Communication Skills

Unit 1: Communication Skills
Introduction

Success in the workplace requires habits and skills you must develop to be an effective and valuable employee. A foundational job skill is the ability to be a good communicator. This unit explores effective communication skills and considers how these translate into and shape desirable workplace skills, habits, and attitudes.

Your goals for the unit include the following:

- Understand and apply effective communication skills.

- Demonstrate productive work habits and attitudes—for example, dependability and punctuality.

- Demonstrate active listening through oral and written feedback.

- Locate and interpret written information.

- Incorporate supplementary resources and references.

- Organize ideas logically and sequentially.

The objectives for this unit include the following:

- Identify characteristics of effective and ineffective communication.

- Evaluate your own communication skills and create an action plan for improving your communication skills.

- Write and revise professional email messages following common netiquette guidelines.

- Identify productive work habits and attitudes.

- Employ active listening techniques.

- Give and accept constructive feedback.

- Determine the suitability and reliability of Internet resources.

- Paraphrase and summarize written information.

- Organize information logically and sequentially.

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I. Effective Communication Skills
Communication Skills

Imagine that you have been applying for jobs all over town, and you finally get called for an interview. When you first listen to the voicemail message, you are really excited. But when you listen again to get the details about the interview, this is what you hear:

"Hi. Yeah, we got your application about the job. Um, we'd like to go ahead and interview you. Can you come in for an interview later? That would be great. OK, I'll see you then."

Did you get clear information about the interview? Do you know who to meet with and when to be there? Are you even sure which place you applied to is the one that is interested in interviewing you?

This lesson will focus on effective communication skills. You will accomplish the following during this lesson:

Objectives:

- Define communication and identify barriers to communication.
- Compare and contrast effective and ineffective communication skills.

Vocabulary:

barrier - anything that interferes with a message being sent or received.
communication - an exchange of information.
receiver - the person who receives a message.
sender - the person who creates or composes a message and delivers it either orally or in writing.

Very simply put, **communication** is the exchange of information. When you communicate, you may send a message, or you may receive a message. The goal is to have the message that is sent by Person A (the **sender**) be clearly and easily received by Person B (the **receiver**). The sender creates or composes the message and delivers it, either orally or in writing, to the receiver, who should be able to clearly understand the intent of the message. When this happens, successful and effective communication has occurred.

Barriers to Communication

Having a clear, two-way exchange of information isn't always as easy as it sounds. Sometimes there are **barriers** to communication that interfere with or block the message. Barriers are anything that interferes with a message being sent or received. Some barriers might be caused by the sender, such as a confusing message, hard-to-understand words or language, or an accent or unfamiliar dialect. Other barriers may be caused by the receiver, such as distraction or inattentiveness. There are also barriers to communication that are not the fault of the sender or the receiver, such as noise.

Effective Communication

But remember, the goal of effective communication is for the message to travel clearly and easily from the sender to the receiver. It is important when communicating to reduce as many barriers as possible. Beginning with a clear message that is logical and organized and easy to understand is a good first step. Making sure there are few distractions to interfere with the message is another important step. If the receiver replies with a new message, this communication has become interactive.

In the workplace, communication becomes even more important. Often, business goals and timelines depend on clear communication. For example, imagine a new computerized cashiering system will be installed in the store at which you work in the next few months. Communication about this change is critical. Employees must be told when the new system will be in place, and there also needs to be communication about the highlights of the new system. There must be communication about training for employees on this new computerized system. And if clear communication does not occur before this new system is activated, this change could bring business to a halt when the employees are unprepared to use it.

But clear communication is not always as easy as it sounds. Sometimes, there are barriers to clear communication. What are some workplace barriers to effective communication? They include the following:

- The sender may not have enough time to create a clear message.

- The sender may not speak clearly or use language that can be easily understood.

- The receiver may not have the knowledge or information to make sense of the message.

- The receiver may not have time to carefully read the message.

- It may be too loud for clear communication to occur.

- It might be too busy for effective communication to occur.

Many times, communication does not happen face-to-face. A lot of business communication will take place by telephone, so employees must be able to communicate clearly using the phone. But the telephone itself can sometimes be a barrier to effective communication. When you are not speaking directly to another person, it can be easier to become distracted and not concentrate fully on the communication. It can also sometimes be harder to understand spoken words over a telephone. When a message is left on voicemail, communication can become even more tricky.

Example:

Imagine that you are a manager who has posted a "Help Wanted" advertisement so that you can hire some new employees. When you review your voicemail messages, you have messages from interested prospective employees. How a person presents him- or herself over the phone, even on a voicemail message, can go a long way toward creating a first impression, either positive or negative. Click on the first voicemail message to listen to it. What impression do you get of this job candidate based on the way she communicates in her phone message?

Please refer to the media CD to listen to the Voice Messages in this example.

Now click on the second message and compare it to the first one. What first impression do you get of the second caller?

What did you think of the person in message 1? As a manager, do you think you would call this person for an interview? It did not seem the caller was prepared with a clear and organized message. The caller did not speak slowly and clearly, and she seemed nervous and confused. Parts of the message were unintelligible. The ineffective communication skills shown by this caller probably affected your first impression. A manager may not be inclined to hire an employee with poor oral communication skills.

The second caller, on the other hand, probably did impress you. The caller was confident, clear, and ready to communicate. The message was logical and organized. Because employers like to hire people with good communication skills, as a manager, you would probably be interested in this job candidate.

Your Turn

Now that you have had a chance to think about the differences between effective and ineffective communication, let's make a list of the main characteristics of each. In the following activity, you will be shown a list of descriptive words related to communication. If you think the word describes good and effective communication, drag-and-drop it into the "Characteristics of Effective Communication" column. But if the word does not describe effective communication, drag-and-drop it into the "Characteristics of Ineffective Communication" column.
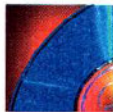
Please refer to the media CD to compete Comparing Communication Skills.

Lets Review!

Remember, effective communication is the clear exchange of information. When you are involved in a communication exchange, you may send a message, or you may receive a message. Sometimes, there may be barriers to communication that interfere with or block the message. Some of these barriers cannot be avoided (such as noise), but others can be reduced if you pay attention to the characteristics of effective communication.

1.1   Bryan has e-mailed his boss, Shauna, asking if he can leave work early next Friday. Which choice best describes Bryan in this communication scenario?_____

    A. the sender of the message
    B. the receiver of the message
    C. a barrier to the message
    D. a source of the message

1.2   Jamie works as a receptionist for a small business. Fridays are always a challenge on the phone, since the front entrance sees a lot more customer traffic. Jamie's communication challenge is due to which factor?_____

    A. effective communication
    B. ineffective communication
    C. barriers to communication
    D. workplace communication

1.3   Liza is preparing a memo to her employees that explains the new procedure for asking for time off and switching shifts with another employee. By making sure her memo is well-prepared, logical, and organized, Liza has made sure her communication has the characteristics of _____.

    A. effective communication
    B. ineffective communication
    C. barriers to communication
    D. workplace communication

1.4   True/False   Oral communication skills can present a positive or negative first impression.

1.5   True/False   Barriers to communication always can be eliminated.

1.6   True/False   Effective communication skills are a desirable workplace skill.

1.7   True/False   Communication is the exchange of information.

1.8   True/False   The telephone can be a barrier to communication.

BUSINESS COMPUTER INFORMATION SYSTEMS

UNIT TWO

Business Technology

Unit 2: Business Technology
Introduction

This unit will focus on the various types of technology used in business. Business professionals are continuously looking for ways to improve the work processes at their jobs. First, you'll investigate some of these technologies that make tasks more efficient and effective. Then you'll look at how to select the appropriate hardware and software for specific tasks. Finally, you'll explore emerging technologies.

Your goals for the unit include the following:

- Identify and explain the functions of various types of technology, hardware, and software used in business.

- Select appropriate technology to address business needs.

- Explore functions of emerging technologies.

The objectives for this unit include the following:

- Explain the functions of various business technology, hardware, and software.

- Classify items as hardware or software.

- Select hardware or software most appropriate for specific business tasks.

- Describe emerging technologies.

- Interview professionals to gather information.

- Present information in a chart.

I. Overview of Business Technology
Hardware versus Software

Have you ever tried to purchase electronics? Perhaps you've read a description in an advertisement for a camera or a cell phone. If so, you may have seen terms like mega pixels or gigabyte in the description. If you didn't know what these words meant, it would be hard for you to understand the description and make an educated decision about your purchase.

This lesson will focus on some common technical vocabulary. You'll look at the differences between hardware and software and how they work together. You'll accomplish the following during this lesson:

Objectives:

• Classify an item as hardware or software.

Vocabulary:

CPU - central processing unit or part inside the body of the computer that enables the computer to function; sometimes referred to as the brain of the computer.

hard drive - component in the body of the computer that stores all your files and folders.

hardware - physical parts of the computer or technical equipment.

**Internet** - interconnected computer networks throughout the world that everyone may use.

laptop - a small mobile computer.

motherboard - the main board in the body of the computer. Chips and other components reside there.

software - computer program or a set of instructions for the hardware to perform.

spreadsheet - software that acts like a calculator and is frequently used for numbers and money.

**word processor** - software used to create printable material.
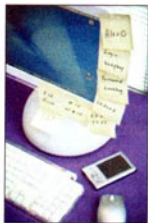
Hardware

Most types of businesses make use of two types of technology—**hardware** and **software**. The term hardware refers to the physical devices that you can see and touch. The keyboard, mouse, and monitor are all examples of hardware. A **laptop** computer is hardware. And there is hardware inside the body of the computer including the **CPU**, **hard drive**, and **motherboard**. In addition, scanners, printers, and CD-ROM drives are all hardware. Networking devices such as a modem is a physical device and therefore is also hardware. Peripheral devices such as a microphone, track ball, speakers, and a game controller are hardware.

In addition to the hardware you see near a computer, specific hardware may be used by workers in certain professions. For example, a videographer uses a video camera to capture action on video. A video camera is technical equipment, which is also considered hardware. For another example, an electrical engineer uses a digital multi-meter, which is a physical device used to measure electrical current. Therefore, the digital multi-meter is also hardware. A person delivering packages uses a portable tablet. The person receiving the package may sign the tablet and the signature is sent to the office. Is the portable tablet hardware? Yes.

In the following graphic, move your mouse to all pieces of hardware.
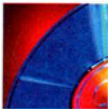
Please refer to the media CD to view the Hardware graphic.

Software

Hardware may seem to work like magic; for example, when you type the letter "a" on the keyboard, an "a" appears on the screen. Here's what's actually happening: Hardware, like your keyboard, needs special instructions called software to perform tasks. When

you type the "a," special keyboard software gives the computer the instructions it needs to make the "a" appear. These instructions are called computer programs, known as software. Software is created from computer code, written by computer programmers or software developers. Software is written in a programming language, of which there are thousands of different types. Because a computer only does exactly what it is told to do, their programmers must make sure that there are no mistakes in these instructions or programs. The picture below gives you a glimpse of what a programming language looks like.

```
function TestPrime(num:Number):Boolean
{
    var bPrime:Boolean = true;
    var bBreak:Boolean = false;
    var i:Number = 0;
    for (i = 0; i < primeList.length && !bBreak; i++
    {
        if (num % primeList[i] == 0)
        {
            bPrime = false;
            bBreak = true;
        }
        if (primeList[i] > num / 2) bBreak = true;
    }
    return bPrime;
}
```

Types of Software

There are three different types of software: system software, programming software, and application software. System software helps run the computer hardware. For example, your mouse needs instructions in order to move around on your screen in response to your hand movements. There is system software to help run the mouse.

Programming software provides tools for programmers to help them write programs or other types of software. A software developer creating Web pages may use a program designed to help create these Web pages. Microsoft® FrontPage® and Macromedia® DreamWeaver® are two examples.

Application software helps the computer user complete specific tasks, such as writing a report, watching a video, or keeping track of a budget. Businesses rely heavily on application software. Application software is often referred to simply as applications or programs.

Some common applications include word processors and spreadsheets. A word processor allows you to type, edit, and format a written document. You may also print or save the document for further editing. If you wanted to send a business letter or memo, you would use a word processor.

A spreadsheet is software that is used for numbers or money. If you wanted to keep track of long lists of numbers and perform calculations, you would use a spreadsheet. An accountant may use a spreadsheet to track expenses or create a budget.

The word processor and spreadsheet are just two examples of common application software. There are many different types of application software. Sometimes, software is custom software, which means it was developed for a specific company and to perform specific tasks.

Working Together

How do software and hardware work together? Generally, software needs to be installed, or loaded on the computer's hard drive. Some software may come preloaded on a computer. Other software may be purchased on a CD. After inserting the CD, the user follows some simple steps to complete the installation. Other software may be downloaded from the Internet.

Once the software has been installed, it may need to be opened or started. The software and hardware interact when the computer user types on the keyboard or uses the menu to give commands. For example, the user clicks twice on the mouse and the software opens. The software and hardware are interacting. For another example, after the computer user opens word processing software and types some text, he may use the keyboard or the mouse to give the command to "save." When this happens, the software gives instructions for the new file to be saved on the hard drive. In other words, the software is giving instructions to the hardware.

Your Turn

Now that you have had a chance to think about the difference between hardware and software, let's classify the following items. You will be shown a list of items. If you think an item is hardware, drag and drop it into the "Hardware" column. But if you think an item is software, drag and drop it into the "Software" column.

Please refer to the media CD to do the Hardware and Software activity.

Lets Review!

Remember, hardware is a physical part of the computer or technical equipment. Some examples of hardware are mouse, speakers, camera, monitor, and CPU. Computer programmers write software programs in a computer language to provide the instructions necessary for hardware to perform a task. In other words, software programs are the directions a computer follows to complete certain operations. Examples of software that were discussed in this lesson are a word processor and a spreadsheet.

Word Processing

Unit 3: Word Processing
Introduction

This unit will focus on keyboarding and word-processing skills. You'll review keyboarding techniques and work toward improving your speed and accuracy. You'll then turn your attention to word-processing skills. You'll first study the correct format used by business professionals to create business documents, and then—using a word processor—you'll create several different types of these business documents.

Your goals for the unit include the following:

- Improve keyboarding speed and accuracy.

- Input data using the ten-key number pad.

- Identify correct format of business documents.

- Utilize hardware and software to produce business documents.

- Edit a variety of written documents.

The objectives for this unit include the following:

- Use a keyboard with proper finger placement and posture.

- Improve your keyboarding speed and accuracy.

- Type numbers using the numeric keypad.

- Prepare a variety of effective written documents, including memos, business letters, resumes, newsletters, research papers, and business reports.

- Edit and revise business communications for spelling, punctuation, and capitalization.

- Make stylistic changes to business communications.

- Add graphics, tables, and charts to word processing documents.

I. Keyboarding Skills
Keyboarding Pretest

Suppose you ran a race one year ago. If you remembered your time, you could run another race and compare your times to see if you improved. In this lesson, you'll do that very thing with keyboarding. First, you'll review some keyboarding techniques and get some practice. Next, you'll take a timed test to measure your skills. Finally, you'll wrap things up with some additional practice exercises

Objectives:

- Measure your current keyboarding speed and accuracy.
- Identify good keyboarding techniques.
- Identify home row.

Vocabulary:

cursor - blinking line that indicates where the next letter, number, or character will appear.
**home row** - component in the body of the computer that stores all your files and folders.

Let's start with some warm-up exercises, followed by a timed test to measure your current speed and accuracy. During this timed test, your hands should rest lightly on **home row**. When your hands are on home row, your left hand is on **asdf** and your right hand is on **jkl;** with both of your thumbs on the space bar.

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Warm-up exercises

Let's start with some brief warm-up exercises. If you make an error during any of the typing exercises in this section, you will hear a soft beep. Also your **cursor** will remain at the same location until the correct letter is typed. In other words, you will only progress through the exercises when you type the correct letter. You will not need to press "Enter" or "Return." The cursor will automatically jump to the next line of text. Adjust the volume on your computer to an appropriate level.
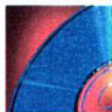
Please refer to the media CD to do Warp Up 1 and 2.

Timed Test

Now that you have completed the warm-up exercises, let's take a one-minute timed test to measure your current keyboarding speed and accuracy.

During the timed test, continue to keep your hands on home row and look up at the screen. In the timed test, you will not hear a beep when you make a mistake. Keep these three rules in mind when taking timed tests in this unit.

- The cursor must remain in the text box during the test.
- Do not hit the Enter or Return key at the end of a line.
- Do not delete mistakes. Just type the correct letter.

Please refer to the media CD to do the Speed Test.

BUSINESS COMPUTER INFORMATION SYSTEMS

UNIT FOUR

Spreadsheets

Unit 4: Spreadsheets
Introduction

This unit will continue to focus on providing you with skills that will help you to be an effective and valuable employee in the workplace. More specifically, this unit will focus on the use of spreadsheets. A spreadsheet is software used by many business professionals to work with numbers. Once you've learned some basic spreadsheet skills, you'll use math skills to write special math equations for spreadsheets. Finally, you'll learn some more advanced spreadsheet skills and use them to solve business problems.

Your goals for the unit include the following:

- Understand the benefits of working with spreadsheets.

- Recognize that spreadsheets help organize, manipulate, and calculate numeric data.

- Create, format, and edit spreadsheets.

- Apply spreadsheet technology to solve a variety of business problems.

- Create tables and charts from data contained in spreadsheets.

The objectives for this unit include the following:

- Set up a basic spreadsheet, change formatting, and edit appropriately.

- Use shortcuts when working with spreadsheets.

- Enter formulas into spreadsheets to perform correct mathematical calculations.

- Identify errors in formulas.

- Create tables and charts from data contained in spreadsheets.

- Create spreadsheets for a variety of uses including personal budgets, inventory, and profit/loss statements.

I. Spreadsheet Basics
Entering Data

Ashley started a new job working for a company whose employees travel often. One of her job responsibilities is to track how much money is being spent on travel. In other words, she needs to input, track, and calculate the money spent on airplane tickets, hotel rooms, rental cars, and more. The previous employee responsible for this task had asked coworkers to submit expenses in an e-mail and, upon receiving the information, had recorded the expenses on paper.

Ashley knows there is an easier way and decides to transfer all the data to a spreadsheet. She starts the spreadsheet by putting labels across the top and then begins to input numbers. Next, she lets the spreadsheet figure out the totals. After the spreadsheet is complete, she allows coworkers to access the spreadsheet in order to add travel expenses as they occur. Her manager recognizes how much time she is saving and refers to the spreadsheet often when making decisions.

Objectives:

- Identify the parts of a spreadsheet.
- Enter data into a spreadsheet.
- Create a basic spreadsheet.

Vocabulary:

cells - boxes or rectangles in a spreadsheet where data may be entered. It is the intersection of a column and a row.

columns - vertical sets of data in a spreadsheet.

cursor - blinking line that indicates where the next letter, number, or character will appear.

data - information that is stored.

label - any word that appears in a cell of a spreadsheet.

rows - horizontal sets of data in a spreadsheet.

A spreadsheet looks like a paper ledger or grid. However, on a paper ledger, the math that goes on behind the scenes can be very time-consuming. For example, if you had calculated a total for a list of numbers but had to change one amount, you would have to start the math all over again or perhaps even create the entire ledger sheet all over again.

Although the spreadsheet looks like a ledger, it works more like a calculator. One of the best things about using a spreadsheet is that you can change numbers without having to redo all the calculations. The spreadsheet program recalculates for you. It can add, subtract, multiply, and divide. You can plug in more complex math equations also. The spreadsheet is an invaluable tool that can make number manipulation easy.

Who uses spreadsheets at work? Many types of business professionals use spreadsheets in their jobs. Here are a few examples:

- Teachers use a spreadsheet to calculate grades.

- Loan officers use a spreadsheet to calculate loan payments.

- Baseball statisticians use spreadsheets to track and calculate batting averages.

- Weather scientists use spreadsheets to track weather data such as precipitation and temperature.

- Stockbrokers chart stock performance on spreadsheets.

Parts of a Spreadsheet

Rows in a spreadsheet run left to right or horizontally. **Columns** run up and down or vertically. The place where a row and a column intersect is called a **cell**. The cell looks like a rectangle. The columns are labeled with letters, and the rows are labeled with numbers. A cell at the intersection of column B and row 2 is called B2. And a cell at the intersection of column D and row 4 is called D4.
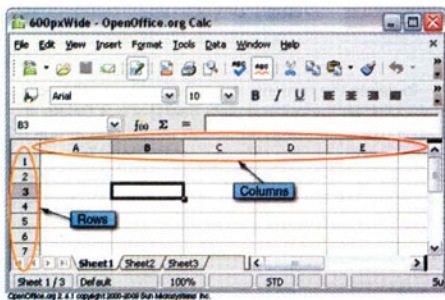

Now let's take a look at the parts of a spreadsheet.
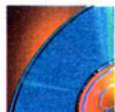
Please refer to the media CD to complete the Spreadsheet Tour.
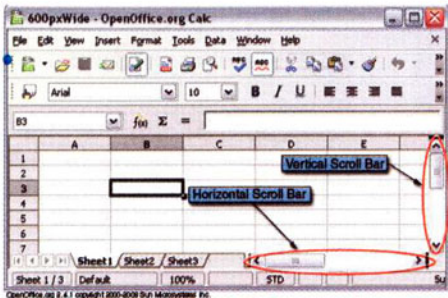
Entering Data

Now that you can identify the parts of a spreadsheet, let's begin entering information. Before you start typing, you will need to know which cell is active. The active cell is the cell that is currently selected, and it is identified with a thicker, black border. Some spreadsheet software also has a name box at the top of the screen, which names the cell that is active.
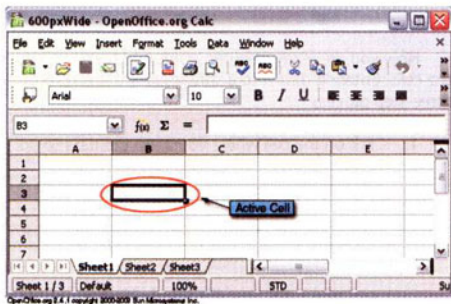
When you start typing, the text will appear in the active cell. To change the active cell, click on another cell or use your arrow keys to move to a new cell. You may also press Tab to move to the right and Enter or Return to move down. Let's give it a try. Open a spreadsheet and take a few minutes to move around by clicking on different cells. Also practice using the arrow keys and the Tab key and Enter key.

Before entering text, it may be necessary to view parts of the spreadsheet that you cannot see. To view more columns or rows, use the scroll bars. Notice there is a scroll bar to move up and down and one at the bottom of the screen to move left and right.

Note to Students:

Some of the demonstrations in this unit were created using Open Office Calc. Your spreadsheet software may use a different process than the one demonstrated. If this is the case, you will need to learn the process used by your software to complete the projects.

Scroll to the right and down through the spreadsheet. What happens after you scroll past column Z? The next column is labeled AA, then BB and so on. The rows and columns continue on for a long time. So don't worry about running out of room. Scroll all the way back to the left and scroll up to the top so that you see column A and row 1.

Now you are ready to enter words and numbers into the cells. Entering data into a spreadsheet is always a three-step process.

1. Click on the cell where you want the data to go.

2. Type the number or text into the cell.

3. Press the Enter or Return key or use your mouse to click on another cell.

Click on cell A1 and type the **label**, "Budget." Click on cell A2, type "10," and press Enter. Notice that when you type letters, the text appears at the left side of the cell. Notice also when you type numbers, the numbers appear at the right side of the cell. Click on cell A3 and type "20." Did you notice that "20" appears in a white bar at the top of the spreadsheet as you are typing? This bar is called the formula bar. Once you press Enter or move to an empty cell, the formula bar becomes blank again.
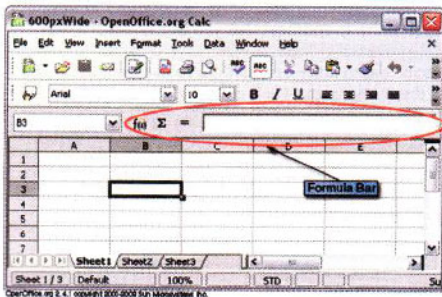
What if you make a mistake when you are typing? There are a few ways to correct a mistake. If the mistake appears in the cell that is still active, you may simply press Backspace and then type the correct text. If the cell is no longer active, you may click on the cell and start typing the correct text. The new text will automatically replace the old text. Watch the following demonstration.

Please refer to the media CD to complete <u>Correcting Data Part 1</u>.

There are even a few more ways to correct mistakes. There are times when you do not wish to retype all the text in a cell. It is possible to delete or add text much the same way you do in a word processor. You may double-click on a cell and the **cursor** will appear. Use the mouse or arrow keys to position the cursor and then enter text and use the Backspace or Delete key as necessary. Also you may click once on a cell and click on the text in the formula bar to make changes. Watch the following demonstration.

Please refer to the media CD to complete <u>Correcting Data Part 2</u>.

To delete the contents in a cell or make a cell empty again, click on the cell and press Backspace or Delete. It is also possible to delete the text in several cells at one time. Just highlight the cells and press Delete. Take a few minutes to practice correcting mistakes and then delete the contents of all cells in your spreadsheet. You should now have a blank spreadsheet.

Databases

Unit 5: Databases
Introduction

This unit will focus on working with a database. You'll learn about what a database is and how it compares to a spreadsheet. After you learn about database basics, you'll turn your attention to its powerful features that can help you manage data and produce business reports.

Your goals for the unit include the following:

- Understand the benefits of using a database.

- Apply database technology to work with data and records.

- Perform data management procedures using a database.

- Use database technology to produce and analyze business reports.

The objectives for this unit include the following:

- Distinguish between a database and a spreadsheet.

- Describe the functions and purposes of fields, records, and files in databases.

- Manipulate data and records in a database.

- Use a database to generate mailings such as address labels and form letters.

- Conduct a search and a query.

- Create business reports from a database.

I. Database Basics
Comparing Databases and Spreadsheets

Grace worked in a library thirty years ago. When she was given the task of renumbering the library catalogue, she had to do it by hand. There were more than 30,000 cards in the library catalogue to represent the books in the library. The cards were numbered from 1 to 30,000 and her task was to renumber them 0 to 29,999 so that each batch of a hundred cards would start with the same digits. If only those cards had been in a **database**! With a database, this job, which took her several weeks to complete, could have been done in a matter of seconds.

Objectives:

- List actions a database can perform.
- List the differences and similarities between a database and a spreadsheet.
- For a specific business task, select a spreadsheet or a database, based on which is more appropriate.

Vocabulary:

database - a software program for storing, managing, and retrieving information.
query - to ask a question about data.
table - rows and columns that are used for organizing data.

Let's define exactly what a **database** is. A database is powerful software for storing, managing, and retrieving information. Databases do so through the use of **tables**. Just as with spreadsheets, databases organize data in columns and rows. Spreadsheets are used to manage and manipulate numbers, whereas databases are used to manage and manipulate information.
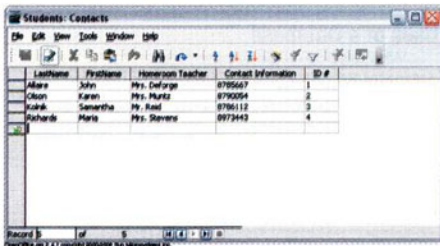
However, databases are actually much more powerful than spreadsheets at manipulating data. Here are just a few of the actions that you can perform in a database that would be difficult to perform in a spreadsheet:

- Retrieve all data that match certain criteria.

- Update information in more than one place at the same time.

- Compare data.

- Create data entry forms so you can easily enter information.

- Perform complex calculations on different sets of data at the same time.

- Validate the data entered and check for inconsistencies.

- Sort and manipulate the data in the database.

- Merge data with text in a word processing document.

- **Query** the database. In other words, ask questions about the data.

- Produce flexible reports, both on screen and on paper, that make it easy to comprehend the information stored in the database.

As you will see, databases do extremely well at managing and manipulating information. Let's look at how these actions work on a simple database. For this example, let's use a list of students in a school. The database would contain the same set of data or structured information for each student—last name, first name, homeroom teacher, and contact information.

The student database may be viewed in datasheet view like this.

What actions can you take with this simple database? You can retrieve all students that are in Mr. Reid's class and print the list. Or if Mr. Reid retires and a new teacher is hired, you could update the homeroom teacher for all students in that homeroom at the same time. You could also perform the action of sorting the data in a database. You could choose to sort alphabetically by last name. This means that after sorting, the students would appear in alphabetical order by last name. You could also sort by homeroom teacher. This means that the students in Mrs. Deforge's class would be grouped together as would the students in Mrs. Muntz's class. These are just a few of the actions you could perform on this database.

Furthermore, when one hundred new students enter the school at the beginning of the school year, the staff may want to use a data entry form to make it easier to enter the students' names and information.

So far, you have learned that databases can be looked at in datasheet view and in data entry form view. The great thing about databases is that you can look at the data in different formats or views such as the design view or report view. The design view allows you to design a database. In other words, in design view you can decide where the data will appear on the screen. You can drag labels and fields to the desired locations. This is an example of the design view.

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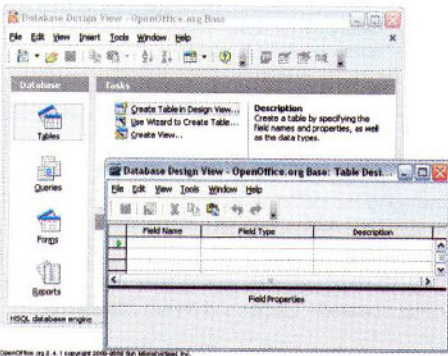
Uses of a Database
What else could a database be used for? Computer databases typically contain collections of data records or files, such as sales transactions, product catalogs and inventories, and customer profiles. Other examples of databases are club membership lists, library catalogues, business card files, and parts inventories. The list could continue on and on. You can use a database to do anything from tracking the results of market research to collecting information from the Mars Rover.

Database or Spreadsheet: Which Should You Use?

There are many times when you could use either a database or a spreadsheet to complete the same task. If the task involves numbers and calculations, think spreadsheet. Remember, spreadsheets typically contain financial information and numbers. A spreadsheet may be used to track stock, calculate a loan payment, find averages, and compute just about any math problem. If the task involves a large quantity of information, think database.


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Another way to help distinguish a database from a spreadsheet is in terms of what sort of information you can get out of it. A spreadsheet helps you answer questions such as "Can I afford the monthly payments on that $290,000 house?" or "What's the average daily rainfall for the first six months of this year?" or "If we increase our sales of widgets by four percent while reducing the price by a dollar a piece, how will it affect profits?" Spreadsheets are extremely useful for answering financial, numerical, and statistical questions such as these.

You can ask quite different questions of a database. For example, "What are the phone numbers and addresses of the five nearest post offices?" or "Do we have any books in our library that are about tarantulas? If so, on which shelves are they located?" or "Show me the personnel records and sales figures of our five best-performing salespeople for the current quarter."

Employees in the workplace, when given a task, need to decide whether to use a spreadsheet or a database to complete the task. Review the following scenarios and decide whether a spreadsheet or a database should be used to complete the task.

Your Turn
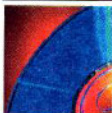
Please refer to the media CD to complete Spreadsheet or Database?

BUSINESS COMPUTER INFORMATION SYSTEMS

UNIT SIX

Telecommunications Technology

Unit 6: Telecommunications Technology
Introduction

In this unit you will learn about telecommunications technologies. In the last several decades, these technologies have changed business communications, increasing workplace productivity. You will learn about appropriate work habits and etiquette when using these telecommunications technologies. You will also learn how to evaluate new and emerging technologies to accomplish specific business tasks.

Your goals for the unit include the following:

- Explain how telecommunications technologies improve workplace productivity.

- Evaluate telecommunications technologies for specific business tasks.

- Describe appropriate work habits and etiquette when using telecommunications technology.

Section One provides an overview of the telecommunications industry and explores a number of its technologies. It also provides a strategy that workers can use to help them select the appropriate technology to improve their job performance.

Section Two focuses on the uses of several telecommunications technologies-- e-mail, blogs, and wikis. In this section, you'll learn how to correctly address an e-mail, the various parts of e-mails , and how to send and receive e-mail messages. You'll also learn about some relatively new technology--blogs and wikis, and how businesses use these tools to improve their productivity. Additionally, you'll learn strategies to use to make the selection of the appropriate technology for specific business needs easier.

Section Three focuses on the unique challenges telecommunications presents for businesses. Here, e-mail ethics, work habits, and netiquette are discussed.

The objectives for this unit include the following:

- Identify and describe the components of the telecommunications industry.

- Explain how telecommunications technology is used in the workplace.

- Use decision-making strategies to select the most appropriate telecommunications technology for a specific business need.

- Identify valid e-mail addresses.

- Send, receive, and print e-mail messages.

- Describe the features and business uses of blogs and wikis.

- Evaluate the use of telecommunications technologies for specific business needs.

- Describe ethical and unethical uses of e-mail.

- Explain how the use of good e-mail work habits improves productivity in the workplace.

- Explain the rules of netiquette.

- Apply netiquette in electronic communication.

Note to Students:

The lessons in this unit are intended to provide general information about using email programs to communicate and work with information. You will learn the basics involved in writing and sending emails.

Some of the demonstrations in this unit were created using Microsoft Outlook. Your email software may use a different process than the one demonstrated. If this is the case, you will need to learn the process used by your software to complete the projects.

I. The Telecommunications Industry – An Overview
The Parts and Pieces

If you're like most people your age, you probably use telecommunications on a daily, if not hourly, basis. When you answer your phone, send a text message, respond to an e-mail, watch television, view a video on your computer, or download a music file, you are using telecommunications technologies.

The telecommunications industry has grown tremendously over the past several decades. This lesson discusses some of the technologies that make up this swiftly expanding sector.

Gabrielle is a **telecommunications** worker. She is an advertising sales representative at the local television network. In her job, she sells advertising to businesses and organizations in the community. These ads appear on television as commercials. Today, one of her clients has a question about his account.

To view the video please refer to the CD. Watch the video to see some of the components of the telecommunications industry Gabrielle uses to do her job.

Please refer to the media CD to view <u>Technologies in the Workplace</u>.

Objectives:

* Identify and describe the components of the telecommunications industry.
* Explain how telecommunications technology is used in the workplace.

Vocabulary:

bandwidth - the amount of data that can be moved between two points in a set time period (usually expressed in bits per second, or bps).

facsimile machine - device used to send copies of documents to remote locations using telephone lines.

telecommunications - an electronic method used to send and receive data (voice, text, images, video).

The telecommunications industry allows businesses to communicate, share information, and interact with people all over the globe. This vast industry enables the exchange of information—verbal, written, pictures, music, and videos—in a number of ways. The methods for sharing this information and the speed at which this information can be exchanged continue to increase.

Let's take a closer look at some of the components of this very important industry.

Wired Communications

Wired telecommunications carriers are still the largest part of this industry and may be the component that you are most familiar with.

Telephones. If you have a phone in your home, it is most likely part of the wired communications network. As you might be able to tell from the name, wired communications carriers enable their customers to share information by connecting them to each other through the use of wires or cables.

The wires and cables used to connect people and businesses are maintained by telecommunications companies. The central offices of these companies have switching equipment that chooses the most efficient route to send content to its destination.

When an employee makes a phone call, switching equipment in the central headquarters is able to route the call to the employee in the next office, to the business next door, across town, to a different state, or even to a foreign country.
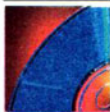
Please refer to the media CD to view <u>Switching Equipment</u>.

Fax Machines. Many businesses rely on **facsimile** (fax) **machines** to send and receive information. These machines enable any information that can be put on paper—handwritten notes, computer-generated text, drawings, or photos—to be converted into digital signals and transmitted over telephone lines.

Desktop Publishing Technology

Unit 7: Desktop Publishing Technology
Introduction

In this unit, you will learn about Desktop Publishing (DTP) technology, a type of software used in the workplace. Its function is to precisely control the elements in business documents in order to enhance communication. You'll learn about the business uses of DTP, the types of DTP programs available, design considerations when using DTP, and how to import text and graphics into DTP documents. Finally, you will create a two-page instructional manual using DTP software to demonstrate your learning.

Your goals for the unit include the following:

- Describe the business uses of DTP.

- Explain design considerations when using DTP.

- Create an instructional manual using DTP technology.

Section One introduces you to DTP. In this section, you will learn about the many different documents businesses can create using DTP software. You will learn the purpose, design, and type of information that is included in these documents and will view a number of examples of them.

Section Two focuses on planning and design considerations of business documents using DTP. In this section, you will learn about the factors to consider when planning document layouts. You will also learn about design elements that you can employ to produce effective documents

Section Three teaches you how to import text and graphics into a page layout. You will also learn about the Properties dialog box feature that sets DTP programs apart from word processing applications. This feature enables precise control over the elements in the layouts you are using to create your business documents.

The objectives for this unit include the following:

- Discuss the uses of DTP.

- Identify and describe the components of a variety of business documents created using DTP.

- Evaluate the layout and design of a variety of business documents.

- List the elements that need to be considered when planning business documents.

- Describe DTP techniques that can be used to improve workplace communications.

- Analyze page layouts using the principles of effective design.

- Apply design principles in the creation of business documents.

- Import text and graphics into documents using DTP software.

- Explain the functions of the Properties dialog box.

Note to Students:

Some of the demonstrations in this unit were created using Microsoft Publisher or Open Office Writer. Your desktop publishing software may use a different process than the one demonstrated. If this is the case, you will need to learn the process used by your software to complete the projects.

Some of the demonstrations in this unit were created using Scribus, an open source desktop publishing application. Your software may use a different procedure from the one demonstrated. If this is the case, you will need to learn the process used by your software to complete the projects.

I. Desktop Publishing Technology-An Introduction
What is Desktop Publishing?

Carlos is an artist who also enjoys working on the computer. He credits his good grades in school to his excellent design skills. His teachers often comment on the creative layout he uses in his projects and reports. His friends asked him to use his talents to create flyers for them when they ran for student government. He even designed the layout of the school newsletter. He has decided to take his talents to the next level and will go into business for himself creating a variety of documents for other people. He will be a desktop publisher and will use special software on his computer to create flyers, brochures, newsletters, business cards, calendars—almost anything his customers want.

Objectives:

- Define desktop publishing.
- Identify jobs in which desktop publishing is used.
- Discuss the uses of desktop publishing.
- Manipulate text and graphics.

Vocabulary:

graphic design - the art of arranging text and images for effective communication.
graphics - images; drawings, photos, symbols, logos, diagrams, clip art, etc.
kerning - adjusting the amount of space between the letters in a word.
layout - the arrangement of text and images on a page.
template - standard layout used as the basis to create new, similar items.
text - letters, numbers, and characters typed on a page.
text box - container into which letters, numbers, or characters are typed.
WYSIWYG - acronym for What You See Is What You Get; lets you see what a document will look like when printed or on the computer screen.

Understanding Desktop Publishing

Desktop publishing (DTP) is the use of software to create a **layout** for a document containing **text** and **graphics** that can be printed or viewed on a computer. You may be more familiar with word processing (WP) programs than with DTP and in fact, many WP programs include some DTP features. Both allow you to produce documents for the purpose of communication. Both can include text and graphics. DTP allows you to create a layout for documents with more visual appeal.

You probably see many products produced using DTP every day—restaurant menus, magazine articles and advertisements, newspapers, textbooks, DVD labels, and more.

Getting these documents ready for printing was once a difficult and time-consuming process. Long ago, way back in the 1970s, the process called for a paste-up board, a bottle of rubber cement, an X-Acto knife, and a galley of type.

What is a galley?
A galley is a long, continuous sheet of paper with type on it produced by a typesetter. This galley is then cut into pieces and pasted onto a paste-up board with rubber cement or wax to create a layout ready for printing.

Desktop publishing has revolutionized the industry! Today, in businesses, classrooms, and homes around the world, people are producing a variety of professional-looking documents—brochures, flyers, newsletters, business cards, reports, manuals, etc. DTP is an important business tool. It improves communication in the workplace by providing the ability to quickly and efficiently create documents.

What Technologies Are Available for Desktop Publishing?

Most word processing programs provide limited desktop publishing tools. However, specialized software

Presentation Technology

Unit 8: Presentation Technology
Introduction

In this unit, you will learn about presentation technology, a type of software used in the workplace to organize and present information efficiently and effectively. Business uses for this software are many. You'll also learn how to create presentations—adding text, graphics, and special effects. Strategies for developing and organizing your content will be discussed. Finally, you'll learn how to set up your slide show, print handouts, and publish your presentation.

Your goals for the unit include the following:

- Describe business uses of presentation technology.

- Create and revise slide shows.

- Discuss strategies for the successful delivery of slide shows.

Section One introduces you to the basics of presentation technology. You will learn your way around the presentation window—its views, panes, toolbars, and menus. You'll also learn about the ways this software is used to improve workplace productivity.

Section Two focuses on the creation of presentation slides. You will learn how to add text, graphics, and special effects to your presentations. Guidelines governing the effective use of these elements will be discussed.

Section Three provides the foundation for using presentation technology in the business world. Here, you'll learn how to develop and lay out your content, set up your slide show, and deliver and publish your presentation.

The objectives for this unit include the following:

- Describe the functions of presentation technology's menus, toolbars, panes, and views.

- Select a presentation layout.

1

- Enter text on a slide.

- Format and delete presentation text.

- Create and modify bulleted and numbered lists.

- Insert and modify graphic presentation elements and special effects.

- Explain the guidelines governing the use of text, graphics, and special effects in presentations.

- Explain how presentation content is influenced by audience and setting.

- Discuss the guidelines that make the addition of content to presentations more effective.

- List the guidelines that govern presentation text and graphics.

- Describe procedures to set up presentations for different methods of delivery.

- Explain the steps involved in publishing presentations.

Note to Students:

Some of the demonstrations in this unit were created using OpenOffice Impress. Your presentation software may be a bit different from the one demonstrated. If this is the case, you will need to learn the process used by your software to complete the projects.

I. An Introduction to Presentation Technology
What is Presentation Technology?

It's a good bet that by this point in your life, you've sat through your fair share of boring presentations. You may have even given a few. You know the type I'm talking about, the ones:

- that seem like they'll never end;
- where the speaker's voice drones on and on; or
- where you're afraid your snoring will disturb the group, or that you might fall asleep and fall out of your chair.

Certainly, this has never happened to you in your current classroom, but you've probably been a victim of a few dreadful presentations. On the other hand, you've probably been lucky enough to have attended a few wonderful presentations as well.

In the workplace, presentations are an important communication tool, and it is important that they be interesting, meaningful, and effective. Presentation technology, the topic of today's lesson, can help to make this happen.

Objectives:

- Describe the functions of presentation technology's menus, toolbars, panes, and views.
- Identify the parts of the presentation window.
- Navigate between views and through presentation slides.
- Select a presentation layout.
- Enter text on a slide.

Vocabulary:

presentation - information delivered to an audience.
presentation technology - software application that helps organize and convey information.
slide - page of a presentation.
thumbnail - scaled-down image of a slide.

Presentation programs are computer applications designed to organize information so that it can be visually displayed and shown to an audience. Using this software, you can create a slideshow, a series of **slides**, which can be displayed to your audience as you make your presentation. These slides can also be printed and distributed to the members of your audience as handouts.
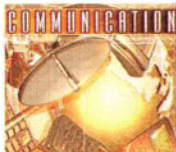
Presentation technology provides many options that allow you to organize and communicate information. The slides you can create using these programs can be very simple or quite complex. Slide backgrounds can be colorful or display a background image. They can contain text, pictures, charts, tables, even sound effects and movies.

Most presentation programs have wizards, assistants, or experts—automated helpers to guide you through the basics of setting up presentations for different purposes. You can choose the subject for your presentation and enter title text, and you often are able to select your slide background.

The Presentation Window

When you open most presentation programs, a blank screen, or slide, is displayed in a large window. Here, you are provided with a number of tools to create and edit the slides in your presentation. You are probably already familiar with many of these tools. Many presentation tools are also found in popular word processing and drawing programs. Most presentation programs include a menu bar as well as one or more toolbars that help you manage files, format text, draw images.

Menus and Toolbars. Most presentation programs include a large number of icons that allow you to perform a number of tasks by just clicking on an image that represents the task. Although many of these icons may already be familiar to you, some may be new. If you don't know what some of them do, don't worry. In most presentation programs, moving your mouse over an icon displays its function.

Computer Networks

Unit 9: Computer Networks
Introduction

In this unit, you will learn about computer networks. Most businesses today are unable to operate without computers. Generally, business computers are connected to networks, which work to increase the organization's productivity and effectiveness.

Your goals for the unit include the following:

- Describe the purpose and function of network components.

- Compare network systems.

- Explain the factors that influence the choice of a computer networking system.

In Section One, you will learn about computer networks. You will be introduced to how they work and the benefits they provide for businesses.

Section Two focuses on the basics of networking. You will learn about network architecture, or topology; the areas networks can span; network models; and hardware and software.

Section Three focuses on the factors used to determine what type of network best meets an organization's needs. You will also learn about the factors that are considered when designing a network.

The objectives for this unit include the following:

- Explain how computer networks work.

- Describe the benefits provided by computer networks.

- Discuss the advantages and disadvantages of different network topologies.

- Describe the criteria businesses use to determine what type of network they need.

- Compare network models.

- Describe the function of network hardware components.

- Describe the function of network operating systems.

- Identify the factors that must be considered when designing a network.

- Discuss the ways in which business operations affect network design.

I. An Introduction to Networking
Why Use A Network?
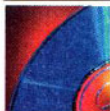
Please refer to the media CD to view Your Social Network.

The network described above is your social network. In it are the people you have connections to. Computers have their own kind of networks. The computer you use at school is most likely part of a network. The computers in most businesses today are part of a network. Computer networks help to increase productivity in the workplace.

Have you ever used the Internet? If you have, you've used a computer network. The Internet is the largest computer network on earth.

Are you able to print documents at school? If you retrieve your printed document from a printer that is not connected to your computer, the computer you are using is most likely part of a computer network.

Objectives:

- Explain what a computer network is.
- Describe the benefits provided by computer networks.

Vocabulary:

groupware - software application that enables workers to collaborate and share information.
**network** - two or more connected computers.
peripheral - external hardware connected to and controlled by a computer.
server - computer that provides resources for other computers on the network.
shared drive - device for storing and retrieving computer files that can be accessed by authorized users.

What Is a Network?

A network is two or more computers that are connected to each other for the purpose of sharing resources—data, files, software, or hardware, such as printers, scanners, or facsimile machines.
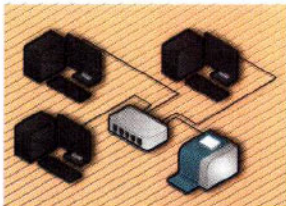
Networks come in many different sizes. They can be as small as two computers linked together or as large as the Internet.

Networks are not confined by geographic boundaries. They can exist in a single building, such as a small business, or even your home. (If you have two or more computers in your house that share a common printer,

you have a computer network.) Networks can also cover vast geographic areas. For example, many businesses have more than one office in a town, city, country, or all over the globe. Computer networks enable employees at these businesses to share resources.

How Are Computer Networks Used in the Workplace?

Businesses use computer networks in a number of ways and for many different purposes. However, the main reason that businesses create computer networks is to increase their productivity. Let's take a look at some of the ways in which computer networks benefit businesses.

Sharing. Perhaps the largest benefit that networks provide is enabling employees to share information, software, and equipment. Networks help workers access and exchange information stored in files quickly, easily, and efficiently. A network application known as **groupware** makes such sharing possible.

Networks also enable the sharing of software, such as word processing, spreadsheet, database, and other applications. This makes installing and updating software
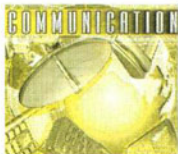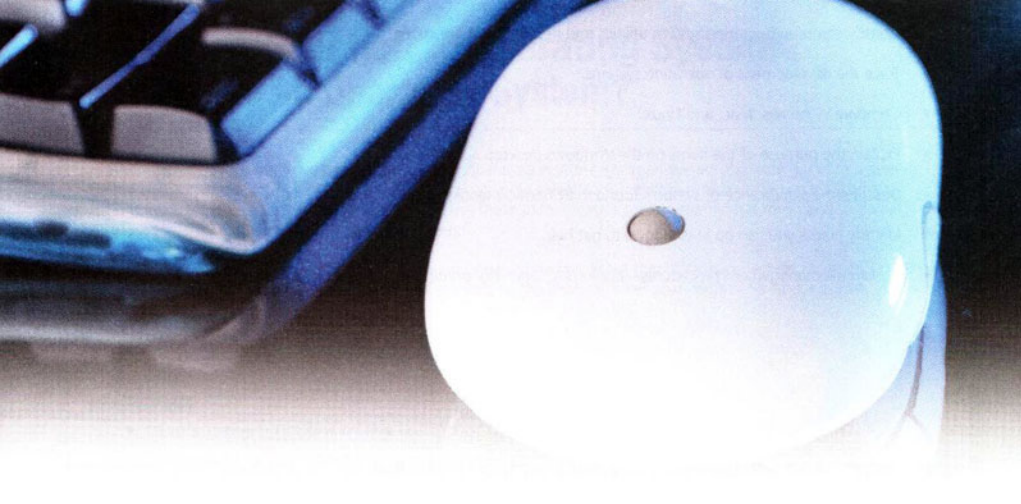
BUSINESS COMPUTER INFORMATION SYSTEMS

UNIT TEN

Computer Operating Systems

Unit 10: Computer Operating Systems
Introduction

In this unit, you will learn about your computer's operating system—the most important program installed on your computer. The operating system (OS) makes it possible for you to interact with your computer.

Your goals for the unit include the following:

- Describe the purpose and function of computer operating systems.

- Compare different computer operating systems.

- Discuss how to use the Windows interface to work productively.

In Section One you will learn about computer operating systems. The chapter focuses on operating system functions and their utility programs.

Section Two focuses on the most commonly used operating systems—Windows, Mac, and Linux. You will explore their development and compare their features.

Section Three focuses on the interface of the Windows operating system—the OS most commonly used by businesses. You will learn your way around the desktop, how to use menus and dialog boxes, and where to find help. You will also learn file management procedures to enable you to efficiently work with the documents you create using your computer.

The objectives for this unit include the following:

- Explain the functions of the computer operating system.

- Identify and describe the components of common GUIs.

- Identify common operating system utilities and describe their functions.

- Trace the development of operating systems.

- Compare Windows, Mac, and Linux.

- Explain the purpose of the items on the Windows desktop.

- Describe the significance of symbols found in Windows menus.

- Identify places you can go in Windows to get help.

- Explain file management procedures—organizing, opening, printing, saving, and deleting.

I. An Introduction to Operating Systems
What is an Operating System?

What part of your body is most like a computer operating system? If you answered your central nervous system, you're right! Without your central nervous system, you would be little more than a bunch of body parts—bones, organs, muscles, etc. Your central nervous system ties these parts together, telling them what they need to do and how to work together to keep you alive and functioning.

Similarly, without an operating system a computer would be little more than an expensive box. It couldn't do any of the things you rely on it to do—open programs, connect to the Internet, send your documents to the printer, etc.

In this lesson, you will learn about the operating system's role in running your computer.

Objectives:

- Explain the functions of the computer operating system.
- Identify and describe the components of common GUIs.

Vocabulary:

command - instructions that tell a computer what to do.
desktop - the background screen on a computer; the main work area.
GUI - graphical user interface enabling users to easily interact with their computers.
menu - list of commands.
multitasking - performing more than one task at a time.
window - rectangular area on a computer screen where the action takes place.

What Is an Operating System? Your computer runs two different types of software—application software and system software. You are probably most familiar with application software. This type of software includes word processing, drawing, spreadsheets, and other applications. The operating system (OS) is system software that is installed on a computer to control and organize its component parts—memory, hardware, and software. Most of the computers used in businesses come with an OS already installed. The most commonly used operating systems are the Windows series. Other commonly used OS's include Macintosh and Linux.

All the devices shown below have something in common. Do you know what that is?

Although the computer is the device most commonly associated with operating systems, other items are controlled by operating systems as well. Emerging technologies such as MP3 players, cell phones, and personal digital assistants all have operating systems.

What Does an Operating System Do? The OS is the boss of your computer—it is in charge of everything your computer does. Without an OS, a computer would be a useless machine. The main functions the OS provides include:

- displaying the **Graphical User Interface** (GUI);
- managing application software;
- coordinating the interaction of hardware and software;
- handling data storage and retrieval.

GUI. The OS's of most computers used in businesses, schools, and the home function in a graphical user environment that makes it relatively simple for people to interact with their computers. In the early days of computers, the computing environment was much less user-friendly. Computers were controlled in a command-