appears in place of the Maximize button whenever a window is already in a maximized state.



**Maximize button**



**Restore button**

**2. Click the WordPad window's **Restore button** to restore the WordPad window back to its previous size.**

The window returns to its previous size.

Just like you can keep several papers on top of your desk, Windows can run more than one program at a time. For example, you can work on a letter with your word processing program while your Web browser is open and downloading a file from the Internet. There is a potential pitfall with running several programs simultaneously though—there isn't enough room for all of them to fit on your computer screen!

Luckily, you can tuck programs away, keeping them running and ready for use, yet away from view, by *minimizing* them.

**3. Click the WordPad window's **Minimize button** to minimize the WordPad program.**

The WordPad program shrinks to an icon located in the Windows taskbar. WordPad is still open and running—it's just hidden from view, tucked away and ready for future use. It's important to note that minimized programs can still run in the background. If a program is doing something, such as downloading a file from the Internet, it will keep going, even when the program is minimized.

It's easy to redisplay a minimized program or window when you're ready to use it again.

**4. Find and click the **WordPad icon** in the Windows taskbar.**

The WordPad program springs back to life and appears on the screen.

It's important that you get all this maximize/minimize/restore stuff down, because it will help you be more productive with your computer.

Other Ways to Maximize and Restore a Window:

- Double-click the title bar of the window to toggle between maximized and restored states.



**Minimize button**



**WordPad icon**



**Quick Reference**

To Maximize a Window:

- Click the window's **Maximize button**.
- Or...
- Double-click the window's title bar.

To Restore a Maximized Window:

- Click the window's **Restore button**.
- Or...
- Double-click the window's title bar.

To Minimize a Window:

- Click the window's **Minimize button**.

To Restore a Minimized Window:

- Click the window's **icon** on the taskbar.

## Lesson 6-4: Closing a Window

**Figure 6-9**

Click the Close button on the window you want to close.

**Figure 6-10**

The window disappears from your screen.



### Close button

Other Ways to Close a Window:

- Select **File** → **Exit** from the menu.
- Right-click the program's icon on the task bar and select **Close** from the shortcut menu.
- Press **<Alt> + <F4>**.

### Quick Reference

To Close a Window:

- Click the window's **Close** button.

Or...

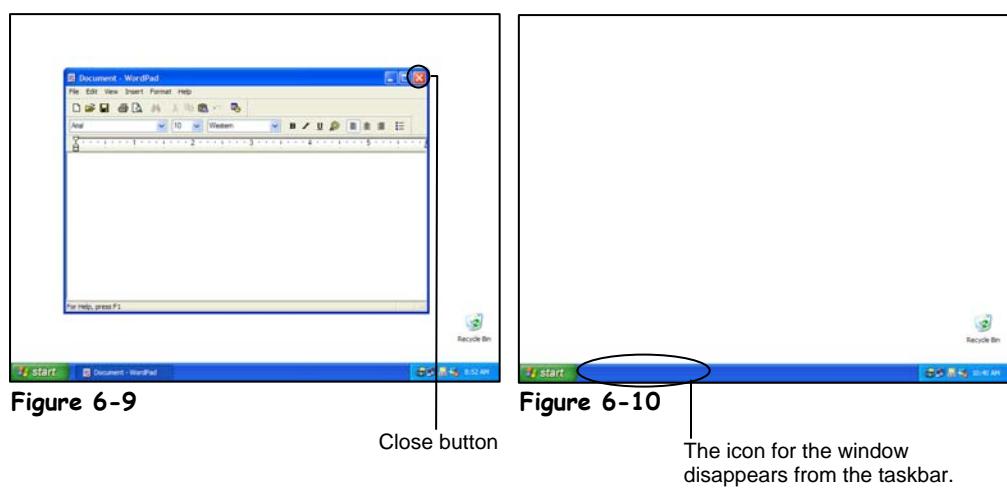
- Right-click the program's icon on the task bar and select **Close** from the shortcut menu.

Or...

- Press **<Alt> + <F4>**.

To Close All Open Windows:

- Hold down the **<Shift>** key while you click the **Close** button of any window.



When you're finished working with a window or program, you can close it to remove it from the screen and computer's memory. You can close any window or program by clicking its Close button, which appears in the upper-right corner of the window.

### 1. Click the WordPad window's Close button.

The WordPad program closes. Notice the WordPad icon no longer appears in the Windows taskbar at the bottom of the screen. That's all there is to closing a window or program.

**NOTE:** If a program has more than one window open, you can close all of its open windows by holding down the **<Shift>** key when you click the Close button for any window.

Since you're going to be working with the WordPad program in the next few lessons, you will need to open it again.

### 2. Click the Start button.

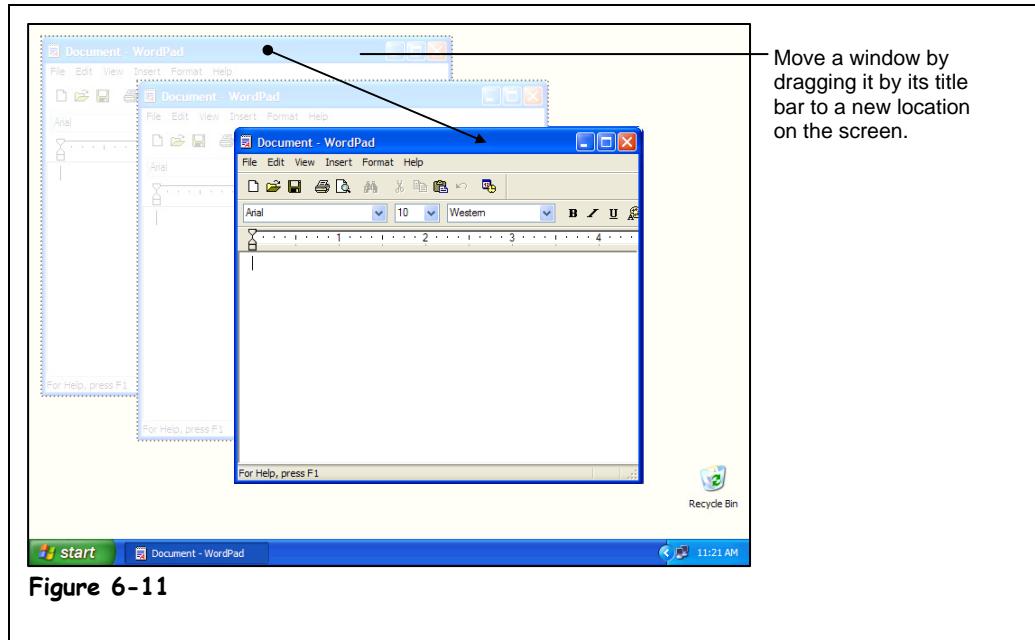
The Windows XP Start menu appears.

### 3. Select All Programs → Accessories → WordPad from the Start menu.

The WordPad program reappears.

If a program happens to be minimized, you need to restore it by clicking its icon on the taskbar before you can see and click the window's close button.

## Lesson 6-5: Moving a Window



When you have several programs or windows open, you may find that one window covers the other windows or other items on your screen. When this happens, you can simply move a window to a new location on the screen—just like you would move a report or folder to a different location on your desk. Here's how to move a window:

- 1. Position the mouse pointer over the **title bar** of the WordPad program.**  
Remember that the title bar is the colored bar at the very top of a window or program. It displays the name of the program or window.
- 2. Click the **title bar** and move the mouse while still holding down the **mouse button**.**  
Yep, it's that drag and drop stuff you learned earlier. An outline of the window follows your mouse as you drag the window, as shown in Figure 6-11, showing you where you are moving it.
- 3. Release the mouse button to drop the window to a new location.**

**Figure 6-11**

Moving a window to a new location on the screen.

### Quick Reference

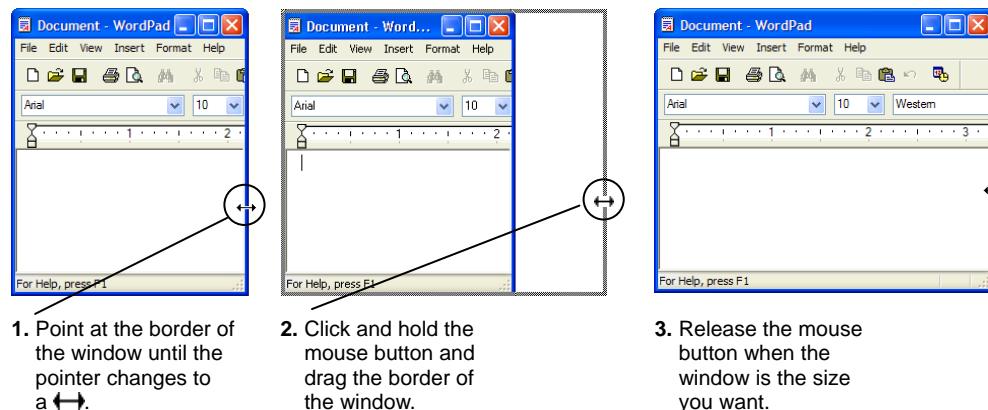
To Move a Window:

- Click and drag the window by its **title bar**. Release the mouse button to drop the window in the desired location on the screen.

## Lesson 6-6: Sizing a Window

**Figure 6-12**

Dragging a window's edge or corner changes the size of the window.



**Figure 6-12**

The mouse pointer changes shapes over the border of a window.



If you've been following the lessons in this chapter, you should already know how to change the size of a window or program by minimizing, maximizing, and restoring it. This lesson explains how you can fine-tune the size of a window to meet your own specific needs.

**1. Make sure the WordPad program appears as a window and doesn't fill the entire screen.**

A window doesn't have to be maximized (fill up the entire screen) or minimized (appear only as a button on the Taskbar) if you want to manually size it.

**2. Position the mouse pointer over the right border of the WordPad window until it changes to a  $\leftrightarrow$ .**

The two arrows point in the directions that you can drag the window's border, in this case, left or right. Had you positioned the pointer over the top or bottom of the window, the pointer would have changed to a  $\downarrow$ , indicating that you could drag the top or bottom of the window up or down.

**NOTE:** Windows is very picky where you place the pointer, and sometimes it can be tricky finding the exact spot where the pointer changes. It's there—just move the pointer slowly over the border until you find it.

**3. Click and hold down the left mouse button and drag the mouse to the right 1 inch to move the window border.**

Notice that the window stretches as you drag the mouse. When the window is the size you want, you can release the mouse button.

**4. Release the mouse button.**

The window is displayed in its new size.

This lesson explained how to resize a window by adjusting the right border of a window, but you can change a window's size by dragging its left, top, and bottom borders. You can also resize a window by dragging its corners just like you drag its borders.

 **Quick Reference**

To Change a Window's Size:

1. Point at the window's borders or corners until the pointer changes to a double-arrow (like ).
2. Click and hold down the mouse button and drag the border or corner to a new location, until the window is the size you want.

## Lesson 6-7: Switching Between Windows

**Figure 6-13**

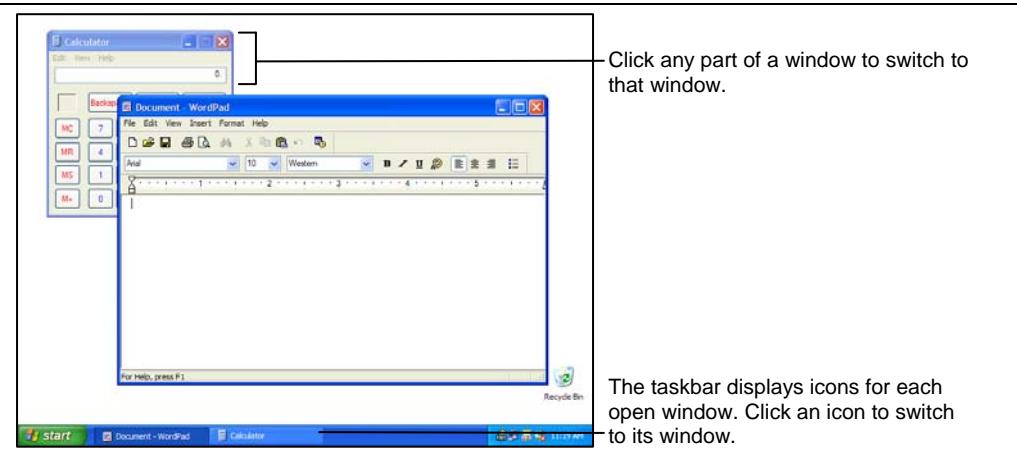
You can only work in one window at a time. Notice that WordPad appears in front of all other windows and has a blue title bar.

**Figure 6-14**

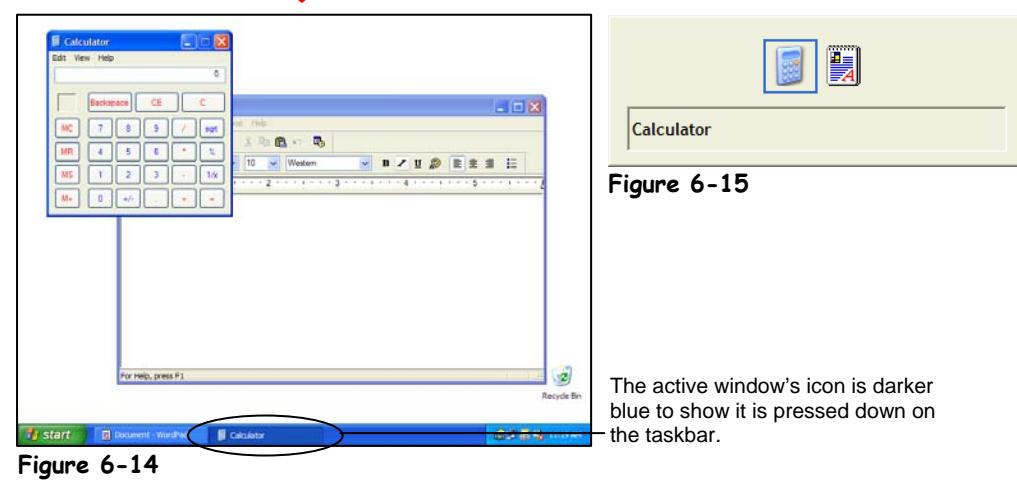
Click any part of the Calculator window or its button on the taskbar so that it appears in front of all the other windows.

**Figure 6-15**

Pressing <Alt> + <Tab> lists all the programs that are currently running.



The taskbar displays icons for each open window. Click an icon to switch to its window.

**Figure 6-13****Figure 6-15****Figure 6-14**

You can have several programs or windows open and running simultaneously, but you can only *work* in one window at a time. The window you're working with is called the *active window* and always appears on top of any other windows that you have open. If you think about it, you do the same thing when you work at your desk. When you want to work on a piece of paper, you place it on top of everything else on your desk.

This lesson explains how to switch between the programs you're running. There are actually several ways to switch between windows, and we'll cover all of them in this lesson. First, you need to make sure you have several programs running...

### 1. Make sure the WordPad program is still open.

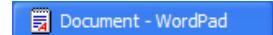
If it isn't open, click the Start button and select All Programs → Accessories → WordPad. Notice an icon for the WordPad program appears on the taskbar. Next, you need to open another program that comes with Windows XP—the calculator.

**2. Start the calculator by clicking the **Start button** and selecting **All Programs** → **Accessories** → **Calculator**.**

The calculator program appears in front of the WordPad program. An icon for the Calculator program also appears in the taskbar, next to the WordPad icon. Notice the Calculator program appears in front, and its icon is depressed on the taskbar, which indicates it is the active window. You can make WordPad the active window by clicking its icon on the taskbar.

**3. Click the **WordPad button** on the taskbar.**

The WordPad program appears in front, and its icon on the taskbar is depressed, which indicates it is the active window. You can make another open window the active window by clicking on any visible part of the window.



**WordPad button  
on the taskbar**

**4. Click any portion of the **Calculator** window.**

If you can't see the Calculator window at all, it's because the Calculator window is completely covered by the WordPad window. In this case, you will have to click the Calculator icon on the taskbar.

Yet another method of switching between windows is the most famous keystroke combination in Windows: <Alt> + <Tab>.

**5. Press and hold down the **<Alt>** key, press and release the **<Tab>** key, but don't release the **<Alt>** key.**

The task window appears, as shown in Figure 6-15. The task window lists all the windows and programs that are currently running. Move on to the next step to see how you can retrieve a program or window from the task list.

**6. While still holding down the **<Alt>** key, press and release the **<Tab>** key until the **WordPad** program is selected, then release the **<Alt>** key.**

When you release the <Alt> key, the selected window or program is activated and displayed in front of any other windows.

**NOTE:** <Alt> + <Tab> is especially useful when you use programs that fill the entire computer screen, such as MS-DOS programs and some games. When you can't see the taskbar or any part of another window, <Alt> + <Tab> is the only way you can switch between programs.

**NOTE:** When you're working with multiple programs, be careful not to accidentally run a second copy of the same program. This wastes memory and makes things confusing. For example, if you've been using the Calculator program and want to bring it back up, make sure you check the taskbar to see if it's already running (a Calculator icon appears on the taskbar). If it is, use any of the methods you've learned in this lesson to switch to it. If a program is already running and you load it again from the Start menu, a second copy of the program opens and two icons for the program will appear on the taskbar.

Think you have a handle on switching between programs and windows? Good, because when you work with Windows, you'll find yourself switching between programs and windows throughout the day.

### Quick Reference

To Switch between Open Programs:

- Click the program's icon on the taskbar.

Or...

- Click on any part of the window you want to appear in front.

Or...

- Press and hold down the <Alt> key and press the <Tab> key to display the task list. Press the <Tab> key until the program you want is selected, then release the <Alt> key.

## Chapter Six Review

### Lesson Summary

#### **Starting a Program**

- Start a program by clicking the **Start** button, clicking the **All Programs** menu, clicking the menu and any submenus where the program you want to run is located, and clicking the name of the program you want to run.

#### **Understanding the Parts of a Window**

- Be able to identify a window's title bar, menu, minimize, maximize, and close buttons.

#### **Minimizing, Maximizing, and Restoring a Window**

- Maximize a window so that it fills the entire screen by clicking its **Maximize** button, or by double-clicking its title bar.
- Restore a window to its previous size by clicking its **Restore** button, or by double-clicking its title bar.
- Minimize a window so that it only appears as an icon on the taskbar by clicking the window's **Minimize** button.
- Restore a minimized window by clicking its icon on the taskbar.

#### **Closing a Window**

- Close a window by clicking its **Close** button, or by pressing **<Alt> + <F4>**.
- Close all open windows by holding down the **<Shift>** key while you click the **Close** button of any window.

#### **Moving a Window**

- To Move a Window:** Click and drag the window by its title bar. Release the mouse button to drop the window in the desired location on the screen.

#### **Sizing a Window**

- To Change a Window's Size:** Point at the window's borders or corners until the pointer changes to a double-arrow (like ). Click and hold down the mouse button and drag the border or corner to a new location until the window is the size you want.

#### **Switching between Windows**

- You can only work on one window at a time. The window you're working on is the active window and appears in front of all the inactive windows.

- **To Switch between Open Programs:** There are three ways to switch between open programs:
  1. Click on the program's icon on the taskbar.
  2. Click on any visible part of the window that you want to appear in front.
  3. Press and hold down the <Alt> key and press the <Tab> key to display the task list. Press the <Tab> key until the program you want is selected, then release the <Alt> key.

## Quiz

- 1. To start a program in Windows XP, do the following:**
  - A. Make sure the Program Manager is open, double-click the Program Group where the program you want to run is located, and double-click the Program.
  - B. Click the Start button, point to the All Programs menu, click the menu and any submenus where the program you want to run is located, and click the name of the program you want to run.
  - C. Click the Start button, point to the Run menu, click the menu and any submenus where the program you want to run is located, and then click the name of the program you want to run.
  - D. None of the above.
- 2. The little bar that lists a program's name and is found at the top of a window is called the:**
  - A. Windows bar.
  - B. Program bar.
  - C. Title bar.
  - D. Very top of the window bar.
- 3. You start your favorite word processing program to type a letter, but the program appears in a window that's too small to use. How can you maximize the window so it fills the entire screen? (Select all that apply.)**
  - A. Select Window → Full Screen from the menu.
  - B. Double-click the window's Title bar.
  - C. Click the program's icon on the taskbar.
  - D. Click the Maximize button located in the right side of the window's Title bar.
- 4. You can open or restore a minimized window by clicking its icon on the taskbar. (True or False?)**
- 5. You can move a window to a different position on your computer screen by dragging it by its:**
  - A. Title bar.
  - B. Status bar.
  - C. Move handle.
  - D. Tail.

**6. You have several programs open at the same time—how can you switch between these programs? (Select all that apply.)**

- A. Restart the program—Click the Start button, point to the All Programs menu, click the menu and any submenus where the program you want to switch to is located, and click the name of the program you want to view.
- B. Click the program's icon on the taskbar.
- C. Click on any visible part of the window you want to appear in front.
- D. Press and hold down the <Alt> key and press the <Tab> key to display the task list.  
Press the <Tab> key until the program you want is selected, then release the <Alt> key.

## Homework

---

1. Click the Start button, select All Programs, and click the Accessories menu.
2. Start the NotePad program (located under All Programs → Accessories).
3. Make the NotePad window a few inches bigger.
4. Maximize the NotePad window.
5. Restore the NotePad window to its previous size.
6. Move the NotePad window to a different location on the screen.
7. Open the Calculator program.
8. Tile both windows on the screen by right-clicking a blank area of the taskbar.
9. Close both windows.

## Quiz Answers

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1. B.
2. C. The little bar along the window's top that lists the program name is the Title bar.
3. B and D. Double-clicking the window's Title bar or clicking the window's Maximize button will maximize the window so it fills the entire screen.
4. True. Clicking the icon of a minimized program on the taskbar restores the window.
5. A. Move a window by dragging its Title bar.
6. B, C, and D. You can use any of these methods to switch between open programs. Don't use A, which starts another copy of the program instead of switching to the already open program.

# Chapter Seven: Working with Programs

## Chapter Objectives:

- Use menus and toolbars
- Fill out a dialog box
- Enter and edit text
- Save and open a file
- Select, replace, and delete text
- Use the undo function
- Print a file
- Cut, copy, and paste text
- Format fonts and paragraphs
- Get help
- Save and open files in different locations

## Prerequisites

- How to start and shut down Windows.
- How to use the mouse to click, double-click, click and drag, and right-click.
- How to use the keyboard.

Up until now, we've only been focusing on how to use the Windows XP operating system. In this chapter, you'll be working with a program. This chapter explains how to control programs using menus and toolbars. You'll also learn what a *dialog box* is (you'll see a lot of them in Windows), and how to fill one out.

Next, we'll get more specific. Every program is different, but the procedure for doing things in all programs is the same. This chapter explains these basic generic chores using the WordPad program. You'll learn how to enter, edit, and delete text; how to open, save, and print a file; and how to get help when you need it. Once you've learned these basic skills in WordPad, you can apply them to just about every other Windows program. This is one of the longest chapters about Windows XP, so we have a lot of ground to cover. Let's get started...

## Lesson 7-1: Using Menus

**Figure 7-1**

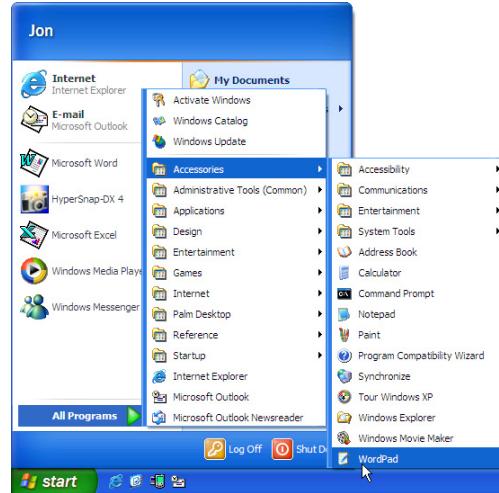
Starting the WordPad program.

**Figure 7-2**

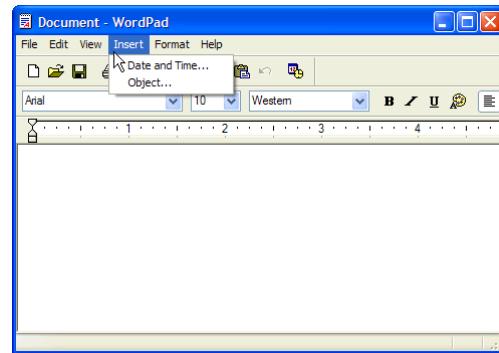
The WordPad program window.

**Figure 7-3**

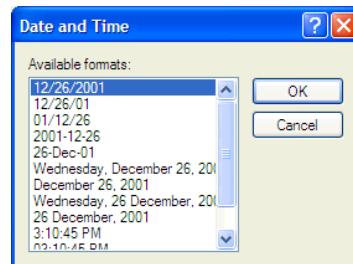
The Date and Time dialog box.



**Figure 7-1**



**Figure 7-2**



**Figure 7-3**

To make a program do your bidding, you give it commands. You can give commands to your Windows program several different ways: by using menus, toolbars, right mouse button shortcut menus and keystroke shortcuts. This lesson explains the most common method of issuing commands to Windows programs—through menus. You can find a program's menu near the top of a window just beneath the title bar. In Figure 7-2, notice the words File, Edit, View, Insert, Format, and Help that appear near the top of the WordPad program. Those words are menus, and the next few steps will show you why they are there.



**Start button**

1. Click the **Start button**.

The Start menu appears.

2. Select **All Programs** → **Accessories** → **WordPad** from the Start menu.

That means you should click "All Programs", then click the word "Accessories" from the All Programs menu, and then click the word "WordPad" from the Accessories menu, as shown in Figure 7-1. The WordPad program appears.

3. Move the pointer to and click the word **Insert** on the menu bar.

A menu drops down under the word Insert, as shown in Figure 7-2.

The Insert menu contains a list of commands to insert things, such as the "Date and Time", which inserts the current date and/or time, and "Object", which inserts a file created in another program.

**4. Point to and click the Date and Time option from the Insert menu.**

The Date and Time dialog box appears, as shown in Figure 7-3, presenting you with several different date and time formats to choose from. You'll learn more about dialog boxes in an upcoming lesson.

**5. Click the OK button.**

The Date and Time dialog box disappears and the current date is inserted into the WordPad document.



Take a close look at the WordPad menu bar—notice that every word in the menu has an underlined letter somewhere in it? For example, the F in the File menu is underlined. Pressing the <Alt> key and then pressing the underlined letter in a menu does the same thing as clicking the menu with the mouse.

**6. Press the <Alt> key then press the <F> key.**

The File menu appears. Once a menu is open, you can use the arrow keys on your computer's keyboard to navigate through the menus, or press any other underlined letters in the menu.

**7. Press the right arrow key <->.**

The next menu to the right, the Edit menu, opens.

If you open a menu and change your mind, it's easy to close it without selecting any commands. Just click anywhere *outside* the menu or else press the <Esc> key.

**8. Click anywhere outside the menu to close the menu without selecting any commands.**

**NOTE:** The procedure for using menus and the general order/layout of the menu is usually similar in most Windows programs. So if you master the menus in one Windows program, you will be familiar with the layout and function of the menus in other Windows programs.

You can open menus by clicking the menu name with the mouse or by pressing the <Alt> key and the underlined letter in the menu name.

You can close a menu without selecting any commands by clicking anywhere outside the menu or by pressing the <Esc> key.

Table 7-2: *Common Windows Program Menus* gives you a preview of some of the different menu items you will come across.

**Table 7-2: Common Windows Program Menus**

<b>File</b>	<b>Description</b>
File	Commands to open, save, close, print, and create new files
Edit	Commands to copy, cut, paste, find, and replace text in a document
View	Commands to change how the document is displayed on the screen
Insert	Lists items that you can insert into a document, such as graphics, page numbers, and the current date
Format	Commands to format text, paragraphs, tab stops, etc. Strangely, the command to format the page (i.e. margins, etc.) is located in the File menu under Page Setup.
Window	Commands to display and arrange multiple windows (if you have more than one document open). WordPad doesn't have this menu since it can only have one file open at a time.
Help	Get help on the program you are using.

**Quick Reference**

To Open a Menu:

- Click the menu name with the mouse.
- Or...
- Press <Alt> and the underlined letter in the menu name.

## Lesson 7-2: Using Toolbars

**Figure 7-4**

Move the pointer over a button and wait a few seconds for the button's description.

**Figure 7-5**

The Date and Time dialog box.

**Figure 7-6**

The WordPad document.

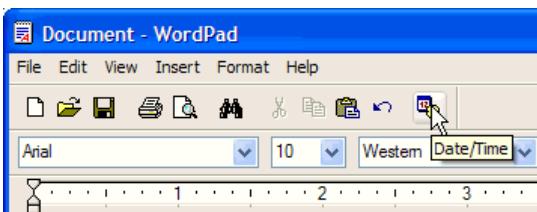


Figure 7-4

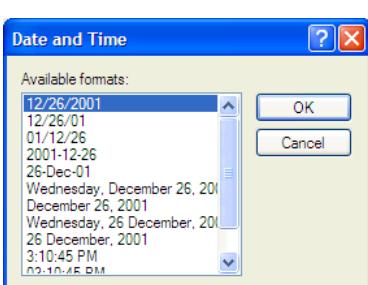


Figure 7-5

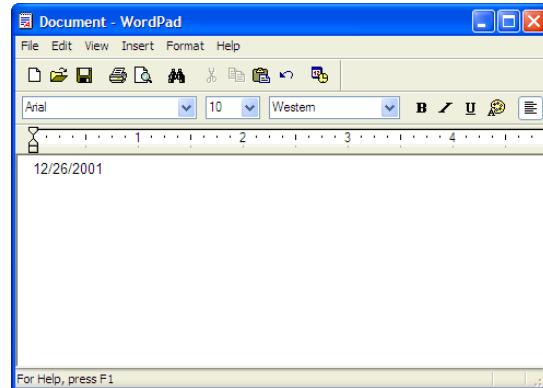


Figure 7-6

Toolbars are another common way to boss around your programs. While menus contain every conceivable command for a program, toolbars contain buttons for the commands you use most frequently. Instead of having to wade through several menus to do something, you can click a single button.

Two toolbars appear in the WordPad program—the Standard toolbar and the Formatting toolbar. The *Standard toolbar* appears on top and contains buttons for the most frequently used commands in WordPad, such as saving and printing a document. The *Formatting toolbar* is located right underneath the Standard toolbar and has buttons for quickly formatting fonts and paragraphs.

Toolbar buttons have small icons to indicate what they do. For example, a small picture of a printer appears on the Print button. If you still don't know what a button is used for, move the pointer over the button and wait a few seconds. Usually, a little window will appear with a brief description of the button.

1. Click after the date you entered in the last lesson and press the <Enter> key.

A new paragraph is started.

2. Point the mouse pointer over the Date/Time button on WordPad's Standard toolbar.

A small window appears over the button, briefly identifying what the button is—in this case “Date/Time”—as shown in Figure 7-4.

3. Click the Date/Time button.

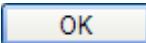
The Date and Time dialog box appears, as shown in Figure 7-5, presenting you with several different date and time formats to choose from.



Date/Time button

**4. Click the OK button.**

WordPad inserts the current date and time in the WordPad document.

OK**5. Press and hold the <Backspace> key to delete the date you just entered.**

Only one date remains on your screen. You will learn more about deleting text in a later lesson.

OK button

Compare your screen with the one in Figure 7-6.

 **Quick Reference****To Use a Toolbar Button:**

- Click the toolbar button.

**To See What a Toolbar Button Does:**

- Position the pointer over the toolbar button and wait a second. A ScreenTip will appear above the button.

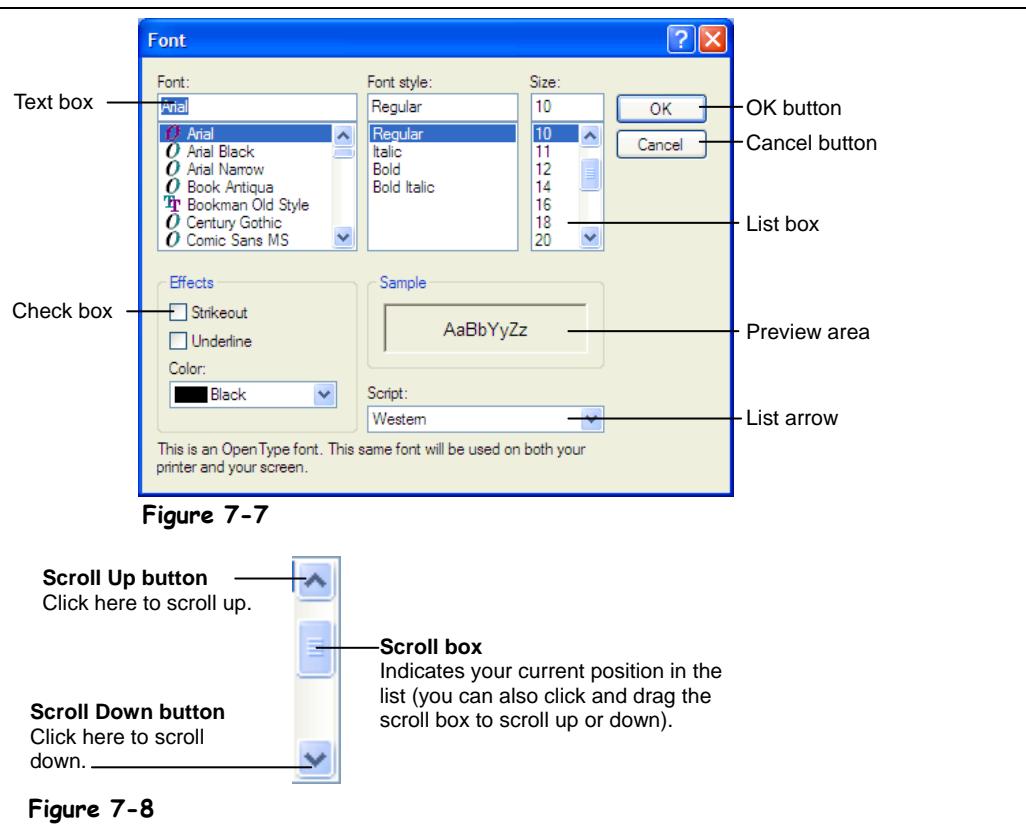
## Lesson 7-3: Filling Out a Dialog Box

**Figure 7-7**

The Font dialog box.

**Figure 7-8**

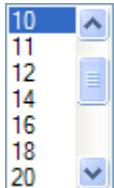
A scroll bar.



You can select a control in a dialog box by clicking the control with the mouse or by pressing the **<Tab>** key until the control is selected.

Type Text Here

**Text box**



**List box**

Some commands are more complicated than others. For example, saving a file is a simple process—all you have to do is select File → Save from the menu or click the Save button on the Standard toolbar. Other commands are more complex. Whenever you want to do something relatively complicated in Windows, you need to fill out a *dialog box*. Filling out a dialog box is not much different than filling out a paper form. Dialog boxes usually contain several types of controls, including:

- Text boxes
- List boxes
- Check boxes
- List arrows
- Buttons

This lesson will give you a quick tour of a more complicated dialog box and show you how to use the various dialog box components you will come across.

### 1. Select **Format** from the menu.

The Format menu appears.

Look at the items listed in the Format menu—Font, Paragraph and Tabs are followed by ellipses ... Whenever you see a menu item followed by ellipses, a dialog box is lurking just behind the menu.

## 2. Select **Font** from the Format menu.

The Font dialog box appears, as shown in Figure 7-7.

The Font dialog box is one of the most complex dialog boxes in the WordPad program and contains several types of controls. You have to select a control to use it. You can do this by clicking the control with the mouse. Or you can move to the control by pressing the **<Tab>** key to move to the next control, or **<Shift> + <Tab>** to move to the previous control, until the cursor appears in the control or it becomes highlighted.

First, let's look at text boxes. Text boxes are nothing more than the fill-in-the-blank boxes you've already used in many types of paper forms. Text boxes are incredibly easy to use—just type in the text you want.

## 3. Make sure the cursor is in the **Font** text box type **Arial**.

You've just filled out the text box—nothing to it.

The next stop in our dialog box tour is the list box. A list box puts several options together into a small box. Sometimes list boxes contain so many options that they can't all be displayed at once, and you must click the list box's *scroll bar* to move up or down the list. See Figure 7-8 for an illustration of a scroll box.

## 4. Click and hold the **Font** list box **Scroll Down** button until **Times New Roman** appears in the list.

## 5. Click the **Times New Roman** option in the list.

Our next destination is the list arrow. The list arrow is the cousin of the list box—it, too, displays a list of options. The only difference is that you must click the downward pointing arrow in order to display the list.

## 6. Click the **Color** list arrow.

A list of color options appears.

## 7. Select the **Blue** color from the list.

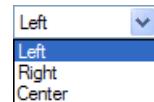
Sometimes you need to select more than one item in a dialog box. For example, what if you want to add **Strikeout** formatting *and* **Underline** formatting to the selected font? Use the check box control when you're presented with multiple choices.

## 8. Click the **Strikeout** check box and click the **Underline** check box.

The last destination on our dialog box tour is the button. Buttons are used to execute or void commands. Two buttons can be found in every dialog box. They are:

- **OK:** Applies and saves any changes you have made and then closes the dialog box. Pressing the **<Enter>** key usually does the same thing as clicking the OK button.
- **Cancel:** Closes the dialog box without applying and saving any changes. Pressing the **<Esc>** key usually does the same thing as clicking the cancel button.

## 9. Click the **Cancel** button to cancel the changes you made and close the **Font** dialog box.



**List arrow**



**Check box**

## Quick Reference

### To Select a Dialog Box Control:

- Click the control with the mouse.
- Or...
- Press **<Tab>** to move to the next control in the dialog box or **<Shift> + <Tab>** to move to the previous control until you arrive at the desired control.

### To Use a Text Box:

- Simply type the information directly into the text box.

### To Use a List Box:

- Click the option you want from list box. Use the scroll bar to move up and down through its options.

### To Use a List Arrow:

- Click the **list arrow** to display the list options. Click an option from the list to select it.

### To Close a Dialog Box and Save Changes:

- Click the **OK** button or press **<Enter>**.

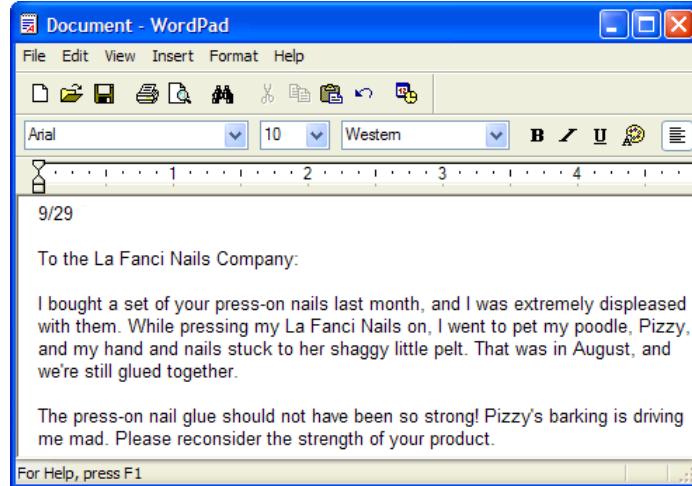
### To Close a Dialog Box Without Saving Changes:

- Click the **Cancel** button or press **<Esc>**.

## Lesson 7-4: Entering Text in the WordPad Program

**Figure 7-9**

A simple letter created in the WordPad program.



**Figure 7-9**

This lesson explains how to create a document using the WordPad program. Actually, there isn't much to explain—all you have to do is type!



**1. If necessary, open the WordPad program.**

If you don't remember how to open WordPad, select All Programs → Accessories → WordPad from the menu.

Let's enter some text.

**2. Click ins the WordPad window, and type 9 / 29**

Good. Now we're going to write a letter.

**3. Press the <Enter> key twice.**

WordPad inserts a new paragraph, or new line, each time you press the <Enter> key.

**4. Type the following text: To the La Fanci Nails Company:**

As you type, notice that the insertion point (the small, blinking vertical bar) moves to indicate where you are typing.

**5. Press the <Enter> key twice, and type the following text:**

I bought a set of your press-on nails last month, and I was extremely displeased with them. While pressing my La Fanci Nails on, I went to pet my poodle, Pizzy, and my hand and nails stuck to her shaggy little pelt. That was in August and we're still glued together.

The press-on nail glue should not have been so strong! Pizzy's barking is driving me mad. Please reconsider the strength of your product.

Make sure you press the <Enter> key twice to add a blank line between the two paragraphs. Don't press <Enter> when you reach the end of a line—WordPad will automatically move the text to the next line for you. This feature is called *word-wrap*.

When you're finished typing, compare your letter with Figure 7-9.

While you type, word-wrap continues text from one line to the next without making you press <Enter>.

#### **Quick Reference**

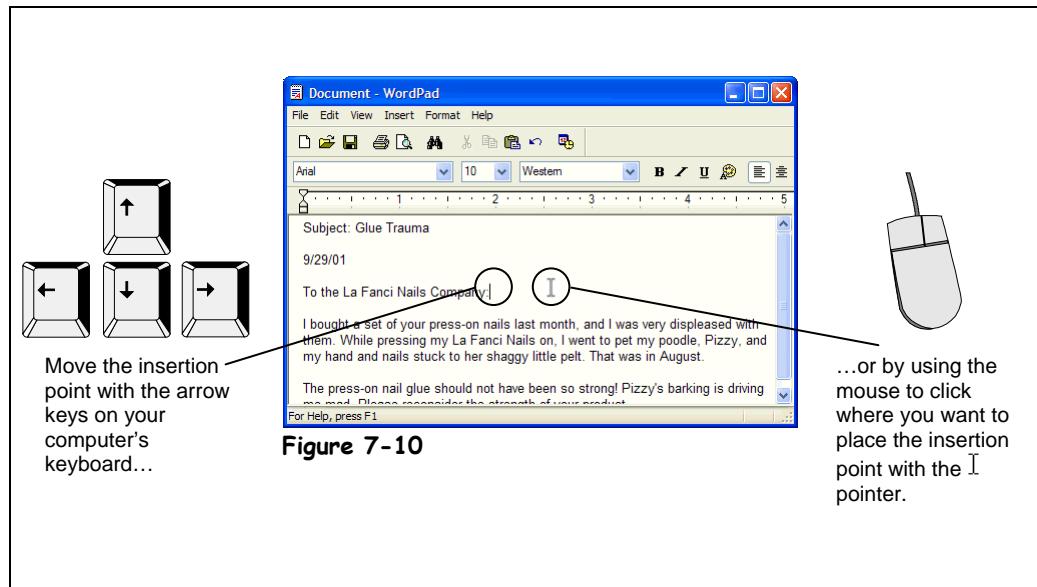
##### **To Enter Text in WordPad:**

1. Place the insertion point in WordPad by clicking in the WordPad screen.
2. Type your text.

## Lesson 7-5: Editing Text

**Figure 7-10**

Use the keyboard or the mouse to move the insertion point in a document.



**Figure 7-10**

After typing a document, you will often discover that you need to make some changes to your text—perhaps you want to rephrase or even delete a sentence. Editing a document by inserting and deleting text is very simple. To insert text, move the insertion point (the blinking bar) to where you want to insert the text. You can move the insertion point using the arrow keys on the keyboard or by using the mouse to click where you want to move it, as shown in Figure 7-10. Once the insertion point is where you want it, just start typing.

There are a couple ways to delete text. One way to delete text is to place the insertion point immediately *after* the text you want to delete and press the <Backspace> key. Another way to delete text is to place the insertion point immediately *before* the text you want to delete and press the <Delete> key.

In this lesson, you'll get practice inserting and deleting text and revising the letter you created in WordPad.

1. **Press the up arrow key <↑>.**  
The insertion point moves up one line.
2. **Press and hold the up arrow key <↑> to move the insertion point to the very top line in the document.**  
Now you need to move the insertion point to the beginning of the current line.
3. **Press and hold the left arrow key <←> to move the insertion point to the very beginning of the line.**
4. **Type *Subject: Glue Trauma* and press <Enter> twice.**  
The text and blank line is inserted at the insertion point, before the rest of the document. You've just learned how to insert text in a document—pretty easy, huh?
5. **Move the insertion point immediately *after* the word **extremely** in the first body paragraph.**  
Here, you need to delete some text; delete the word "extremely."

Thank you for your interest  
available until July 31.

**Placing the  
insertion point**

**6. Press the <Backspace> key several times, until the word “extremely” is deleted.**

The Backspace key deletes one space to the left of the insertion point.



**7. Type *very*.**

You've just deleted the word "extremely" and inserted the word "very" to take its place.

You can also use the mouse to move the insertion point instead of the arrow keys. Simply use the mouse to move the pointer where you want to place the insertion point and then click.

**8. Click immediately after the word August in the sentence “That was in August and we’re still stuck together”.**

The insertion point appears immediately after the word "August"—right where you clicked the mouse button.

You can also use the Delete key to delete text. Like the Backspace key, the Delete key also deletes text, but in a slightly different way. The Backspace key deletes text before, or to the *left* of the insertion point, while the Delete key deletes text after, or to the *right* of the insertion point.

**9. Press the <Delete> key.**

The Delete key deletes text to the right of, or before, the insertion point.



**10. Press and hold the <Delete> key until you have deleted the rest of the sentence “and we’re still stuck together”.**

Great! You've learned how to delete text using the Delete key.

Compare your revised document with the one shown in Figure 7-10.

The <Backspace> key deletes one space to the left of, or behind, the insertion point.

The <Delete> key deletes one space to the right of, or before, the insertion point.

## Quick Reference

### To Move the Insertion Point:

- Use the arrow keys.  
Or...
- Click where you want to place the insertion point with the I pointer.

### To Insert Text:

- Move the insertion point where you want to insert the text and then type the text you want to insert.

### To Delete Text:

- The <Backspace> key deletes text behind, or to the left of, the insertion point.
- The <Delete> key deletes text before, or to the right of, the insertion point.

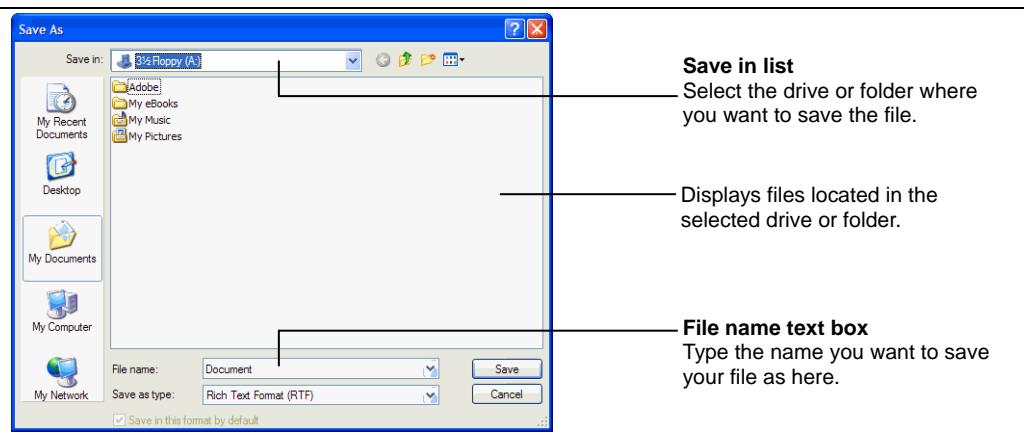
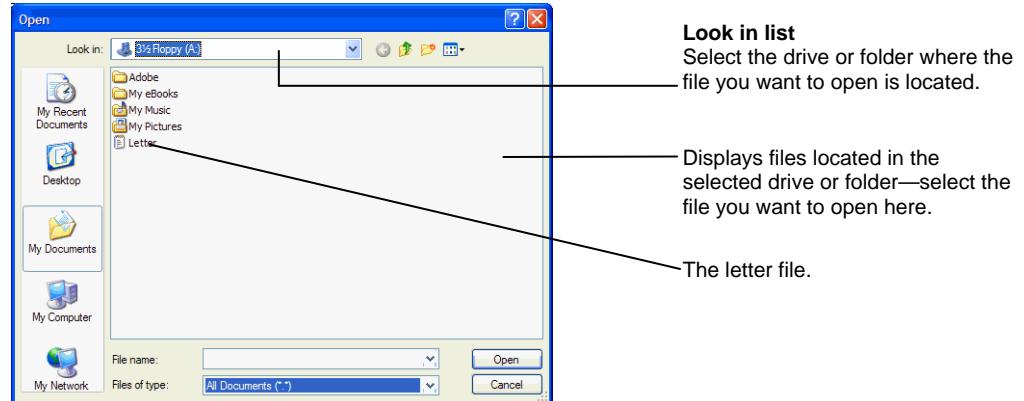
## Lesson 7-6: Saving and Opening a File

**Figure 7-11**

The Save As dialog box.

**Figure 7-12**

The Open dialog box.

**Figure 7-11****Figure 7-12**

### Save button

#### Other Ways to Save:

- Select **File → Save** from the menu.

Once you have created something in a program, you must *save* the file if you ever want to use it again in the future. When you save a file, you're transferring it from your computer's memory (which is erased when you close the program) to the computer's local disk (which is permanent and not erased when you close the program). In this lesson, you will learn how to save a file and then open or retrieve it from the local disk.

#### **1. Click the **Save button** on the Standard toolbar.**

The Save As dialog box appears, as shown in Figure 7-11. You must give your file a name and specify where you want to save it. First, tell the computer you want to save the file in your Practice folder.

#### **2. Navigate to your Practice folder.**

Your computer stores information in files and folders, just like you store information in a filing cabinet. To open a file, you must first find and open the folder where it's saved.

The Save As dialog box has its own toolbar, making it easy to browse through your computer's drives and folders. Two controls on this toolbar are particularly helpful:

-  **Look in list:** Click to list the drives on your computer and the current folder, then select the drive and/or folder whose contents you want to display.

-  **Up button:** Click to move up one folder level.

If necessary, follow your instructor's directions to select the appropriate drive and folder where your practice files are located.

### **3. Click the File name text box.**

The File name box is where you give your file a name.

**NOTE:** File names can be up to 255 characters long and contain letters, numbers, and some symbols. You can't use the symbols "\ / : \* | < >" in a file name.

### **4. Type Letter.**

This will save the document you created in a file named "Letter".

### **5. Click Save.**

Your computer saves the Letter file to the computer's hard disk.

Now that you've saved the file, you can safely close WordPad or even turn off the computer, knowing that your WordPad "Letter" file is stored and can be retrieved whenever you want to work on it again.

### **6. Close the WordPad program by clicking its Close button.**

The WordPad program closes.

Let's make sure the Letter document you created and saved in WordPad is still there.

### **7. Open the WordPad program again.**

Once you have started WordPad, you can open the Letter document you saved.

### **8. Click the Open button on the Standard toolbar.**

The Open dialog box appears, as shown in Figure 7-12. The Open dialog box is very similar to the Save As dialog box, except you specify the name and location of the file you want to open.

### **9. If necessary, navigate to your Practice folder.**

The Open dialog box will display any WordPad files that have been saved in the Practice folder. Here's how to select a file you want to open.

### **10. Click the Letter file.**

Shading appears over the Letter file, indicating that it is selected.

### **11. Click the Open button.**

The Letter document appears in the WordPad window.

When you open a file, instead of selecting a file and clicking the Open button, you can save a half-second or so by simply double-clicking the file you want to open.



**Close button**



**Open button**

Other Ways to Open a File:

- Select **File → Open** from the menu.



**Quick Reference**

To Save a File:

- Click the **Save button** on the Standard toolbar.

Or...

- Select **File → Save** from the menu.

To Open a File:

- Click the **Open button** on the Standard toolbar.

Or...

- Select **File → Open** from the menu.

## Lesson 7-7: Selecting, Replacing, and Deleting Text

**Figure 7-13**

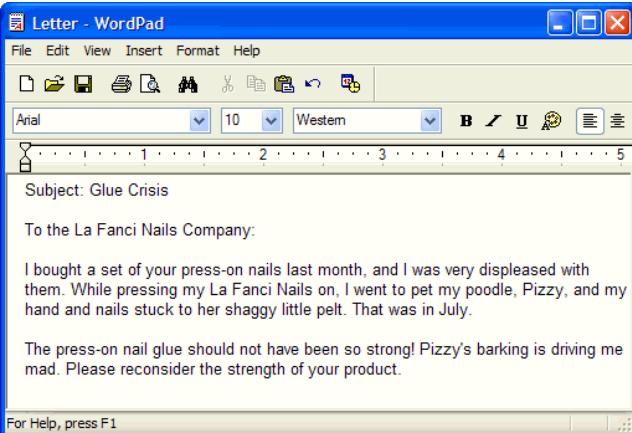
You can select and replace text.

**Figure 7-14**

The updated letter.

- That was in **August**.
1. Position the insertion point before or after the text that you want to select.
  2. Click and hold down the left mouse button, drag the mouse across the text you want to select, and then release the mouse button.
  3. If you want to replace the selected text, simply type in the new text – it will overwrite the selected text.
- That was in July.

**Figure 7-13**



**Figure 7-14**

This lesson explains how to select text. Whenever you want to edit more than one character at a time, you must *select* it first. A lot of editing and formatting techniques—such as formatting, cutting, copying and pasting text—also require that you select the text you want to modify. There are probably hundreds of reasons to select text in many Windows-based programs, so it pays to be an expert at it.

To replace text, select the text you want to replace and type the new text you want to replace it with.

1. Place the insertion point immediately in front of the word **August** in the last sentence of the first paragraph.

You learned how to move the insertion around using the mouse earlier in this chapter. Actually, you can place the insertion point before or after the text you want to select.

2. Click and hold down the mouse button and drag the mouse across the word **August** (the words should be highlighted). Release the mouse button when you're finished.

The word August should be highlighted in blue, as shown in Figure 7-13. Selecting text with the mouse can be a little tricky at first, especially if you're still a novice at using the mouse. When you select text, anything you type will replace the selected text.

**3. Type July.**

The word “July” replaces the selected text, “August.” A quick way to select a single word is to double-click the word you want to select.

**4. Double-click the word Trauma in the Subject line.****5. Type Crisis.**

The word Crisis replaces the word Trauma. You can also use the keyboard to select text if you don’t like using the mouse. To select text using the keyboard, move the insertion point before or after the text you want to select, and then press and hold down the <Shift> key while you use the arrow keys to select the text.

**6. Move the insertion point to the very end of the Subject: Glue Crisis line.**

Try selecting text with the keyboard in the next step.

**7. Press and hold down the <Shift> key and press and hold down the left arrow key <--> until the Subject line is selected.**

If you change your mind after selecting text, it’s easy to deselect it. Just click anywhere else on the screen.

**8. Click anywhere in the document to deselect the text.**

The Subject line is no longer selected.

Another trick you should know is that you can delete any selected text by pressing the <Delete> key.

**9. Select the date and press the <Delete> key.**

The date is deleted.

And that’s all there is to selecting text in Windows. Again, it’s very important that you know how to select text. Knowing how to select text will make you much more proficient at using many Window programs.

**Table 7-3: Shortcuts for Selecting Text**

To Select This	Do This
A word	Double-click the word.
A line	Click next to the line in the left margin.
A sentence	Press and hold <Ctrl> and double-click the sentence.
The entire document	Press and hold <Ctrl> and double-click in the left margin.

### Other Ways to Select Text:

- Double-click a word to select it.

### Quick Reference

#### To Select a String of Text:

1. Move the insertion point to the beginning or end of the text you want to select.
2. Click and hold the left mouse button and drag the insertion point across the text, then release the mouse button once the text is selected.

Or...

Press and hold down the <Shift> key while using the arrow keys to select the text.

#### To Select a Single Word:

- Double-click the word you want to select.

#### To Replace Text:

- Replace text by first selecting it, then typing the new text.

#### To Deselect Text:

- Click anywhere on the computer screen.

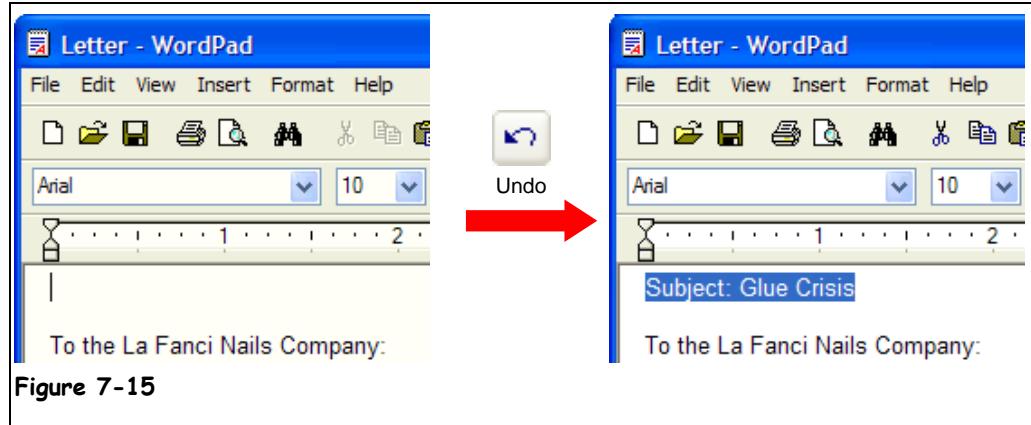
#### To Delete Selected Text:

1. Select the text.
2. Press the <Delete> key.

## Lesson 7-8: Using Undo

**Figure 7-15**

You can cancel a text deletion with the Undo feature.



You may not want to admit this, but you're going to make mistakes when you use Windows. You might accidentally delete a sentence in your word processing program that you didn't mean to delete, or paste something that you didn't mean to paste. Fortunately, Windows and most Windows programs come with a wonderful feature called *undo* that does just that—undoes your last action, making it as though it never happened.

Many people that are new to Windows or computers in general are often terrified of using computers because they are afraid they will make a mistake and seriously mess things up. First of all, it's more difficult to "mess up" your computer than you think it is. Secondly, you will learn how to use Undo, so even if you do make a mistake, you can easily cancel it.

1. Select the **Subject: Glue Crisis** line and delete it by pressing the **<Delete>** key.

Whoops! You didn't really want to delete that! Watch how you can undo your "mistake."

2. Click the **Undo button** on the **Standard toolbar**.

Poof! WordPad cancels your last action and the deleted text "Subject: Glue Crisis" reappears.

In most programs, Undo will only cancel your last action or change; if you don't catch your mistake right after you make it, Undo may not be able to help.

### Quick Reference

To Undo Your Previous Action:

- Click the **Undo button** on the toolbar.

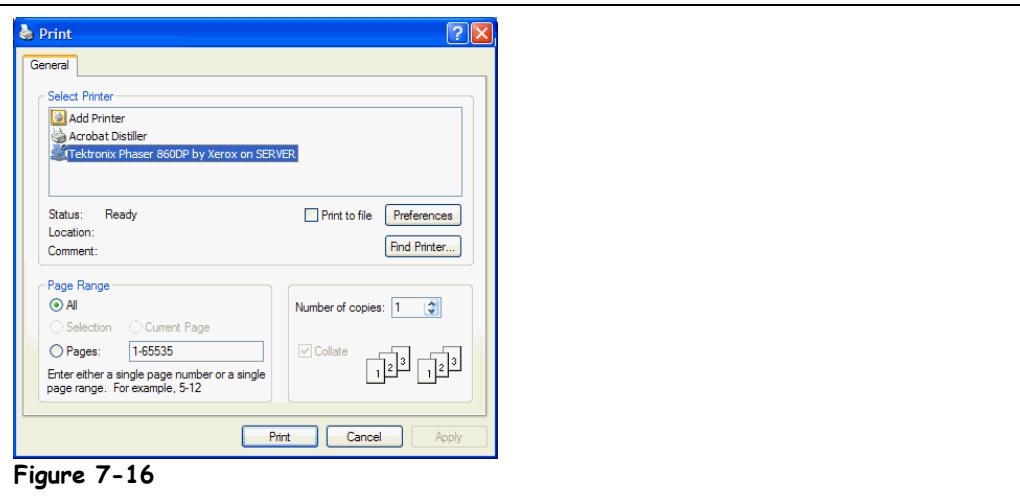
Or...

- Select **Edit → Undo** from the menu.

Or...

- Press **<Ctrl> + <Z>**.

## Lesson 7-9: Printing a File



This lesson will show you how to send whatever you're working on to the printer. Printing is one of the easiest things to do in Windows.

### 1. Select **File → Print** from the menu.

The Print dialog box appears, as shown in Figure 7-16. The Print dialog box may differ depending on the program you're using, but it should usually contain the options listed in Table 7-4: *Print Dialog Box Options*.

### 2. Click **OK**.

Windows sends the document to the printer.

**Table 7-4: Print Dialog Box Options**

<b>Print option</b>	<b>Description</b>
Name	Used to select what printer to send your file to when it prints (if you are connected to more than one printer). The currently selected printer is displayed.
Properties	Displays a dialog box with options available to your specific printer such as printing on both sides of the page, selecting the paper size you want to use, printing in color or black and white, etc.
Page range	Allows you to specify what pages you want to print. There are several options:  <b>All:</b> Prints the entire document. <b>Selection:</b> Prints only the text you have selected (before selecting the print command). <b>Pages:</b> Prints only the pages of the file you specify. Select a range of pages with a hyphen (for example: 5-8) and separate single pages with a comma (for example: 3,7).
Number of copies	Specifies the number of copies you want to print.

**Figure 7-16**

The Print dialog box.

### Other Ways to Print:

- Click the **Print button** if it appears on the toolbar.
- Press **<Ctrl> + <P>**.

### Quick Reference

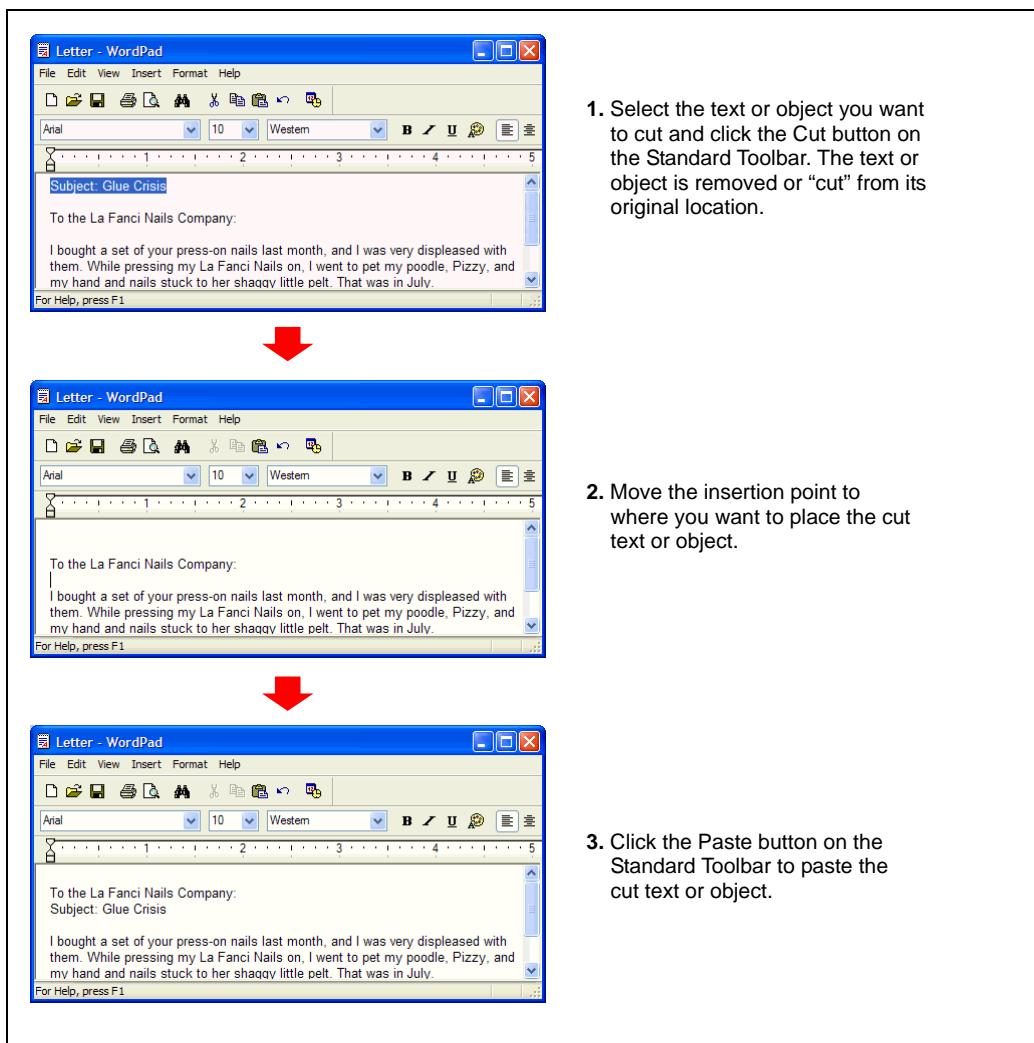
#### To Print a File:

- Click the **Print button** on the Standard toolbar.  
Or...
- Select **File → Print** from the menu.  
Or...
- Press **<Ctrl> + <P>**.

## Lesson 7-10: Cutting, Copying and Pasting Text

**Figure 7-17**

The steps involved in cutting and pasting text.



**Cut button**

Other Ways to Cut:

- Select **Edit → Cut** from the menu.
- Press **<Ctrl> + <X>**.



**Paste button**

Other Ways to Paste:

- Select **Edit → Paste** from the menu.
- Press **<Ctrl> + <V>**.

By now, you should already know how to select text in a document. Once text is selected, you can move it to another place in the document by cutting it and then pasting it elsewhere. Cutting and pasting text is one of the more common tasks you will use in your programs. Anything you cut is placed in a temporary storage area called the *Windows Clipboard*. The Clipboard is available to any Windows program, so you can cut and paste text between different programs.

### 1. Select the entire subject line.

Remember how to select text? Point to the beginning or end of the text you want to select, hold down the left mouse button, drag the cursor across the text, and release the mouse button.

Now you can cut the selected text to the Windows clipboard.

**2. Click the **Cut** button on the Standard toolbar.**

The selected text, the subject line, disappears from WordPad and is placed on the Windows *Clipboard*, ready to be moved to a new location.



**Copy button**

**Other Ways to Copy:**

- Select **Edit → Copy** from the menu.
- Press **<Ctrl> + <C>**.

**3. Move the insertion point to the blank line immediately below **To the La Fanci Nails Company**:**

This is where you want to paste the line you cut.

**4. Click the **Paste** button on the Standard toolbar.**

Poof! The cut text, the subject line, appears at the insertion point.

Copying information is very similar to cutting information. Both commands put your selected information on the Clipboard where you can then paste it to a new location. The only difference between the two commands is that Cut command deletes selected information when it copies it to the clipboard, while the Copy command copies the selected information to the clipboard without deleting it.

**5. Select the entire document by holding down the <Ctrl> key and clicking the pointer in the left margin.**

Now you can copy the selected text to the clipboard.

**6. Click the **Copy** button on the Standard toolbar.**

Nothing appears to happen, but the selected text has been copied to the clipboard.

One of the great things about Windows is that it allows you to share information between programs. For example, the information that you just copied to the Windows clipboard from WordPad can be pasted into another Windows program. To see how this works, you will need to open another Windows program—the Notepad.

**7. Click the **Start** button and select **All Programs → Accessories → Notepad**.**

The Notepad program appears. Notepad doesn't have a toolbar like WordPad does, so you will have to access the Paste command through the menu.

**8. Select **Edit → Paste** from the Notepad menu.**

The document you copied from the WordPad program is pasted into the Notepad program. You won't be using the Notepad program anymore in this chapter, so you can close it.

**9. Click the Notepad program's **Close** button.**

A dialog box appears, asking if you want to save the changes you made to the Notepad file. You don't need to save any changes, so you can safely click No.

**10. Click **No**.**

You should save the changes you've made to your WordPad document.

**11. Click the **Save** button on WordPad's Standard toolbar to save the changes you've made to the document.**

WordPad saves your recent changes.

**Quick Reference**

**To Cut an Object or Text:**

1. Select the text or object you want to cut.
  2. Click the **Cut** button on the Standard toolbar.
- Or...

Select **Edit → Cut** from the menu.

Or...  
Press **<Ctrl> + <X>**.

**To Copy an Object or Text:**

1. Select the text or object you want to copy.
  2. Click the **Copy** button on the Standard toolbar.
- Or...

Select **Edit → Copy** from the menu.

Or...  
Press **<Ctrl> + <C>**.

**To Paste a Cut or Copied Object:**

1. Place the insertion point where you want to paste the text or object.
  2. Click the **Paste** button on the Standard toolbar.
- Or...

Select **Edit → Paste** from the menu.

Or...  
Press **<Ctrl> + <V>**.

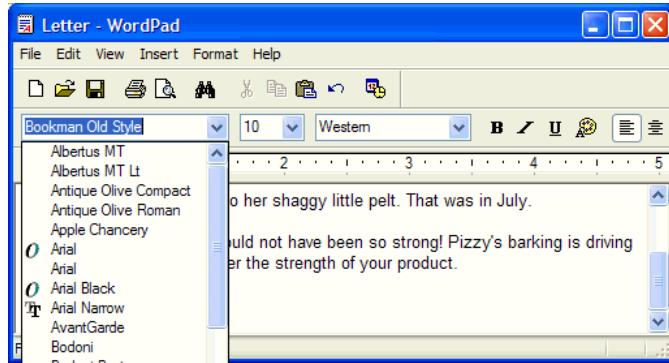
## Lesson 7-11: Changing the Font Type and Size

**Figure 7-18**

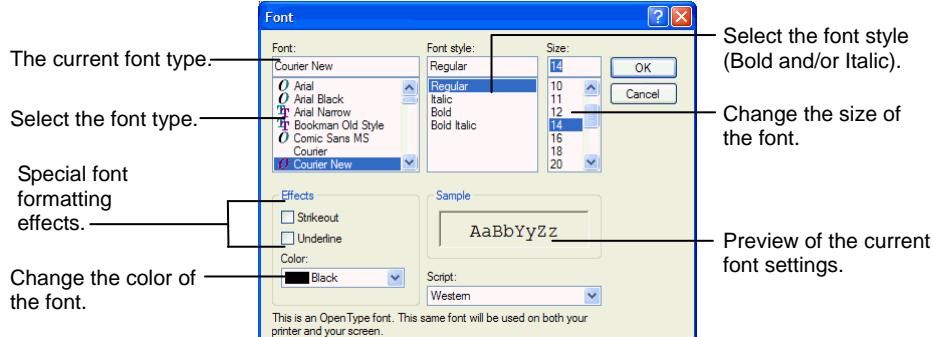
Select a font from the Font list.

**Figure 7-19**

The Font dialog box.



**Figure 7-18**



**Figure 7-19**

In this lesson, you'll learn how to change the font or text size and style. Although you'll be working with the WordPad program, the basic procedure for changing the size and type of a font is the same in all Windows programs.

Courier New

**Font list**

Other Ways to Change Fonts:

- Select **Format → Font** from the menu, select the font options you want from the font dialog box, then click **OK**.

1. **Move the insertion point to the very end of the document and press <Enter> twice to add a blank line.**

You are going to add your name to the document here, but first you want to use a different font to make it stand out.

2. **Click the **Font** list arrow on the **Formatting toolbar**.**  
A list appears with all the fonts that are available on your computer, listed in alphabetical order. Since there isn't enough room to display all the font types at once, you may have to scroll up or down the list until you find the font type you want.
3. **Scroll up the **Font list** until you see the **Bookman Old Style** font, then click the **Bookman Old Style** font.**  
Anything you type at this point will appear in the selected Bookman Old Style font.

**4. Type Jane Plain.**

The name Jane Plain appears in the Bookman Old Style font. You can also select text and change it to a new font.

**5. Select the line To the La Fanci Nails Company:.**

In the next step, we'll change the selected text to Courier New font type.

**6. Click the Font list arrow and select Courier New from the Font list.**

The selected text changes to the Courier New font.

You can also change the size of a font and make it larger or smaller. Font size is measured in *points*: the bigger the point number, the larger the size of the font. 10 point and 12 point are the most commonly used font sizes. Changing the font size is similar to changing font types.

**7. Make sure the To the La Fanci Nails Company: line is still selected, and click the Font Size list arrow.**

A list of font sizes appears.

**8. Select 14 from the Font Size list.**

The font for the selected line is enlarged to 14 point.

So far, you've been using the Formatting toolbar to change the type and size of fonts. Another method of adjusting the type and size of fonts is to use the Font dialog box, which you can open using the menu. Since not all Windows programs have a Formatting toolbar, you should know how to format fonts with this method.

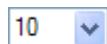
**9. Select Format → Font from the menu.**

The Font dialog box appears, as shown in Figure 7-19. Notice there are options for changing the font type and size, as well as other formatting options. After you've surveyed the Font dialog box, you can close it without making any changes by clicking the Cancel button.

**10. Click Cancel to close the Font dialog box without making any changes.**

**Table 7-5: Examples of Font Types and Sizes**

Common Font Types	Common Font Sizes
Arial	Arial 8 point
Comic Sans MS	Arial 10 point
Courier New	Arial 12 point
Times New Roman	Arial 14 point



### Font Size list

Other Ways to Change the Font Size:

- Select **Format → Font** from the menu, select the font options you want from the font dialog box, and click **OK**.

### Quick Reference

To Change Font Size:

- Click the **Font Size** list arrow on the Formatting toolbar and select the point size from the list.

Or...

- Select **Format → Font** from the menu and select the font size in the Font dialog box.

To Change Font Type:

- Click the **Font** list arrow on the Formatting toolbar and select a font type from the list.

Or...

- Select **Format → Font** from the menu and select the font type in the Font dialog box.

## Lesson 7-12: Using Bold, Italics and Underline

**Figure 7-20**

WordPad's Formatting toolbar.

**Figure 7-21**

The document with bold and italics formatting.



### Italics button

Other Ways to Italics:

- Select **Format → Font** from the menu, select **Italic** from the Font Style box, and then click **OK**.
- Press **<Ctrl> + <I>**.



### Bold button

#### Quick Reference

To Format Text with Bold, Italics, or Underlining:

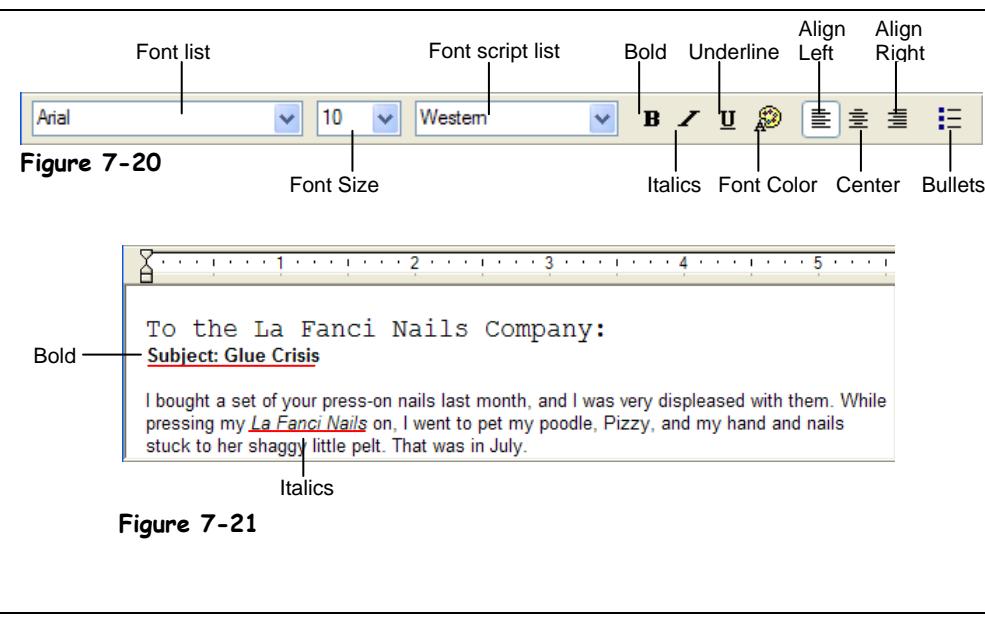
- Click the **Bold**, **Italics**, or **Underline** button on the Formatting toolbar.

Or...

- Select **Format → Font** from the menu and select the formatting from the **Font Style** list.

Or...

- Press the **<Ctrl>** key and:
  - <B>** for Bold
  - <I>** for Italics
  - <U>** for Underlining



In the previous lesson, you learned how to format characters in a document by changing their font type and font size. This lesson will show you how to emphasize text in a document by making the text darker and heavier (**bold**), slanted (*italics*), or by adding underlining.

1. **Select the text **La Fanci Nails**, located in the first body paragraph of your document.**

You can make the selected text stand out by formatting with Italics.

2. **Click the **Italics** button on the **Formatting toolbar**.**

The selected text, La Fanci Nails, appears in italics. Notice that the Italics button is pushed down on the Formatting toolbar, indicating the text is formatted with Italics.

It's just as easy to format characters with bold or underline formatting.

3. **Select the line **Subject: Glue Crisis**.**

Now format the selected text with bold formatting.

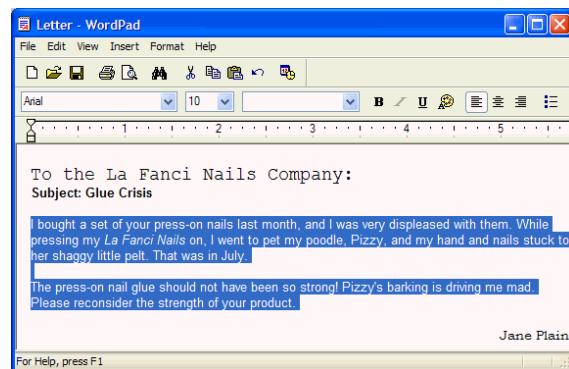
4. **Click the **Bold** button on the **Formatting toolbar**.**

The selected text appears in bold. To remove the bold style, repeat step 4.

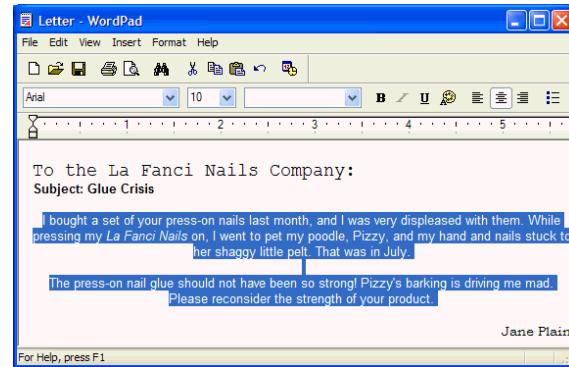
5. **Make sure **Subject: Glue Crisis** is still selected, then click the **Bold** button on the **Formatting toolbar**.**

The bold style is removed from the selected text. You can remove italic and underline formatting from text by using the same method, except you would click the Italics or Underline button.

## Lesson 7-13: Changing Paragraph Alignment



**Figure 7-22**



**Figure 7-23**

This lesson moves on to paragraph formatting and explains how to justify paragraphs or align them to the left, right, or center of a page. These are common formatting tasks for all word processing programs.

1. Place the insertion point anywhere in the last line, **Jane Plain**, and then click the **Align Right button** on the Formatting toolbar.  
The last line is aligned along the right side of the window.
2. Click and drag the mouse pointer to select the two body paragraphs, then click the **Center button** on the Formatting toolbar.  
The selected paragraphs are centered on the page.
3. Press the **<End>** key to move to the end of the current line, then press **<Enter>**.  
Notice the new paragraph will be centered like the one above it. That's because when you press **<Enter>**, the new paragraph "inherits" the formatting from the paragraph above it.
4. Select the two paragraphs again, and click the **Align Left button** on the Formatting toolbar.  
The selected paragraphs are again aligned to the left.
5. Click the **Save button** on the Standard toolbar to save your work.

This paragraph is left aligned. This paragraph is left aligned. This paragraph is left aligned. This paragraph is left aligned.

### Left Align

This paragraph is right aligned. This paragraph is right aligned. This paragraph is right aligned. This paragraph is right aligned.

### Right Align

This paragraph is center aligned. This paragraph is center aligned. This paragraph is center aligned. This paragraph is center aligned.

### Centered

This paragraph is justified. This paragraph is justified. This paragraph is justified. This paragraph is justified.

### Justified

**Figure 7-24**

**Figure 7-22**

Place the insertion point in the paragraph you want to align, or select the paragraph(s).

**Figure 7-23**

Clicking the Center button on the Formatting toolbar centers the selected paragraphs.

**Figure 7-24**

Left, right, centered, and justified paragraphs.



**Align Right button**



**Center button**



**Align Left button**

### Quick Reference

To Change a Paragraph's Alignment:

- Place the insertion point in the paragraph and click the **Align Left**, **Center**, or **Align Right** button.

Or...

- Place the insertion point in the paragraph, select **Format → Paragraph** from the menu and select the alignment, from the **Alignment list**.

## Lesson 7-14: Getting Help by Contents

**Figure 7-25**

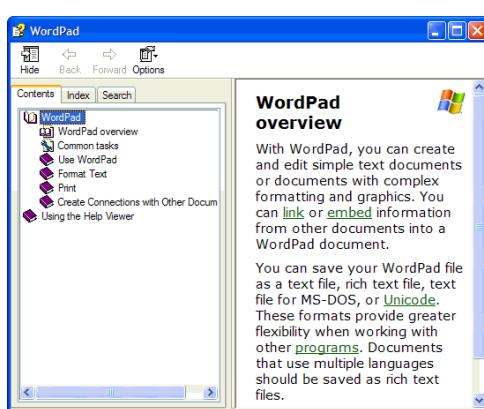
The Contents tab of the Help window.

**Figure 7-26**

You can expand a Help topic.

**Figure 7-27**

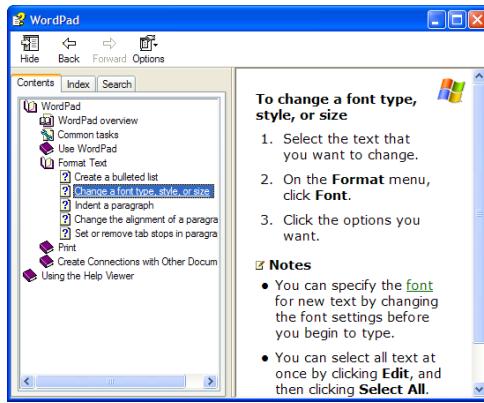
The displayed Help topic.



**Figure 7-25**



**Figure 7-26**



**Figure 7-27**

When you don't know how to do something in Windows or a Windows based program, don't despair—most programs come with a built-in help feature. Help is one of the greatest—and sadly, one of the least used—features of most Windows programs. There is often more information about how to use a program under the *Help* feature than there is in the program manual! Many people actually learn how to use entire programs by simply using the Help feature of the program when they don't know how to do something.

Help allows you to try new, exciting things in programs all by yourself. It simply cannot be stressed how important and useful the Help feature is. There are several ways you can get help in Windows—we'll look at them in the next couple of lessons.

For this lesson, imagine that you've seen several of your co-workers use different sized fonts in their WordPad documents. You decide it's time you learned how to change the size of fonts in WordPad, so you decide to use the Help feature.

### 1. Make sure the WordPad program is open and press the <F1> key.

The <F1> key displays help on what you're doing.

The Help window appears with the Contents tab in front, as shown in Figure 7-25. One way to get help is by going to Contents. Using Help's Contents is similar to using a book's table of contents. Help's Contents is a good way to get general information on a topic, especially if it's a subject you're not familiar with. The Help's Contents are organized in outline form. The book icons that appear to the left of a topic tell you there are sub-topics. To view this information, you have to open or expand the topic by clicking it.

- 2. Click the WordPad icon and then click the Format Text topic to expand it.**

The topic opens and a list of sub-topics appear under it, as shown in Figure 7-26.

- 3. Click the Change a font type, style, or size topic (it has a question mark  icon that appears to the left of it).**

Information on text formatting appears in the right pane of the Help window, as shown in Figure 7-27.

You can also easily print any Help topic...

- 4. Click the Options button at the top of the dialog box and select Print from the list.**

The Print Topics box appears. We just want to print one topic.

- 5. Select Print Selected Topic and click OK.**

The Print dialog box appears, ready to carry out your print command. Since you already know how to print in Windows, save the paper and cancel the print job.

- 6. Click the Cancel button.**

The Print dialog box closes and nothing is sent to the printer.



**Options button**

#### Quick Reference

##### To Get Help by Contents:

1. Press **<F1>** or select **Help** from the menu bar, and click the **Contents** tab if necessary.
2. Scroll through the list and click the help topic you're looking for.
3. Click any Help subtopic(s).

##### To Move to a Previous Help Screen or Topic:

- Click the **Back** button.

##### To Print a Help Topic:

- Click the **Options** button and select **Print**.

## Lesson 7-15: Getting Help with the Help Index and Search

**Figure 7-28**

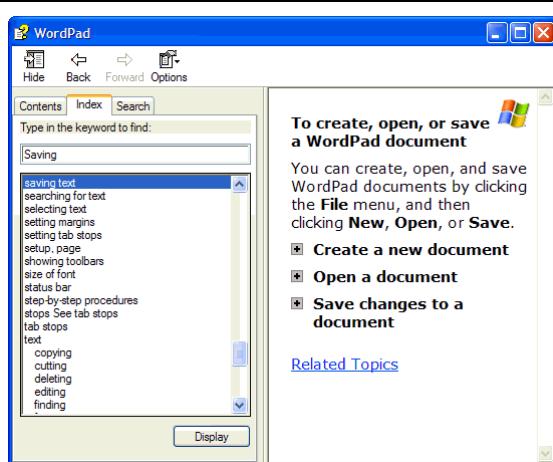
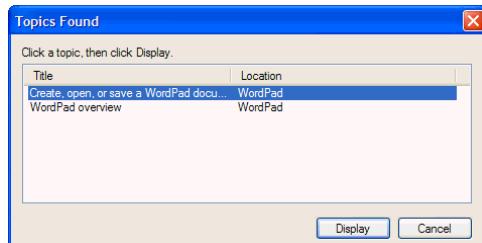
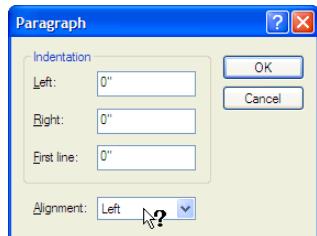
The Index tab of the Help dialog box.

**Figure 7-29**

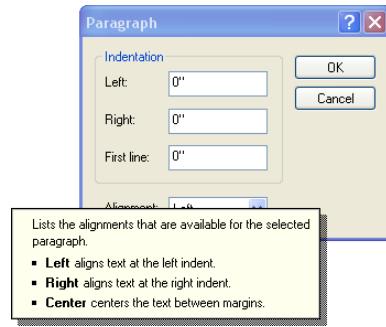
The Topics Found dialog box.

**Figure 7-30**

Using the Help button.

**Figure 7-28****Figure 7-29****Figure 7-30**

Click a control with the Help cursor to view a description of the control.



Two more methods of getting help are with the Help Index and Search. You use the Help Index just like you would use the index in the back of a book.

- 1. If the Help window isn't already open, press **<F1>** to open it.**
- 2. Click the **Index** tab.**

The Index tab appears in front of the Help window. This time, let's get some help on how to save files in WordPad.

**3. Type Saving in the Type in the keyword to find box.**

The Index topics list box displays all index entries that begin with the words “Saving”, as shown in Figure 7-28. A help topic called Saving Text is listed—let’s see what this topic is about.

**4. Double-click the saving text topic.**

The Topics Found dialog box appears, as shown in Figure 7-29. We need to choose a topic.



Help button

**5. Double-click the Create, open, or save a WordPad document topic.**

Information on saving changes to a document appears in the right pane of the Help window.



Help cursor

**6. Click the Search tab.**

Next, you must specify what Help topic you want to look for.

**7. Type Save in the Type the word(s) you want to find box and click the List Topics button.**

Both the words and topics lists are updated to show all Help topics that contain the word “Save.”

You can refine a Help search by typing in more than one word.

**8. Click after the word Save in the Type the word(s) you want to find box. Press the <Spacebar> and type File. Click Display.**

Both the words and topics lists are updated and display only those help topics that contain both the words “Save” and “File” in them.

**9. Double-click the WordPad overview topic.**

Windows displays the WordPad overview Help topic.

**10. Click the Close button.**

During your journey with Windows you will probably come across dialog boxes with a number of confusing controls and options. To help you find out what the various controls and options in a dialog box do, many dialog boxes contain a Help button, located right next to the Close button.

**11. Select Format → Paragraph from the menu.**

The Paragraph dialog box appears. Notice the Help button located in the dialog box’s title bar just to the left of the dialog box’s close button.

**12. Click the Help button.**

The mouse pointer changes, indicating you can point to anything in the dialog box to find out what it does, as shown in Figure 7-30.

**13. Click the Alignment list arrow.**

A screen tip appears with a brief description of the options in the Alignment list.

**14. Click Cancel.**

That’s it—you’re done learning the various ways to get help in Windows. If you know how to use a program’s Help feature, you may never need to attend another computer class—everything you need to know is there, buried somewhere in Help. Make yourself a promise that the next time you have a question about how to do something in a program, you will try using the program’s built-in Help feature before you reach for the manual or ask one of your computer-savvy friends.

### Quick Reference

#### To Use the Help Index:

1. Press **<F1>** or select **Help → Help Topics** from the menu and click the **Index** tab.
2. Type the keyword(s) that describe the help topic you are looking for.
3. Double-click the help topic you’re looking for.

#### To Find a Help Topic:

1. Press **<F1>** or select **Help** from the menu and click the **Search** tab.
2. Type the keyword(s) that best describes the topic you are looking for.
3. Double-click the Help topic you’re looking for.

#### To See what a Control in a Dialog Box Does:

1. Click the dialog box **“What’s This” button** (located right next to the Close button).
2. Click the control you want more information on with the Help cursor.

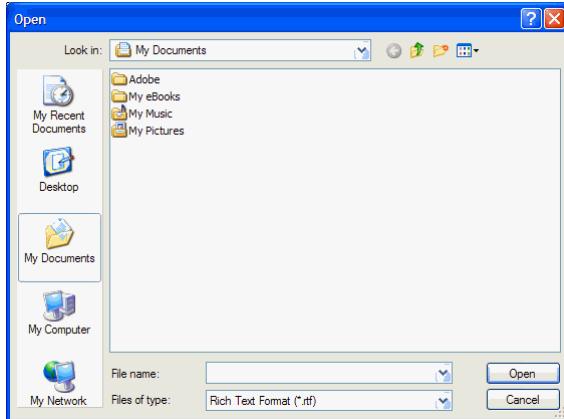
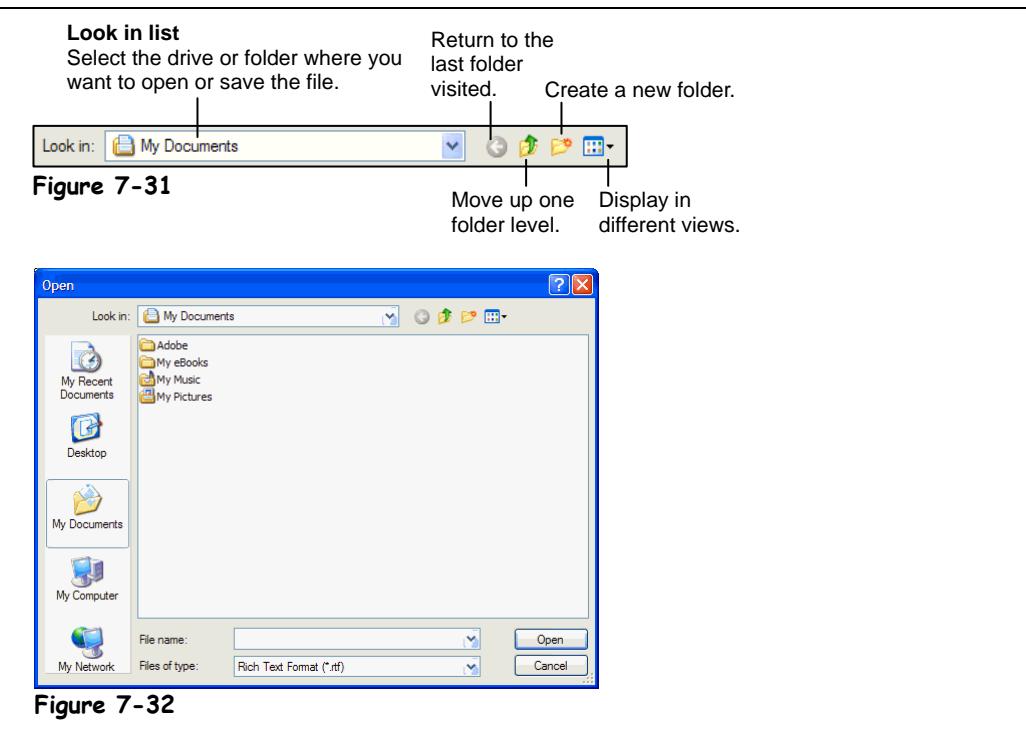
## Lesson 7-16: Saving and Opening Files in Different Locations

**Figure 7-31**

The Open/Save toolbar.

**Figure 7-32**

The Open dialog box for the WordPad program.



### Open button

Other Ways to Open a File:

- Select **File → Open** from the menu.

By saving your files in related folders right away, you make them easier to find and don't have to do as much file management later. This lesson will show you how to save your files in different locations. You'll also learn how to save files in different file formats.

1. If necessary, open the WordPad program.
2. Click the **Open button** on the **Standard toolbar**.

The Open dialog box for the WordPad program appears, as shown in Figure 7-32. Before we open a file, first let's take a closer look at the Open dialog box.

Notice the toolbar that appears near the top of the dialog box, as shown in Figure 7-31. Several of the buttons on the toolbar should look somewhat familiar—they're the same toolbar buttons that you'll find in My Computer and Windows Explorer. When you're opening or saving a file you can navigate through the drives, folders, and files on your computer just like you do in My Computer and Windows Explorer.

3. Navigate to your Practice folder.

Your computer stores information in files and folders, just like you store information in a filing cabinet. To open a file, you must first find and open the folder where it's saved.

The Open dialog box has its own toolbar that make it easy to browse through your computer's drives and folders. Two controls on this toolbar are particularly helpful:

- **Look in list:** Click to list the drives on your computer and the current folder, then select the drive and/or folder whose contents you want to display.



- **Up button:** Click to move up one folder level.

The Open dialog box reads the contents of the practice folder or disk and displays any Word for Windows (\*.doc) files. Here's how you can view *all* the file types in the root directory on the drive—not just Word for Windows files.

#### **4. Click the File of type list and select All Documents (\*.\*)�.**

The Open dialog box is updated to display all the files in the root directory of the hard drive. Let's open a file.

#### **5. Double-click the Canada Meeting Memo file.**

WordPad opens the Canada Meeting Memo file. Normally, when you save an existing file, it's saved with its original file name in its original location or folder. There are times, however, when you will need to save a copy of a file in a new location, with a different file name, or in a different file format.

#### **6. Select File → Save As from the menu.**

The Save As dialog box appears.

Whenever you save or store files on a computer, try to save them in a related folder. For example, you might create a "Personal Letters" folder to store all your personal correspondence files and a "Business" folder for your business-related files.

**NOTE:** If you don't specify a drive or folder when you're saving a file, the program will save the file in the current folder—the drive and folder that happens to be open at that time. This can often make the file more difficult to find in the future.

#### **7. Double-click the Trade Show folder.**

The Trade Show folder opens—this is where you want to save the file.

Earlier in this chapter, you learned that computer programs save and open files in their own different types or formats, just like people from different countries speak different languages. But just as some people can speak more than one language, many computer programs can open and save files using other file types or formats. WordPad normally saves files in Word for Windows (\*.doc) format, but it's easy to save files in different formats.

#### **8. Click the Save as type list arrow.**

A list of different types of file formats appears.

#### **9. Select Text Documents (\*.txt) from the Save as type list.**

One more thing before we save the file—we want to save it with a different name. If you clicked the Save button at this point, WordPad would save the file in the Trade Show folder with the original file name, "Canada Meeting Memo."

To save the file with a different name, simply type the new file name in the File Name box.

#### **10. Click in the File Name box and type Canada Letter.**

#### **11. Click Save and click Yes to confirm the file format.**

WordPad saves the Canada Letter as a text file in the Trade Show folder.

#### **12. Close the WordPad program.**

You can perform basic file management, such as renaming, deleting, moving, and copying files and folders from inside any Open or Save dialog box, just as if you were in My Computer.

#### **Quick Reference**

To Save a File in a New Location:

1. Select **File → Save As** from the menu.
2. Open the drive and/or folder where you want to save the file and click **Save**.

To Save a File in a Different File Format:

1. Select **File → Save As** from the menu.
2. Select the file format from the **Save as type list**, and click **Save**.

## Chapter Seven Review

### Lesson Summary

#### Using Menus

- Open a menu by clicking the menu name with the mouse or by pressing <Alt> and then the underlined letter in the menu.

#### Using Toolbars

- Click the toolbar button you want to use.
- **To See What a Toolbar Button Does:** Position the pointer over the toolbar button and wait a second. A ScreenTip will appear above the button.

#### Filling Out a Dialog Box

- Be able to identify text boxes, list boxes, check boxes, list arrows, and buttons.
- Use a scroll bar to move up or down when a list or screen can't display all its information at once.
- **To Select a Dialog Box Control:** Click the control with the mouse, or press <Tab> to move to the next control in the dialog box or <Shift> + <Tab> to move to the previous control until you arrive at the desired control.
- **To Use a Text Box:** Type the information directly into the text box.
- **To Use a List Box:** Click the option you want from the list box. Use the scroll bar to move up and down through its options.
- **To Use a List Arrow:** Click the arrow to display the list options. Click an option from the list to select it.
- **To Save Changes and Close a Dialog Box:** Click the OK button or press <Enter>.
- **To Close a Dialog Box Without Saving Changes:** Click the Cancel button or press <Esc>.

#### Entering Text in the WordPad Program

- **To Enter Text in WordPad:** Click in the WordPad screen to begin typing your text.

#### Editing Text

- **To Move the Insertion Point:** Use the arrow keys on the keyboard or click where you want to place the insertion point with the I pointer.
- **To Insert Text:** Move the insertion point where you want to insert the text and then type the text you want to insert.
- **To Delete Text:** The <Delete> key deletes text after, or to the right, of the insertion point. The <Backspace> key deletes text before, or to the left, of the insertion point.

## Saving and Opening a File

- **To Save a File:** Click the **Save button** on the Standard toolbar or select **File → Save** from the menu.
- **To Open a File:** Click the **Open button** on the Standard toolbar or select **File → Open** from the menu.

## Selecting, Replacing and Deleting Text

- **To Select Text with the Mouse:** Move the insertion point to the beginning or end of the text you want to select. Click and hold the left mouse button and drag the insertion point across the text, releasing the mouse button once the text is selected. Or double-click a word to select it.
- **To Select Text with the Keyboard:** Move the insertion point to the beginning or end of the text you want to select and press and hold the **<Shift>** key while you use the arrow keys to select the text.
- **To Replace Text:** Replace text by first selecting it, then typing the new text.
- **To Deselect Text:** Click anywhere on the computer screen.
- **To Delete Text:** Select the text. Press the **<Delete>** key.

## Using Undo

- **To Undo Your Last Action:** Click the **Undo button** on the Standard toolbar, or select **Edit → Undo** from the menu, or press **<Ctrl> + <Z>**.

## Printing a File

- Print a file by clicking the **Print button** on the Standard toolbar, or by selecting **File → Print** from the menu, or by pressing **<Ctrl> + <P>**.
- Select **File → Print** from the menu to display the Print dialog box, which allows you to specify printing options—such as printing specific pages or multiple copies.

## Cutting, Copying and Pasting Text

- **To Cut an Object or Text:** Select the text or object you want to cut. Click the **Cut button** on the Standard toolbar, or select **Edit → Cut** from the menu, or press **<Ctrl> + <X>**.
- **To Copy an Object or Text:** Select the text or object you want to copy. Click the **Copy button** on the Standard toolbar, or select **Edit → Copy** from the menu, or press **<Ctrl> + <C>**.
- **To Paste a Cut or Copied Object:** Place the insertion point where you want to paste the text or object. Click the **Paste button** on the Standard toolbar, or select **Edit → Paste** from the menu, or press **<Ctrl> + <V>**.

## Changing the Font Type and Size

- **To Change Font Size:** Click the **Font Size** list arrow on the Formatting toolbar and select the point size from the list, or select **Format → Font** from the menu and select the font size in the dialog box.
- **To Change Font Type:** Click the **Font** list arrow on the Formatting toolbar and select a font type from the list, or select **Format → Font** from the menu and select the font type in the Font dialog box.

### Using Bold, Italics and Underline

- Format text with bold, italics, or underlining by clicking the corresponding button (**Bold**, **Italics**, or **Underline**) on the Formatting toolbar or by selecting **Format** → **Font** from the menu and selecting the formatting from the **Font Style list**. You can also press the <Ctrl> key and:
  - <B> for Bold
  - <I> for Italics
  - <U> for Underlining.

### Changing Paragraph Alignment

- Change a paragraph's alignment by placing the insertion point in the paragraph and then clicking the **Align Left**, **Center**, or **Align Right** button on the Formatting toolbar, or by selecting **Format** → **Paragraph** from the menu and selecting the paragraph alignment from the Alignment list.

### Getting Help by Contents

- Pressing the <F1> key displays information on what you're currently doing.
- To Get Help by Contents:** Press <F1> or select **Help** from the menu bar, and click the **Contents** tab if necessary. Scroll through the list and click the help topic you're looking for. Double-click any subtopics if necessary.
- Click the **Back** button to move to the previous help screen or topic.
- To Print a Help Topic:** Click the **Options** button and select **Print Topic**.

### Getting Help with the Help Index and Search

- To Use the Help Index:** Press <F1> or select **Help** from the menu bar and click the **Index** tab and type the keyword(s) that describe the Help topic you are looking for. Double-click the Help topic that you're looking for.
- To Find a Help Topic:** Press <F1> or select **Help** from the menu bar and click the **Search** or **Find** tab and type the keyword(s) that describe the help topic you are looking for. Double-click the Help topic that you're looking for.
- To See what a Control in a Dialog Box Does:** Point to a control and click the **"What's This" button**. Click the control you want more information on with the Help cursor.

### Saving and Opening Files in Different Locations

- To Save a File in a New Location:** Select **File** → **Save As** from the menu, open the drive and/or folder where you want to save the file and click **Save**.
- To Save a File in a Different File Format:** Select **File** → **Save As** from the menu, select the file format from the **Save as type list**, and click **Save**.

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## Quiz

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- You can open a menu in a program by: (Select all that apply.)**

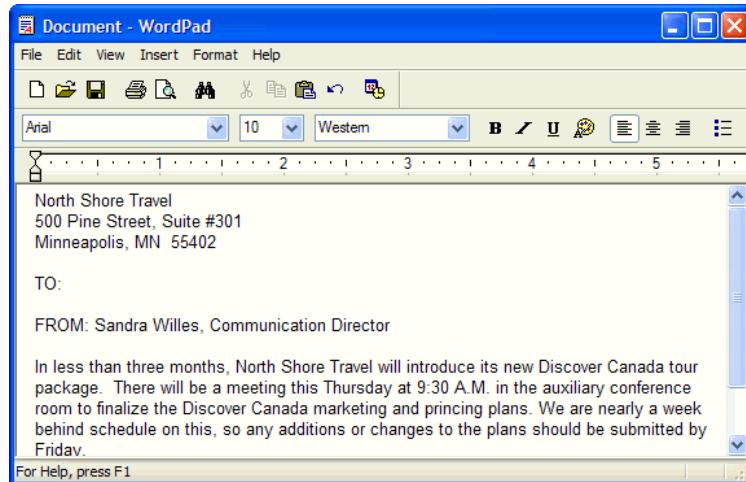
- A. Clicking the name of the menu with the mouse.
- B. Pressing <Esc> and then the underlined letter in the menu name.
- C. Pressing <Alt> and then the underlined letter in the menu name.
- D. Saying "Computer, open the (state the name of the menu here) menu".

- 2. How can you move the insertion point in WordPad? (Select all that apply.)**
  - A. By pressing the arrows keys on your computer's keyboard.
  - B. By using the mouse and clicking where you want to place the insertion point with the I pointer.
  - C. By selecting the Window → Move Insertion Point command.
  - D. The insertion point is an immovable object and can't be moved.
  
- 3. Which key deletes text before, or to the left, of the insertion point?**
  - A. <Page Up>
  - B. <Page Down>
  - C. <Delete>
  - D. <Backspace>
  
- 4. Typing overwrites, or replaces, any text that is selected (True or False?)**
  
- 5. Which of the following statements is NOT true?**
  - A. You can undo the last action or mistake you made by clicking the Undo button on the toolbar or by selecting Edit → Undo from the menu.
  - B. You can print the file you're working on by clicking the Print button on the toolbar or by selecting File → Print from the menu.
  - C. You should save your work or file whenever you think about it.
  - D. File names can contain up to 8 characters.
  
- 6. The following will cut selected text or information and place it on the clipboard (Select all that apply.)**
  - A. Pressing <Ctrl> + <X>.
  - B. Pressing <Ctrl> + <Delete>.
  - C. Clicking the Cut button on the toolbar.
  - D. Selecting Edit → Cut from the menu.
  
- 7. Unlike cutting, when you copy something you can't see it on-screen (True or False?)**
  
- 8. Pressing <F5> displays Help on what you're doing (True or False?)**

## Homework

---

- 1.** Either insert your Practice Files CD, or navigate to where your practice files are located. If you don't know where they are, ask your instructor.
- 2.** Start WordPad. Open the Homework 3 file from your practice files.
- 3.** Select File → Save As from the menu. Save the "Homework 3" file as "Memo" on the Practice CD in the D: drive, or in your practice files.



4. Move the insertion point to the end of the TO: line, press the <Spacebar> and type "All Staff."
5. Select the top three address lines.
6. With the top address lines still selected, click the Center button on the Formatting toolbar to center align them.
7. Select the top "North Shore Travel" line and change the font type to Times New Roman, the font size to 14 pt., and apply bold formatting.
8. With the top "North Shore Travel" line still selected, press the <Delete> key to erase the line. Click the Undo button on the Standard toolbar to undo the deletion.
9. Select the text "Sandra Willes, Communication Director" and copy it by clicking the Copy button on the Standard toolbar
10. Move to the very end of the document, press the <Enter> key to add a blank line, type "Sincerely," and press <Enter> four times to add several blank lines.
11. Click the Paste button on the Standard toolbar to paste the text you copied in Step 9.
12. Save your work and exit WordPad.

## Quiz Answers

1. A and C. Clicking the menu name or pressing the <Alt> key and the underlined letter in the menu will both open a menu.
2. A and B. Either method will move the insertion point.
3. D. The <Backspace> key deletes text before, or to the left, of the insertion point. The <Delete> key deletes text after, or to the right, of the insertion point
4. True. Typing replaces any selected text.
5. D. MS-DOS files had an 8-character limit, but Windows XP file names can contain up to 255 characters.
6. A, C, and D. All of these three methods will cut selected text or information and place it on the clipboard.

7. True. Nothing visible happens when you copy something, but don't let this fool you! Anything you copy is placed behind the scenes on the invisible Windows clipboard.
8. False. <F1> is the Windows help key.







# Chapter Eight: Working with Files and Folders

## Chapter Objectives:

- Understanding storage devices, folders, and files
- Using My Computer to navigate through folders and files
- Opening, creating, and renaming files and folders
- Copying, moving, and deleting files and folders
- Restoring a deleted file, and emptying the Recycle Bin
- Changing how information is displayed
- Selecting multiple files and folders
- Finding a file using the Search Companion
- Using Windows Explorer

## Prerequisites

- How to use the mouse to click, double-click, click and drag, and right-click.
- How to use menus, toolbars, and dialog boxes.

When you work at a desk, unless you make an effort to stay organized, all your papers and files begin to pile up and become disorganized. It takes a little more time, but the same phenomenon occurs when working with Windows—the files you create using your computer start to become cluttered, and are harder and harder to find.

In this chapter, you'll take your first step beyond the Windows basics and enter the world of *file management*. You'll learn how Windows stores information in files and folders, just like a file cabinet does. You'll find you will need to clean and organize your files and folders from time to time, just like you would the contents of a file cabinet. This chapter explains how to organize your computer by creating folders to store related information, how to move and copy files between folders, how to delete and rename files and folders, and how to retrieve a deleted file if you change your mind. You can perform file management using several different programs—My Computer, Windows Explorer, Files and Settings Transfer Wizard, and the Open and Save dialog boxes found in most programs.

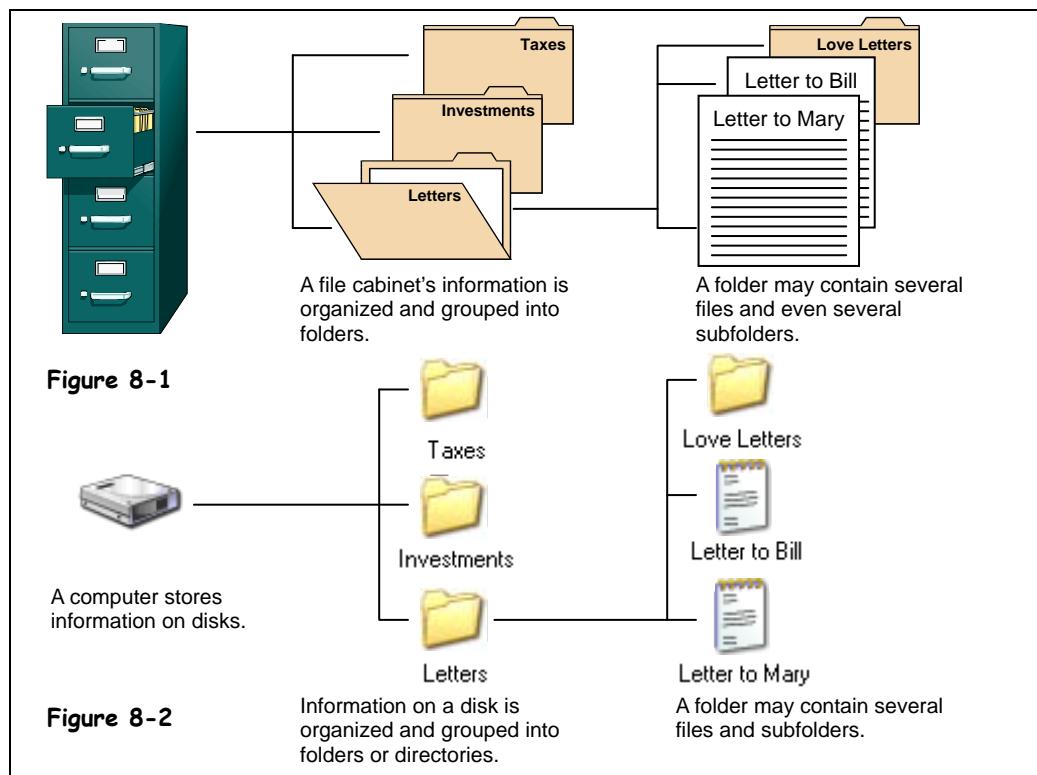
## Lesson 8-1: Understanding Storage Devices, Folders and Files

**Figure 8-1**

How information is stored in a file cabinet.

**Figure 8-2**

How information is stored on a disk.



In order to understand *file management*, you need to understand how your computer stores information. Filing cabinets store information in files, which are organized and grouped in folders and kept in big drawers. Computers also store information in files, which are also organized and grouped in folders, and stored not in big drawers but on *disks*. A *disk drive* is the part of the computer that reads and writes information onto disks, just like a tape recorder records and plays music on a cassette. There are four main types of disks and disk drives that computers use to store their information, as shown in the following table.

**Table 8-1: Common Computer Disks/Drives**

Type	Drive Letter	Size	Description
	A or B	1.44 MB	Floppy disks are the square plastic things that look like coffee coasters. Floppy drives can't hold a lot of information, but they're ideal for moving small files, such as word processing documents, between computers.
	C	Over 10 GB	Local disks, or hard disks, hide permanently inside your computer. Your computer's hard disk is its main filing cabinet—where it stores almost all of its programs and files.

Type	Drive Letter	Size	Description
	D or above	600 MB (CD) 4.7 GB (DVD)	Compact discs, or CD-ROMs, look like the audio discs you play in your stereo. CD-ROMs are cheap and they can store a lot of information, which is why they're used to install software for games and programs with a lot of multimedia.  DVDs are similar to CDs, but they hold even more information. DVDs are becoming the most common storage device for movies.
	D or above	Over 100 MB	Removable storage drives have features of both hard disks and floppy drives. Removable drives are like a floppy drive because they read and write information on small, removable cassettes. They are like hard drives because each cassette can usually hold more than 100 MB and is almost as fast as a hard drive.

Most computers come with a floppy drive, a hard drive, and a CD-ROM drive. However, many new computers omit the floppy drive and have a CD-ROM drive *and* a DVD drive instead. Your computer labels these drives with letters, as shown in Table 8-1: *Common Computer Disks/Drives*.

Just as liquids are measured in quarts and gallons, computers save their information in units called *bytes*. Unlike gallons, computers use the metric system, so 1,000 bytes make up a *kilobyte* and 1,000,000 (one million) bytes make up a *megabyte*, as shown in Table 8-2: *How Memory is Measured*.

**Table 8-2: How Memory is Measured**

Term	Description	Size
Byte	A byte can store a single character, such as the letter "J" or number "8".	A single character
Kilobyte (K or KB)	A kilobyte (K) is about 1,000 bytes (1,024 to be exact). A kilobyte is equivalent to a page of double-spaced typing.	1,024 bytes
Megabyte (MB or MEG)	A megabyte (MB) is about one million bytes—about as much text as an average-length novel.	1,048,576 bytes
Gigabyte (GB or GiG)	A gigabyte (GB) is about one trillion bytes—about as much text as several encyclopedia sets.	1,000,000,000 bytes

## Lesson 8-2: Using My Computer to See What's in Your Computer

**Figure 8-3**

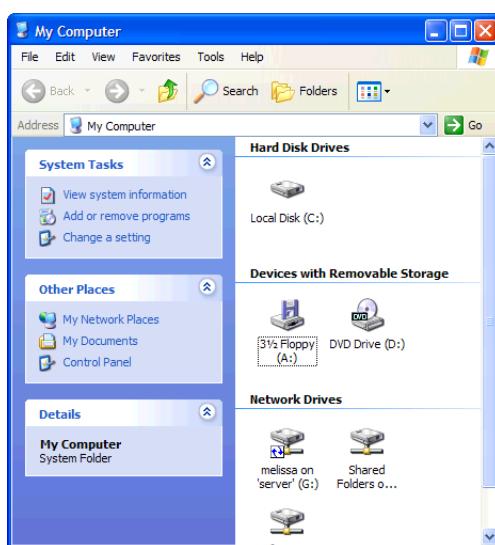
My Computer displays the drives, folders (directories), and files that are in your computer.

**Figure 8-4**

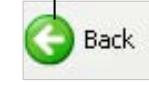
The Local Disk (C:) Properties dialog box.

**Figure 8-5**

The My Computer toolbar.

**Figure 8-3**

Moves back or up to the previous folder or level.

**Figure 8-5**

Moves back or up to the previous folder or level.



Moves forward to the last subfolder or level.

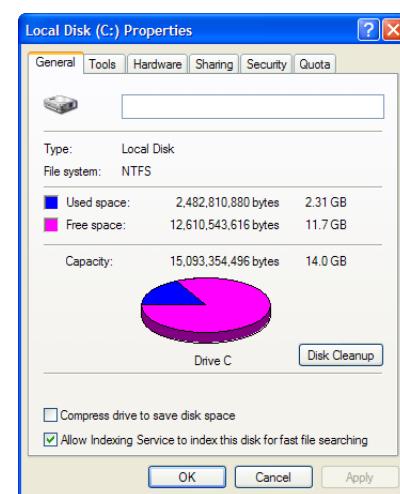


Search for files and folders on your computer or on the network.

Changes how the contents of the folder are displayed.



Displays a history of files you have opened recently.

**Figure 8-4****Start button****My Computer**

When you want to see what's in a file cabinet, you simply pull open one of its drawers. You can view the information stored on your computer's drives in much the same way—by opening the drive you want to access. This lesson will show you how to look at the drives, folders, and files in your computer.

### 1. Click the Start button and select My Computer.

The My Computer window appears, as shown in Figure 8-3. The main window lists all the drives on the computer. Since your computer may be set up differently, the contents of your computer may differ from those shown in Figure 8-3. Want to see what's inside something? All you have to do is double-click the drive, folder, or file you want to open.

Notice that although it's not technically a program, My Computer appears in its own window, with its own buttons, scroll bars, and menus. The My Computer window works just like any other window you've been working with. You can move it, resize it, and minimize it.

**2. Double-click the Local Disk (C:) icon.**

The contents of the (C:) drive appear in the window. What do all those symbols in the window mean? Each item you see has an icon, or symbol, to help you identify what type of item it is. We'll take a look at what each of these symbols mean in an upcoming lesson.

**Local Disk (C:)**

To move back to the previous folder or level, click the Up button on the toolbar.

**3. Click the Up button on the toolbar.**

You've moved from the (C:) drive back to My Computer.

**Up button**

Now that you know the procedure for displaying the contents of a drive, move on to the next step to display the properties of the Local Disk (C:) drive.

**4. Right-click the Local Disk (C:) icon and select Properties from the shortcut menu.**

The disk drive hums as Windows examines it. After a moment, the Local Disk (C:) Properties window appears, as shown in Figure 8-4. The Properties window displays the amount of used and free space on the disk in megabytes (MB) and gigabytes (GB). Refer to the previous lesson if you're unfamiliar with these terms.

**5. Click the Properties dialog box Close button.**

The Properties dialog box closes. Go ahead and close the My Computer window to complete the lesson.

**6. Close the My Computer window.**

Getting the hang of opening and exploring your computer? Good, because we'll be doing a lot more snooping inside the contents of your computer throughout the rest of this chapter.

**Quick Reference**

To View the Contents of Your Computer:

- Click the Start button and select **My Computer**.

To View the Contents of a Disk Drive:

- Follow the above step to open My Computer and then double-click the drive you want to open.

To View an Item's Properties:

- Right-click the drive, folder, or file and select **Properties** from the shortcut menu.

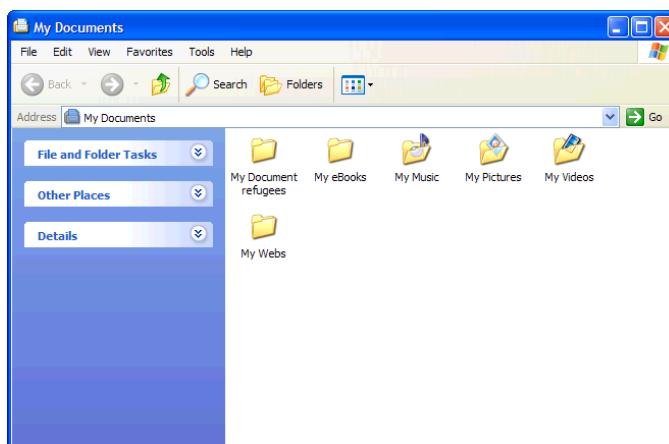
## Lesson 8-3: Opening a Folder

**Figure 8-6**

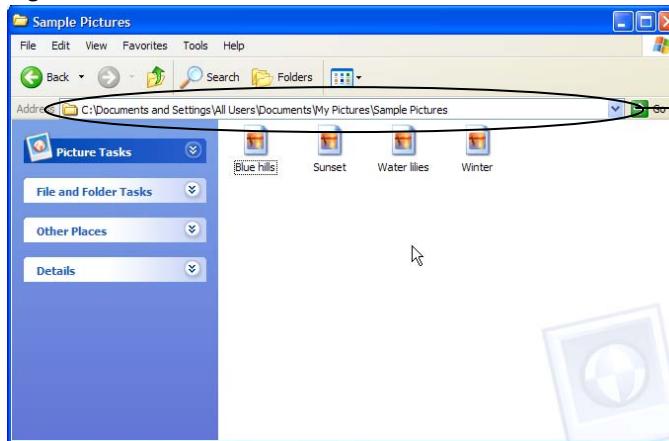
Double-click a folder to open it and view its contents.

**Figure 8-7**

The files and folders appear in the window.



**Figure 8-6**



The Address bar displays the name of the current drive and folder

**Figure 8-7**

Your computer stores related files together in folders, just like you do with your file cabinet. In the previous lesson, you learned how to use My Computer to view the contents of your computer and open a disk drive and display its contents. In this lesson, we'll go a little bit further and show you how to open a folder.

Windows XP gives you your very own special folder named "My Documents" as a convenient location to store all your files. Here's how to open the My Documents folder (and any other folder).



1. Click the **Start button** and select **My Documents**.

The contents of My Documents appear in the window. The My Documents folder contains several folders, or *subfolders*. If you think about it, you probably do the same thing—keep several subfolders inside a larger folder—in your own file cabinet.

2. Double-click the **My Pictures** folder.

The contents of the My Pictures folder appear in the Window. Notice the Address bar displays the current folder you are in: My Pictures.

Instead of clicking the Up button several times to jump back through several levels of folders, you can click the Address bar to quickly jump to the root directory of any of drive on your computer.

**NOTE:** This is where the comparison we've been using between a file cabinet and a computer begins to break down a bit. When you file things in your file cabinet, you probably never have more than two, possibly three, nested folders (i.e. a folder inside another folder). Your computer's folders, on the other hand, can contain as many subfolders as you want, nested as deep as you want, so you can have a folder inside a folder inside a folder—ad infinitum.

### 3. Click the **Address** list arrow.

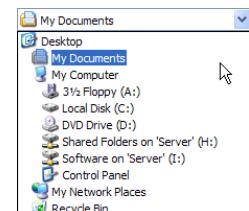
A list of your computer's drives and the folder you are currently in appears. You can click any folder or drive to go to that folder or drive.

### 4. Select **Local Disk (C:)** from the list.

You return to the root directory of the (C:) drive. The Address bar is a fast way to select a drive, especially if you are in a folder that is nested several levels deep.

You can think of the Address Bar as your compass because even when you're exploring unfamiliar folders nested deep in the far recesses of your computer, it always tells you where you are. If you get really lost, you can always click the Address list arrow and jump back to the familiar (C:) drive.

All this moving around your computer and opening disk drives and folders is a little boring, but it's something you have to get used to if you want to have any degree of proficiency with Windows. Going back to our trusty file cabinet metaphor, imagine what would happen if you didn't know how to open the drawers and folders in your file cabinet. How would you find your tax returns if you were audited, or your insurance policy if you were in an accident? Opening disk drives and folders, and being able to navigate through the contents of your computer are among the most important Windows skills you can learn.



**Address list**

### Quick Reference

#### To Open a Folder:

- Double-click the folder.

#### To Move Back or Up to the Previous Level or Folder:

- Click the **Up** button on the toolbar.

Or...

- Click the **Back** button on the toolbar.

Or...

- Click the **Address** list arrow on the toolbar and select the appropriate drive or folder.

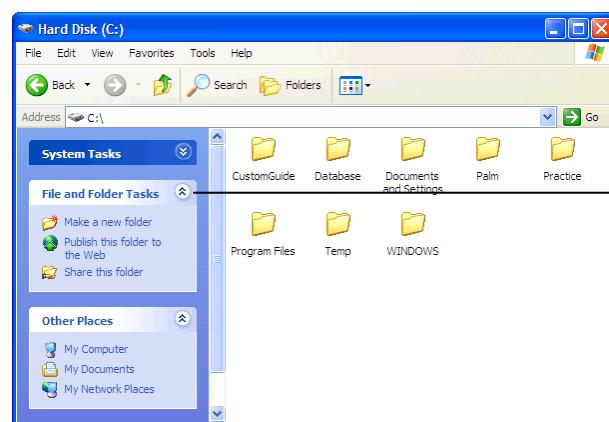
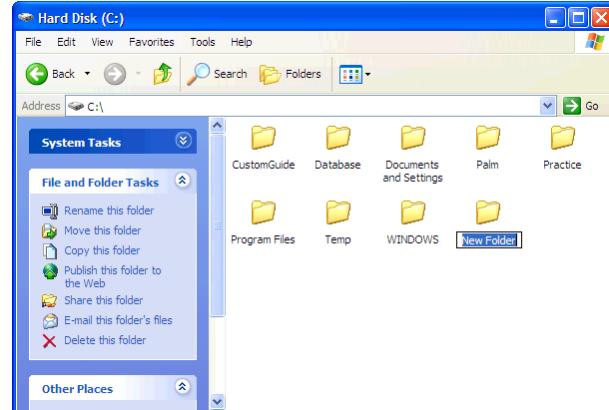
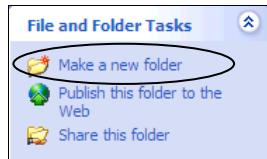
## Lesson 8-4: Creating and Renaming a Folder

**Figure 8-8**

The File and Folder Tasks menu.

**Figure 8-9**

A new folder.

**Figure 8-8****Figure 8-9**

### File and Folder Tasks menu

Other Ways to Create a Folder:

- Right-click an empty area of the window and select **New → Folder** from the shortcut menu.

Windows XP comes with the My Documents folder which you can use to save your files in, but sooner or later you'll want to expand your horizons and create your own folders inside the My Documents folder or on the network to help you better organize your files. This lesson will show you how to create a new folder to hold and organize your files. You'll also learn how to rename an existing folder.

- 1. Click the Start button and select My Computer from the menu.**

The My Computer window appears.

- 2. Double-click the Local Disk (C:) icon.**

The contents of the (C:) drive appear.

Windows XP makes working with files and folders more efficient by listing the most common file and folder management tasks next to the folder contents.

**NOTE:** You may have to resize the window to view these tasks.

- 3. Make sure the File and Folder Tasks menu is expanded.**

Let's use this menu to create a new folder.

**4. Click the Make a new folder task in the File and Folder Tasks menu.**

A new folder appears with a temporary name “New Folder” as shown in Figure 8-9. Now all you have to do is move on to the next step and give the new folder a name.

**5. Type Practice Folder as the new folder name and press <Enter>.**

Your new Practice Folder is located in the root directory, or top folder, of the (C:) drive. You can create a folder inside any existing folder the same way—by opening the folder and then repeating Steps 3-5. You can create as many folders as you like in order to develop your own filing system to help organize your files and folders. Open the Practice Folder to display its contents.

**NOTE:** A file name can contain up to 255 characters, including spaces. File names cannot contain the following characters: \ / : \* ? " < > |

**6. Double-click the Practice Folder to open it.**

The contents of the Practice Folder appear in the window. That’s right, there’s nothing there. The Practice Folder is an empty folder, since you just created it.

Let’s move back to the root directory.

**7. Click the Up button.**

You can easily change the name of a folder. Here’s how:

**8. Click the Practice Folder icon.**

Now let’s rename the folder. Here’s how:

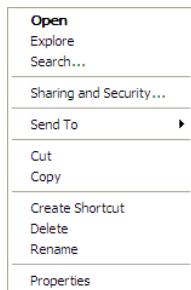
**9. Click the Rename this folder task in the Files and Folders Tasks menu, type Temp Folder and press <Enter>.**

The “Practice Folder” is renamed “Temp Folder.”

**NOTE:** Because you change the file path of all the files stored within a folder, be careful when you rename a folder. For example, a hyperlink that uses this file path: C:\My Documents\Picnic to link to a file won’t work anymore if the file path is changed to C:\My Documents\Picnic Project.

**Table 8-3: File and Folder Tasks**

Task	Description
 Make a new folder	Creates a new folder.
 Rename this folder	Gives the selected file or folder a new name.
 Move this folder	Moves the selected items to the destination you choose.
 Copy this folder	Copies the selected items to the destination you choose.
 Publish this folder to the Web	Transfers a copy of the selected items to a public Web page so that you can share them with other people.
 Share this folder	Makes the selected folder available to computers on a network so that other people can access it.
 E-mail this folder's files	Sends an e-mail message with copies of the selected items attached.
 Delete this folder	Deletes the selected items and sends them to the Recycle Bin.



**Other Ways to Rename a Folder:**

- Right-click the folder and select **Rename** from the shortcut menu.

### Quick Reference

**To Create a New Folder:**

1. Open the disk or folder where you want to create the new folder.
2. Select the **Make a new folder task** from the File and Folder Tasks menu.

Or...

Right-click any empty area in the window and select **New → Folder** from the shortcut menu.

3. Type a name for the folder and press **<Enter>**.

**To Rename a Folder:**

- Click the folder to select it, select the **Rename this folder task** from the File and Folder Tasks menu, type a name for the folder and press **<Enter>**.

Or...

- Right-click the folder, select **Rename** from the shortcut menu, type a name for the folder and press **<Enter>**.

## Lesson 8-5: Copying, Moving and Deleting a Folder

**Figure 8-10**

To move a folder, drag it to a new location on your computer, in this case to the Temp Folder.

**Figure 8-11**

The Move Items dialog box lets you specify where you want to move or copy a file or folder.

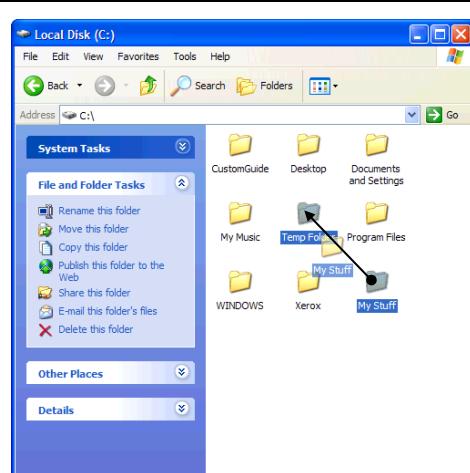


Figure 8-10

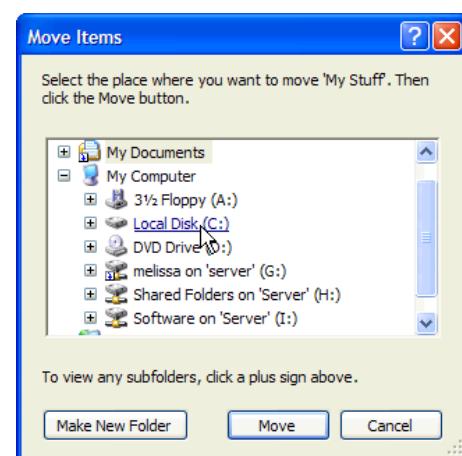


Figure 8-11

You probably don't reorganize the folders in your file cabinet very often—and you probably won't need to move or copy the folders on your computer very often, either. When you find you *do* need to move or copy a folder however, you can do so by using one of two simple methods:

- Clicking and dragging.
- Using the File and Folder Tasks menu.

You'll learn how to use both methods in this lesson and how to delete a folder when you no longer need it.

**1. Create a new folder called *My Stuff* in your Local Disk (C:) drive.**

You learned how to create a new folder in the previous lesson.

**2. Click and drag the *My Stuff* folder to the *Temp Folder*, as shown in Figure 8-10.**

Already forgot how to click and drag? If so, here it is one more time: position the mouse over the My Stuff folder, click and hold down the mouse button as you move the pointer to the Temp Folder, then release the mouse button.

The My Stuff folder is moved inside the Temp Folder. Let's make sure it worked.

**3. Double-click the *Temp Folder* to open it.**

Yep, there's the My Stuff folder.

Here's another useful method for moving folders...

**4. Click the *My Stuff* folder to select it.**

Once you have selected the folder you want to move, go to the File and Folder Tasks menu.

**5. Click the *Move this folder* task from the File and Folder Tasks menu.**

The Move Items dialog box appears, as shown in Figure 8-11. This is where you tell Windows where you want to move the selected folder.

**Other Ways to Move a File or Folder:**

- Cut the file or folder by selecting *Edit* → *Cut* from the menu or pressing *<Ctrl> + <X>*, moving to the desired location and then pasting the file or folder by selecting *Edit* → *Paste* from the menu, or pressing *<Ctrl> + <V>*.

The Move Items dialog box displays the drives and folders on your computer in a *hierarchical* view. A plus symbol (+) or a minus symbol (-) beside a folder means a folder contains subfolders. Normally these subfolders are hidden. You can display the hidden folders within a folder by clicking the plus sign (+) beside the folder.

## **6. Click the My Computer + plus symbol.**

My Computer expands and displays its subfolders.

The Local Disk (C:) is where you want to move the My Stuff folder.

## **7. Click the Local Disk (C:) icon and click Move.**

The dialog box closes. Let's see if the folder really moved to the right spot.

## **8. Click the Up button on the toolbar to move up to the root directory.**

The My Stuff folder is moved from the Temp Folder back to the root directory of the (C:) drive.

If you can move a folder you can copy a folder: to copy a folder, hold down the <Ctrl> key while you drag the folder.

## **9. Press and hold down the <Ctrl> key while you drag the My Stuff folder to the Temp Folder.**

Although you can't see it, the My Stuff folder has been copied to the Temp Folder. Let's make sure.

## **10. Double-click the Temp Folder to open it.**

The contents of the Temp Folder appear in the window. Sure enough, the My Stuff folder has been copied there.

## **11. Click the Up button to move back to the root directory.**

Next, we'll delete a folder.

## **12. Click the Temp Folder to select it and then press the <Delete> key.**

A dialog box appears, asking you to confirm the deletion.

## **13. Click Yes to delete the folder.**

The Temp Folder and all its contents are deleted and disappear from the window. Windows places any deleted files or folders in the Recycle Bin in case you change your mind later on and decide you want to restore the file or folder. We'll discuss the Recycle Bin in an upcoming lesson.

**NOTE:** Deleting a folder can be dangerous. Before you delete a folder, make sure it doesn't contain any important files. If you don't know what the contents of a folder are, you shouldn't delete it.

## **14. Delete the My Stuff folder by repeating steps 12 and 13 and then close the My Computer window.**

We've worked on copying and moving folders to locations on the same drive, but you can also copy a folder to a different drive by dragging it to the drive icon where you want it copied. If you can't see the drive or folder where you want to move or copy something, you can open a second My Computer window and drag the folder from one window to the other.

## **Quick Reference**

### To Move a Folder:

- Drag the folder to the desired location (you might have to open another My Computer window).

Or...

1. Select the folder and click the **Move this folder** task from the File and Folder Tasks menu.
2. Select the folder or drive where you want to move the folder and click **Move**.

### To Copy a Folder:

- Hold down the <Ctrl> key while you drag the folder to the desired location (you might have to open another window).

Or...

1. Select the folder and click the **Copy this folder** task in the File and Folder Tasks menu.
2. Select the drive or folder where you want to copy the folder and click **Copy**.

### To Delete a Folder:

1. Select the folder and press <Delete>.

Or...

Select the folder and click the **Delete this folder** task from the File and Folder Tasks menu.

2. Click **Yes** to confirm the folder deletion.

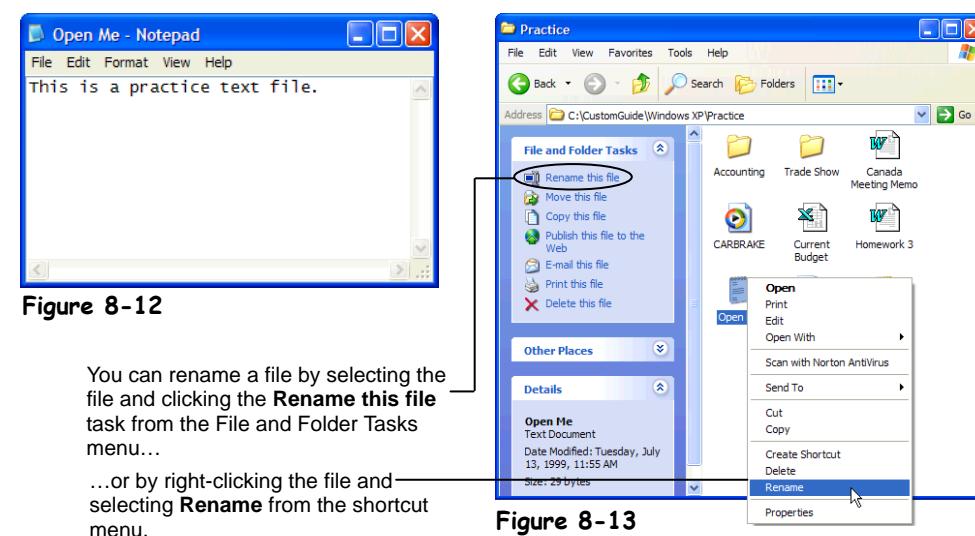
## Lesson 8-6: Opening, Renaming and Deleting a File

**Figure 8-12**

The Open Me file in the Notepad program.

**Figure 8-13**

Select a file to display the File and Folder Tasks menu, or right-click a file to display a list of commands.



- When you no longer need a file, delete it.
- 7. Click the Text File to select it, and then press the <Delete> key.**

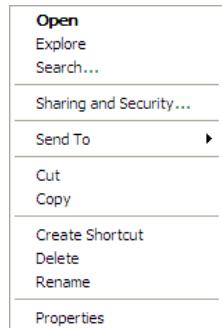
A dialog box appears, asking you to confirm the file deletion.

- 8. Click Yes.**

The Text File is deleted and disappears from the window.

Deleting a file isn't quite as dangerous as deleting a folder, but you should always consider whether or not you might need the file again. Don't delete a file unless you're absolutely sure you will never need it again. And NEVER delete a file if you don't know what it is.

- 9. Close the My Computer window.**



**Other Ways to Rename a File:**

- Right-click the file and select **Rename** from the shortcut menu.

**Other Ways to Delete a File:**

- Right-click the file and select **Delete** from the shortcut menu.

## Quick Reference

**To Open a File:**

- Double-click the file.

**To Rename a File:**

1. Click the file to select it, then select the **Rename this file** task in the File and Folder Tasks menu.

Or...

Right-click the file and select **Rename** from the shortcut menu

2. Type a name for the file and press **<Enter>**.

**To Delete a File:**

1. Click the file to select it and select the **Delete this file** task from the File and Folder Tasks menu.

Or...

Select the file and press the **<Delete>** key.

2. Click **Yes** to confirm the folder deletion.

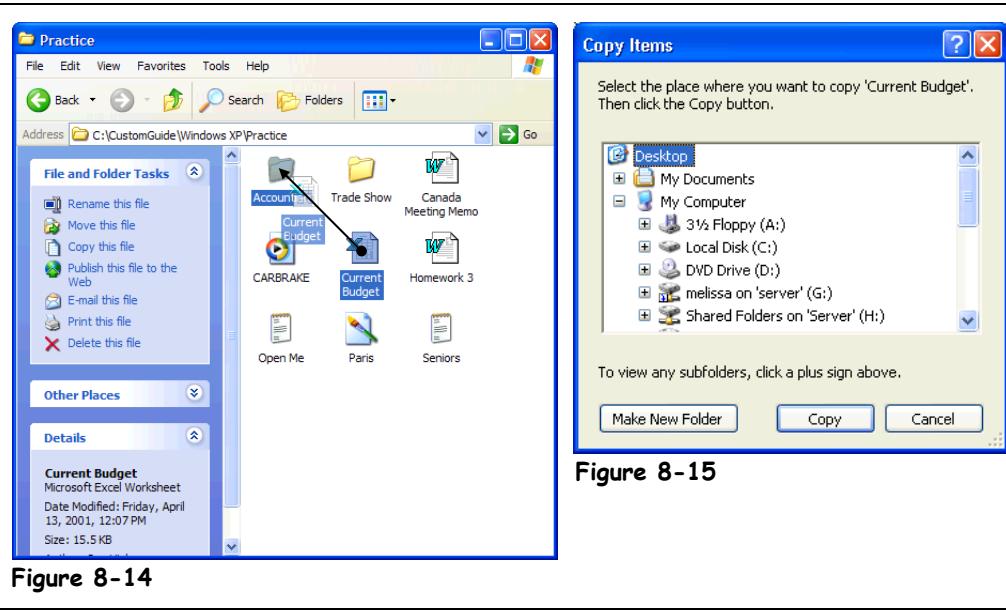
## Lesson 8-7: Copying and Moving a File

**Figure 8-14**

To move a file, click and drag the file to the desired location.

**Figure 8-15**

The Copy Items dialog box.



The procedure for moving and copying files is no different from moving or copying folders. This lesson about moving and copying files should be a refresher for you.

**Start button**

### Other Ways to Move or Copy a file:

- Click the file to select it, select **Edit → Move to** or **Copy to** from the menu.

**1. Click the Start button and select My Computer from the menu.**

The My Computer window appears.

**2. Navigate to and open your Practice folder.**

If necessary, follow your instructor's directions to select the appropriate drive and folder where your practice files are located.

When copying or moving files or folders, you may find it easier if you have two windows open at the same time: one window with the source file(s) and another window for the destination where you want to move or copy the file(s).

**3. Click and drag the Current Budget file to the Accounting folder.**

The Current Budget file is moved inside the Accounting folder.

Open the Accounting folder to make sure the file was moved.

**4. Double-click the Accounting folder.**

Sure enough, the Current Budget file has been moved to the Accounting folder.

To copy a file using the click and drag method, press the <Ctrl> key as you drag the file to a new folder.

**5. Click the Current Budget file.**

Now that the file is selected, you can move it to a different location.

**6. Click the Copy this file task in the File and Folder Tasks menu.**

The Copy Items dialog box appears, as shown in Figure 8-15. Now you can tell Windows where you want to move the selected file.

The Copy Items dialog box displays the drives and folders on your computer in a *hierarchical* view. A plus symbol (+) or a minus symbol (-) beside a folder means a folder contains several subfolders. Normally these subfolders are hidden. You can display the hidden folders within a folder by clicking the plus sign (+) beside the folder.

Now copy the file to the Desktop of your computer.

**7. Select Desktop in the Copy Items dialog box and click Copy.**

The Current Budget file is copied to your computer's Desktop.

**NOTE:** Some people actually do save their most important files to the Desktop so that they won't lose them. Just make sure that you don't save too many files there—nobody likes a messy desktop!

We don't want to clutter your computer's desktop with practice files, so let's delete the Current Budget files from the Desktop.

**8. Click the Accounting folder window Close button.**

The window closes, allowing you to view the Desktop and the copied Current Budget file.

**9. Select the Current Budget file and press <Delete>.**

A dialog box appears, asking if you really want to delete the file.

**10. Click Yes.**

The dialog box closes and the Windows deletes the file.

 **Quick Reference**

**To Move a File:**

- Drag the file to the desired location (you may have to open another window).

Or...

1. Click the file to select it and click the **Move this file** task from the File and Folder Tasks menu.
2. Select the folder where you want to move the file and click **Move**.

**To Copy a File:**

- Hold down the <Ctrl> key while you drag the file to the desired location (you might have to open another My Computer window).

Or...

1. Click the file to select it and click the **Copy this file** task from the File and Folder Tasks menu.
2. Select the folder where you want to copy the file and click **Copy**.

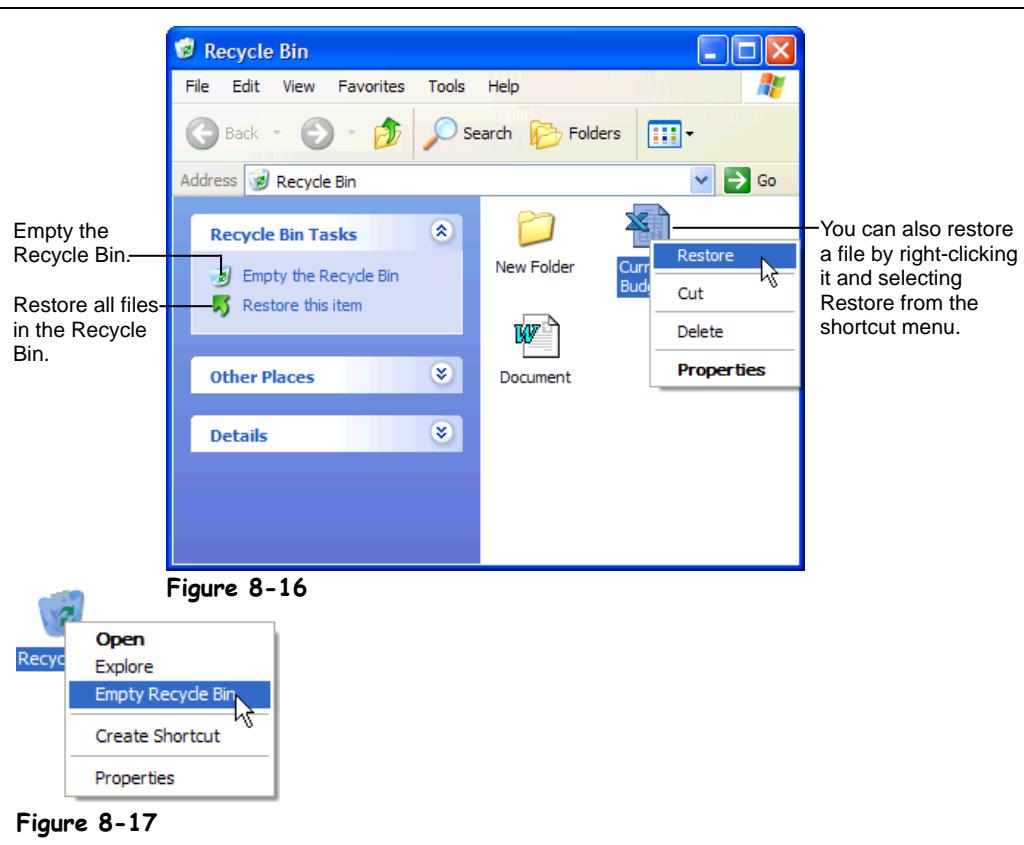
## Lesson 8-8: Restoring a Deleted File and Emptying the Recycle Bin

**Figure 8-16**

Restoring files and emptying the Recycle Bin.

**Figure 8-17**

The Recycle Bin shortcut menu.



  
**Recycle Bin contains deleted items**

  
**Recycle Bin does not contain deleted items**

Just like a wastebasket, the *Recycle Bin* stores all of the files and folders you have deleted. If you change your mind and decide you need a deleted file, it's easy to find and retrieve it. This lesson will show you how to open the Recycle Bin and see what's inside, restore a previously deleted file, and empty the Recycle Bin to free up some space on your hard disk.

**1. Double-click the Recycle Bin.**

The Recycle Bin opens and displays all the files you have recently deleted. If you accidentally delete a file or folder, you can retrieve it from the Recycle Bin.

**2. Select the Current Budget file.**

Let's restore this file so it can be used again.

**3. Click the Restore this item task from the Recycle Bin Tasks menu.**

Restoring a file pulls it out of the Recycle Bin and puts it back in its original location.

**4. Click the Recycle Bin window Close button.**

Now make sure the Current Budget file is in its original location.

**5. Verify that the Current Budget file has been restored to the Desktop.**

Okay, you can delete the Current Budget file from the Desktop again, and this time we won't restore it.

**6. Delete the **Current Budget** file from the Desktop.**

There is theoretically a limit to how many deleted files and folders the Recycle Bin can hold. The maximum size of the Recycle Bin is normally set 10 percent of the hard drive. For example, if you have a 10GB hard drive, the maximum amount of files the Recycle Bin could hold would be 1GB. When the Recycle Bin reaches its limit, Windows automatically starts deleting files from the Recycle Bin, starting with the oldest file.

You can adjust the properties for the Recycle Bin—so you could adjust its maximum size from 10 percent of the hard drive to 5 percent—by right-clicking the Recycle Bin and selecting Properties from the shortcut menu.

Usually it's best to let Windows automatically handle the Recycle Bin, but you can also manually empty the Recycle Bin if you need more free space on your computer.

**7. Double-click the **Recycle Bin**.**

The contents of the Recycle Bin appear.

**8. Click the **Empty the Recycle Bin** task from the Recycle Bin Tasks menu.**

A dialog box appears, asking you to confirm your deletion.

**9. Click **Yes**.**

All the files and folders are permanently deleted from your computer. Notice the Recycle Bin icon no longer holds any trash, indicating that it is empty.

**NOTE:** Be careful when emptying the Recycle Bin. Since Windows automatically erases the oldest files from the Recycle Bin, you shouldn't have to manually empty the Recycle Bin much at all. A lot of users empty the Recycle Bin just about every time they delete something—and then later kick themselves because they realize they needed the file they just permanently erased.

**Other Ways to Empty the Recycle Bin:**

- Right-click the **Recycle Bin** and select **Empty Recycle Bin** from the shortcut menu.

 **Quick Reference****To Restore a Deleted File:**

1. Double-click the **Recycle Bin** to open it.
2. Select the file you want to restore and click the **Restore this item** task in the Recycle Bin Tasks menu.

Or...

Right-click the file you want to restore and select **Restore** from the shortcut menu.

**To Empty the Recycle Bin:**

- Click the **Empty Recycle Bin** task from the Recycle Bin Tasks menu.
- Or...
- Right-click the **Recycle Bin** and select **Empty Recycle Bin** from the shortcut menu.

## Lesson 8-9: A Closer Look at Files and Folders

**Figure 8-18**

Files display different types of icons to help you identify what type of file they are.

**Figure 8-19**

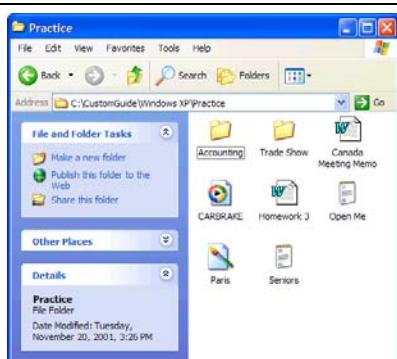
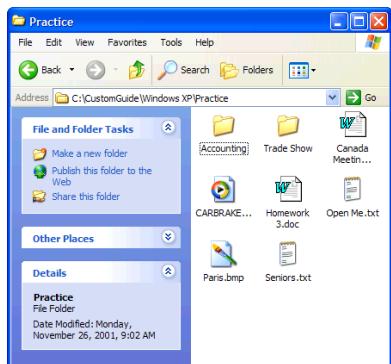
Every file has a three-letter extension, which is normally hidden from view, so Windows knows what type of file it is.

**Figure 8-20**

Files with their three-letter file extensions displayed.

**Figure 8-21**

A file's path name is determined first by the drive, then by the folder(s), then by the file name.

**Figure 8-18****Figure 8-20**

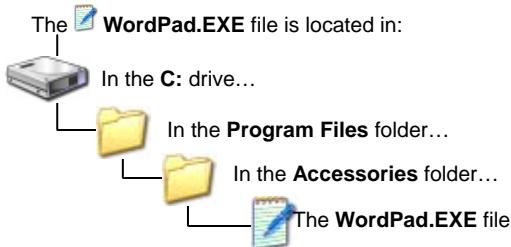
### Letter to Sue.TXT

**File Name**

Can be up to 255 characters (although older MS-DOS programs will only see the first 8 characters, such as Letter~1.txt).

**File Extension**

Usually hidden from view, these three characters tell Windows what type of file it is and what type of icon to assign to it.

**Figure 8-19**

So its path name would be:  
C:\Program Files\Accessories\WordPad.EXE

**Figure 8-21**

**A root folder**, or directory, is the folder from which all the other folders branch. When you double-click the Local Disk (C:) icon, the window shows the contents of the root folder of the C drive.

In this lesson, we'll take a break from all that pointing, clicking and dragging and take a closer look at files. When you're viewing the contents of your computer, you've probably already noticed that everything has its own picture or icon to represent what it is. Folder icons almost always look like little manila folders. Files, on the other hand, come in a variety of types and icons.

There are two parts to every file: the *file name*, which you've already seen and are familiar with; and the *file extension*, which is three letters that tell Windows what type of file it is (see Figure 8-19). Since Windows assigns pictures or icons to the types of files it recognizes, it normally hides these file extensions from view. Whenever you open a file by double-clicking it, Windows automatically opens the file in the program it knows created the file. For example, Microsoft Word always adds the file extension DOC to its files, so when you double-click a DOC file, Windows knows it has to open the file in Microsoft Word.

The *path* of a file or folder is another common term. A *file path* is the drive and folder(s) where a file or folder is located—think of it as a street address. A path contains the drive letter, followed by a colon, followed by any folders (which must be separated by backslashes \), and last comes the name of the file. For example C:\Program Files\Accessories\WordPad.EXE (see Figure 8-21 for an illustration).

**Table 8-4: Common File Types**

<b>File Icon</b>	<b>Description</b>
	MS-DOS programs are written for an earlier, more primitive operating system than Windows. MS-DOS programs don't have the fancy graphics, icons, and features of more advanced Windows programs. All Windows or DOS programs have .EXE, or sometimes, .COM, extensions. EXE stands for <i>executable</i> , meaning the file is a program that will run or execute when you open it.
	Windows doesn't know what type of file this is, so you can't readily open it by double-clicking it. That doesn't mean the file isn't important – it's probably a very important file for Windows or a program. Leave these files alone unless you absolutely know what they are for.
	This is a document created in the word processing program, Microsoft Word. Word documents normally have a .DOC extension.
	This is a spreadsheet created with the program Microsoft Excel. Excel spreadsheets normally have a .XLS extension.
	This is a graphic file or picture, which was created in Paint or another graphics program. These files are also sometimes referred to as bitmaps. The extension for this particular type of graphic file is .BMP or bitmap. There are also other types of graphic files that use different extensions and icons.
	Another very popular graphic file, most of the photographs you see on the Internet are JPEGs.
	Text, or ASCII, files are simple files that only contain text – no formatting, graphics, or any fancy stuff. Text files usually have a .TXT extension.
	Shortcut files point to files and folders elsewhere on your computer so that you can quickly open that file, folder, or program without having to go to its actual location. All of the programs in the Start Menu and some of the items on your desktop are actually shortcuts that point to the program files, located elsewhere on your computer. Shortcuts only point to files or folders, so moving, renaming, or deleting a shortcut does not affect the original program or file in any way. You can tell the difference between a shortcut and an original file because the shortcut has an arrow (↗) in the lower left corner.
	Setup files are special executable (EXE) program files, except instead of running a program when opened, they install software programs onto your computer.

Since Windows assigns icons to help you distinguish between the different types of files, normally the three letter file extensions are hidden from view. You can tell Windows to display the extension, but we'll cover that when we learn how to customize Windows.

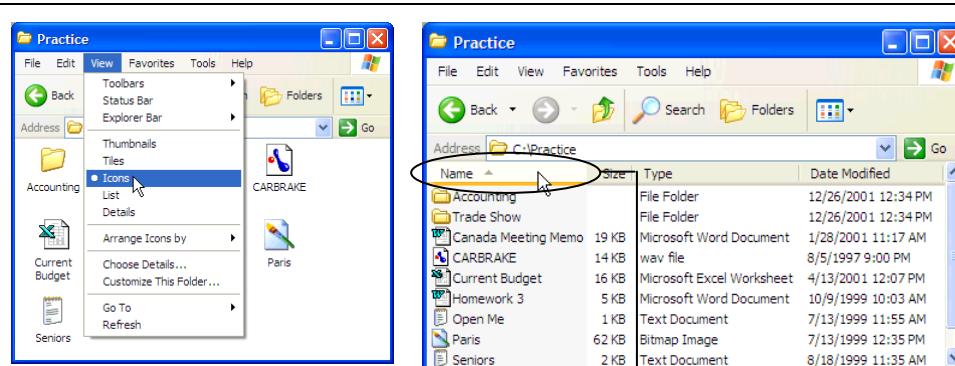
## Lesson 8-10: Changing How Information is Displayed

**Figure 8-22**

A bullet (•) appears next to the current view. Here the window is displayed in Icons view.

**Figure 8-23**

The window displayed in Details view.



**Figure 8-22**

**Figure 8-23**

While in **Details view**, click the column heading you want to use to sort the items. Click the column heading again to sort the items in reverse order

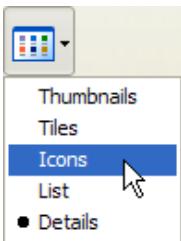
When you work with files and folders on your computer, you may find that you need to change how you view information on the screen. This lesson will show you how to change the appearance of items using one of five view modes: Thumbnails, Icons, Tiles, List, or Details. Experiment to find the view that works best for you. You'll also learn how to change the order in which files and folders are sorted. You can sort the contents of files and folders by name, date (when they were created), size, and type (what type of file they are).



**Start button**



**My Computer**



Other Ways to Change Views:

- Click the **View** button list arrow and select a view from the list.

- 1. Click the Start button and select My Computer from the menu.**  
The My Computer window appears.
- 2. Navigate to your Practice folder.**  
Windows normally displays items as icons by default.
- 3. Select View → Icons from the menu.**  
You can display the most items in a window at a time by using List view. Try switching to List view now.
- 4. Select View → List from the menu.**  
The items are displayed as small icons in a list.  
Details view displays information about each item, including the name, size, type of item, and when it was created or last modified.
- 5. Select View → Details from the menu.**  
You can sort items in a variety of ways: alphabetically by name, by size, or even by the date they were last modified or saved. If you're in Details view, all you have to do to sort the items is click the heading for the column you want to use.
- 6. Click the Name column heading to sort the items by name.**  
The list is sorted alphabetically by name. Clicking the heading again sorts the items in reverse order (Z-A).

**7. Select View → Icons from the menu.**

You can have Windows arrange and organize items so that they appear in neat columns and rows, instead of a cluttered mess.

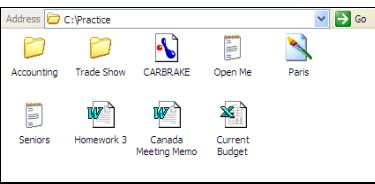
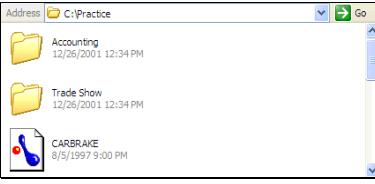
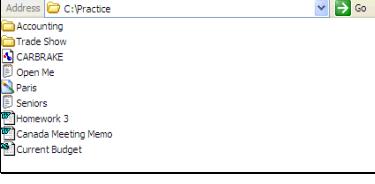
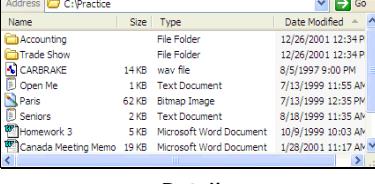
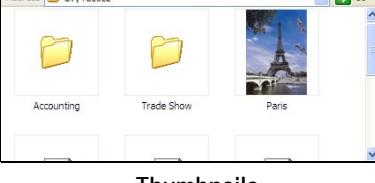
**8. Select View → Arrange Icons by → Auto Arrange from the menu.**

A check mark (✓) appears next to Auto Arrange when this feature is on. (You can skip step 8 if Auto Arrange already has a check mark). Now, whenever you change the size of a window, or add, move, or delete a file, Windows will automatically rearrange the items.

**9. Select View → Arrange Icons by → Name from the menu.**

The list is sorted alphabetically by name.

**Table 8-5: File and Folder Views**

<b>View</b>	<b>Description</b>
	Files and folders are displayed as icons. This is a good view if you're learning to use Windows or have trouble clicking a file with the mouse.
	Files and folders are displayed as icons, but with more information. The type and size of a file is displayed to the right of the icon.
	Files and folders are displayed as small icons in a list. This is a great default view, because it allows you to see the most files at a time.
	Displays information about every file and folder, such as its name, size, type, and when it was last modified. You can change how the list is sorted by clicking the column headings.
	This view is useful if you are working with pictures and graphics because it previews every graphic file instead of only displaying a file name.

**Quick Reference**

To Change How Items are Displayed:

- Select **View** from the menu bar and select one of the five views (Thumbnails, Tiles, Icons, List, or Details).

Or...

- Click the **View button list arrow** and select a view from the list.

To Arrange or Sort Icons:

- If in Details view, click the **column heading** you want to use to sort the window. Click the column heading again to sort in reverse order.

Or...

- Select **View → Arrange Icons by** and choose an arrangement from the menu.

## Lesson 8-11: Selecting Multiple Files and Folders

**Figure 8-24**

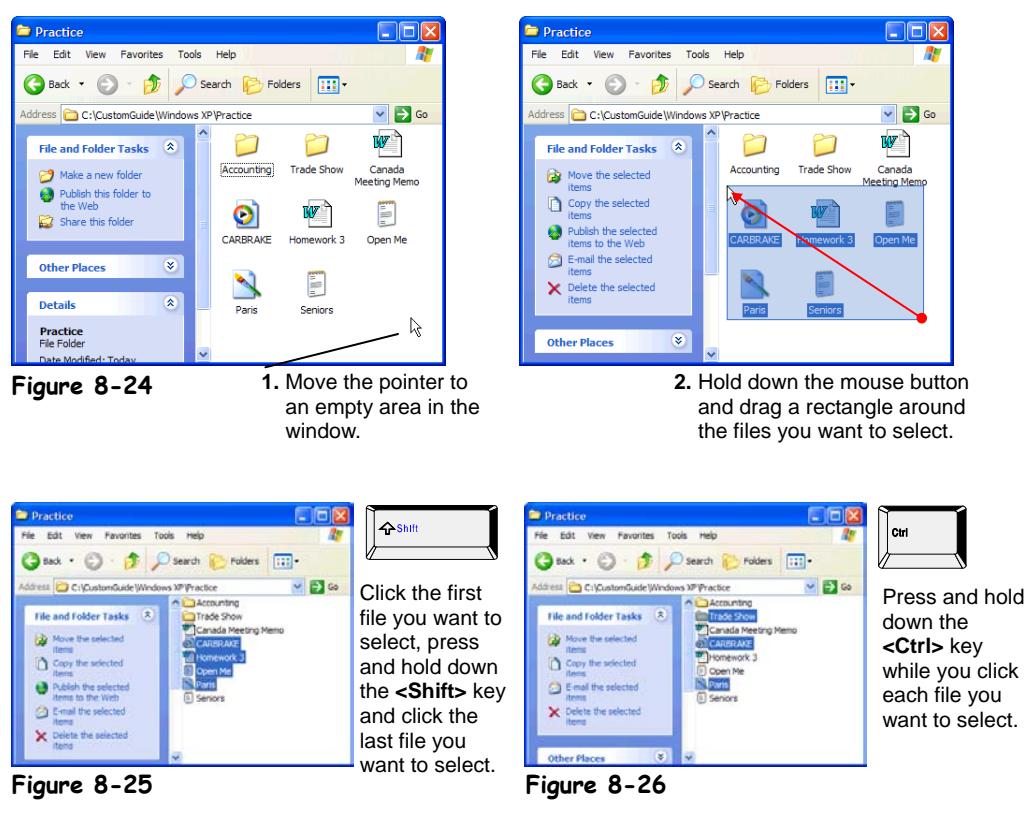
To select several files that are next to each other, hold down the mouse button and drag a rectangle around the files you want to select.

**Figure 8-25**

When you want to select a group of adjacent files, select the first file you want to select, hold down the **<Shift>** key, and click the last file.

**Figure 8-26**

Use the **<Ctrl>** key when you want to select non-adjacent files.



### Other Ways to Move or Copy a file:

- Click the file to select it and select **Edit** → **Move to** or **Copy to** from the menu.

- 4.** Move the pointer to any empty area in the folder window, click and hold down the mouse button, and drag a rectangle around several files, as shown in Figure 8-24.

The only problem with this method is that it only works when you want to select files that are next to each other.

- 5. Click any empty area of the screen to deselect the files.**

Another method of selecting adjacent files and folders is to click the first file you want to select, hold down the <Shift> key, and then click the last file of the group of files you want to select.

- 6. Click the **Carbrake** file to select it, then press and hold the <Shift> key as you click the **Paris** file.**

You've selected the Carbrake file, the Paris file, and all the files that are in between the two.

- 7. Click any empty area of the screen to deselect the files.**

To select non-adjacent files and folders, hold down the <Ctrl> key and click each item you want to select.

- 8. Click the **Carbrake** file to select it, press and hold down the <Ctrl> key, click the **Paris** file and the **Trade Show** folder, then release the <Ctrl> key.**

Remember, you can move, copy, or delete any selected files all at once. Holding down the <Ctrl> key also lets you click and deselect any selected files.

- 9. With the files still selected and the <Ctrl> key still pressed, click and drag one of the selected files (the **Carbrake** or **Paris** files, or the **Trade Show** folder) from the folder window to your Desktop.**

All the selected files are copied to the desktop.

- 10. With the newly copied files still selected on your Desktop, press the <Delete> key.**

The selected files are all deleted from the desktop.

To select all the files and folders in the window, select Edit → Select All from the menu.

- 11. Select **Edit** → **Select All** from the menu.**

All the files in the window are selected.

- 12. Close the window to end this lesson.**

#### Quick Reference

##### To Select Multiple Items:

- If the items are next to each other, you can click and drag a rectangle around the items you want to select.

Or...

- If the items are next to each other, you can click the first item you want to select, press and hold down the <Shift> key, and click the last item you want to select.

- If the items aren't next to each other, you can select non-adjacent items by holding the <Ctrl> key and clicking the items you want to select.

##### To Select All Files at Once:

- Select **Edit** → **Select All** from the menu.

## Lesson 8-12: Finding a File Using the Search Companion

**Figure 8-27**

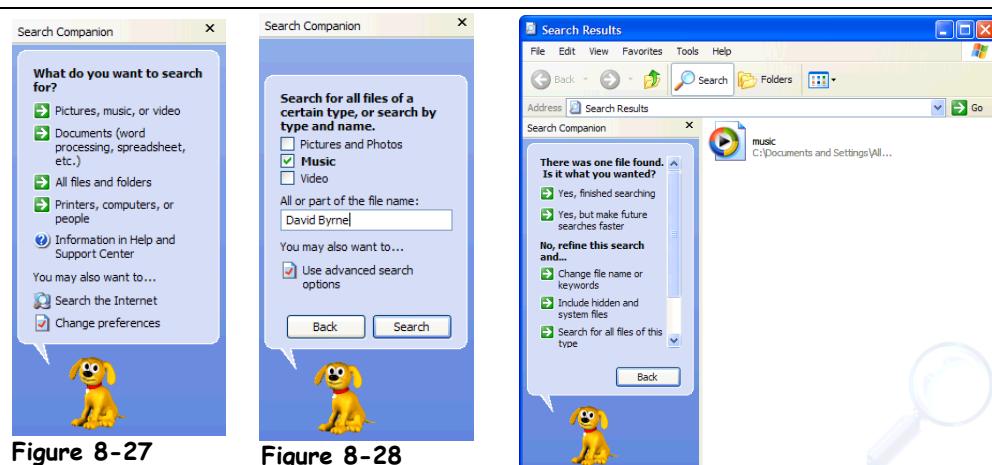
The Search Companion guides your search by asking questions about your search.

**Figure 8-28**

Beginning a music file search.

**Figure 8-29**

The search results window.



1. Choose the category that describes what you're searching for

2. Enter information about the file you're searching for

3. Finish the search, or refine the search for better results

It's just as easy to misplace and lose a file in your computer as it is to misplace your car keys—maybe easier! Luckily, Microsoft has simplified the search process by introducing the Search Companion to Windows XP. A cousin of the Office Assistant, the Search Companion helps you organize your search by asking certain questions, such as what you want to search for (i.e. picture or file), which drive to search in, and the file name.

The Search Companion can search for files even when you can't remember the exact file name or location. You can search for a file by:

- The file name or any part of the file name.
- The date the file was created or modified.
- The type of file, such as a Microsoft Word document or graphic file.
- The text within the file.
- The size of the file.

You can set one or several of these criteria to search for a file.

**1. Click the Start button and select Search from the menu.**

The Search Results window appears with the Search Companion, as shown in Figure 8-27.

The Search Companion will ask you different questions to help you with your search. For now, let's search for a music file.

**2. Click the Pictures, music, or video option.**

The next screen of the Search Companion appears, asking you for more details about your search.

- 3.** Check the **Music** box. Click in the **All or part of the file name** text box and type **David Byrne**. Click **Search**.

The Search Companion begins the search and displays the names and locations of all the files that have the words David Byrne in their names. You can open any of these files by double-clicking them.

- 4.** Double-click the **music** file.

The music file begins playing in the Windows Media Player.

- 5.** Close the Windows Media program.

If you don't quite remember the file name, you can always search by when you last modified the file, or by the size of the file. We won't do a search using this criteria right now, but we can at least go ahead and figure out where these options are located.

- 6.** To start a new search, click the **Search button** in the Search Companion.

The first screen of the Search Companion appears.

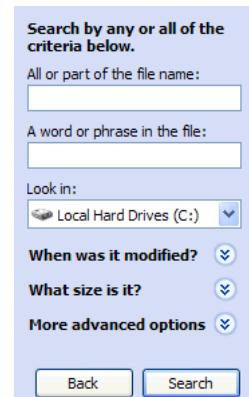
- 7.** Click the **All Files and Folders option**.

A dialog box appears, giving options to search by file name, text within the file, location of the file, when it was last modified, size of the file, and other advanced search options to choose from.

- 8.** Type **Practice folder** in the search options dialog box, and click **Search**.

The Search Companion searches for folder, and displays all finds in the results window.

- 9.** Click the **Search Results window Close button**.



**All Files and Folders Search Options**

**Table 8-6: Search Options**

<b>Search For</b>	<b>Description</b>
Pictures, music, or video	Search for pictures and digital photos (.jpg, .gif, and .bmp); music (.mp3); and digital video (.avi and mpeg) files.
Documents (word processing, spreadsheet, etc.)	Search for files created with a program, such as Microsoft Access (.mdb), Microsoft Excel (.xls), Microsoft PowerPoint (.ppt), Microsoft Word (.doc), or Notepad (.txt)
All files and folders	Search through all types of files and folders.
Computers or people	Search for computers on your network or the name of a person in your address book.
Information in Help and Support Center	Search for information in Microsoft Windows XP's built-in Help system.
Search the Internet	Search the Internet for information on a key word or phrase.
Change Preferences	Change your search preferences, such as whether or not you want to display an animated character or advanced search options.

#### **Quick Reference**

To Use the Search Companion to Find a File:

1. Click the **Start button** and select **Search**.
2. Select the type of file you want to search for.
3. Enter part of the file name or text within the file. You can also search for files using the drop-down lists at the bottom of the Search Companion.
4. Click **Search** to begin searching for the file(s).

## Lesson 8-13: Managing the Search Companion

**Figure 8-30**

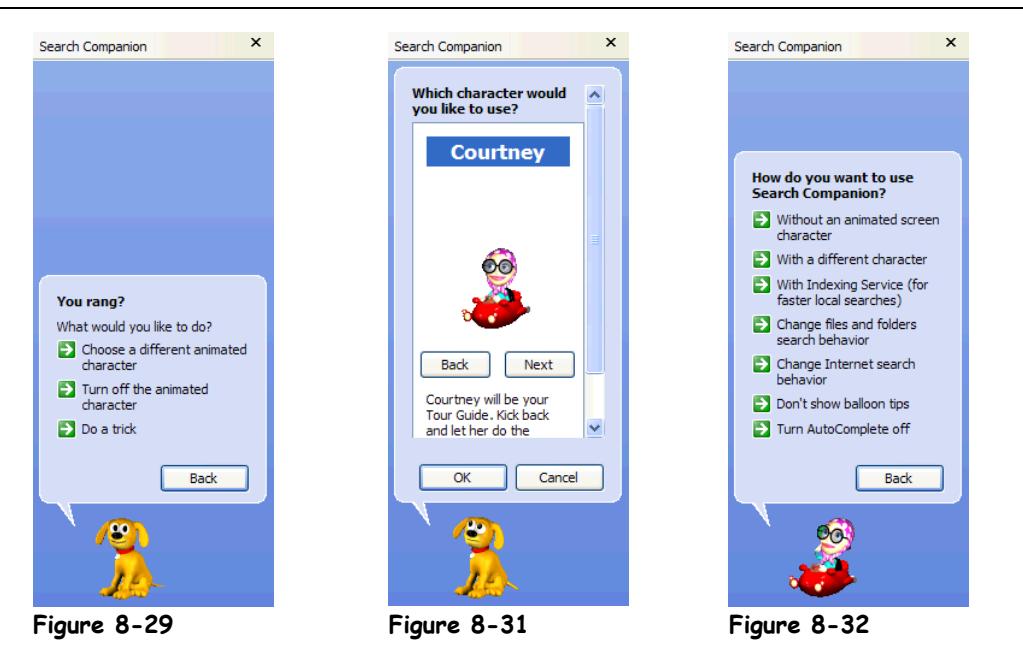
Choosing a different Search Companion.

**Figure 8-31**

Click Back and Next to browse the different character options.

**Figure 8-32**

Changing Search Companion preferences.



Based on the Microsoft Office Assistant, the animated character in the Search Companion does tricks as you perform your search. Whether your prior experience with animated characters has been charming or annoying, this lesson will teach you how to manage these new Microsoft darlings and how to change preferences in the Search Companion itself.

**1. Click the Start button and select Search from the menu.**

There's Rover, eager to help you with your next search! He's getting kind of old though, so let's find someone with new tricks.

**2. Click Rover (the dog) and click Choose a different animated character.**

Scroll through the different characters.

**3. Click the Back and Next buttons to scroll through the different characters. Click OK to select a new character.**

Rover disappears and the new character pops onto the screen.

Though the new character may be an improvement from Rover, you may want to hide the character altogether.

**4. Click the character and click Turn off the animated character.**

The character disappears but the Search Companion remains.

You can customize the Search Companion even more by changing its preferences.

**5. Click Change preferences in the Search Companion.**

You can change how the Search Companion works here. Refer to Table 8-7: *Search Companion Preferences* for more information on these options.

**Table 8-7: Search Companion Preferences**

<b>Preference</b>	<b>Description</b>
With/Without an animated character	Hide or show the animated character in the Search Companion.
With Indexing Service (for faster local searches)	The Indexing Service extracts information from your files while the computer is idle, making searches faster.
Change files and folders search behavior	Choose between Default and Advanced: <b>Default:</b> Steps you through search options to help you define your search. <b>Advanced:</b> Manually enter your own search criteria. Recommended for advanced users only.
Change Internet search behavior	Search the Internet using the Search Companion, or using the classic Internet search without the Search Companion.
Show/Don't Show balloon tips	Toggle balloon tips in the Search Companion on or off.
Turn AutoComplete on/off	Toggle AutoComplete on or off.

**Quick Reference**

To Change the Search Companion Character:

1. Click the **character** and select **Choose a different animated character** from the menu.
2. Click the **Next** or **Back buttons** until you find a character you like and click **OK**.

To Hide the Character:

- Click the **character** and click **Turn off animated character**.

To Change Search Companion Preferences:

- Click **Change preferences** in the Search Companion.

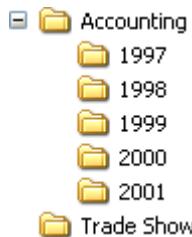
## Lesson 8-14: Using Windows Explorer

**Figure 8-33**

The Windows Explorer window.



A plus symbol (+) next to a folder indicates that all the subfolders it contains are hidden. Click the plus symbol to display the hidden subfolders.



A minus symbol (-) next to a folder indicates that all the subfolders it contains are displayed. Click the minus symbol to collapse or hide the subfolders.



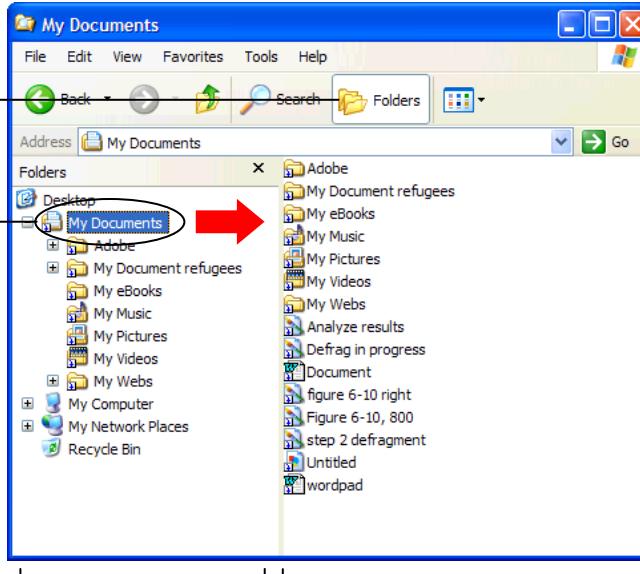
### Folders button

Other Ways to Use Windows Explorer:

- Click the **Folders** button on the toolbar.

Click the Folders button to show or hide the Folders pane.

To view the contents of a folder or drive, click the folder or drive in the Folders pane.



The Folders pane displays the folders and drives on your computer

The right pane displays the contents of the folder or drive you selected. This pane works just like My Computer.

**Figure 8-33**

If you have been following the lessons in this chapter, by now you should know just about everything there is to know about file management. You learned that you can use My Computer to view and work with files and folders.

This lesson introduces how to use *Windows Explorer* to view and work with the contents of your computer. Windows Explorer displays the hierarchy of all the folders on your computer in the Folders pane, as shown in Figure 8-33. This is especially useful for when you want to copy and move files—you can drag the files from the Folders pane to the appropriate folder in the right pane. As a shortcut, you can also click the Folders button to view the Folders pane in any window. You would have to open two My Computer windows to accomplish the same thing.

If you're a Windows 95, 98, or NT user, this is the same as the Windows Explorer you're used to; but now you can click the Folders button any time you want to view or work with Windows Explorer.

1. Click the **Start button** and select **All Programs → Accessories → Windows Explorer** from the menu.

The familiar My Documents window appears but the Folders pane is also open, as shown in Figure 8-33. This is where Windows Explorer displays the hierarchy of files and folders on your computer.

You can see what's in a drive or folder by clicking it in the Folders pane.

**2. Click My Computer in the Folders pane.**

Windows Explorer displays the contents of My Computer in the right pane of the window. Move on to the next step to look at the contents of the hard drive.

**3. Click Local Disk (C:) in the Folders pane.**

Explorer displays the contents of your hard drive in the right pane of the window. The Folders pane displays the same drives and folders in a *hierarchical* view.

A plus symbol or a minus symbol beside a folder means a folder contains several subfolders. Normally these subfolders are hidden. You can display the hidden folders within a folder by clicking the plus sign beside the folder.

**4. Click the Documents and Settings folder plus symbol in the Folders pane.**

The Documents and Settings folder expands and displays all the folders within it.

Notice that the plus symbol changes to a minus symbol, indicating the folder is expanded and is displaying all the folders within it. Some of the Windows subfolders also have pluses by them, indicating that they, too, contain several subfolders.

**5. Click the All Users folder in the Folders pane.**

The contents of the All Users folder appear in the right pane of the Explorer window. Notice that the subfolders in the All Users folder are displayed in both the left and right panes.

You can collapse or hide folders to reduce the amount of information on the screen.

**6. Click the Documents and Settings folder minus symbol in the Folders pane.**

The Documents and Settings folder collapses and all its subfolders are hidden from view. The minus symbol changes to a plus symbol, indicating that all the subfolders in the Documents and Settings folder are hidden from view.

You can also adjust the size of the Folders pane.

**7. Position the mouse over the right border of the Folders pane until the pointer changes to a ↔, then drag to the right about a half-inch.**

The Folders pane is now a bit wider.

Just like My Computer, you can change how information is displayed using the View menu.

**8. Select View → Icons from the menu.**

The contents in the right pane of Explorer are displayed in Icon view.

**9. Select View → List from the menu.**

The contents in the right pane of Explorer are displayed in List view.

It's important to remember that the right pane is still basically My Computer, so the procedures for creating, opening, renaming, moving, copying, and deleting files and folders are exactly the same.



If there isn't a symbol next to a folder, the folder does not contain any subfolders, although it probably contains files.

**Quick Reference**

To View Windows Explorer:

- Click the Start button and select All Programs → Accessories → Windows Explorer from the menu.

Or...

Click the Folders button in a window toolbar.

To View the Contents of a Drive or Folder:

- Click the drive or folder in the Folders pane—the contents of that drive or folder will appear in the right pane.

To Display or Hide a Drive or Folder's Subfolders:

- Click plus symbol (+) to display any hidden subfolders, click the minus symbol (-) to hide any subfolders.

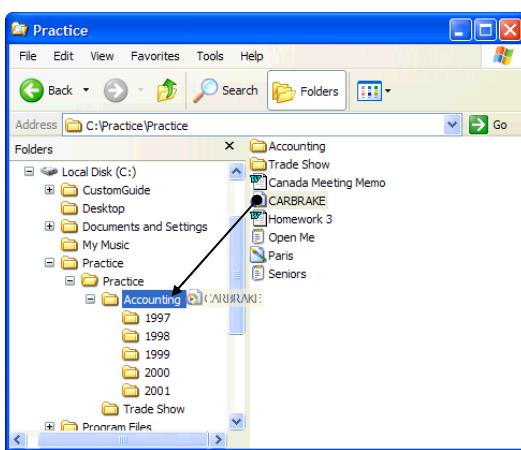
To Resize the Folders Pane:

- Click and drag the right border of the Folders pane.

## Lesson 8-15: File Management Using Windows Explorer

**Figure 8-34**

You can move and copy files using click and drag in Windows Explorer.



**Figure 8-34**

In this lesson, you'll learn how to perform basic file management in the Windows Explorer using the Folders pane. Specifically, you'll move a file and create a new folder. Again, although the Folders pane looks a little different than the rest of the My Computer screen, all the file management procedures you've learned still apply. If you've followed the other lessons, this should be a nice review of the chapter.

**1. Make sure you have Windows Explorer open.**

If you need to start Windows Explorer click the Start button and select All Programs → Accessories → Windows Explorer from the menu.

**2. Click the Local Disk (C:) icon in the Folders pane.**

The contents of the (C:) drive appear in the right pane, and it expands in the left pane to show its subfolders.

**3. Click the Practice folder to display its contents.**

The folder expands and displays all the files inside it, and the plus symbol (+) changes to a minus symbol. Since you can see all the files in the right pane, it's much easier to move and copy files and folders.

**4. Hold down the <Ctrl> key while you click and drag the CARBRAKE file to the Accounting folder, as shown in Figure 8-34.**

The Carbrake file is copied to the Accounting folder.

It wouldn't have mattered if you dragged and dropped the Carbrake file to the Accounting folder in the left pane or the right pane—it's the same folder. Move on to the next step and let's see if you can create a new folder while the Folders pane is displayed.

**5. Create a new folder named 2002 in the root directory of the (C:) drive.**

Need a refresher on how to create a folder? First, click the (C:) drive in the Folder pane to display its contents in the right pane. Next, click Make a new folder in the File and Folder Tasks menu, type 2002, and press <Enter>.

- 6.** Click and drag the new **2002** folder from the right pane to the **Accounting** folder in the Folders pane.

Verify that the 2002 folder was moved inside the Accounting folder.

- 7.** Click the plus symbol beside the **Accounting** folder.

The Accounting folder expands and displays all the folders inside it.

Try deleting a folder using Windows Explorer—you already know the technique.

- 8.** Click the **2001** folder, press the **<Delete>** key, and then click **Yes**.

It doesn't matter if you use the left or right pane to select a folder—they're the same folder, and you can rename, copy, move, and delete folders in either pane of the window.

- 9.** Close the Windows Explorer window to end this lesson.

Congratulations! You've just about completed what is probably the most difficult chapter in the book.

#### **Quick Reference**

##### To Move a File or Folder:

- Drag the file or folder to the desired location in the Folders pane.

##### To Copy a File or Folder:

- Hold down the **<Ctrl>** key while you drag the file or folder to the desired location in the Folders pane.

##### To Create a New Folder:

1. Click the disk or folder where you want to put the new folder.
2. Click the **Make a new folder** task in the File and Folder Tasks menu.
3. Type a name for the folder and press **<Enter>**.

##### To Delete a File or Folder:

- Select the file or folder and press the **<Delete>** key. Click **Yes** to confirm the deletion.

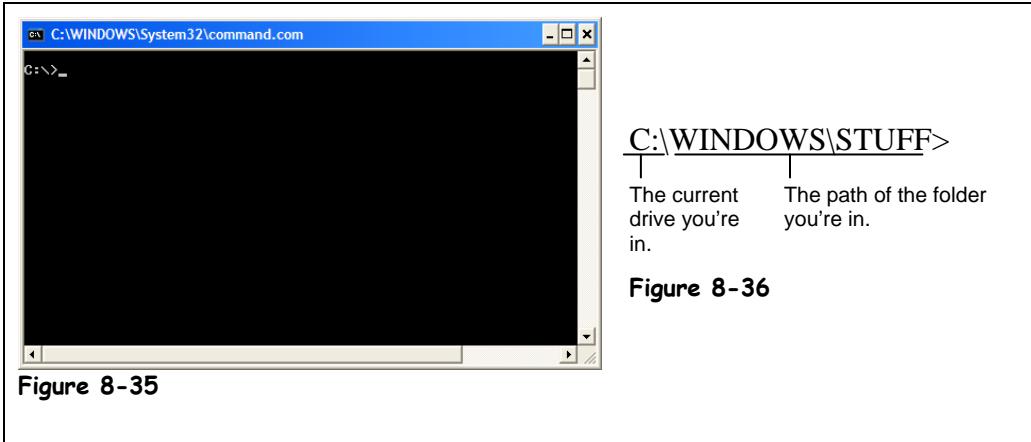
## Lesson 8-16: Using MS-DOS

**Figure 8-35**

MS-DOS running inside a window.

**Figure 8-36**

The DOS prompt.



In the beginning, before there was Windows, there was MS-DOS. MS-DOS (Microsoft Disk Operating System) didn't have any windows, pointers, or icons—you ran programs, changed folders, and copied files by typing difficult commands. Windows has been around for a long time, so thankfully there aren't many DOS programs still around. Regardless, one day you might be on the phone with technical support and be told to go to an MS-DOS prompt. To prepare you for that day, here's a lesson all about MS-DOS.

1. Click the **Start button** and select **Run**.

The Run dialog box appears.

2. Type **COMMAND** in the box and click **OK**.

The MS-DOS Prompt window appears, as shown in Figure 8-35.

Yes, that stark, barren screen was all people had to work with to run programs, copy files, and navigate between folders in the old-fashioned days of the computer. Notice the DOS prompt, which tells you the current drive (C:).

Move on to the next step to see how you changed folders in MS-DOS.

3. Type **CD WINDOWS** and press **<Enter>**.

The clumsy, hard-to-remember command you just typed brought you to the **WINDOWS** subfolder. Notice the DOS prompt changes to C:\WINDOWS.

MS-DOS doesn't automatically display all the files and subfolders in the current folder like My Computer or Windows Explorer—you have to tell MS-DOS to display the contents of the current directory. Here's how:

4. Type **DIR /W** and press **<Enter>**.

The DIR (which stands for *directory*) command displays the contents of the current folder. The /W switch tells DOS to display the contents in wide mode—otherwise the contents of the current drive wouldn't fit on one screen and you wouldn't be able to view them all.

To run a program in DOS, go to the program's folder and type the program's name.

5. Type **EDIT** and press **<Enter>**.

The DOS-based EDIT program appears.

DOS programs aren't as standardized as their more advanced Windows successors, so even the most basic commands, such as how to exit a program, vary greatly between programs.

- 6.** Press the **<Alt>** key then **<F>** (to open the File menu) then **<X>** (to exit the EDIT program).

You exit from the EDIT program and return to the desolate MS-DOS screen.

- 7.** Type **CD ..** and press **<Enter>**.

This cryptic command changes to the previous parent folder. Let's return back to the warm and user-friendly world of Windows.

- 8.** Type **EXIT** and press **<Enter>**.

The MS-DOS Prompt window closes.

Most DOS commands have additional options called **switches**, which you specify after the DOS command, preceded by a **/**. Type **/?** after a DOS command to view all the switches or options for the command.

**Table 8-8: Common MS-DOS Commands**

Command	Syntax	Description
A: (Drive Letter)	[drive letter]	Change the current drive. <b>Example:</b> <code>D:</code> would change to the D: drive.
DIR	DIR	Displays the names of all the files and folders in a folder. <b>Example:</b> <code>DIR /W</code> displays the contents of the current folder in wide screen view.
COPY	COPY [source file] [destination]	Copies one or more files to another location. <b>Example:</b> <code>COPY LETTER.TXT A:</code> would copy the LETTER.TXT file to the A: drive.
XCOPY	XCOPY [source file] [destination]	XCOPY is a super-charged version of COPY. <b>Example:</b> <code>XCOPY A:/*.* C:\NEW</code> would copy all the files in the A: drive to the NEW folder on the C: drive. If the NEW folder didn't exist on the C: drive, XCOPY would create the folder.
DEL	DEL [path] [filename]	Deletes one or more files. <b>Example:</b> <code>DEL *.TMP</code> would erase any files in the current folder with .TMP file extensions.
RENAME	RENAME [old name] [new name]	Renames a file or folder. <b>Example:</b> <code>RENAME LETTER.TXT APPROVE.TXT</code> would rename the LETTER.TXT file to APPROVE.TXT.
CD	CD [path]	Change the current folder. Type <code>..</code> to change to the previous parent folder. <b>Example:</b> <code>CD TEMP</code> would change to the TEMP folder, <code>CD ..</code> would change to the root folder of the C: drive.
MD	MD [folder name]	Creates or makes a new folder. <b>Example:</b> <code>MD DOCS</code> would create a new folder named DOCS.
RD	RD [folder name]	Deletes a folder. <b>Example:</b> <code>RD DOCS</code> would delete the DOCS folder.

#### Quick Reference

To Use the MS-DOS Prompt:

1. Click the **Start button** and select **Run**.
2. Type **COMMAND** in the box and click **OK**.
3. Enter your commands in the DOS prompt.

To Exit Back to Windows:

- Type **EXIT** and press **<Enter>**.

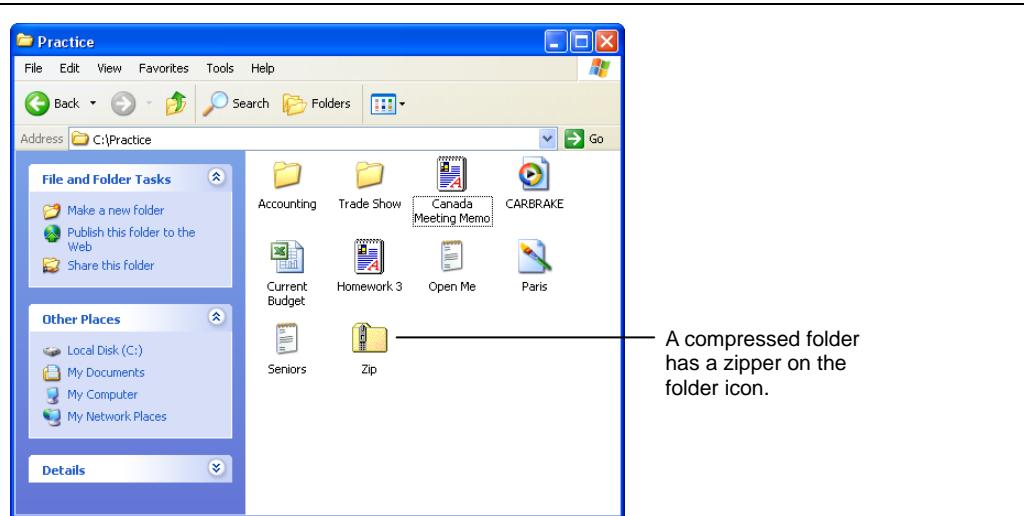
## Lesson 8-17: Creating and Using a Compressed Folder

**Figure 8-37**

A zipped folder in the Practice folder.

**Figure 8-38**

The Extraction Wizard.

**Figure 8-37****Figure 8-38**

### Compressed (zipped) Folder

Other Ways to Create a Compressed Folder:

- Right-click the desktop and select **New → Compressed (zipped) Folder** from the shortcut menu.

You can reduce the amount of storage a folder and its contents consumes on a drive by using a compressed, or *zipped*, folder. Compressed folders occupy less space on a drive, which also makes them easier to transfer and share with other computers. You can work with a compressed folder and its contents just as you would work with a regular folder.

- 1. Click the Start button and select My Computer.**  
The My Computer window appears.
- 2. Navigate to and open your Practice folder.**  
The contents of the (C:) drive appear.
- 3. Select File → New → Compressed (zipped) Folder from the menu.**  
A new compressed folder with a temporary name “New Compressed (zipped) Folder” appears in the drive.

**4. Type Zip and press <Enter>.**

The compressed folder is renamed, as shown in Figure 8-37.

You can save and move files and folders into a compressed folder just like you would with a regular folder. Files and folders saved in a compressed folder are also compressed, but this doesn't change how you work with them.

**5. Click and drag the Seniors file into the Zip folder.**

Notice that a copy of the Seniors file still appears in the Practice folder. A compressed file is simply another version of the file, so instead of moving the original file into the compressed folder, a compressed *copy* of the file is created.

**6. Double-click the Zip folder.**

The Seniors file really is in the folder. You can view the compression ratio (compressed vs. uncompressed) by switching to Details view.

**7. Click the Views button and select Details from the list.**

Notice the Packed size column and the Size column, as shown in Figure 8-38. The *packed size* is the amount of space the compressed file occupies. The *size* is the amount of space the uncompressed file occupies. As you can see from the Ratio column, the file has a compression ratio of 50 percent. Not bad!

Now let's make sure the file really hasn't changed, even though it has been compressed.

**8. Double-click the Seniors file.**

The Seniors file opens in Notepad. As you can see, the file opens just as it would from a non-compressed file.

**9. Click the Notepad Close button.**

The Notepad window closes.

Extracting is a term often used with compressed files. This is really just a technical term for decompressing files by moving them out of a compressed folder. You can extract a single file simply by moving it out of the folder. Or you can extract all the files from the compressed folder at the same time.

**10. Click the Up button on the toolbar. Right-click the Zip folder and select Extract All from the shortcut menu.**

The first screen of the Extraction Wizard appears.

**11. Click Next.**

Select where you want the extracted file to be saved.

**12. Click the Browse button. Click Desktop and click OK.**

If the compressed folder is password-protected, click the Password button to enter the password.

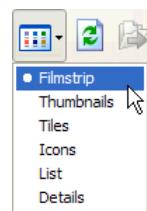
**13. Click Next.**

The compressed files are extracted to the location you specified, as shown in the file path in the Extraction Wizard.

**14. Click Finish.**

A new window appears, letting you know the files have been extracted.

Some files may exhibit better compression ratios than others. For example, JPEG graphics files (which are already compressed) may actually become larger when compressed.



**Views button**

### Quick Reference

To Create a Compressed Folder:

1. Navigate to where you want to save the compressed folder.
2. Select **File → New → Compressed (zipped) Folder** from the menu.
3. Type a name for your folder and press **<Enter>**.

To Extract Files from a Compressed Folder:

1. Right-click the compressed folder containing the files you wish to remove and select **Extract All** from the shortcut menu.
2. Click **Next**.
3. Click the **Browse button** and navigate to where you would like to move the extracted files.
4. Click **OK**.
5. Click **Next**, then click **Finish**.

## Chapter Eight Review

### Lesson Summary

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#### Understanding Storage Devices, Folders, and Files

- Computers store information on disk drives using files and folders, just like you store information in a file cabinet.
- Know the following memory terminology:

Term:	Size:
Byte	A single character such as the letter j or number 8.
Kilobyte (K or KB)	1,024 bytes – a typed page.
Megabyte (MB or MEG)	1,048,578 bytes – a novel.
Gigabyte (GB or GIG)	Several encyclopedia sets.

#### Using My Computer to See What's in Your Computer

- Click the **Start button** and select **My Computer** to view the contents of your computer.
- Double-click a disk drive in the My Computer window to display the disk drive's contents.
- **To View the Properties of Something:** Right-click the drive, folder, or file and select **Properties** from the shortcut menu. For example, right-clicking a hard drive and selecting **Properties** from the shortcut menu would display how much space is left on the hard disk.

#### Opening a Folder

- Double-click a folder to open it and display its contents.
- **To Move Back or Up to the Previous Level or Folder:** Click the **Up button** on the toolbar, click the **Back button** on the toolbar, or click the **Address** list arrow on the toolbar and select the appropriate drive or folder.

#### Creating and Renaming a Folder

- **To Create a New Folder:** Open the disk or folder where you want to put the new folder. Select the **Make a new folder task** from the File and Folder Tasks menu, or right-click any empty area in the window and select **New → Folder** from the shortcut menu. Type a name for the folder and press **<Enter>**.
- **To Rename a Folder:** Click the folder to select it, select the **Rename this folder** task from the File and Folder Tasks menu, type a name for the folder and press **<Enter>**. You can also rename a folder by clicking the folder to select it, selecting **File → Rename** from the menu, typing a name for the folder and pressing **<Enter>**.

#### Copying, Moving, and Deleting a Folder

- **Move a Folder (Click and Drag Method):** Move a folder by dragging it to the desired location, such as another folder or onto the desktop (you might have to open another My Computer window if you want to copy it to another folder).

- **Move a Folder:** Select the folder and click the **Move this folder** task in the File and Folder Tasks menu, select the drive or folder where you want to move the folder and click **Move**.
- **Copy a Folder (Click and Drag Method):** Hold down the **<Ctrl>** key while you drag the folder to the desired location (you might have to open another My Computer window if you want to copy it to another folder).
- **Copy a Folder:** Click the folder to select it, click the **Copy this folder** task in the File and Folder Tasks menu, select the drive or folder where you want to copy the folder and click **Copy**.
- **To Delete a Folder:** Select the folder and press the **<Delete>** key. Click **Yes** to confirm the folder deletion.

## Opening, Renaming, and Deleting a File

- Double-click a file to open the file in the program that created it.
- **To Rename a File:** Click the file to select it, select the **Rename this file** task in the File and Folder Tasks menu, enter the file's new name and press **<Enter>**. Or, right-click the file, select **Rename** from the shortcut menu, type a name for the folder and press **<Enter>**.
- **To Delete a File:** Select the file and press the **<Delete>** key. Click **Yes** to confirm the deletion.

## Copying and Moving a File

- You can copy and move files the same as you copy and move folders.
- **Move a File:** Click the file to select it and click the **Move this file** task in the File and Folder Tasks menu. Select the drive or folder where you want to move the file and click **Move**.
- **Copy a File (Click and Drag Method):** Hold down the **<Ctrl>** key while you drag the file to the desired location (you might have to open another My Computer window if you want to copy it to another folder).
- **Copy a File:** Click the file to select it, click the **Copy this file** task in the File and Folder Tasks menu, select the drive or folder where you want to copy the file and click **Copy**.

## Restoring a Deleted File and Emptying the Recycle Bin

- **To Restore a Deleted File:** Double-click the **Recycle Bin** to open it. Select the file you want to restore and click the **Restore this item** task in the Recycle Bin Tasks menu. Or, right-click the file you want to restore and select **Restore** from the shortcut menu.
- **To Empty the Recycle Bin:** Right-click the **Recycle Bin** and select **Empty Recycle Bin** from the shortcut menu.

## A Closer Look at Files and Folders

- There are two parts to a file: the **file name**, which can be up to 255 characters, and the **file extension**, which is three characters long and tells Windows what type of file it is.
- The **path** of a file or folder is the drive and folder where a file or folder is located (its address).

## Changing How Information is Displayed

- **To Change How Items are Displayed:** Select **View** from the menu bar and select one of the five views, or, select a view from the **View button** list arrow on the toolbar.
- The five view modes are Thumbnails, Tiles, Icons, List, and Details.

- To Arrange or Sort Icons: Select **View → Arrange Icons by** and choose an arrangement from the menu, or, if you are in Details view, simply click the **column heading** you want to use to sort the window.

## Selecting Multiple Files and Folders

- By selecting multiple files and folders you can move, copy, or delete a group of files and folders all at once.
- If the files are next to each other, you can click and drag a rectangle around the files you want to select. If you don't like that method, click the first file you want to select, press and hold down the **<Shift>** key, and click the last file you want to select.
- If the files aren't next to each other, you can select random files by holding the **<Ctrl>** key and clicking the files you want to select.
- Select **Edit → Select All** from the menu to select all files at once.

## Finding a File Using the Search Companion

- **To Find a File:** Click the **Start button** and select **Search** from the menu. Select the type of file you want to search for and enter any part of the file name or text within the file. Use the Search Companion to enter information (file name, size, type, text within the file, date it was last modified, etc.) about the file you're searching for. Click **Search** to begin searching for the file(s).

## Managing the Search Companion

- To change the animated character, click the character and select **Change the animated character** from the menu. Click the Next or Back buttons until you find a character you like, then click **OK**.
- To hide the character, click the character and select **Turn off animated character** from the menu.
- To change search companion preferences, click the **Change preferences** option in the Search Companion.

## Using the Windows Explorer

- **To View Windows Explorer:** Click the **Start button** and select **All Programs → Accessories → Windows Explorer** from the menu. Or, click the **Folders button** in a window toolbar.
- **To View the Contents of a Drive or Folder:** Click the drive or folder in the Folders pane—the contents of that drive or folder will appear in the right pane.
- **To Display or Hide a Drive or Folder's Subfolders:** Click plus symbol ( $\oplus$ ) to display any hidden subfolders, click the minus symbol ( $\ominus$ ) to hide any subfolders.
- **To Resize the Folders Pane:** Click and drag the right border of the Folders pane.

## File Management Using Windows Explorer

- **To Move a File or Folder:** Drag the file or folder to the desired location in the Folders pane.
- **To Copy a File or Folder:** Hold down the **<Ctrl>** key while you drag the file or folder to the desired location in the Folders pane.
- **To Create a New Folder:** Click the drive or folder where you want to put the new folder and click the **Make a new folder** task in the File and Folder Tasks menu. Type a name for the folder and press **<Enter>**.

- To Delete a File or Folder: Select the file or folder and press the <Delete> key. Click Yes to confirm the deletion.

## Using MS-DOS

- To Use the MS-DOS Prompt: Click the Start button and select Run. Type COMMAND in the box and click OK, then enter your commands in the DOS prompt.
- To Exit from the MS-DOS Prompt: Type EXIT and press <Enter>.

## Creating and Using a Compressed Folder

- To Create a Compressed Folder: Click the Start button and select My Computer from the menu. Navigate to and open the folder you want to compress, then select File → New → Compressed (zipped) Folder from the menu. Type a name for your folder and press <Enter>.
- To Extract a File from a Compressed Folder: Right-click the compressed folder containing the files you want to remove and select Extract All from the shortcut menu. Click Next on the first page of the Extraction Wizard, then click the Browse button and select the folder you wish to move the extracted files to. Click OK when you're finished, click Next, then click Finish.

## Quiz

1. Computers store information on which types of disks? (Select all that apply.)
  - Floppy disks.
  - Hard disks.
  - Compact discs (CD-ROMs).
  - Removable disks.
3. The purpose of your computer's folders is to: (Select all that apply).
  - Lose your important files.
  - Store related files and programs in the same place.
  - Make it difficult to delete things unless you really know what you're doing.
  - Organize related files and information on your computer.
4. .TXT, .DOC, and .BMP — these are all examples of:
  - Three meaningless letters with a period in front of them.
  - File extensions.
  - Types of advanced degrees in computers.
  - How confusing computers are.
5. Which program(s) can you use to view and manage the contents of your computer? (Select all that apply.)
  - Netscape Navigator.
  - My Computer.
  - System Sleuth.
  - Windows Explorer.

**6. You open a file or folder by double-clicking it. (True or False?)**

**7. Do this to display the contents of a certain drive or folder:**

- A. Right-click the drive or folder.
- B. Click the drive or folder while holding down the <Alt> key.
- C. Double-click the drive or folder.
- D. Triple-click the drive or folder.

**8. To view an object's properties, right-click the object and select Properties from the shortcut menu. (True or False?)**

**9. When you're browsing the contents of your computer, do this to move back or up to the previous level or folder: (Select all that apply.)**

- A. Click the Up button on the toolbar.
- B. Click the Back button on the toolbar.
- C. Press <Ctrl> + <Z>.
- D. Click the Address Bar on the toolbar and select the appropriate drive or folder.

**10. Which of the following statements is NOT true?**

- A. You can move a file or folder to a new location by dragging and dropping it.
- B. You can rename a file or folder by right-clicking it, selecting Rename from the shortcut menu, typing the new name, and pressing <Enter>.
- C. A plus symbol (+) next to a folder in Windows Explorer indicates the folder is locked and cannot be modified or deleted.
- D. Holding down the <Ctrl> key while you're dragging and dropping something copies it instead of moving it.

**11. Delete a file or folder by clicking it, pressing the <Delete> key, and confirming the deletion. (True or False?)**

**12. Do this to select multiple files and folders: (Select all that apply.)**

- A. Click and drag a rectangle around any adjacent files you want to select.
- B. Select File → Select Multiple Files from the menu, and then click the files you want to select.
- C. Click the first file you want to select, press and hold down the <Shift> key, then click the last file you want to select.
- D. Hold down the <Ctrl> key and click the files you want to select.

**13. Which of the following statements is NOT true? (Select all that apply.)**

- A. You can find a file on your computer by clicking the Start button, selecting Search, entering what you want to search for and clicking Search.
- B. Open Windows Explorer by clicking the Start button and selecting All Programs → Accessories → Windows Explorer.
- C. To save a file in a location other than the program's default folder, you have to save the file and then use My Computer or Windows Explorer to move the file to the desired location.
- D. You can display the contents of a drive or folder using Thumbnails, Tiles, Icons, List, or Details View.

- 14. The three-letter extension of a file is normally displayed in Windows XP.  
(True or False?)**

## Homework

---

1. Open My Computer.
2. View the contents of your Local Disk (C:).
3. Create a new folder in the root directory of your Local Disk (C:).
4. Name the new folder "Project Files."
5. Delete the Project Files folder from the (C:) drive.
6. Open the Recycle Bin and find the deleted Project Files folder. Do you know how to retrieve it?
7. Open Windows Explorer and view the contents of the (A:) drive.
8. Use the Windows Explorer View menu to display the contents of the (A:) drive in List view.
9. While you're still in List view, sort the files in alphabetical order.
10. Use the Start menu's Search feature to find all the files named "readme.txt" on your (C:) drive. Open one of these files by double-clicking it.

## Quiz Answers

---

1. A, B, C, and D. Computers can store their information on any of these disk types.
3. B and D.
4. B. File extensions, which are used to identify the file type.
5. B and D. My Computer and Windows Explorer both display the contents of your computer and allow you to manage your computer's files and folders.
6. True. Double-clicking a file or folder opens it.
7. C. Double-click a folder to open it and display its contents.
8. True. Right-clicking an object and selecting Properties from the shortcut menu displays the properties of the object.
9. A, B, and D. Any of these will bring you back to the previous level or folder.
10. C. A plus symbol (+) next to a folder in Windows Explorer means the folder contains subfolders.
11. True.
12. A, C, and D. You can use any of these methods to select multiple files and folders.
13. C. You can easily save a file in a different location by opening the drive and/or folder where you want to save the file and clicking Save.
14. False. File extensions are normally hidden in Windows XP.







# Chapter Nine: Exploring the Internet

## Chapter Objectives:

- Understand and connect to the Internet
- Find a specific Web page
- Browse and search the Web
- Add Web pages to Favorites
- Change your Home page
- Display and clear a history of visited Web pages
- Download pictures and software
- Understand the Information Bar
- Use the Pop-up Blocker
- Understand how to secure your computer
- Use e-mail

## Prerequisites

- How to use the mouse to click, double-click, drag and drop, and right-click
- How to start programs in the Start Menu
- How to use menus, toolbars, and dialog boxes

Unless you've been living on a deserted island for the past ten years, you already know that the Internet is the biggest thing to happen to computers since... well, computers! You can't ignore it—the Internet is not going away and it's already changing the world we live in. Fortunately, for the most part, the Internet is incredibly easy to use. Even the most computer-phobic users seem to feel right at home on the Internet.

This chapter explains the ins and outs of the Internet. If you've ever spent a sleepless night wondering exactly what the Internet is and how it got started, you'll finally learn it all. We'll discuss how to get your computer connected to the Internet, and how to surf the Web using the Windows XP Internet Explorer, especially with the changes in Service Pack 2. You'll also learn some useful tips like how to secure your computer, how to search for information, how to bookmark your favorite Web pages so that you can easily come back to them later, and how to change the Web page that first appears when you connect to the Internet. Finally, you'll learn how to download and how to send and receive e-mail.

## Lesson 9-1: Introduction to the Internet

**Figure 9-1**

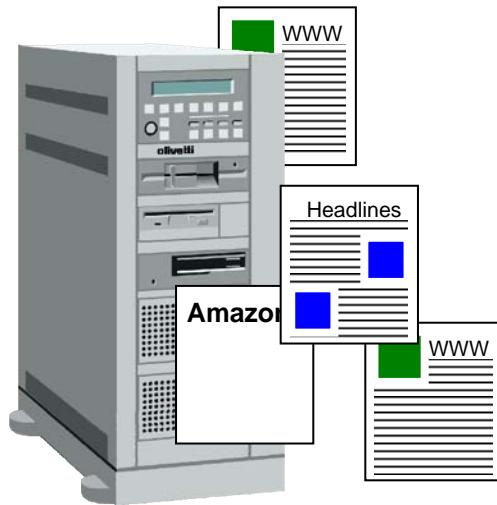
The Internet is the largest network in the world, consisting of millions of computers, all over the world, all connected together.

**Figure 9-2**

Web pages are stored on Web servers—computers that are permanently connected to the Internet.



**Figure 9-1**



**Figure 9-2**

The Internet is the largest computer network in the world. It consists of millions of computers all over the planet, all connected to each other.

The Internet was born in the 1960s when the United States military worried that a nuclear bomb could destroy its computer systems (there weren't many of them back then). So it placed several computers far apart from each other and connected them with some super-fast telephone lines so that the computers could talk to each other. If a nuclear bomb blew up one computer, another computer could instantly take over; thus, the computer network wouldn't go down. Years passed and other organizations, such as colleges and universities, started connecting their computers to this growing network to share information.

Although the Internet has been around a long time, it wasn't until the 1990s that the *World Wide Web* was born. The World Wide Web is what you probably think of when you think of the Internet, although it's really just a part of the Internet. The Web consists of millions of documents that are stored on hundreds of thousands of computers that are always connected to the Internet. These documents are called *Web pages*, and you can find Web pages on every subject imaginable—from your local newspaper to online catalogs to airline schedules, and much more.

Web pages are stored on *Web servers*. A Web server is a computer, not unlike your own computer, only bigger and faster. There are hundreds of thousands of Web servers located all over the world. Web servers are always connected to the Internet so that people can view their Web pages 24 hours a day.

So what can you do once you're connected to the Internet? Plenty. Table 9-1: *What Can I do on the Internet?* shows just a few of the many things there are to do through the Internet.

**Table 9-1: What Can I do on the Internet?**

<b>Task</b>	<b>Description</b>
Send and Receive E-mail	Exchanging electronic mail (or e-mail) is the most popular feature on the Internet. Just like regular paper mail, you can send and receive e-mail with people around the world, as long as they have access to a computer and the Internet. Unlike regular paper mail, e-mail is delivered to its destination almost instantly.
Browse the World Wide Web	The World Wide Web is what most people think of when they think of the Internet—although it's really only a part of the Internet. The World Wide Web is an enormous collection of interconnected documents stored on Web servers all over the world. The World Wide Web has information on every subject imaginable.
Join online discussions with newsgroups	Newsgroups are discussion groups on the Internet that you can join to read and post messages to and from people with similar interests. There are thousands of newsgroups on topics such as computers, education, romance, hobbies, politics, religion, and more.
Chat with other online users	Chatting lets you communicate with people on the Internet instantly—no matter how far away they are! Most chats are text-based, meaning you have to type when you converse with people on the Internet. A growing number of chats have voice and even video capabilities—all without having to pay long distance charges.
Download software	You can download pictures, demo programs, patches and drivers for your computer, and many other types of files and save them to your computer.
Listen to music and watch videos	You can listen to sound on the Web, such as radio stations, or music by your favorite artists.

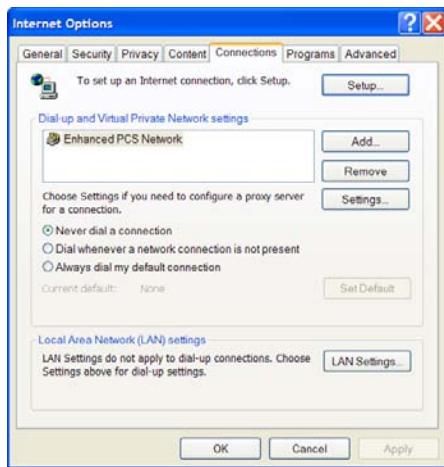
## Lesson 9-2: Connecting to the Internet

**Figure 9-3**

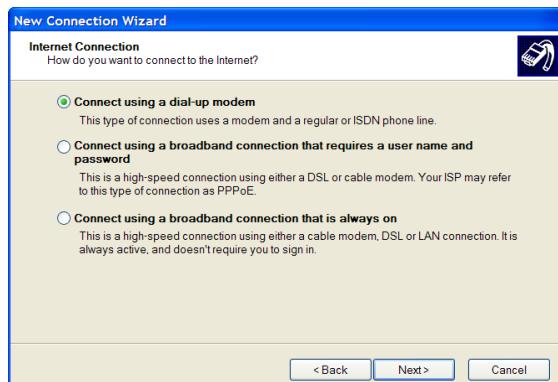
The Connections tab of the Internet Options tab.

**Figure 9-4**

Specify how you want to connect to the Internet.



**Figure 9-3**



**Figure 9-4**

Other Ways to Open Internet Explorer:

- Click the Internet Explorer icon in the Quick Launch bar.

There are three things you'll need to connect to the Internet:

- **An Internet Service Provider (ISP):** An Internet Service Provider is a lot like a phone company, except instead of letting you make telephone calls to other people, an Internet Service Provider lets your computer connect to the Internet. Just like your telephone company, Internet Service Providers charge for their services.
- **A Web Browser:** A Web browser is a program that lets your computer view and navigate the World Wide Web. Windows comes with a built-in Web browser—Internet Explorer.
- **A Phone Line and Modem or Other Connection:** A modem is your computer's very own telephone that lets it talk to other computers on the Internet. There are slower dial-up modems that connect to the Internet using your phone and much faster cable modems and Digital Subscriber Lines (DSL) as well. DSL is technology that provides high-speed Internet access through standard phone lines. A cable modem connects to the Internet through the cable hookup in your house. Both of these connections are much faster than a dial-up modem and are connected to the Internet 24 hours a day, so you don't tie up any phone lines.

### 1. Make sure you have an account with an Internet Service Provider (ISP).

If you want, you can follow the step-by-step instructions and let the New Connection Wizard help you find an Internet Service Provider—or you can find your own. Ask a computer-savvy friend or an employee at a local computer store for the name and number of a local Internet Service Provider. Once you are set up with an Internet Service Provider, come back and finish the rest of this lesson.

### 2. Click the Start button and select Internet Explorer from the menu.

Since you probably don't have an existing Internet connection you probably will get an error page when you start Internet Explorer—don't worry about it.

**3. Select Tools → Internet Options from the menu, then click the Connections tab.**

The Connections tab of the Internet Options dialog box appears, as shown in Figure 9-3. This is where you tell Windows how you want to connect to the Internet.

**4. Click Setup.**

The Welcome to the New Connection Wizard screen appears.

**5. Click Next.**

You are presented with a few options; we want to use the default *Connect to the Internet* option.

**6. Click Next.**

Next you have to specify *how* you want to connect to the Internet:

- **Choose from a list of Internet Service Providers (ISPs):** If you don't have an account with an Internet Service Provider you can select this option to get set up with Microsoft's very limited of ISPs.
- **Set up my connection manually:** Although it's not the default option, most of the time you'll want to set up your connection manually, especially if you already have an account with an ISP. Be ready with your user name, password, and, if you're still using a dial-up connection, phone number.
- **Use the CD I got from an ISP:** If your received a CD from your ISP you can insert it, select this option, and click Next... although you can probably install the software just as easily without the help of the New Connection Wizard.

**7. Select the Set up my connection manually option and click Next.**

More Internet connection choices, as shown in Figure 9-4. Here's what they are:

- **Connect using a dial-up modem:** Use this option if you're still using a dial-up modem.
- **Connect using a broadband connection that requires a user name and password:** Select this option if you have a DSL or cable modem that requires a user name and password to connect to the Internet.
- **Connect using a broadband connection that is always on:** Most DSL and cable modems always stay on and connected to the Internet; select this option if you have this type of connection to the Internet.

You will probably have to refer to your ISP documentation to determine which of these three options is right for you.

**8. Select the option that best describes how you want to connect to Internet and click Next.**

The last step will differ, depending on which of the three options you selected; don't worry—the rest of the Wizard should be self-explanatory.

**9. Follow the remaining on-screen instructions, entering a name for the Internet connection, your user name, and password when prompted.**

### Quick Reference

To Connect to the Internet:

1. Click the **Start button** and select **Internet Explorer** from the menu.  
Or...  
Click the **Internet Explorer** icon on the Quick Launch bar.
2. Select **Tools → Internet Options** from the menu then click the **Connections** tab.
3. Click **Setup** and click **Next, Next.**
4. Select an option for how you want to connect to the Internet (usually manually) and click **Next**.
5. Follow the remaining on-screen instructions, entering a name for the Internet connection, your user name, and password if prompted.

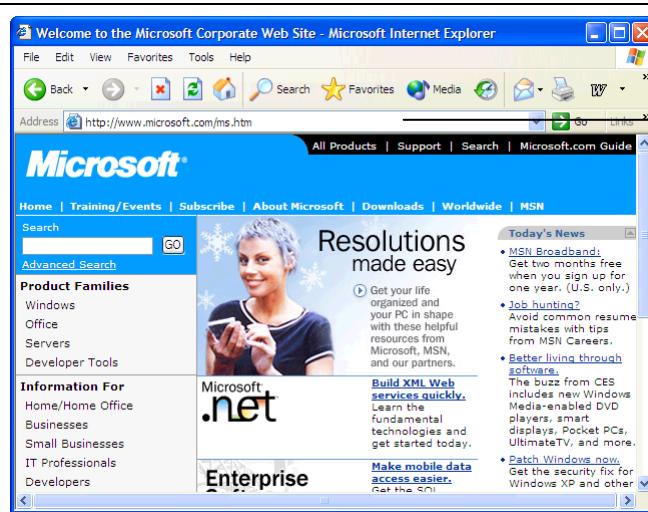
## Lesson 9-3: Displaying a Specific Web Page

**Figure 9-5**

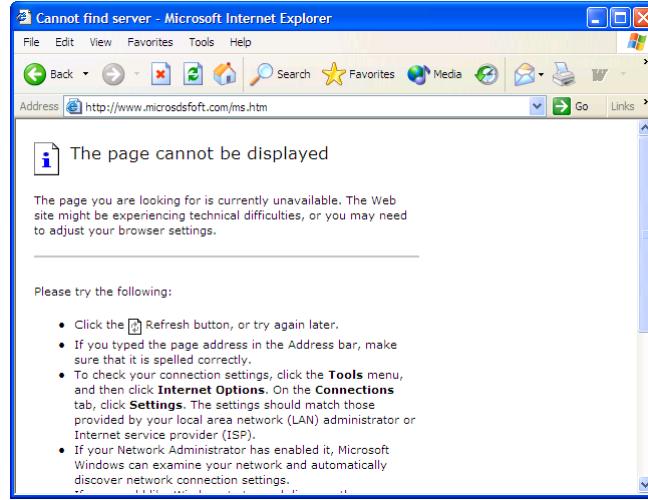
The Microsoft Web site.

**Figure 9-6**

When a Web page is unavailable, this screen is displayed in Internet Explorer.

**Address bar**

Type the address of the Web page you want to view and press <Enter>.

**Figure 9-5****Figure 9-6**

**Other Ways to Enter an Internet Address:**

- Press <Ctrl> + <L>.

Web addresses are everywhere—on television advertisements, in magazine and newspaper articles, and even on business cards. These www.something.com's you've seen and heard so much about are *URLs* (Uniform Resource Locator). Just like there is a house, office, or building behind a postal address, there is a Web page behind every Web address. Unlike postal addresses, however, through the magic of technology you can instantly arrive at a Web page by typing its Web address, or URL, into your Web browser. Well, hopefully instantly... if you've already been on the Internet for any amount of time, you probably know that sometimes the Internet gets busy and *net congestion* can cause a Web page to come up slowly—if at all! This lesson will show you how to visit the Web sites behind all the Web addresses you've seen.

**1. Connect to the Internet.**

It doesn't matter where you are on the Internet—you can always enter a Web address in the Address bar.

**2. Click an empty area in the Address bar.**

The text in the Address bar becomes highlighted.

**3. Type the address of the Web page you want to view: type [www.microsoft.com](http://www.microsoft.com) and press <Enter>.**

After a moment, the home page of the Microsoft Web site appears.

Web addresses are preceded by *http://*. For example, the address we want is *http://www microsoft.com*. Technically, you don't need to add the *http://* before typing the Web address—save yourself some time and leave it out.



**Address Bar**

**NOTE:** If you forget the *www* in front of a Web address or a *.com*, an Internet Explorer called *IntelliSense®* attempts to correct the Web address by adding the *www* or *.com* for you. Unfortunately, it's not foolproof: sometimes it works, sometimes it doesn't.

Let's go to another Web site.

**4. Type [www.yahoo.com](http://www.yahoo.com) in the Address bar and press <Enter>.**

Possibly the most famous Web site on the Internet, the Yahoo home page, appears.

Sometimes when you're browsing the Web, you'll see a screen like the one in Figure 9-6. This means the Web site is unavailable. Several things can cause a Web page not to load:

- The computer where the Web page is stored is down.
- Too many users are trying to view the same Web page at the same time.
- You've lost your connection to the Internet.
- The Web page no longer exists, or maybe it never existed in the first place (did you type in the correct Web address?).

For all these cases, try going to the Web site again later. Whatever was causing the problem might be fixed a few minutes or hours later.

You can leave off the *http://* when you type a Web page address. For example, type [www.nbc.com](http://www.nbc.com) instead of <http://www.nbc.com>.

### Quick Reference

To Display a Specific Web Page:

- Type the Web address in the **Address** bar and press <Enter>.

Or...

- Press <Ctrl> + <L>, type the Web address, and click **OK**.

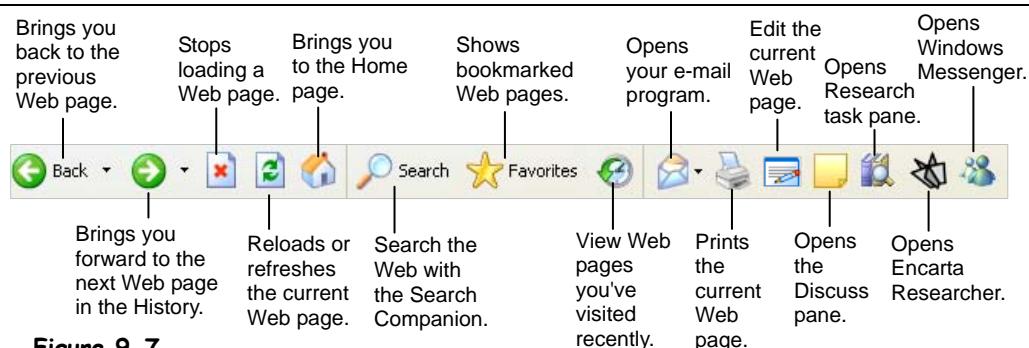
## Lesson 9-4: Browsing the Web

**Figure 9-7**

The Internet Explorer toolbar. Your toolbar may be different depending on how your computer is set up.

**Figure 9-8**

The Yahoo home page.

**Figure 9-7**

### Windows XP Service Pack 2

Internet Explorer blocks pop-up windows that you don't request. For example, all pop-up windows are initially blocked, but any pop-up windows that you request to open will appear.

If you are certain you want to view a blocked pop-up window, click the Information Bar and select Temporarily Allow Pop-ups from the shortcut menu.



Instead of repeatedly clicking the Back and Forward buttons, you can click the list arrow to display a list of previous Web pages.

**Figure 9-8**

Click the Address list arrow to display a list of Web sites that you have typed in.

The World Wide Web is remarkably easy to navigate. It's so easy that most users have an uncanny ability to browse through Web pages without any training, even if they have difficulty with other computer programs. This lesson explains how to find your way through the millions of Web pages that are on the Internet. Even if you already think you have browsing down, you should read this lesson—you might learn a trick or two.

### 1. Make sure your Web browser is open and that you're connected to the Internet.

Hopefully you know how to do this by now! Let's go to the Yahoo home page.

### 2. Click the Address bar, type `www.yahoo.com`, and press <Enter>.

The Yahoo home page fills the screen. Many of the underlined words and pictures you see on the Yahoo page are actually *hyperlinks*. When you position the pointer over a hyperlink, it changes to a . Clicking a hyperlink will automatically:

- Take you to a page within the same Web site.
- Take you to a page in a different Web site.
- Take you to a part of the same Web site.
- Allow you to download a file.

- Send an e-mail to a specified e-mail address.
- Play a video or sound.

**3. Position the pointer over the **Travel** icon near the top of the Yahoo page.**

The pointer changes anytime it is over a link. Links can be either text or pictures.



**Link pointer**

**4. Click the **Travel** icon or text.**

The Yahoo Travel Web page appears.

You can easily move back to the previous Web page.

**5. Click the **Back** button on the toolbar.**

You're back at the Yahoo home page. The Forward button moves forward through the Web pages you have viewed.

**6. Click the **Forward** button on the toolbar.**

You return to the Travel Web page.

Just like a metro highway system at rush hour, the Internet often becomes congested when too many users try to view the same Web site at the same time. When this happens, it may take a long time for the Web page to appear on-screen, or it may not be accessible at all. Here are a few strategies to try if you are having problems displaying Web pages.



**Refresh button**

**7. Click the **Address** bar, type [www.microsoft.com](http://www.microsoft.com), and press <Enter>. Before the Microsoft home page completely loads, click the **Stop** button on the toolbar.**

You can also try *refreshing* a sluggish or difficult Web page. There are basically two reasons to refresh a Web page:

- To attempt to view a Web page that is not loading.
- To update a Web page that contains information that is constantly changing, such as headline news stories or financial information.

**8. Click the **Refresh** button on the toolbar.**

Another way you can return to previously visited Web sites is to use the Address bar, which remembers every Web address that you've manually typed into it.

**9. Click the **Address** list arrow.**

A list of the Web addresses you've previously entered appears below the address bar.

**10. Select the <http://www.yahoo.com> site from the list.**

You return to the Yahoo Web site.

**Quick Reference**

**To Use a Hyperlink:**

- Click the hyperlink with the pointer.

**To Go Back to the Previous Page:**

- Click the **Back** button on the toolbar.

**To Stop the Transfer of Information:**

- Click the **Stop** button on the toolbar.

**To Refresh a Web Page:**

- Click the **Refresh** button on the toolbar.

**To Return to a Web Address you Typed in the Address Bar:**

- Click the **Address** bar list arrow and select the Web address.

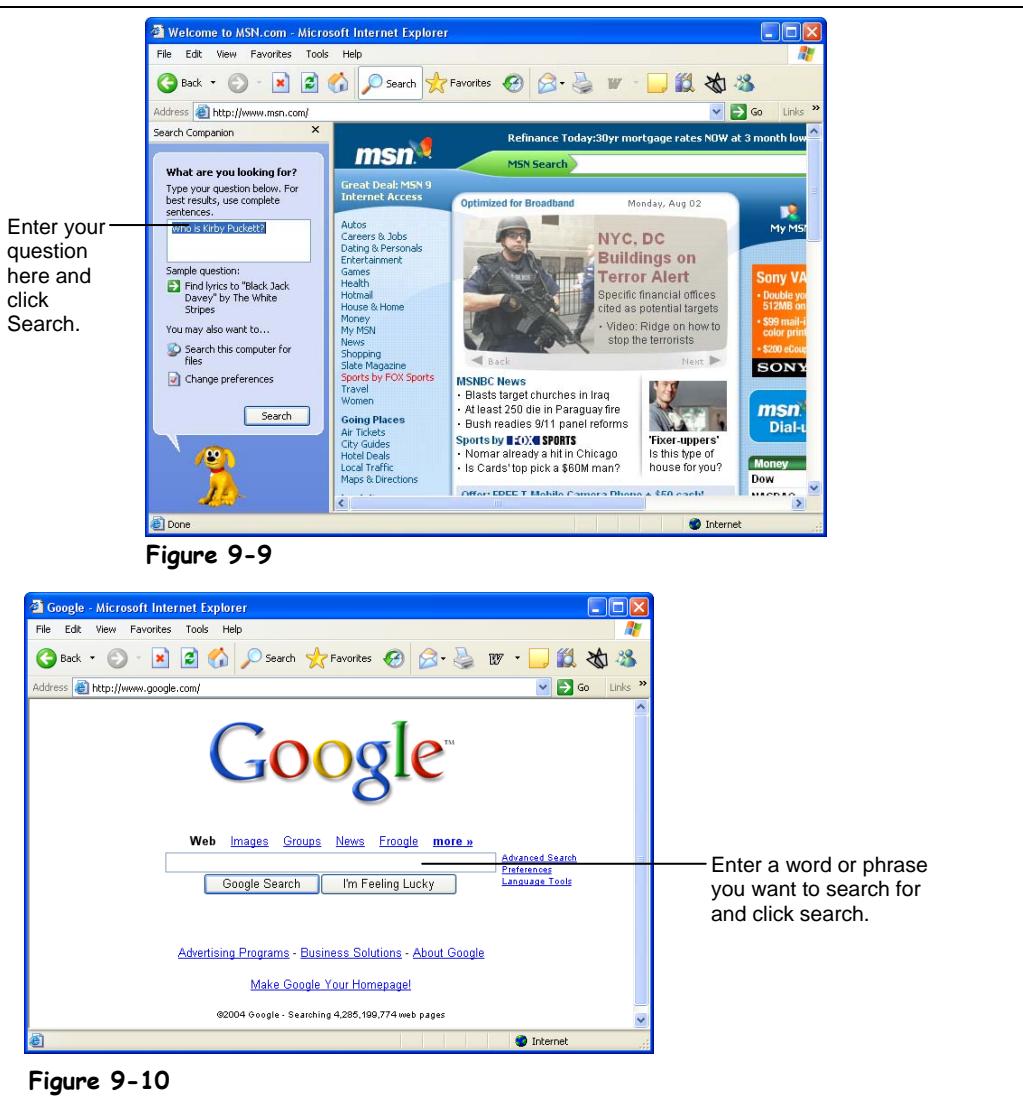
## Lesson 9-5: Searching the Web

**Figure 9-9**

The Search Companion task pane.

**Figure 9-10**

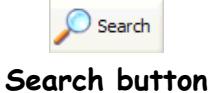
The Google search engine.



**Figure 9-9**

**Figure 9-10**

The Internet's greatest strength is also its greatest weakness: with so much information—literally millions of Web pages—it can be extremely difficult to find what you're looking for. Fortunately, there are many search engines that catalog the millions of Web pages on the Internet so that you can find Web pages on topics that interest you, such as Google, Yahoo! and Excite. In this lesson, you'll learn how you can search the Web to find information on the topics you specify.



1. Make sure your Web browser is open and you are connected to the Internet.
2. Click the **Search button** on the toolbar.

The Search Companion pane appears on the left side of Internet Explorer, as shown in Figure 9-9. This is where you specify what you want to search for.

**3. Click the Search box and type your question.**

For better search results, use complete sentences or several keywords that describe what you're looking for. For example, typing "Where can I find a good oyster restaurant in Chicago?" would yield better results than simply "oysters".

**4. Click Search.**

The Search Companion searches the Web for results using the MSN search engine. The results of the search are shown in the window to the right of the task pane, ranked by relevance.

**5. Click the Web page you want to view.**

Are you finding irrelevant information in your search results? Then you may have to refine your search. For example, a search on the word "Windows" may result in links to "Anderson® Windows," "Stained Glass Windows," and "Microsoft Windows", while a search on the phrase "Microsoft Windows" will result in links to "Microsoft Windows." Some search engines will let you search within your results. For example, you could do a search for "Microsoft Windows" and then further refine your search by searching the results for the word "Networking."

**6. Click the Search Companion task pane Close button.**

You don't have to use the Search Companion to surf the Web—you can go directly to a search engine's Web site and specify what you want to look for there. Table 9-2: *Popular Search Engines on the Web* is by no means a definitive inventory of the search engines that are currently available on the Web, but it lists the best and most popular Web search engines and their Web addresses.

**Table 9-2: Popular Search Engines on the Web**

<b>Site</b>	<b>Web Address</b>	<b>Description</b>
AOL	search.aol.com	The default search engine for America Online subscribers, the AOL search engine isn't bad, but you're probably better off using Google or Yahoo.
Excite	www.excite.com	Excite once had a powerful, highly-rated search engine, but in recent years it has fallen behind the other search engines in terms of features and popularity.
MSN	www.msn.com	The MSN, or Microsoft Network, is not only the default search engine for Internet Explorer; it's also the default home page (surprise, surprise). Even with that enormous advantage, both Google and Yahoo still manage to be the preferred search engines for most Internet users.
Google	www.google.com	Google is the most popular search engine in the world and it's consistently ranked as having the most relevant search results. However, it doesn't contain many features other than its fantastic Web search.
Yahoo	www.yahoo.com	Yahoo is actually more of a directory service than a search engine, but it makes it very easy to find topics, especially if you're new to the Internet.

**What are you looking for?**

Type your question below. For best results, use complete sentences.

Please type your query here, then press <Enter>.

**Search Box****Quick Reference**

To Search the Web for Information Using Internet Explorer:

1. Click the **Search** button on the toolbar.
2. Type the word or phrase you want to search for in the **Search** box and click **Search**.
3. Click the link for the Web page you want to view.
4. Click the **Search** button on the toolbar to close the search panel.

To Search the Web for Information Using a Search Engine:

- Type the Web address for the search engine in the **Address bar** and press <Enter>. Type the word or phrase you want to search for in the Web page's **Search** box and press <Enter>.

## Lesson 9-6: Adding a Web Page to Favorites and Changing Your Home Page

**Figure 9-11**

The Add Favorite dialog box.

**Figure 9-12**

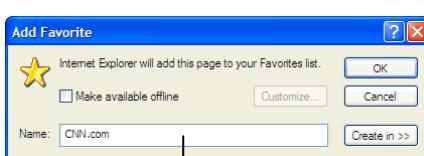
Click the Favorites button to view a list of your favorite Web pages.

**Figure 9-13**

The General tab of the Internet Options dialog box. You can change your home page here.

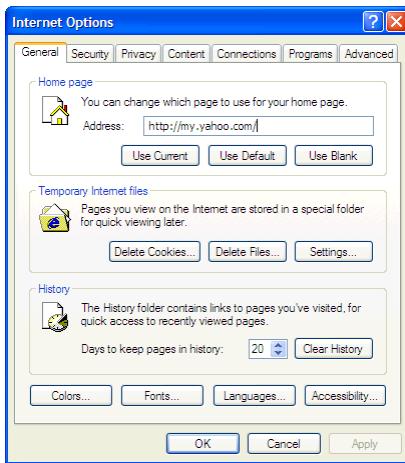
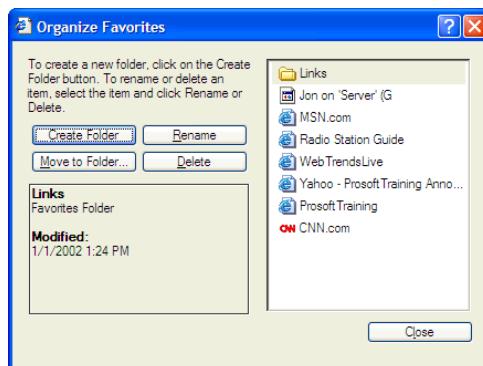
**Figure 9-14**

The Organize Favorites dialog box.



**Figure 9-11** The name of the Web page appears here.

Click the Web page you want to visit. If the Web page is in a folder, click the folder (📁).

**Figure 9-12****Figure 9-13****Figure 9-14**

### Other Ways to Add a Web Page to Favorites:

- Right-click anywhere on the Web page and select **Add to Favorites** from the shortcut menu.

You have finally found a Web page about hippopotamus food, and you want to return back to it later. What should you do? Well, you don't have to write down the Web address on a Post-It note and stick on your monitor—you can add the Web page to Internet Explorer's Favorites feature so you can always quickly return back to it later. In this lesson, you'll learn how to add your favorite Web sites to the Favorites list. You'll also learn how to change your home page (also called a start page)—the Web page that appears each time you start Internet Explorer.

- 1. Make sure the Web browser is open and you're connected to the Internet.**
- 2. Go to a Web page that you visit frequently and want to add to your Favorites list.**

It doesn't matter how you get to the Web site—type the page's Web address in the Address bar (if you know it) or navigate to it by clicking a hyperlink from another Web site. When the desired Web page appears on your screen, you can add it to your Favorites so you can always easily return to it later.

**3. Select Favorites → Add to Favorites from the menu.**

The Add Favorite dialog box appears, as shown in Figure 9-11. The name of the Web page appears in the Name box—if you want, you can replace the Web page’s default name with one that is more meaningful to you. Clicking the Create In button lets you add shortcuts to a folder.

**4. Click OK to add the Web page.**

A shortcut to the Web page is added to your list of favorites.

Here’s how to display your favorite Web sites:

**5. Click the Favorites button on the toolbar.**

A list of your favorite Web pages appears in a panel on the left side of Internet Explorer, as shown in Figure 9-12.

**6. Click the favorite Web page you want to view.**

If your favorite Web page is in a folder, just click the folder (📁) and then the favorite Web site. The Web page you clicked appears in the right panel of Internet Explorer.

Is there a Web page that you *really* like and use almost every time you’re on the Internet? You might consider making that Web page your *Home page*—the Web page that appears each time you start Internet Explorer. Some of the search engines we discussed in the previous lesson make excellent home pages. Here’s how to make a Web page your home page:

**7. Go to a Web page that you want to set as your home page and select Tools → Internet Options from the menu. Click the General tab, if necessary.**

The Internet Options dialog box appears, as shown in Figure 9-13. The address of your current home page appears in the box in the Home page section.

**8. Click the Use Current button to set the Web page that is displayed on your screen as your new home page.****9. Click OK.**

The Internet Options dialog box closes. The next time you start Internet Explorer, the Web page you selected will appear as your start page.

If you’ve added a lot of Web pages to your list of favorites, it can be difficult to find a specific Web page out of all those entries. You can organize your favorites list by creating subfolders to keep related Web pages together—for example, you might create a folder called “Travel” to keep all your travel related Web pages together, and another folder called “Financial” to hold your financial and investment related Web pages. Here’s how to organize your list of favorites:

**10. Select Favorites → Organize Favorites from the menu.**

The Organize Favorites dialog box appears, as shown in Figure 9-14. We don’t need to go into detail here—you can organize your favorites using the same Windows file management techniques you already know (if you don’t, review the file management chapter). The Organize Favorites dialog box even provides you with several handy buttons to move, rename, and delete files and shortcuts.

**11. Close the Organize Favorites dialog box.****Favorites button****Other Ways to View Your Favorite Web Pages:**

- Select **Favorites** from the menu bar and select the Web page.

**Quick Reference****To Add a Web Page to Your List of Favorites:**

- Go to the Web page, select **Favorites** → **Add to Favorites** from the menu and click **OK**.

Or...

- Go to the Web page, right-click anywhere on the Web page and select **Add to Favorites** from the shortcut menu.

**To Go To a Favorite Web Page:**

- Click the **Favorites button** on the toolbar and select the Web page from the left side of Internet Explorer. Click the **Favorites button** when you’re finished.

Or...

- Select **Favorites** from the menu bar and select the Web page.

**To Change Your Home Page:**

- Go to the Web page, select **Tools** → **Internet Options** from the menu and click the **Use Current button**.

**To Organize Favorites:**

- Select **Favorites** → **Organize Favorites** from the menu.

## Lesson 9-7: Displaying a History of Visited Web Pages

**Figure 9-15**

Internet Explorer displays a history of previously visited Web sites.

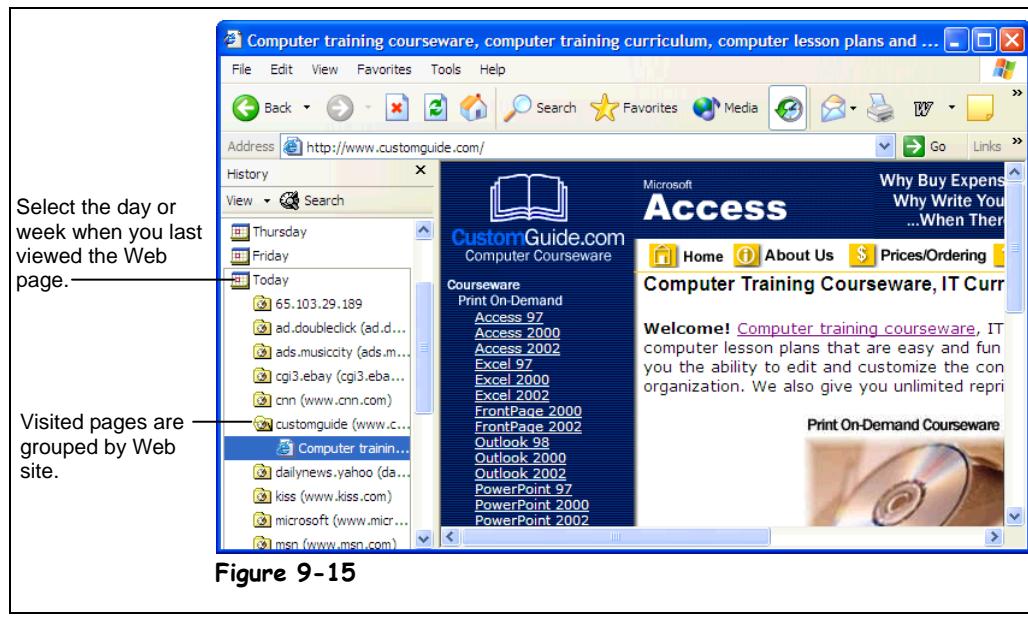


Figure 9-15



**History button**

### Quick Reference

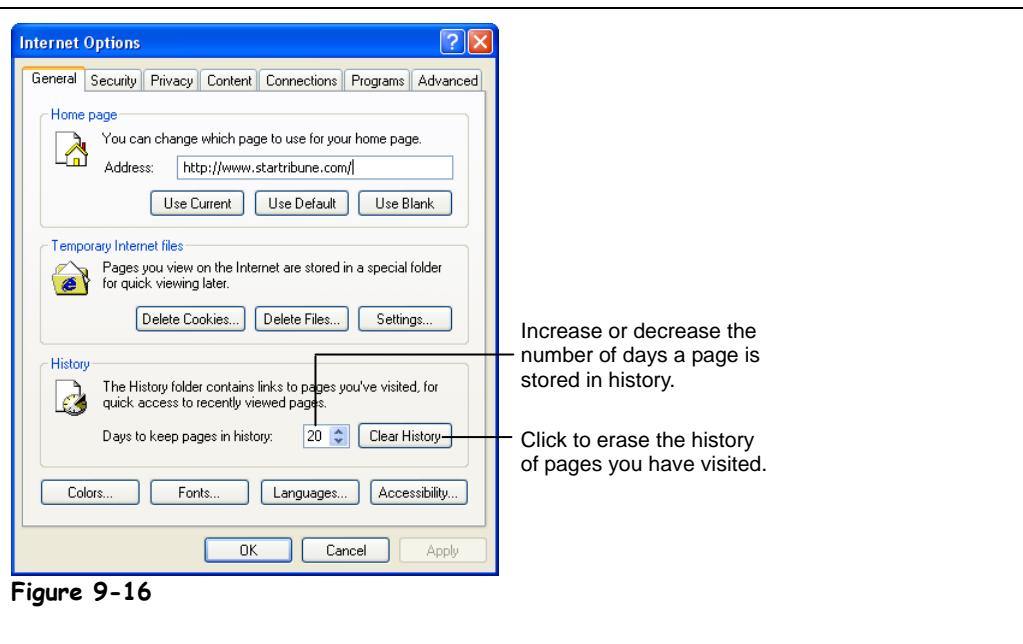
#### To Display a History of Visited Web Pages:

1. Click the **History button** on the toolbar.
2. Click the day or week you viewed the Web page.
3. Click the Web site you want to revisit.
4. Click the specific Web page you want to view.
5. Click the **History button** on the toolbar when you've finished.

Can't find your way back to that really neat "101 Lutefisk Recipes" Web site you were looking at yesterday? Don't worry—Internet Explorer keeps track of the Web pages you've visited over the past 20 days. This lesson shows you how to access that list.

- 1. Make sure the Web browser is open and you're connected to the Internet.**
- 2. Click the **History button** on the toolbar.**  
A history of all the Web pages you've visited recently appears in the left side of Internet Explorer. The history is grouped chronologically and by Web site—all you have to do is click the day or week you viewed the Web page, the name of the Web site, and the Web page.
- 3. Click the day or week you viewed the Web page that you want to view.**  
If you can't remember the day or week off hand, don't worry. Finding the Web page you want to view in the history may take a bit of trial and error, because who really remembers the exact day when they visited a specific Web page?  
When you click a day or week, the Web sites you viewed during that day or week appear, organized by Web site folder.
- 4. Click the Web site you want to revisit.**  
The Web site's individual Web pages appear.
- 5. Click the Web page you want to view.**  
The Web page appears.
- 6. Click the **History button** on the toolbar when you're finished working with your history of recently viewed Web pages.**  
The History pane disappears.

## Lesson 9-8: Clearing the History of Visited Web Pages



**Figure 9-16**

**Figure 9-16**

The Internet Options dialog box.

You and your spouse have spent weeks planning and researching your surprise family vacation this summer. Unfortunately, since many of your searches and reservations have been made over the Internet, your Web-savvy kids know everything about the trip, thanks to the History feature. You can take control of this feature by erasing the record of your Web activity.

**1. Select Tools → Internet Options from the menu.**

The Internet Options dialog box appears.

Clearing the history is permanent, so make sure this is something you want to do.

**2. Click the Clear History button in the History section of the tab.**

A dialog box appears, asking you to confirm the action.

**3. Click Yes.**

And just like that, the list of saved page links disappears.

You might also notice that you can change the number of days a page is saved in history. By default, pages are saved for 20 days, but you can increase or decrease that number if you want. Setting the number to zero only stores links to pages visited on the current day.

**4. Click OK.**

One thing to remember is that the history is different from the Back and Forward buttons on the toolbar. The history keeps a record of every Web page that is visited over a period of time. The Back and Forward buttons only remember which pages were visited when the Web browser was open.

### Quick Reference

To Clear the History:

1. Select Tools → Internet Options from the menu.
2. Click the Clear History button.
3. Click Yes to confirm the deletion.
4. Click OK.

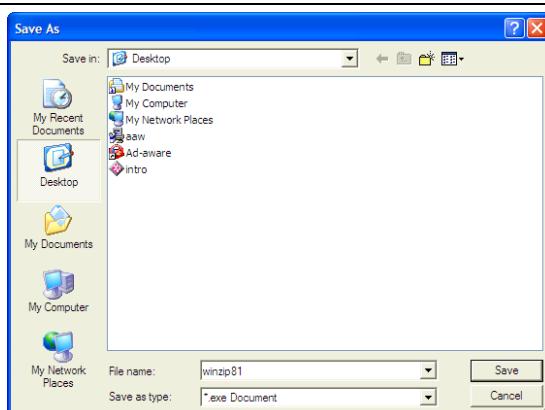
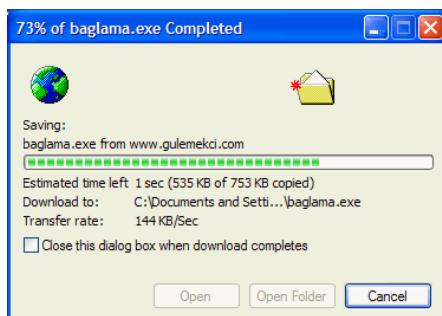
## Lesson 9-9: Downloading Pictures and Files

**Figure 9-17**

Specify where you want the file to be saved on your hard drive.

**Figure 9-18**

Windows displays the progress of a download.

**Figure 9-17****Figure 9-18**

### Windows XP Service Pack 2

Internet Explorer blocks downloads that you do not instigate. For example, if Internet Explorer doesn't think you requested a download, or if the download waits too long to begin, it is blocked.

If you are certain you want to download the file, click the Information Bar and select Download File from the shortcut menu.

Another common use of the Internet is to download files from a Web server and save them onto your local hard drive. Some of the most common types of files people download from the Internet include:

- **Images:** You can save any picture that you see on a Web page, print it, use it as your Windows wallpaper, or anything else you can think of.
- **Programs:** Many software companies have demo versions of their programs available on the Internet that you can download and evaluate. In addition, thousands of shareware programs are available for you to download for free!
- **Patches, Fixes, and Drivers:** One of the great things about the Internet is finding fixes for your programs, and drivers for your hardware devices, such as a driver for a discontinued foreign printer.
- **Music:** MP3s are revolutionizing the music industry. MP3 files are sound files that you can listen to on your computer. They have digital CD quality sound, but use compression so that they are 11 times smaller than the CD equivalent and small enough to be easily downloadable from the Internet.
- **Viruses:** Just kidding—the last thing you want to download from the Internet is a computer virus! Since you won't always know where a program or file you want to download comes from, you should make sure your computer has a virus protection program installed before you download anything from the Internet.

Aside from possibly contracting a virus, the only other downside of downloading files from the Internet is that it can take a long time—especially if you use a dial-up connection.

Downloading and saving programs over the Internet is quite simple: just follow the links on the Web site. But you can also save other elements on a Web page, such as images and even the pages themselves.

**1. Right-click the image you want to save and select **Save Picture As** from the shortcut menu.**

Windows asks where to save the image in the Save As dialog box, as shown in Figure 9-17.

**NOTE:** Never download an image for free and then profit from its use: it is a copyright violation. If you're looking for images to use in publications or Web sites, there are many Web sites with stock images that you can purchase.

**2. Navigate to the drive and/or folder where you want to save the image, give the image a different name, and click **Save**.**

Windows saves the image in the specified drive and/or folder. If this does not work, the image has probably been protected so that others can't download the picture and use it for free.

You can also save a Web page or file that's on the other side of a hyperlink, the “target” of the link.

**3. Right-click the link or file and select **Save Target As** from the shortcut menu.**

Windows asks where to save the image in the Save As dialog box. As with images, you have to specify where you want to save the file.

**4. Navigate to the drive and/or folder where you want to save the file, give the file a different name if you want, and click **Save**.**

Windows will download the file and save it to the drive and/or folder you specified. It may take several minutes or several hours to download the file, depending on the file's size and how fast your connection to the Internet is. Windows displays a dialog box that shows the progress of the download, as shown in Figure 9-18.

**NOTE:** Make sure you remember where you save your files! Many people download software without thinking about where they're saving it, only to be unable to find the file once it's finished downloading. It makes sense to create and use a folder called “Downloads” or something similar where you can save your downloaded files.

One more note about downloading files and programs off the Internet: many of the programs are stored in ZIP files. ZIP files package programs and files together, making them easier to download.

ZIP files do two things:

- **Compress information:** Instead of downloading a 2 MB file, compressing the file will cut the download time in half.
- **Store multiple files together in a single ZIP file:** Instead of downloading 20 or so files that a program requires to run, you only have to download a single ZIP file.

Be careful when downloading files. Many downloads are free, but there are also many that require purchase.

### Quick Reference

#### To Download an Image:

1. Right-click the image you want to save and select **Save Picture As** from the shortcut menu.
2. Navigate to the drive and folder where you want to save the image, give the image a different name if you want, and click **Save**.

#### To Download a Link Target:

1. Right-click the link and select **Save Target As** from the shortcut menu.
2. Navigate to the drive and folder where you want to save the file, give the file a different name and click **Save**.

## Lesson 9-10: Understanding the Information Bar

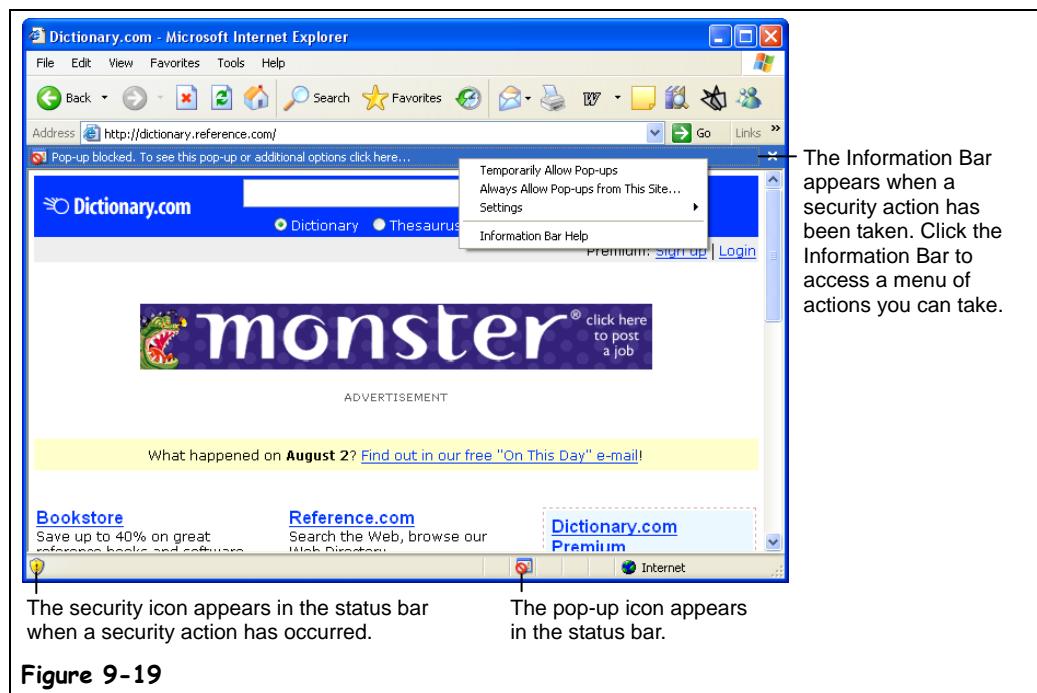
**Figure 9-19**

The Information Bar, notifying that a pop-up window has been blocked.

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The Information Bar notifies you when a security action has taken place.

Click the Information Bar to overrule Internet Explorer or to change settings.



The Information Bar appears when a security action has been taken. Click the Information Bar to access a menu of actions you can take.

**Figure 9-19**

One of the most noticeable additions to Internet Explorer in Windows XP Service Pack 2 is the Information Bar. The Information Bar notifies you when a security action has taken place in order to protect you from harmful files. For example, it tells you when a suspicious download has been stopped and when an unwanted pop-up window has been blocked. The Information Bar could also appear if a Web site tries to install an ActiveX control or run active content on your computer automatically.

Another benefit of the Information Bar is that it provides an opportunity for you to overrule the block and proceed with the action. In the example above, the Information Bar has been clicked and a menu appears with options to view the pop-ups that were blocked, or to even change the settings of the pop-up blocker.

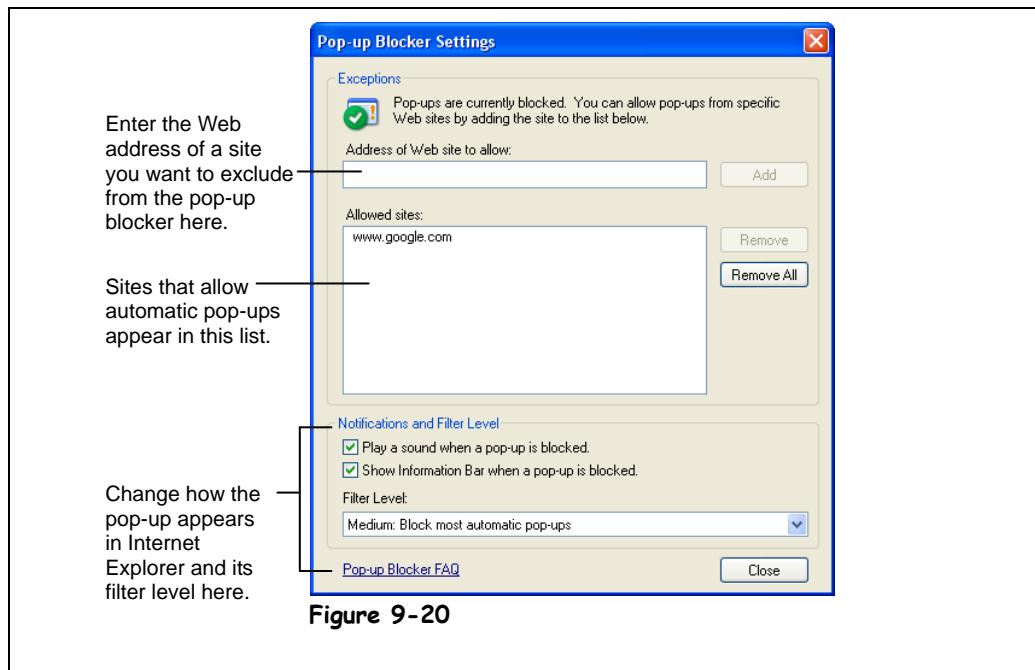
Though you can't turn off the Information Bar altogether, you can change how it works with each individual notification by clicking the Information Bar when it appears.

Here are some messages that you might see in the Information Bar:

**Table 9-3: Information Bar Messages**

To help protect your security, Internet Explorer blocked this site from downloading files on your computer. Click here for options...	Pop-up blocked. To see this pop-up or additional options click here...
To protect your security, Internet Explorer stopped this site from installing an ActiveX control on your computer. Click here for options...	To help protect your security, Internet Explorer has restricted this file from showing active content that could access your computer. Click here for options...

## Lesson 9-11: Using the Pop-up Blocker



Another change included in Service Pack 2 is the pop-up blocker. The pop-up blocker prevents annoying advertisement windows from disrupting your browsing on the Web. Most people will appreciate the pop-up blocker, but if you don't, here's how to change its settings.

- Select Tools → Pop-up Blocker → Pop-up Blocker Settings from the menu.**

The Pop-up Blocker Settings dialog box appears, as shown in Figure 9-20.

If you know the Web site you want to allow pop-ups, you can enter the name of the Web site in the dialog box.

- Type the Web site in the Address of Web site to allow text box and click Add.**

The address is added to the Allowed sites list in the dialog box.

By default the pop-up blocker is always on, but you can turn it off.

- Select Tools → Pop-up Blocker → Turn Off Pop-up Blocker from the menu.**

When the pop-up blocker is off you will probably experience some unwanted advertising windows as you surf the Web. The pop-up blocker has a pretty good filter, so between controlling its settings and making exceptions, you probably won't ever have to turn it off completely.

**Figure 9-20**

The Pop-up Blocker Settings dialog box.

### Windows XP Service Pack 2

Internet Explorer's Pop-up Blocker prevents extra windows from appearing on your screen.

You can change how the Pop-up Blocker works by clicking the Information Bar, or under the Tools menu.

### Quick Reference

#### To Change Pop-up Blocker Settings:

1. Select **Tools → Pop-up Blocker → Pop-up Blocker Settings** from the menu.

2. Change the Pop-up Blocker settings in the dialog box.

Or...

- Click the **Information Bar** and select an option from the shortcut menu.

#### To Turn Off the Pop-up Blocker:

- Select **Tools → Pop-up Blocker → Turn Off Pop-up Blocker** from the menu.

## Lesson 9-12: Understanding Information Security

**Figure 9-21**

Windows XP has new security features in Service Pack 2 that help protect your computer from attackers.



**Figure 9-21**

### Quick Reference

To do this:

1. Step one here.
2. Step two here.

#### Information Security:

Information security is the practice of protecting your computer from intruders.

Here are some security precautions that help protect your sensitive information

- Install anti-virus software.  
Or...
- Update anti-virus software.
- Update software
- Use firewalls
- Be smart with e-mail

Security is a sensitive issue. We hire security officers to protect our workplaces, analyze national security efforts, and install security systems in our homes. But many people aren't sure of what they can do to secure their computer, even though identity theft is occurring more often now than ever before. Microsoft has added many security improvements to Windows XP in Service Pack 2, and listed below are some security precautions and resources that you can maintain to keep your computer safe.

**Install anti-virus software:** Every computer that accesses the Internet should have anti-virus software installed on it. This software identifies potentially harmful files, and keeps them from infiltrating your computer.

**Update anti-virus software:** One of the biggest reasons a computer gets infected is that anti-virus software is not updated. Always download updates for your anti-virus software, and always renew your anti-virus software license.

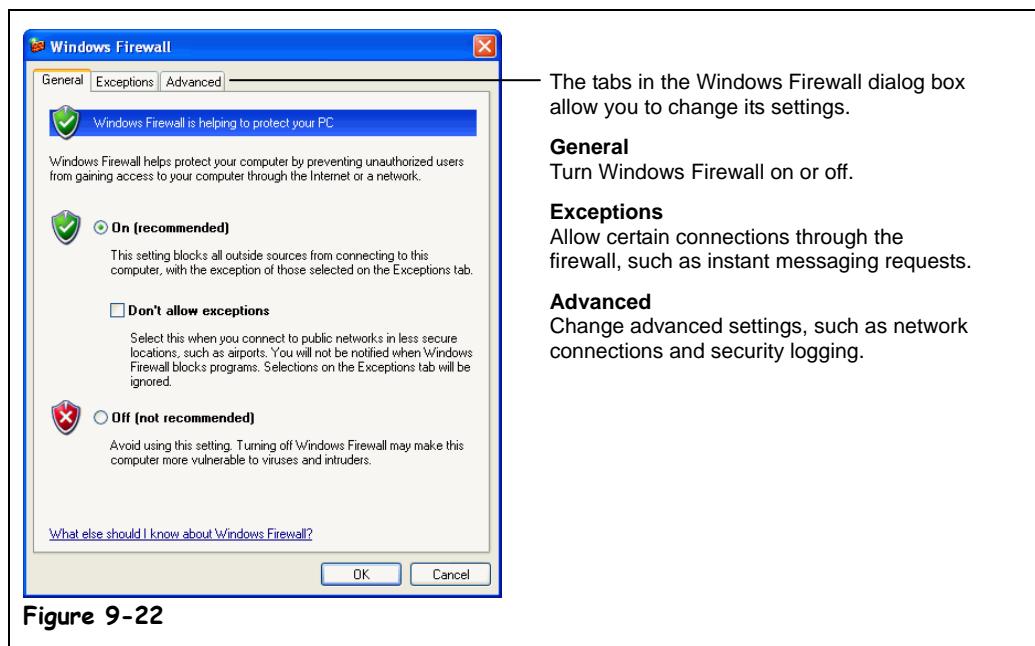
**Update software:** Always download updates and repairs for programs. This will prevent attackers from exploiting holes in the software. Windows XP's Automatic Updates keeps your computer's technology safe and current.

**Use firewalls:** A firewall blocks malicious files or computers from connecting to your computer. A firewall is especially important for computers that connect to the Internet via DSL or cable modems. Windows Firewall has been added in SP2, but you can also choose your own software program.

**Be smart with e-mail:** Viruses and worms are sent through e-mail messages all the time. Never open an e-mail message from someone you don't know.

In the end, the best defense against a security problem is you. By using common sense and avoiding sites, files and messages that look suspicious, your computer will be safe.

## Lesson 9-13: Understanding Windows Firewall



**Figure 9-22**

The tabs in the Windows Firewall dialog box allow you to change its settings.

### General

Turn Windows Firewall on or off.

### Exceptions

Allow certain connections through the firewall, such as instant messaging requests.

### Advanced

Change advanced settings, such as network connections and security logging.

**Figure 9-22**

The Windows Firewall dialog box.



**Windows XP Service Pack 2**

Windows Firewall has been added to help keep your computer more secure. It is turned on by default.

You like to spend sunny afternoons out on your backyard patio. Unfortunately, so does your neighbor's slobbery dog. In fact, the offending canine is usually accompanied by its owner, who has a knack for disturbing an otherwise pleasant afternoon. What do you do to keep these uninvited guests out of your yard? Keep them out with a fence or a wall.

Just like your yard, when your computer is on the Internet, it is inundated with connections from other computers. To keep these annoying intruders out, Microsoft has built a firewall for your computer. A *firewall* is a utility that keeps your computer secure by restricting the information that comes into your computer. Its main objective is to prevent intruders, such as hackers, viruses and worms, from getting in to your computer. The firewall is like a monitor of all the information between your computer and the Internet, allowing "good" information through, and rejecting "bad" information.

So what is the difference between good and bad information? Basically, any connection you try to make to another computer, such as viewing a Web page or connecting to another network, is allowed. But when someone tries to make a connection to your computer—an "unsolicited request"—that connection is blocked. Let's take a look at the Windows Firewall.

1. Click the **Start button** and select **Control Panel** from the menu. Click the **Security Center** category.

The Security Center displays the security features that are active on your computer.

2. Click **Windows Firewall** near the bottom of the screen.

The Windows Firewall dialog box appears. You should always keep Windows Firewall on, unless you have your own firewall software that you want to use.

You can change how the firewall works by changing some of its settings, however. Refer to Figure 9-22 for more information on these settings.

### Quick Reference

#### Windows Firewall:

This security utility keeps your computer secure by restricting the information that comes into your computer.

#### To Open Windows Firewall:

1. Click the **Start button** and select **Control Panel** from the menu.
2. Click the **Security Center** category.
3. Click **Windows Firewall**.

## Lesson 9-14: Introduction to E-mail

**Figure 9-23**

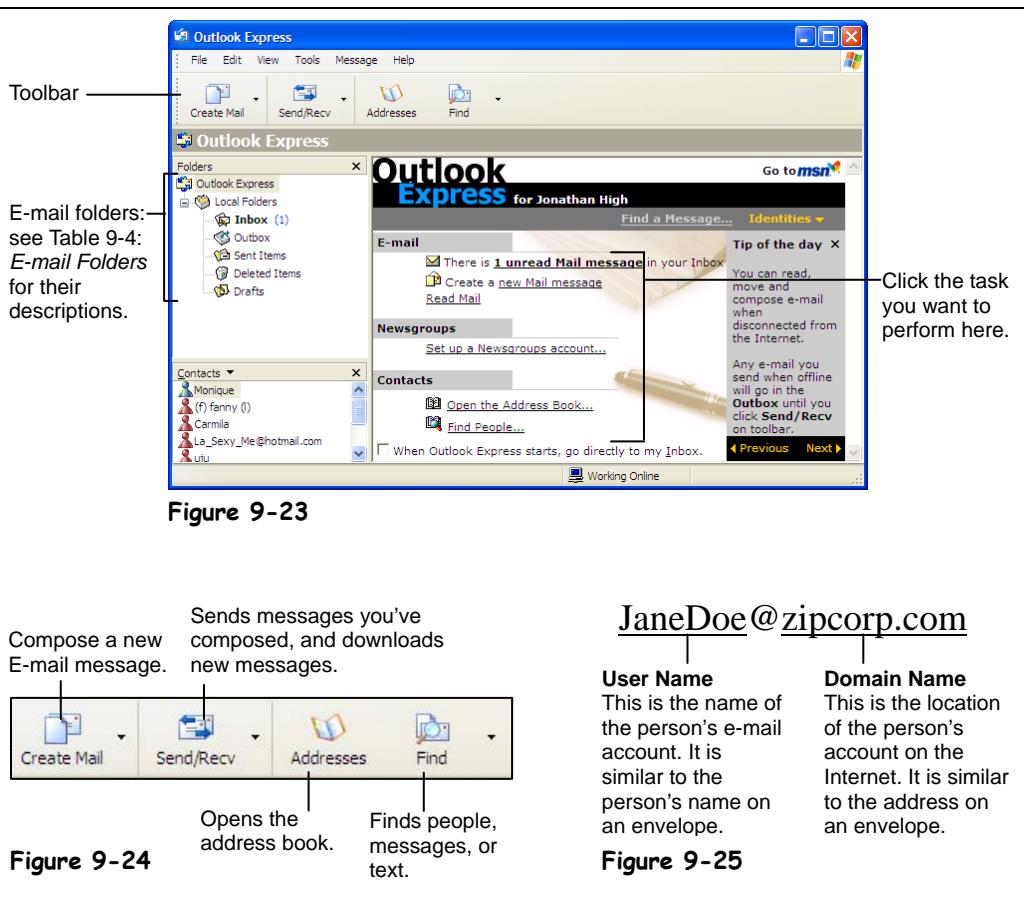
Microsoft Outlook Express is the e-mail program that is included with Windows XP.

**Figure 9-24**

Outlook Express toolbar.

**Figure 9-25**

An Internet e-mail address has two parts: a user name and a domain name, separated by the @ symbol.



JaneDoe@zipcorp.com

**User Name**  
This is the name of the person's e-mail account. It is similar to the person's name on an envelope.

**Domain Name**  
This is the location of the person's account on the Internet. It is similar to the address on an envelope.

**Figure 9-25**

### Windows XP Service Pack 2

Outlook Express has undergone improvements in its security settings, including some security features that also appear in Outlook 2003.

Do you really need an introduction to e-mail? You already know that you can use e-mail to send messages to the staff at the office or to people all over the world. You probably also know that e-mail is fast (almost instantaneous) and economical (many e-mail accounts are completely free!).

Just like you need to know a person's street address if you want to send them a letter, you need to know a person's e-mail address to send that person an e-mail message. Figure 9-25 is an example of what typical e-mail address looks like.

Windows XP comes with an e-mail program called *Outlook Express*. Outlook Express is a stripped-down version of Microsoft's full-featured e-mail program *Outlook*, which comes with Microsoft Office. Outlook Express allows you compose, send, and receive e-mail messages over the Internet. The remainder of the lessons in this chapter will show you how to accomplish these tasks.

Move on to the one and only step in this lesson and we'll take a quick look at Outlook Express before we move on and learn how to compose, send, and receive e-mail.

**1. Click the Start button. Select All Programs → Outlook Express from the menu.**

The main screen of Outlook Express appears, as shown in Figure 9-25. Notice the folders in the left pane of Outlook Express? These folders categorize your messages and work just like the In and Out boxes you've seen at the office. Table 9-4: *E-mail Folders* describes each of these folders.

**NOTE:** The first time you open Outlook Express, you will have to set up your account, such as user name, send and receive server types, e-mail address, and so on.

Although we'll be working in Microsoft Outlook Express throughout the remaining lessons in this chapter, Outlook Express is by no means the only program you can use to send and receive e-mail. There are many, many different e-mail programs available, such as GroupWise, Lotus Notes, and even America Online that can also send and receive e-mail. In fact, if you're connected to the Internet and have a Web browser, you don't even need an e-mail program at all to send and receive e-mail—you can do it right from the Web!

Web based e-mail is usually free, and it allows you to compose, send, and receive e-mail using a Web page instead of an e-mail program. Many people actually prefer using Web-based e-mail instead of an e-mail program because it's free and can be accessed anywhere there is a computer with an Internet connection. Hotmail, owned by Microsoft (who else?), is the largest Web-based e-mail program in the world.

Many people prefer to use Web-based e-mail, such as Hotmail, since you can use it on any computer that has a connection to the Internet.

**Table 9-4: E-mail Folders**

<b>Folder</b>	<b>Description</b>
 Inbox	Stores the messages you've received.
 Outbox	Temporarily stores any messages that you've composed but have not been sent.
 Sent Items	Stores copies of messages you have sent.
 Deleted Items	Stores messages that you've deleted.
 Drafts	Stores draft messages that you haven't completed yet.

 **Quick Reference**

To Start Outlook Express:

1. Click the **Start button** and select **All Programs** → **Outlook Express** from the menu.

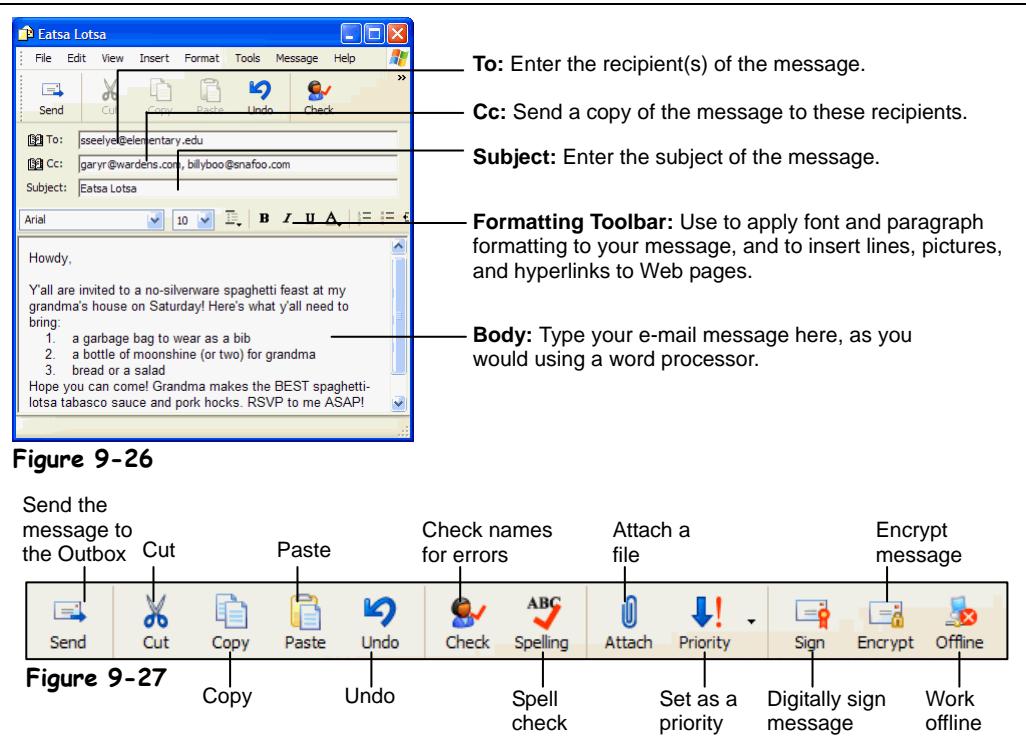
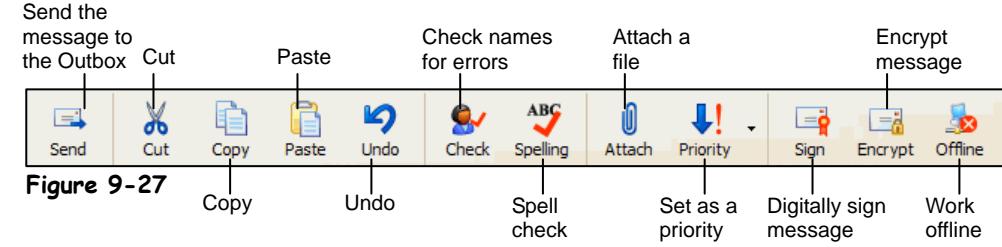
## Lesson 9-15: Composing and Sending E-mail

**Figure 9-26**

The New Message window.

**Figure 9-27**

The New Message toolbar.

**Figure 9-26****Figure 9-27**

Here's a brief explanation of how to compose and send an e-mail message:

1. Click the **Start button** and select **All Programs → Outlook Express** from the menu.

The Outlook Express program window appears.

2. Click the **Create Mail button** on the **Outlook Express toolbar**.

The New Message window appears, ready for you to write your e-mail message. The first thing to do is to specify the recipient's e-mail address in the **To:** field.

You can either type this address in the **To:** box, or you can click the "Select Recipients from a list" button that appears immediately to the left of the **To:** box.

3. Type the recipient's e-mail address in the **To:** field.

If you need to send a message to more than one person, simply enter all the recipient's e-mail addresses, making sure you separate them with a comma (,) like this:  
JohnWilson@acme.com, BettyT@yahoo.com.

Skip to Step 7 when you're finished.

4. If the address is in your Address Book, click the **To:** button.

The Select Recipients dialog box appears.



**Create Mail button**

Other Ways to Compose a Message:

- Select **Compose → New Message** from the menu.
- Press **<Ctrl> + <N>**.



**To: button**

**5. Double-click the name of the recipient in the Name list.**

Repeat this step to add more than one recipient from the Name list.

**6. Click OK.**

The Select Recipients dialog box closes and the recipient(s) appear in the To: field.

**7. (Optional) To send a copy of a message to someone, click in the Cc: field and enter their e-mail address(es).**

You can type their name in the field or click the Cc: button to select a name from the Address Book.

So what is (Cc) and (Bcc)? Table 9-5: *Ways to Address an E-mail Message* gives a description of each of these ways to send a message.

Next, enter the subject of the message so your recipient(s) will know what the message is about. The subject will appear in the heading of the message in the recipient's inbox.

**8. Click the Subject field and enter a subject for the e-mail.**

Now you're ready to type the actual e-mail message.

**9. Click the pointer in the body of the message then type the message as you would in a word processor.**

Keep in mind that all the generic Windows program commands you've learned—such as cutting, copying, pasting, and formatting text—will work in Outlook Express.

**10. (Optional) To check the spelling of your message, select Tools → Spelling from the menu.**

Outlook Express checks the spelling in your message, flags each word it can't find in its dictionary, and suggests an alternate word. To replace an unknown word with a suggestion, select the suggestion in the Change To list and click the Change button. To ignore a word the spell checker doesn't recognize, such as the name of a city, click Ignore All.

**11. (Optional) To send a file or picture along with your message, click the Attach button on the toolbar and select the file in the Insert Attachment dialog box.****12. When you're finished with the message, click the Send button on the toolbar.**

The message is sent to the Outbox folder, and will be sent the next time you click the Send and Receive button.

**13. Click the Send and Receive All button on the Outlook toolbar.**

Outlook sends all the messages that are stored in the Outbox folder and retrieves any new e-mail messages it finds on the e-mail server.

**Attach button****Send and Receive button** **Quick Reference**

To Compose a Message:

1. Open Outlook Express.

2. Click the **Create Mail button** on the Outlook Express toolbar.

3. Type the recipient's address in the **To:** field.

Or...

Click the **To:** button, click the name of the recipient in the Name list, then double-click the name. Click **OK** when you're finished.

4. Click the **Subject** field and enter the message's subject.

5. Click the pointer in the lower pane and type the message.

6. (Optional) Check the spelling of your message by selecting **Tools → Spelling** from the menu.

7. (Optional) Attach a file to the message by clicking the **Attach button** on the toolbar and then selecting the file in the Insert Attachment dialog box.

8. Click the **Send button** on the toolbar to send the message.

**Table 9-5: Ways to Address an E-mail Message**

<b>Address</b>	<b>Description</b>
To	Sends the message to the recipient you specify (required).
Carbon Copy (Cc)	Sends a copy of the message to a recipient who is not directly involved, but would be interested in the message.
Blind Carbon Copy (Bcc)	Sends a copy of the message to a recipient without anyone else knowing that they received the message.

## Lesson 9-16: Adding a Name to the Address Book

**Figure 9-28**

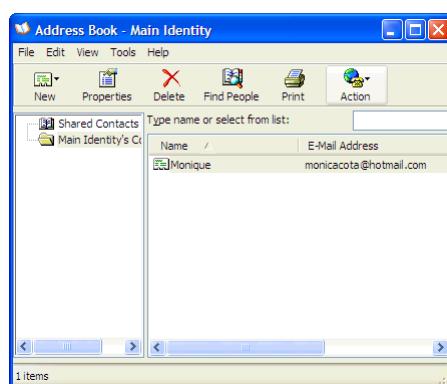
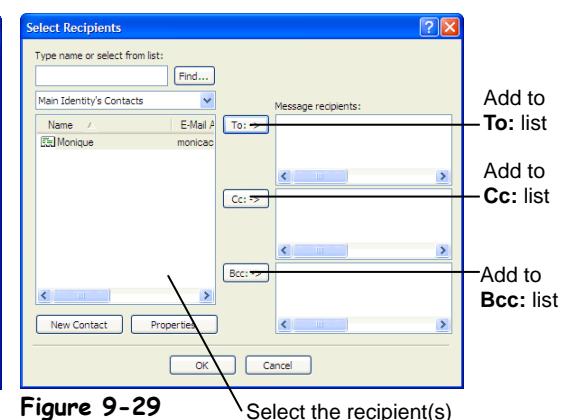
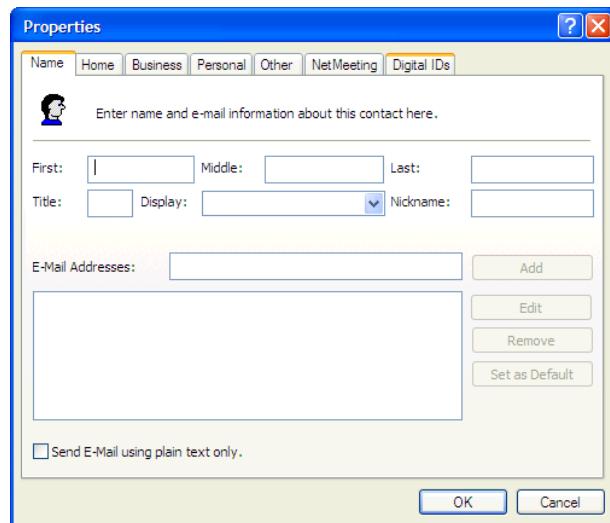
The Address Book window.

**Figure 9-29**

The Select Recipients dialog box.

**Figure 9-30**

The Properties dialog box.

**Figure 9-28****Figure 9-29****Figure 9-30****Address Book button**

Other Ways to Open the Address Book:

- Press **<Ctrl> + <Shift> + <B>**.

Unless you only write to two or three people, it's almost impossible to memorize the e-mail addresses of everyone you correspond with, especially when they have e-mail addresses that look something like brad.james.traindept@gold.tc.umn.edu. Fortunately, if you use the Windows Address Book, you don't have to. Simply enter the names and e-mail addresses to whom you regularly send messages, and you'll never have to remember another obscure e-mail address again.

- 1 . If necessary, open Outlook Express.**
- 2 . Click the **Address Book button** on the Outlook Express toolbar.**

The Address Book window appears, as shown in Figure 9-28. Two types of items appear in the Windows Address Book:

- **Contacts:** Contacts are the individual recipients in your Address Book.

-  **Groups:** A group allows you to send messages to a group of recipients.
- 3.** Click the **New button** in the Address Book toolbar. Select **New Contact** from the list.
- The Properties dialog box appears with the Name tab in front, as shown in Figure 9-30.
- 4.** Type the recipient's first and last name in the appropriate fields.
- 5.** Enter the recipient's name in the Display box, then enter the e-mail address.
- You can also use the other tabs in the Properties dialog box to add additional information—such as phone numbers and addresses—about the recipient.
- 6.** Click **OK** to close the Properties dialog box.
- You return to the Address Book window, where the new contact appears.
- 7.** Click the Address Book window **Close button** to close it.



**New Contact  
button**

#### **Quick Reference**

To Add a Name to the Address Book:

1. Click the **Address Book button** on the Outlook Express toolbar.
2. Click the **New button** on the Address Book toolbar and select **New Contact** from the drop-down list.
3. Type the recipient's first and last name and enter the recipient's e-mail address.
4. To add additional information about the contact, click on other tabs in the Properties dialog box.
5. Click **OK**, then close the Address Book.

## Lesson 9-17: Receiving E-mail

**Figure 9-31**

Outlook Express's Inbox folder.

**Figure 9-32**

Outlook Express's Inbox toolbar.

### Windows XP Service Pack 2

Outlook Express has added some security settings that effect how you view messages:

E-mails can now be read in plain-text format instead of HTML. This prevents some security issues that can occur with HTML messages.

Images in HTML messages are blocked. This prevents Spammers from knowing if your address is valid. This is also more convenient for dial-up users.

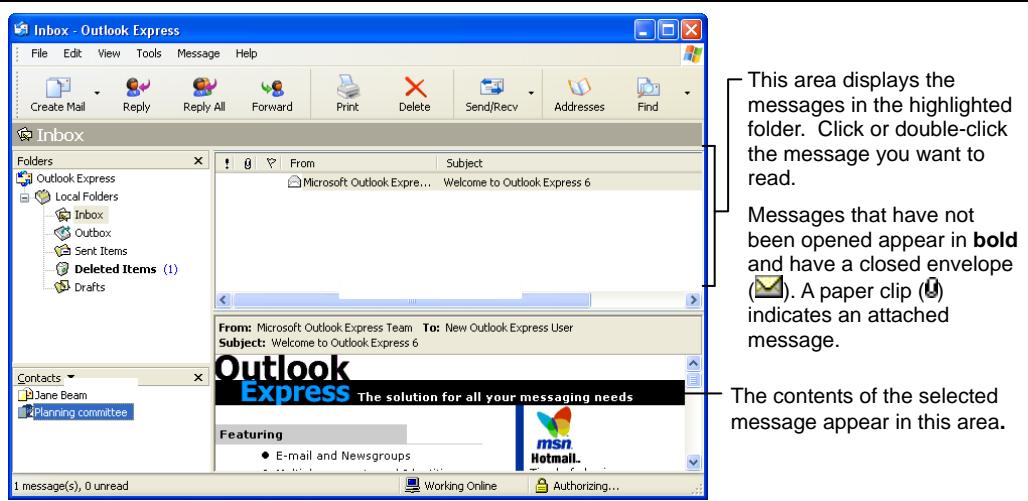
### Inbox folder



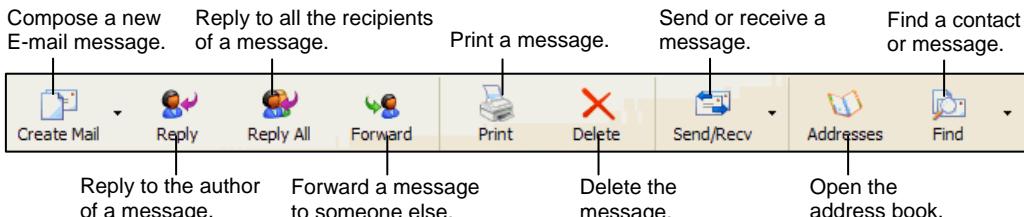
### Send and Receive button

Other Ways to Send and Receive Messages:

- Press <Ctrl> + <M>.



**Figure 9-31**



**Figure 9-32**

This lesson explains how to receive and read your e-mail messages with Outlook Express. You'll find it's a lot easier to retrieve and read e-mail messages than it is to sort through and read postal mail—no envelopes to rip open, no scribbled handwriting to decipher, no junk mail to go through... well that's not quite true. Unfortunately, the online world is plagued with junk mail, called *Spam*, just like the postal world. Oh well.

1. If necessary, open Outlook Express.
2. Click the **Inbox** folder in the left pane of the Outlook Express window.

The contents of the Inbox folder appear in the upper-right pane of the Outlook Express window, as shown in Figure 9-31. Let's check and see if you have any new e-mail.

3. Click the **Send and Receive** button on the Outlook Express toolbar.

Normally, Outlook Express automatically checks your mail server for new messages every 30 minutes. If it finds any new messages on your mail server, it downloads them and saves them to your computer. You can force Outlook to check for new messages by clicking the Send and Receive button. If you connect to the Internet with a modem connection, Outlook Express will automatically dial out and connect to the Internet to establish a connection with your mail server.

Your new messages are saved in the Inbox folder. Any new, unread messages appear in **bold** and have a closed envelope icon (✉) next to them. Here's how to open and read a message.

**4. Click the message you want to read.**

The contents of the message appear in the lower-right pane of Outlook Express, and the From and Subject information appear at the top of this pane. You can also open a message its own window—this is especially helpful when you want to read a long message. Simply double-click the message you want to read. The message appears in its own window. You can close the message's window when you're finished reading it by clicking the window's close button.

If a message has one or more files attached to it, a paper clip will also appear in this area. If a message contains an attachment, go to Step 5 to open it. If not, skip ahead to Step 6.

**5. (Optional) To open files attached to a message, click the paper clip icon and select the file from the list.**

Sometimes you'll want to print a copy of a message. Here's how to do it:

**6. (Optional) To print a message, click the **Print button** on the toolbar. Click **OK** to print the message.**



**Paper Clip**



**Print button**

Other Ways to Print:

- Select **File → Print** from the menu.
- Press **<Ctrl> + <P>**.

### Quick Reference

To Receive and Read E-mail Messages:

1. Start Outlook Express and click the **Inbox** folder.
2. Click the **Send and Receive All** button on the Outlook Express toolbar.
3. Click or double-click the message you want to read.

To Open an Attached File:

- Follow the above steps to read the message, then click the **paper clip** icon, and then click the file you want to open from the list that appears from the paper clip.

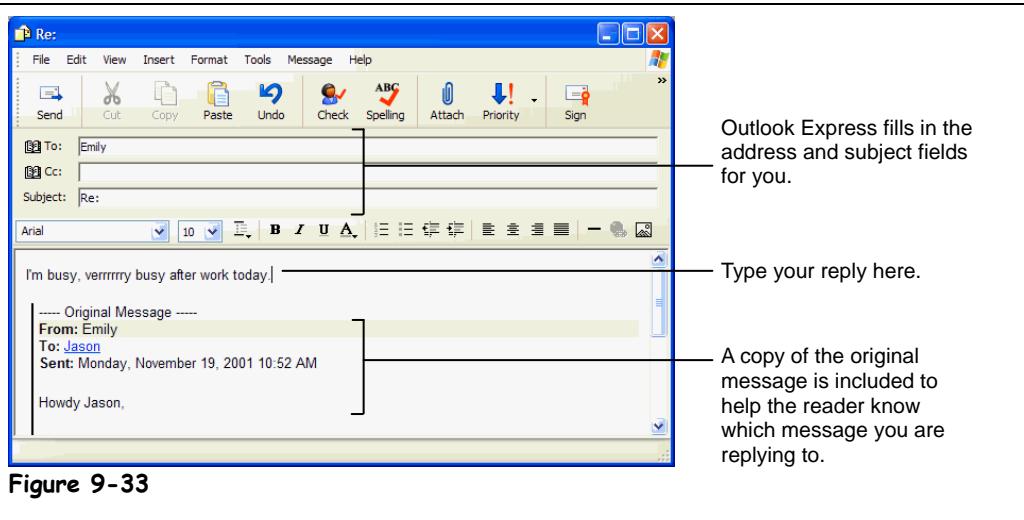
To Print a Message:

- Click the **Print button**. Or...
- Select **File → Print** from the menu. Or...
- Press **<Ctrl> + <P>**.

## Lesson 9-18: Replying to a Message

**Figure 9-33**

You can reply to a message.

**Figure 9-33****Reply to All button****Reply to Author button**

### Quick Reference

#### To Reply to a Message:

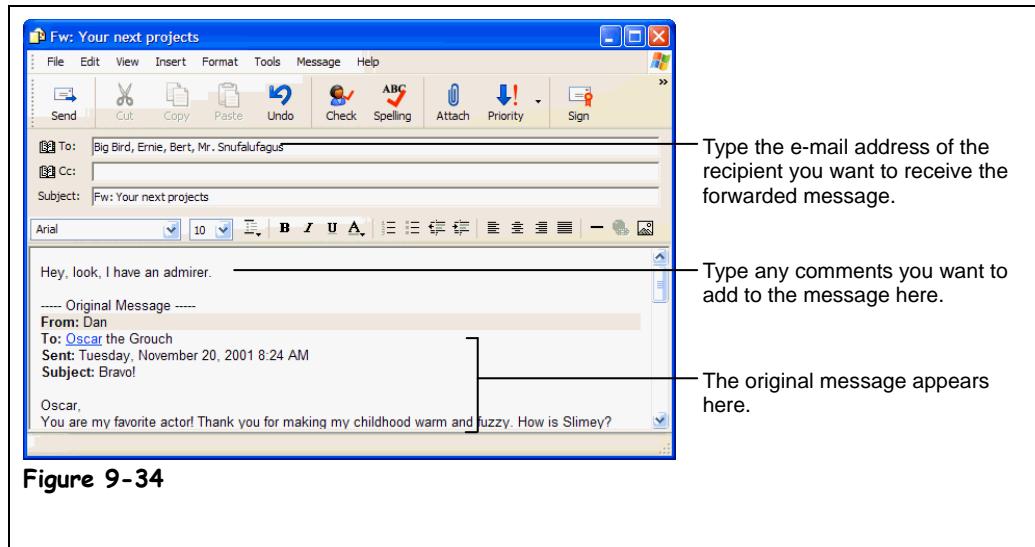
- Find and open the message you want to reply to.
- Click the reply option you want to use: **Reply to Author** or **Reply to All**.
- Type your reply and click the **Send button** on the toolbar when you're finished.

You can use special characters to express emotion in your e-mail messages, in chat rooms, or elsewhere on the Internet. Table 9-6: *Expressing Emotion in Your Messages* has some of the more common ones. Some of them resemble a face if you turn them sideways.

**Table 9-6: Expressing Emotion in Your Messages**

<b>Abbreviation</b>	<b>Description</b>	<b>Abbreviation</b>	<b>Description</b>
:) or : - )	Smile	FAQ	Frequently asked questions
: ( or : - (	Frown	IMHO	In my humble opinion
; ) or ; - )	Wink	LOL	Laughing out loud
: )~ or : - )~	Sticking tongue out	ROFL	Rolling on the floor laughing
: O or : - O	Surprise	FWD	Forwarded message

## Lesson 9-19: Forwarding and Deleting a Message



**Figure 9-34**

After you've read a message, you can add your own comments and *forward* it, or pass it along, to someone else. Besides the typical business correspondence, many people especially like to forward e-mails that contain jokes or words of wisdom.

- 1. Find and open the message you want to forward.**
- 2. Click the **Forward** button on the toolbar.**  
A window appears with the message you are forwarding. You need to specify to whom you want to send, or forward, the message.
- 3. Type the recipient's e-mail address in the **To:** field or use the Address Book to enter the recipient's address.**  
You can also add your own comments about the message you are forwarding.
- 4. (Optional) To add your own comments to the message, click the message body area and type your comments.**  
You're ready to send the forwarded message.
- 5. Click the **Send** button on the toolbar to forward the message.**  
Remember that clicking Send normally only sends it to the Outbox folder. You'll have to click the Send and Receive button to actually send the message.  
When you no longer need a message, you can delete it to prevent your Inbox folder from becoming cluttered with dozens of messages. Deleting a message is very, very easy. Here's how to do it:
- 6. Select the message you want to delete and press the <Delete> key.**  
The message is removed from the current folder and is placed in the Deleted Items folder.

**Figure 9-34**

You can forward a message.



**Forward button**

### Quick Reference

**To Forward a Message:**

1. Find and select the message you want to forward and click the **Forward Message** button on the toolbar.
2. Enter the recipient's e-mail address in the **To:** field.
3. (Optional) Enter your own comments in the message body area.
4. Click the **Send** button on the toolbar.

**To Delete a Message:**

- Select the message you want to delete and press the <Delete> key.

## Chapter Nine Review

### Lesson Summary

#### Introduction to the Internet

- The Internet is the largest computer network in the world, with millions of computers all over the world connected to each other.
- Web pages are stored on Web servers, which are always connected to the Internet so that people can view their Web pages 24 hours a day.
- Some of things you can do using Internet include sending and receiving e-mail, browsing the World Wide Web, posting and reading newsgroup messages, chatting with other Internet users, and downloading software.

#### Connecting to the Internet

- To connect to the Internet you need an Internet Service Provider (ISP), a Web browser program, and a phone line and modem or other connection to the Internet.
- **To Connect to the Internet:** Click the **Start button** and select **Internet Explorer** from the menu or click the **Internet Explorer** icon on the Quick Launch bar. Select **Tools → Internet Options** from the menu then click the **Connections** tab. Click **Setup** and click **Next, Next**. Select an option for how you want to connect to the Internet (usually manually) and click **Next**. Follow the remaining on-screen instructions, entering a name for the Internet connection, your user name, and password if prompted.

#### Displaying a Specific Web Page

- **To Display a Specific Web Page:** Type the Web address in the **Address bar** and press **<Enter>**. Or, press **<Ctrl> + <L>**, type the Web address, and click **OK**.
- Sometimes a Web page may not be available for viewing. This can be caused by a Web server being down where the Web page is stored, by Internet congestion, or by the Web page no longer existing. Try returning to the Web page later.

#### Browsing the Web

- A hyperlink is a link to another Web page or file. The pointer changes to a whenever it is positioned over a hyperlink.
- **To Use a Hyperlink:** Click the hyperlink with the pointer.
- **To Go Back to the Previous Page:** Click the **Back button** on the toolbar.
- **To Stop the Transfer of Information:** Click the **Stop button** on the toolbar.
- **To Refresh a Web Page:** Click the **Refresh button** on the toolbar.
- **To Return to a Web Address you Typed in the Address Bar:** Click the Address bar list arrow and select the Web address.

## Searching the Web

- To Search the Web for Information Using Internet Explorer: Click the **Search button** on the toolbar, type the word or phrase you want to search for in the **Search the Web for** box and click **Search**, then click the link for the Web page you want to look at. Click the **Search button** on the toolbar to close the search panel.
- To Search the Web for Information Using a Search Engine: Type the Web address for the search engine in the **Address bar** and press **<Enter>**. Type the word or phrase you want to search for in the Web page's **Search** box and press **<Enter>**.

## Adding a Web Page to Favorites and Changing your Home Page

- To Add a Web Page to Your List of Favorites: Go to the Web page, select **Favorites** → **Add to Favorites** from the menu and click **OK**, or right-click anywhere on the Web page and select **Add to Favorites** from the shortcut menu.
- To Go To a Favorite Web Page: Click the **Favorites button** on the toolbar and select the Web page from the left side of Internet Explorer, then click the **Favorites button** when you're finished. You can also go to a favorite Web page by selecting **Favorites** from the menu bar and selecting the Web page.
- To Change Your Home Page: Go to the Web page, select **Tools** → **Internet Options** from the menu and click the **Use Current button**.
- To Organize Your Favorites: Select **Favorites** → **Organize Favorites** from the menu.

## Displaying a History of Visited Web Pages

- Click the **History button** on the toolbar and click the day or week you viewed the Web page. Click the Web site you want to revisit and then the specific Web page. Click the **History button** on the toolbar when you've finished.

## Clearing the History of Visited Web Pages

- Select **Tools** → **Internet Options** from the menu. Click the **Clear History button**, click **Yes** to confirm the deletion and click **OK**.

## Saving Pictures and Files to Disk (Downloading)

- To Download an Image: Right-click the image you want to save and select **Save Picture As** from the shortcut menu, navigate to the drive and folder when you want to save the image, give the image a different name if you want, and click **Save**.
- To Download a File: Right-click the file you want to download, select **Save Target As** from the shortcut menu, navigate to the drive and folder when you want to save the file, give the file a different name if you want, and click **Save**.
- Many programs and files on the Internet are stored in compressed ZIP files and need to be unpacked using a program called WinZip.

## Understanding the Information Bar

- The Information Bar notifies you when a security action has taken place.
- To Use the Information Bar: Click the **Information Bar** and select an option from the shortcut menu.

## Using the Pop-up Blocker

- To Change Pop-up Blocker Settings: Select **Tools** → **Pop-up Blocker** → **Pop-up Blocker Settings** from the menu and change the Pop-up Blocker settings in the dialog box. Or, click the **Information Bar** and select an option from the shortcut menu.
- To Turn Off the Pop-up Blocker: Select **Tools** → **Pop-up Blocker** → **Turn Off Pop-up Blocker** from the menu.

## Understanding Information Security

- Information security is the practice of protecting your computer from intruders. Here are some security precautions that help protect your sensitive information. Install anti-virus software; Update anti-virus software; Use firewalls; Be smart with e-mail

## Understanding Windows Firewall

- This security utility keeps your computer secure by restricting the information that comes into your computer.
- To Open Windows Firewall: Click the **Start button** and select **Control Panel**. Click the **Security Center** icon and click the **Windows Firewall** icon.

## Introduction to E-mail

- To Start Outlook Express: Click the **Start button**. Select **All Programs** → **Outlook Express** from the menu.

## Composing and Sending E-mail

- To Compose a Message: Start Outlook Express, click the **Create Mail button** on the Outlook Express toolbar, type the recipient's address in the **To:** field or click the **To: button** to the left of the **To:** field and double-click the name. Click **OK** when you're finished. Click the **Subject** field and enter the message's subject. Click the pointer in the lower pane and type the message. Click the **Send button** on the toolbar to send the message.
- To Check a Message for Spelling Errors: Before you send the message, select **Tools** → **Spelling** from the menu.
- To Attach a File to a Message: Before you send the message click the **Attach button** on the toolbar and then select the file in the Insert Attachment dialog box.
- You can address a message using **To** which sends the message to the recipient you specify (required), **Carbon Copy (Cc)** which sends a copy of the message to a recipient who is not directly involved, but would be interested in the message, and **Blind Carbon Copy (Bcc)** which sends a copy of the message to a recipient without anyone else knowing that they received the message.

## Adding a Name to the Address Book

- To Add a Name to the Address Book: Click the **Address Book button** on the Outlook Express toolbar, and click the **New button** on the Address Book toolbar and select **New Contact** from the drop-down list. Type the recipient's first and last name in the appropriate fields and enter the recipient's display name and e-mail address. To add additional information about the contact, click on other tabs in the Properties dialog box. Click **OK**, and then close the Address Book.

## Receiving E-mail

- Outlook Express checks your mail server for new messages automatically, but you can also check for new messages by clicking the **Send and Receive All button** on the Outlook Express toolbar.
- To Receive and Read E-mail Messages:** Start Outlook Express and click the **Inbox** folder, click the **Send and Receive All button** on the Outlook Express toolbar, and click or double-click the message you want to read.
- To Open an Attached File:** Follow the above steps to read the message, then click the **paper clip** icon and then click the file you want to open from the list that appears from the paper clip.
- To Print a Message:** Click the **Print button**, or select **File → Print** from the menu, or press **<Ctrl>+ <P>**.

## Replying to a Message

- To Reply to a Message:** Find and open the message you want to reply to, click the reply option you want to use: **Reply to Author** or **Reply to All**. Type your reply and click the **Send** button on the toolbar when you're finished.

## Forwarding a Message

- To Forward a Message:** Find and select the message you want to forward and click the  **Forward Message** button on the toolbar, enter the recipient's e-mail address in the **To:** field, enter your own comments in the message body area, and click the  **Send** button on the toolbar.
- To Delete a Message:** Select the message you want to delete and press the **<Delete>** key.

## Quiz

- 1. A Web server is:**
  - The world's largest supercomputer that contains and runs the Internet.
  - A computer that stores Web pages and that is always connected to the Internet.
  - A computer that acts as a gateway between your office network and the Internet.
  - A waiter at a restaurant for spiders.
- 2. A Home page is the first Web page you see when you connect to the Internet. (True or False?)**
- 3. Which button on Internet Explorer's toolbar brings you back to the page you last viewed?**
  - Home
  - Stop
  - Refresh
  - Back
- 4. What can you do to keep your computer secure?**
  - Install and update anti-virus software.
  - Use a firewall.
  - Avoid suspicious e-mail messages.
  - All of the above.

**5. Which of the following statements is NOT true?**

- A. Internet Explorer keeps a history of visited Web pages for 20 days.
- B. A search engine lets you search for Web pages by topic.
- C. Eudora is an e-mail program that comes with Windows XP.
- D. You can download and save images from a Web page onto your computer.

**6. When you've finished writing a letter in Outlook Express, clicking the Send button on the toolbar will instantly send the message to its destination. (True or False?)**

**7. Which of the following statements is NOT true?**

- A. When you reply to a message, Outlook Express includes the content of the original message to make it easy for the recipient to know which message you're replying to.
- B. E-mail messages can contain files, such as pictures and word processing documents called *attachments*.
- C. You can send anonymous e-mail using the Blind Carbon Copy (Bcc) field.
- D. You can save a list of Web pages you visit frequently in Internet Explorer's Favorites list.

**8. What is a firewall?**

- A. A security device that keeps your computer secure by restricting the information that comes into your computer.
- B. What you put around your cubicle after doing something wrong.
- C. There is no such thing.
- D. A fire prevention tactic used by firefighters.

## **Homework**

---

1. Get a connection to the Internet.
2. Open Internet Explorer.
3. Go to the Yahoo Web site ([www.yahoo.com](http://www.yahoo.com)).
4. Search the Internet for information on Russia.
5. Spend at least 30 minutes browsing the Web on whatever topics you want.

## **Quiz Answers**

---

1. B. A Web server is a computer that holds Web pages and is connected to the Internet 24 hours a day so that people can view those Web pages.
2. True.
3. C. The Back button returns you to the Web page you just left.
4. D. You should install and update anti-virus software, use a firewall, and avoid suspicious e-mail messages to keep your computer secure.
5. C. Eudora *is* a popular e-mail program, but it doesn't come with Windows XP: Outlook Express does.

6. False. This was a tricky question—when you click the Send button, you save the message to the Inbox folder. To send any messages that are in the Inbox, click the Send and Receive button on the toolbar.
7. C. Adding a recipient to the Blind Carbon Copy field allows them to receive a message without seeing who else received the message.
8. A. A firewall is a device that keeps your computer secure by restricting the information that comes into your computer. Windows has been updated with a Firewall in Service Pack 2.





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