



Section 1

Introduction

Mathematics with Business Applications does more than teach students about business math. It also helps them make decisions and use resources as actual business people do. One of the best tools you can use to help your students is the Internet. *Internet Activities* will help you to teach your students to use the Internet effectively and to build their confidence in real-world situations, such as doing business and conducting research. Most important, as your students use the Internet, they'll expand their critical reading, writing, analyzing, and computer skills.

What Is the Internet?

Simply, the **Internet** is a giant, worldwide computer network. A network is a group of interconnected computers. The Internet was formed by connecting many different computer networks. The Internet can best be understood as a network of networks. These networks can all share various kinds of information. To transfer the data and files on the Internet to users, special computers known as servers are used. Countless servers all over the world are connected by phone lines, modems, cables, and satellite links, enabling governments, schools, businesses, and individuals to communicate and share information. The Internet has revolutionized communications.

The Internet is sometimes referred to as **cyberspace**. The word "cyberspace" was coined by science fiction writer William Gibson to describe the world inside a computer network. Cyberspace refers to all files, information, and software available on the global computer network.

History of the Internet

The Internet can be traced back to the Cold War. In the 1950s, members of the military and the scientific

community began working on means of communicating in case of a nuclear attack. In 1962 J.C.R. Liklider of the Massachusetts Institute of Technology proposed a "Galactic Network" of computers. A computer network could store and pass on vital information even if many of the computers were destroyed. By 1965 a computer in Massachusetts was connected with a computer in California using phone lines. In 1969, the Advance Research Projects Agency (ARPNET), the forerunner of today's Internet, went online.

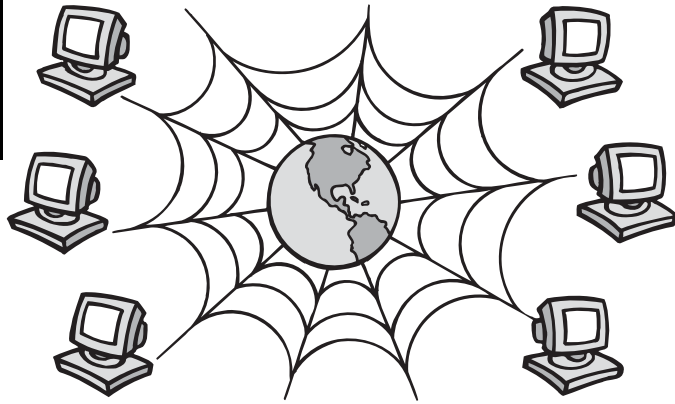
The Internet developed throughout the 1970s and 1980s as various government agencies, educational institutions, and research centers were added to the network. In 1992, the first commercial online service, Delphi, made the Internet accessible to subscribers. CompuServe, AOL, and Prodigy soon followed. In 1993, a team at the National Center for Supercomputing Applications at the University of Illinois released the first browser, Mosaic, making it easy to navigate the Internet. The rest, as they say, is history.

The World Wide Web

When people talk about the Internet, they are usually talking about the World Wide Web. The two terms, however, do not mean the same thing. The Internet refers to the physical network—computers, cables, and wires. The **World Wide Web** refers to the data found on different **Web sites**, or locations you can visit on the Internet.

Each Web site is responsible for its own equipment and phone lines into and out of its network. As an individual Internet user, you may have to pay a monthly fee to access a network through an **Internet Service Provider (ISP)**, such as America Online. You may also pay for an extra phone line to access the Internet. Even as a taxpayer, you help to furnish the Internet with government information and educational resources.

Section 2



Connecting to the Internet

To get on the Internet, you'll need some basic components. These include hardware, software, a means of accessing the Internet, and an appropriate location. This section is intended to acquaint you with your options and help you make informed decisions.

Hardware

Before you buy the computer you'll use to access the Internet, there are a few key things to understand about computer hardware. Your access to the graphics, sounds, and other available multimedia resources on the Internet will depend on your computer's **processor speed**. This is the rate at which a computer's inner workings are able to turn information into something that you can recognize. Processor speed is measured in units called megahertz (mhz).

An important piece of hardware you'll need is a **modem**. A modem is a device that converts the signal from your computer into a message that is able to travel over phone lines and into another computer. It also converts the message sent by another computer into a usable signal for your computer. Modems are available in different speeds, measured in Kbps (kilobytes per second, which indicates how much information the modem will convert per second). You should buy the fastest modem you can afford so you don't waste valuable class time waiting for information to **download**, or transfer from the Internet into your computer.

You'll also need a phone line dedicated to your computer and the Internet. This means having a single phone line that won't be interrupted by other callers, computers, or a call-waiting feature.

Other available hardware components include video cards, graphics cards, and speakers. These will enhance your access to multimedia resources on the

Internet. An electronics salesperson can discuss the details of these components with you. Today, the technology of these items is so advanced, even new basic ones will perform well.

Software

After you select your hardware, another important decision will be which **software**, or programs, to use for communicating on the Internet. You'll need to select communications software and a Web browser.

Each time you want to connect to the Internet, your **communications software** will dial up the connection (you will set the number it dials). Communications software usually comes with operating systems, such as Microsoft Works, or with modems, or sometimes is provided by your ISP.

A **Web browser**, such as Microsoft Explorer or Netscape Navigator, is the actual program you'll use to view (or browse through) the information and Web sites on the World Wide Web.

When computers communicate, they need to speak the same language, or **protocol**. The agreed-upon protocol for computers and programs is called TCP/IP (Transmission Control Protocol/Internet Protocol). Any Internet hardware and software you buy will be ready to work with TCP/IP.

Internet Access

Once you have all your necessary hardware and software, you'll have to decide how you will access the Internet. You can access it through an ISP, but before you sign up to use and pay for a service for your classroom check with people in your school and community for other Internet access options. For example, there could be an available Internet gateway at a nearby university. Some universities require you to be a student or recent alumnus to

use their Internet connection, but others may have more liberal requirements.

Also, free Internet access may exist in more remote places. You can check with local newspapers, public television stations, or libraries to see if there is a regional computer center that provides free access. With free access, you won't pay hourly fees to get to the Internet, but you may have certain access restrictions.

Many businesses have access to the Internet. Perhaps a friend or parent may be able to provide your class with a free account through his or her job.

Finally, if you're unable to locate free access, a commercial ISP can provide what you need. This is by no means a last resort. Thanks to the law of supply and demand, commercial services are usually very efficient and well maintained. Also, most offer excellent technical support to help you get up and running. To avoid paying additional telephone charges, try to get a toll-free or local number to access your ISP.

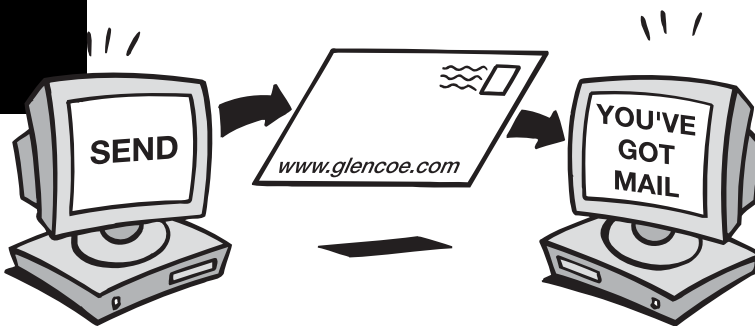
Location

You need to decide where your students will use the Internet. Some schools have several computers in each classroom or a computer lab. Other schools may have just a few computers for the entire school. Your school may be connected to a LAN (Local Area Network) through which you can access the Internet easily.

You may require students to complete Internet assignments at home if they have computers and Internet access at home. If so, be sure that parents are aware of these assignments so they can monitor Internet use.

Many families do not have a computer or access to the Internet. This doesn't mean they can't surf the Web. Libraries often provide free Internet access to local residents. If your students use the library for Internet access, you should take them on a field trip to the library and have them review the library's policies on Internet use.

Section 3



Communicating on the Internet

The Internet gives you the power to communicate with people all over the world in minutes. You can exchange messages, participate in discussion groups, and collaborate with others. The tools of communication on the Internet include e-mail, mailing lists, listservs, chat rooms, newsgroups, and bulletin boards. In time, you'll become proficient in the methods that are most useful to you and your class.

E-mail

By far the most popular means of communication on the Internet is electronic mail or **e-mail**. It's faster than regular postal mail (sometimes called snail mail) and is much cheaper than calling someone long-distance. In fact, it's no more expensive to e-mail a friend in Indonesia than to e-mail a friend in your neighborhood. With e-mail, you can also store and print out your incoming and outgoing messages.

E-mail messages are delivered to personal e-mail addresses. E-mail addresses are all in the same format and consist of three parts. These parts (which are personal identification, group identification, and organization type) provide a unique and informative address for every person.

The personal identification can be a person's name, nickname, special number, or title. The group identification is often an abbreviation for the name of the company, school, or organization that is providing the e-mail account. The personal and group identifications are separated by the @ symbol.

The third part of the address is a code that indicates what type of organization has the e-mail account. A dot (.) separates this from the rest of the address.

ORGANIZATION TYPES

Abbreviation	Description of Resource
.com	commercial organizations
.edu	educational organizations
.gov	governmental organizations
.net	networks
.mil	military
.org	organizations, typically nonprofit

All together, a complete e-mail address looks like the following:

bgates@microsoft.com

or

curator@moma.org

Your e-mail address has nothing to do with the physical address of your home or workplace. It's simply the place that your communications are sent to and from. When messages are sent and received, they're stored on a host computer, not your personal computer. This makes it possible to access your messages from anywhere.

A basic e-mail session will run like this:

- Turn on your computer and run your e-mail program. You will be informed of new messages.
- Select your In box and read any new mail.
- Reply to (or forward) messages.
- Save messages you'll need to deal with later and delete as many others as you wish.
- Compose, title, address, and send new mail.
- Deal with older mail if needed.
- Quit your e-mail program.

There are many different ways to get an e-mail address. If you subscribe to an online service, you most likely will receive an e-mail address. There are

also companies that provide e-mail addresses for free. If your school doesn't provide separate e-mail addresses for students, you may be able to register you or your class for a free e-mail address through a service such as Yahoo! or Hotmail. Check with your school regulations—and get parents' permission before obtaining an e-mail address.

Mailing Lists

You can send an e-mail message to more than one person at a time by using a **mailing list**. A mailing list is a collection of e-mail addresses all grouped under a certain name. When you send a message to the mailing list name, a copy of the message is sent to each person on the list. For example, you might want to send all teachers at your school an invitation to a meeting. Rather than composing several individual messages, you can write one and send it to a group address, such as "schoolgroupA." Check your e-mail program's user guide or help screens to learn how to set up a mailing list.

Chat Rooms

Chatting is another way to communicate over the Internet. When you enter a **chat room**, you have a typed conversation with someone else, like a typed telephone exchange. In most cases, conversations appear line by line as each person inputs his or her statements. Users' comments are posted instantaneously for everyone in the room to see. It's sometimes confusing when you first enter a chat room because there are usually several conversations going on at the same time. Take the time to eavesdrop on the different conversations and choose the one that most interests you.

Chat rooms require intense supervision because they are not always monitored. Almost anyone can enter a chat room on the Internet. Sometimes users will misrepresent themselves, use inappropriate language, or cause problems. When this happens, you can report them to an online service administrator, but there may be no way to identify them.

Listservs

A **listserv** is an automatic, free mailing list that forwards messages on a certain topic to its subscribers. Every time a message is sent to the

listserv, each subscriber gets a copy. In this way, a discussion group is established, in which members can reply, debate, question, and collaborate. There are many of these Internet discussion groups that focus on educational topics.

A listserv can be a valuable resource, but some listservs have thousands of members so the e-mail generated can be overwhelming. If you join one, keep your responses to a minimum and reply only when you have something of value to add to a discussion.

To participate in current discussions and obtain past archives of a listserv, you need to subscribe. Send an e-mail message to the listserv that simply says "subscribe." When you're no longer interested in participating, you can get off a listserv by sending another e-mail that simply says "unsubscribe" or "signoff."

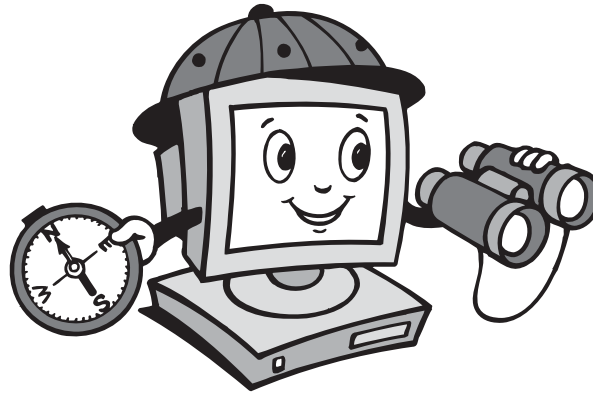
Newsgroups and Bulletin Boards

Newsgroups and **bulletin boards** are public areas on the Internet, usually devoted to specific subjects. Users can gather in an online community to discuss ideas and ask questions. There are several sites on the Internet designed as question-and-answer sessions. Students can visit a site and ask a question such as "How does photosynthesis work?" An expert in the bulletin board system or newsgroup will answer the question.

These services are similar to listservs, but they have a "news reader" that reads large databases of information. They are considered safer than chat rooms or e-mail because they are supervised and maintained by an administrator who has the ability to block users who cause problems. Since information isn't necessarily posted instantly, inappropriate language or subjects can also be blocked. Although special software is required for the news reader, it's advantageous because it keeps the discussion focused and drastically reduces the number of messages subscribers receive. However, like listservs, hundreds of messages may be posted in a week.

There are many newsgroups and bulletin boards on educational topics. Find one, follow it for a week before commenting, and then get involved. Sign up in the same way that you subscribe to a listserv. Before asking questions, check to see if there's a FAQ (Frequently Asked Questions) list that you can read. This list will post answers to very common questions.

Section 4



Getting Around on the Web

Communicating through e-mail, listservs, and so on, is only part of the usefulness and excitement of the Internet. By using your Web browser software, you can access the Internet's countless Web sites.

Each Web site has its own address and is made up of Web pages. The first Web page you see at a site is called its home page. This is usually a welcome page that describes the site.

Web Addresses

There are several different ways to get to specific Web sites and navigate through the World Wide Web. One way to get to a Web site is to type its address in the appropriate box in your browser. This address is called a **Uniform Resource Locator (URL)**. It usually starts with `http://` followed by an address such as www.yahoo.com or www.ed.gov. An entire URL, then, would look like <http://www.yahoo.com> or <http://www.ed.gov>. When you type in a URL and press Return or Enter, your Web browser will display the specified Web site.

The name assigned to a specific Web site is called a **domain name**. Domain names are designed so that almost everyone can understand the nature of the site. The last letters of a domain name, known as the **domain name extension**, give a clue to what type of organization owns the site.

Another way to move around through sites on the Internet is to use **hyper links**. Hyper links are electronic cross-references. They are specially designated words or images that, when selected, will take your Web browser to a new Web site or to a different page of the current site. Links appear in almost every Web site. By using them, you can quickly and easily move to new relevant

DOMAIN NAME EXTENSIONS

Abbreviation	Description of Resource
.com	commercial
.net	network
.edu	educational
.gov	government
.mil	military
.org	organization
.int	international

destinations on the Internet. They often appear as highlighted or underlined words or phrases.

As you travel through the Internet and follow links to various new sites, you can retrace your steps if you want to return to a site. Use the Back and Forward buttons on your Web browser's toolbar to page through the sites you've visited.

Using Search Engines

If you don't know the address of a certain Web site, or want to find a list of sites relevant to a certain topic, you can use a **search engine**. A search engine is like a card catalog for all the Web sites on the Internet. Different companies have developed different search engines, such as Alta Vista, Excite, Infoseek, and Lycos. Each search engine offers different features, but they all basically work the same way.

To use a search engine, you must get to its Web site. Type the address of the search engine into your Web browser. At the search engine's Web site, type in a specific topic, such as "American History," and click the Search or Find button on the screen. A list of links will then appear in order of their relevancy. Click on a link to be transported to its Web site. If you don't find what you're looking for using one search engine, you may be able to find it with one of the others.

An Example of a Web Search

Imagine that you want to learn about olives. Because you don't know any addresses for Web sites that discuss olives, you need to use a search engine. You type the address of the search engine Yahoo! into your browser (www.yahoo.com) and press Return or Enter. On the Yahoo! site, you type in "olives" (without quotes) and click the Search button. A list of categories related to olives appears, and you click on the following:

*Home : Society and Culture : Food and Drink :
Types of Foods : Fruits : Olives*

Now you see a hot link for a Web site:

*An Ode to Olives—from the history and economic
importance of olives to delicious recipes.*

This site looks like a nice start, so you click on the text. Because it's a hot link, this moves you to the site even though you have not typed in the actual address, <http://www.bayarea.net/~emerald/olive.html> (which may appear somewhere on screen as your cursor moves over it). At the new site, you find you're at the home page of a lover of olives and the page is abundant with links. After reading the opening statement about the Web site creator's love for olives, you decide to click on:

Olive Q&A,

You're transported to The Olive Press Gift Shop's page with answers to FAQ.

You then decide to click on the Back button on your browser's toolbar and so return to *An Ode to Olives* homepage. Here, you click on:

*Olive Tree Museum—private museum in Italy
devoted to OLIVES!*

On this site you learn about 6,000 years of history and modern olive oil production direct from the source: a museum in Italy. You can even satisfy your hunger for knowledge by heading to the corporate sponsor's home page or linking to the International Gourmet's World of Cheese Club! As you can see, your linking possibilities may be endless.

Search Tips

Before you use a search engine, check the About, Help, or Advanced Search page found on the search engine's home page. You'll find explanations of the engine's limitations, as well as tips for how to maximize your use of the search engine.

Below are some tips on how to get the most out of many search engines:

- Use lower case letters. This will search for terms that appear in any form. If you use capital letters, the search engine will only search for terms with those capital letters in them. If you need to narrow your search, then try using capital letters for proper nouns.
- Choose your words carefully. Try for unique or specific words, as well as words grouped together using quotes. For example, if you want to find a site about German shepherds, do not run a search for "dogs" or "pets" and put "german shepherd" in quotes. Otherwise you'll get results on everything from World War II to sheep herding.
- Try different search engines for different results. A Web page that is buried among thousands of results on one search engine might show up at the top of the list on another.
- Use the "NOT" command. This excludes certain words from your search. For example, if you're searching for sites about apples, you don't want results that include Apple computers. If you search for "apples NOT computer," it will narrow the search so you don't get a lot of unnecessary results.

Keeping Track of Sites

Sometimes you'll find it impossible to keep track of where you've been or what your favorite sites are. You can use your browser's Back and Forward buttons to page through the sites you've visited. Many Web browsers also have a tool called the **go menu**, which lists the recent sites you've visited. Pull down the menu, which will be in the toolbar or under a triangle to the right of the Back button, and highlight the address you want to revisit. With the go menu, you don't have to page through every site you visited consecutively.

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If you need to recall a site you've visited in a previous session, if you want to verify a student's work, or if you want to monitor sites visited by students, you can open the **history folder**. This displays a record of Web site searches.

Finally, if you find a site that you know you'll want to revisit, you can **bookmark** it. When you're at your selected Web site, highlight **Make Bookmark** in one of the toolbar menus. (The name of the menu this command is in varies depending on which Web browser you're using; it may be **Bookmarks**, **Favorites**, or something similar.) This will save the site's address and title in a list of your favorite sites. You can change the title of the site when you save it on your computer, but don't forget

you changed it. In the future, you can move directly to a bookmarked site by selecting it from your list of bookmarks.

Plug-ins

As you explore various Web sites, you may be asked to download certain **plug-ins**. Plug-ins, also known as helper applications, are software programs that permit access to certain Web sites or allow you to download and use specific types of files. Often, these are multimedia files which, for example, play sounds (such as files whose names end with **.wav** or **.ra**) or show movies (such as files ending with **.avi**, **.mov**, or **.mpeg**). Plug-ins are usually free. Check with your network administrator or ISP about plug-ins that may already exist on your computer's hard drive.



Internet Safety and Conduct

After a week or so of exploring the Internet and conducting your own searches, you'll have a good idea of the abundance of Web sites available. Unfortunately, not all sites were created equal, or for children.

Sites that are sexually explicit or promote alcohol, for example, are just as easy to access on the Internet as any others. Congress has upheld the right of free speech on the Internet. However, you also have the right and the ability to monitor Internet use and restrict it to what is appropriate in your class.

Contracts and Permissions

To help you alert parents and students to the possible problems of Internet resources, there are some reproducible forms included with this guide. The *Student Internet Contract* asks for students to act responsibly at any time they're using the computer. It calls for students to monitor their own activities. The *Internet Permission Contract* asks students and their parents to be aware and informs parents of your Internet usage standards.

Some of the principles contained in these contracts are as follows:

- The use of the computer is a privilege, not a right.
- Students must abide by their signed contracts.
- If a student abuses his or her privileges, those privileges will be revoked.

Acceptable Use Policy

Before letting students use the Internet, you might also write and have them sign an **acceptable use policy (AUP)**, a formal, written agreement that sets

terms and conditions of Internet use. Developing an AUP can be a difficult task. Because it is a legal contract between teachers, students, parents, and the school, you should do some homework before writing one. A good place to start is with your local or state board of education. The Internet is an excellent source of information about AUPs. To locate a Web site about AUPs, use a search engine and type "acceptable use policies" to run a search.

You may also want to provide I.D. stickers or cards to students who have signed an AUP. Not only does it stress the importance of the AUP, it offers an excellent way to reserve computer use.

Netiquette

There's a big difference between communicating over the Internet and communicating with someone in person or even over the phone. When you talk with someone, you can pick up nonverbal cues such as body language, voice inflections, and facial expressions. When you communicate over the Internet, you can't pick up these nonverbal cues. Irony, for example, may not come across and your message might be misinterpreted.

You need to be aware of appropriate Internet behavior, or **netiquette**. When sending messages, remember that the messages you send are a direct reflection of you and your school. Your recipients' impression of you may be based solely on how you communicate through e-mail. To communicate effectively over the Internet, follow these basic guidelines:

- Use correct spelling, punctuation, and grammar. Proofread your messages.
- Keep your messages short.
- Keep the tone appropriate to the situation. Be polite. Avoid **flaming**, which is an Internet term for sending rude or insulting messages.

Section 5 (continued)

- DO NOT USE ALL CAPS. It looks like you're yelling.
- Don't swear. In fact, some service providers will restrict your access if you use inappropriate language.
- Don't send **spam**, which is junk e-mail.
- Never send prank mail. Remember that your return address is automatically included in all correspondence.

Feel free to use **emoticons**, which are Internet expressions and abbreviations.

Ethics

As a guide to overall computer usage, you can post or hand out the Ten Ethics Commandments from the Computer Ethics Institute:

- Thou shalt not use a computer to harm other people.
- Thou shalt not interfere with other people's computer work.
- Thou shalt not snoop around in other people's computer files.
- Thou shalt not use a computer to steal.
- Thou shalt not use a computer to bear false witness.
- Thou shalt not copy or use proprietary software for which you haven't paid.
- Thou shalt not use other people's computer resources without authorization or proper compensation.
- Thou shalt not appropriate other people's intellectual output.
- Thou shalt think about the social consequences of the program you're writing or the system you're designing.

- Thou shalt always use a computer in ways that ensure consideration and respect for your fellow humans.

Internet Hazards

The Internet can be an effective educational tool. However, it also poses some dangers. Just like the real world, there are unscrupulous, disruptive, and even dangerous people in cyberspace. This section summarizes some of the potential hazards on the Internet and offers suggestions on how to protect your students from them.

Scams

Because of its unregulated nature, anyone can sell just about anything on the Internet. Be cautious of spam inviting you to invest or become involved in a business venture. Do not respond to unsolicited e-mail and delete all spam. Educate your students about such sites and have them report any to you when they find them. Remind students that if an offer sounds too good to be true, it probably is.

E-commerce

Most sites that offer to sell something are perfectly legitimate. **E-commerce**, or electronic commerce conducted over the Internet, has become an important way of doing business. E-commerce, however, should not be conducted at school. When you make a purchase online, you're often asked for personal information. This violates most schools' AUPs. To make purchases online usually requires the use of a credit card. If students wish to make purchases online, they should do so at home under their parents' supervision.

COMMON EMOTICONS

Internet Expressions	Abbreviations
:) = smile	bbl = be back later
: (= frown	imho = in my humble opinion
;) = wink	lol = laughing out loud
: - o = surprise	rofl = rolling on the floor laughing
: ? (= crying	wb = welcome back
{ { { = hugs	wtg = way to go
* * * = kisses	hth = hope this helps
< g > = grin	
< ggg > = big grin	
	bfm = bye for now
	brb = be right back
	btw = by the way
	fyi = for your information

Personal Information

Make it your policy that students not offer personal information over the Internet, even if all they're asked to do is fill out a form to enter a contest. Have students report any online activity in which they're asked to give out personal information.

Viruses

Viruses are small programs that embed themselves in or "infect" your computer system. They replicate themselves throughout your computer files, causing damage to your files and even to your computer hardware. Viruses are often sent through e-mail attachments.

To protect your computer from viruses, never open an e-mail attachment unless you are certain of its legitimacy. Never open an EXE file, a DOC file, or a VBS file unless you know who it's from and why it was sent to you. It is recommended that you install antivirus software on your computer and upgrade it regularly. You might also want to install a firewall and an anti-spyware/adware blocker to protect against other types of threats.

Internet Security

One thing to keep in mind when you send or receive anything over the Internet is that it is not secure, including e-mail and Web sites. While most people and organizations respect the privacy of others, some do not. There are also many inappropriate Web sites that feature pornography or hate speech. They are often disguised so they appear innocuous on the surface. The best advice is never to visit a site or put anything in an e-mail that you wouldn't want others to see.

Filtering Software

There are a couple of tools you can use to prevent your students from visiting inappropriate Web sites. **Filtering software** prevents access to sites

predetermined to be inappropriate. With filtering or blocking software you can specify any URL or keyword you don't want your students to access. You can also instruct the software to print out a list of sites for review and to send alerts to other users, such as students' parents.

Your ISP may provide similar filtering services. Some ISPs still allow you to visit any site on the Internet, though only if you provide a certain password. America Online allows kids to freely wander in its Kids Only section and denies access into other areas without a password.

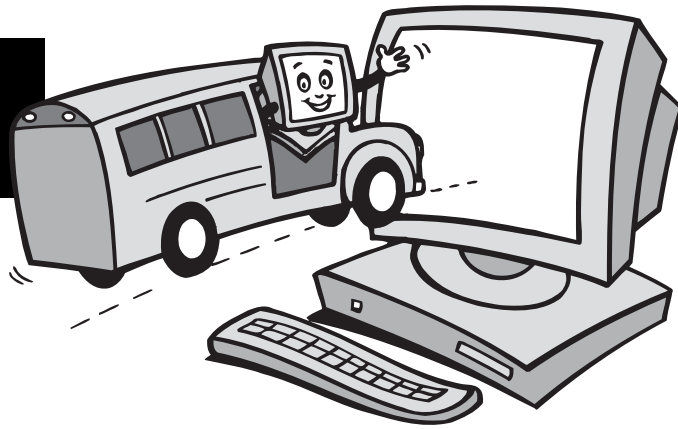
There are some disadvantages to filtering software. Some inappropriate Web sites can still make their way through the filter. Also, because the software blocks keywords, some appropriate content might be screened out, such as sites about sexual harassment laws or breast cancer research.

Passwords and Passphrases

Most secure transactions on the Internet take place using passwords and passphrases. A **password** is a means of uniquely identifying a user by a name or word. A **passphrase** is different because it can consist of a series of letters and numbers which only the user knows and so is much more secure. Most passwords and passphrases are private because they're created by the user.

As a rule, NEVER give out your password or passphrase to anyone. Someone who has your password or passphrase can access your online accounts and purchase things online or send out objectionable e-mail in your name.

Section 6



Implementing Internet Projects

Although the Internet will be an exciting addition to your classroom, you'll have to determine when and how you want to implement it. Not all instruction requires Internet use. Consider whether learning will be enhanced through Internet use or if traditional classroom instruction will be just as purposeful.

Once you decide to do so, getting your class to participate in an Internet project will be easy. It's important, however, to match focus along with enthusiasm. The Internet's eye-catching, attention-grabbing format holds many distractions. By introducing usage guidelines for the Internet, you can help to establish a productive classroom. Consider these usage issues in advance:

- Will I use the Internet on a daily basis or set aside regular time each week for its use?
- If my class has e-mail, will I download it daily or weekly?
- Will I designate and rotate students to download e-mail?
- Will we use the Internet together or individually?
- Will I allow full or limited access?
- Will my students be able to conduct searches anywhere or only at Web addresses I list?

As you make assignments that include the Internet, provide a sense of direction, limit the options, and help your students focus on realistic projects. Also, get a good handle on how proficient your students are and how efficient your equipment is before implementing any assignments. The student activities included with this guide are a great way to introduce the Internet into your classroom on a weekly basis.

Once you have a framework of guidelines and policies to protect your students and encourage

their progress, you're ready to incorporate the Internet in your lessons. Implement the Internet effectively by considering the following steps.

Planning

To get a feel of how much time a project will take, you can practice elements of it with your class. To help your students stay focused on the project, make a poster that clearly defines your ideas:

- **Topic:** Give a title.
- **Overview:** State the activity's objectives.
- **Subject:** List class subjects that will be covered in the activity.
- **Outcomes:** Define assignments and goals.
- **Timeline:** Provide an actual dateline for accomplishing tasks.
- **Connections:** Identify specific geographical regions to which students will connect.
- **Procedure:** List specific tasks necessary to accomplishing the outcomes.

For projects paralleling in-class or homework assignments, it may be a good idea to post general concepts, formulae, definitions, or sample problems near the computer. You may also want to prepare a responsibility chart indicating your delegation of tasks. Clearly assign tasks to certain individuals or groups.

Checking the Sites

Before assigning any Internet activities, visit all the involved Web sites. Make sure that you're comfortable with the material on the sites and that the information coincides with your classroom objectives. You may want to download the sites or save them as bookmarks on your computer. This will save time during the project and bring students directly to the Web site and the activity.

Classroom Management: Teamwork and Collaboration

Most schools don't have the resources to provide one computer per student. Most likely, you'll need to group students into small teams. When forming these groups, keep an eye out for natural leaders that understand Internet basics and the importance of involving all team members. Think about rotating roles during the project, or during different projects, so that all students will get a chance to use the computer, write, read, analyze, and report.

Your classroom management decisions should take into account:

- student technical ability levels,
- a realistic timeline for project completion,
- the best time of day to access the Internet,
- the designation of a responsible e-mail communicator,
- a schedule for computer use, and
- methods to manage your computer's files.

Assessing Students' Work

How will you assess your students' work on the Internet? Their grasp of content can be evaluated by performance as well as by objective tests. Students' Internet usage can be measured by self- and peer-assessment questionnaires or by your own observations. Projects and assignments can be judged by student-designed work standards and by the rubrics included with this guide. A rubric is a guide for scoring or evaluating a specific assignment. It includes a range of descriptions for meeting expectations. The rubric reflects the tasks you ask the students to do. You can make rubric scoring sheets for each chapter's Internet activity.

Disclaimer and Alternatives

Included in this Internet guide are Internet activities for use with each chapter of your student text. The activities are designed to enhance student understanding of the text content.

However, the Internet is a dynamic medium, and the sites referenced aren't under the control of Glencoe/McGraw-Hill. Therefore, Glencoe/McGraw-Hill makes no representation concerning the content of these sites. Sites are sometimes under construction and may not be readily available. Sites may also move or be permanently eliminated. Visit the sites before assigning an activity to make sure they're available and pertinent. If a site is no longer available, try using search words related to the project to find similar sites that could be adapted to the activity.

Evaluating Web Sites

If you find a Web site that you want to share with your students, evaluate it first. A Web Site Evaluation Sheet is included with this guide to help your research remain focused on a site's core structure and meaning. This same form can be passed out to students to give them a guide to check up on a site's information accuracy and technical performance. Whether you use the form or not, remember the acronym ADAPT:

- *Appropriateness*: Is the site suitable for your students?
- *Design*: Is it easy to look at and fun to use? Are pages and particulars set up in a useful order?
- *Accuracy*: Is the information from a reputable, objective, updated source?
- *Purpose or Goal*: Does it meet your students' needs?
- *Technical Aspects*: Does it download quickly? Are its links functional, clearly defined, and relevant?

Web Site Resource List

Included at the end of this guide is a resource list of sites used in the activities and additional career sites. You can use this list to find replacement sites for any that may have moved or to create Internet projects of your own.