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Computer Concepts 2014

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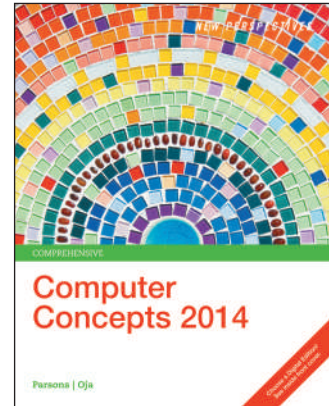
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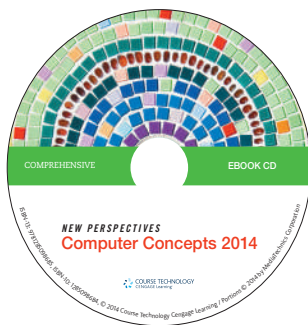
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◗ Instructor annotations

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NEW PERSPECTIVES LABS

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New Perspectives on Computer Concepts 2014

Preface

Connect the Concepts. We live in a digital world and we are constantly picking up bits and pieces of information about computers and other digital devices. But *understanding* digital devices in a way expected of a college graduate requires a framework of concepts that organizes information into hierarchies and relationships. It is, in a sense, THE SOCIAL NETWORK OF LEARNING.
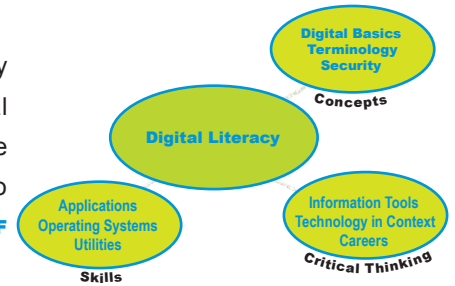
New Perspectives on Computer Concepts 2014 is designed to help students connect the dots to visualize and internalize a framework for technology concepts that's applicable to academic research, career preparation, and today's digital lifestyles.

Ensure Success. Developed by digital textbook pioneers, NP2014 is a time-tested and fully interactive teaching and learning environment that supplies TOOLS FOR SUCCESS. The printed book, CourseMate Web site, interactive multimedia eBook, and assessment tools offer an engaging, multi-layered technology platform that supports diverse teaching and learning styles.

New for This Edition. What's the most effective study technique: Taking notes? Reviewing? According to researchers, students study most effectively by simply trying to recall the material they've read, seen, or heard. NP2014's new TRY IT! feature helps students recall key concepts as they read and later as they review. TRY IT! questions and activities on just about every page are interactive in digital versions of the textbook. Students using the printed textbook can find answers in the back of the book.

NP2014 is offered in several printed and digital formats. You can use the PRINTED TEXTBOOK alone or bundle it with one of the MULTIMEDIA INTERACTIVE EBOOKS. Or use the interactive eBooks by themselves. They contain page-for-page material from the printed textbook, plus videos, animated diagrams, software tours, computer-scored assessment, and results tracking.

PRINTED TEXTBOOK	EBOOK CD	COURSEMATE & EBOOK
◗ Orientation Chapter	◗ Page-for-page equivalent to the printed textbook	◗ Page-for-page equivalent to the printed textbook
◗ Section Concept Maps	◗ Videos and software tours	◗ Videos and software tours
◗ Learning Objectives	◗ Interactive TRY IT!s	◗ Interactive TRY IT!s
◗ Learning Objectives Checkpoints	◗ Computer-scored and tracked QuickChecks, Interactive Summaries, Situation Questions, and Concept Maps	◗ Computer-scored and tracked Pre-Quizzes, Quickchecks, Interactive Summaries, Situation Questions, Concept Maps, and Chapter Quizzes
◗ TRY IT!s	◗ Practice Tests	◗ Audio Overviews
◗ Section QuickChecks	◗ New Perspectives Labs with scored and tracked QuickChecks	◗ Audio Flashcards
◗ Issues	◗ WebTrack results tracking	◗ Games
◗ Information Tools	◗ Instructor annotations	◗ Track results with Engagement Tracker or WebTrack
◗ Technology in Context	◗ Chirps	
◗ Key Terms		
◗ Interactive Summary		
◗ Interactive Situation Questions		
◗ Concept Maps		

CREATE YOUR OWN LEARNING PLAN

It's easy! Use the NP2014 printed textbook, NP2014 Online CourseMate, or NP2014 eBook CD in **ANY WAY THAT'S RIGHT FOR YOU**. The Orientation helps you get acquainted with the extensive array of NP2014 technology at your command.

Your eBook CD Plan—Seven Easy Steps

1. Get started with the **EBOOK CD** and work on the Chapter opener **TRY IT! ACTIVITY** for a hands-on introduction to the chapter topics.

2. Read a chapter, answer the embedded **TRY IT!s**, and complete the **QUICKCHECKS**.

3. Use **CHIRPS** while you're reading to send questions to your instructor.

4. Work with **NEW PERSPECTIVES LABS** to apply your knowledge.

5. Complete **REVIEW ACTIVITIES** using your digital textbook.

6. Take **PRACTICE TESTS** to see if you're ready for the exam.

7. Transmit your results to your instructor on **WEBTRACK**.
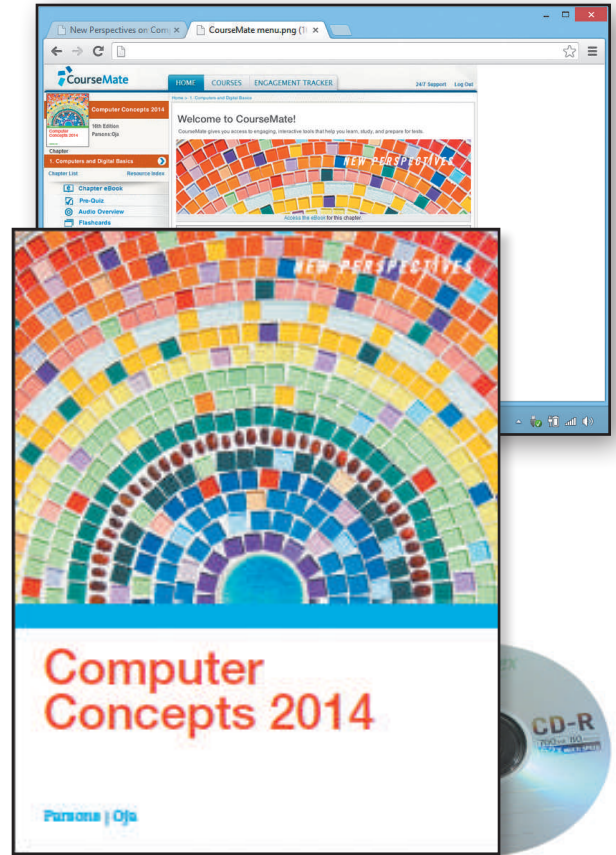
Your CourseMate Plan—Eight Steps Online

1. Log in to the NP2014 CourseMate to take the **PRE-QUIZ** and gauge what you already know.

2. Listen to an **AUDIO OVERVIEW** of chapter highlights.

3. Read a chapter in the online eBook and answer the embedded **TRY IT!s**.

4. Work with the **EBOOK ACTIVITIES AND PRACTICE TESTS** to assess your understanding. Your instructor can track your progress with WebTrack.

5. Have some fun reviewing with **ONLINE GAMES**.

6. Use **AUDIO AND TECHTERM FLASHCARDS** to review terminology from the chapter.

7. Check the **DETAILED LEARNING OBJECTIVES** to make sure you've mastered the material.

8. Take the **CHAPTER QUIZ** if your instructor is tracking results using Engagement Tracker.

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THE BOOK

NP2014 gives you the straight story on today's technology. The style has been carefully honed to be clear, concise, and visual.

Easy to read

Each chapter is divided into five **SECTIONS**, beginning with a **CONCEPT MAP** that provides a visual overview of concepts. **FAQS** answer commonly asked questions about technology and help you follow the flow of the presentation.

Keeps you on track

QUICKCHECKS at the end of each section give you a chance to find out if you understand the most important concepts. As you read the chapter, look for the answers to the questions posed as Learning Objectives, then try your hand at the **LEARNING OBJECTIVES CHECKPOINTS** at the end of each chapter to make sure you've retained the key points. Additional review activities include **TRY IT!s**, **KEY TERMS**, **INTERACTIVE CHAPTER SUMMARIES**, **INTERACTIVE SITUATION QUESTIONS**, and **CONCEPT MAPS**.

Helps you explore

The **ISSUE** section in each chapter highlights controversial aspects of technology. In the **TECHNOLOGY IN CONTEXT** section, you'll discover how technology plays a role in careers such as film-making, architecture, banking, and fashion design. The **INFORMATION TOOLS** section helps you brush up on digital research techniques and apps. Work with **ISSUE AND INFORMATION TOOLS TRY IT!s** to apply the concepts you learned as you explore technology controversies and sharpen your information literacy skills.
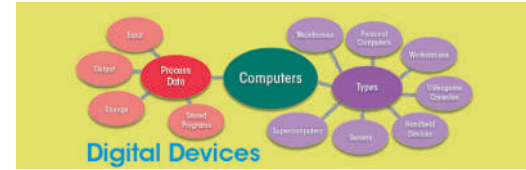
COMPUTERS AND DIGITAL BASICS   33

TRY IT!
Execute the following set of commands using the ALU diagram at left.
Load Register 1 with 4.
Load Register 2 with 5.
Add the two registers.
Move the result to RAM.

1

Control Unit

Add two numbers

ALU
Accumulator
Register 1
Register 2

RAM

▸ **What happens after an instruction is executed?** When the computer completes an instruction, the control unit increments the instruction pointer to the memory address of the next instruction, and the instruction cycle begins again.

▸ **Do I need to know all this detailed stuff?** What you should take away from the discussion about programming and instruction sets is the idea that computers and other digital devices accomplish a wide array of complex tasks by performing a very limited set of machine language instructions very fast.

These concepts about how processors work will help you understand the significance of microprocessor performance, such as speed and word size, which you'll learn about in the next chapter.

QuickCheck   SECTION D

1. A(n) _____ converts all of the source code instructions into a new file containing _____ code.

2. A microprocessor is hard-wired to perform a set of activities called a(n) _____ set.

3. A machine language instruction has two parts: a(n) _____ code and an operand.

4. The ALU in your computer's microprocessor holds data in _____.

5. The microprocessor's control unit contains a(n) _____ pointer that holds the address of the instruction being executed.

▶ CHECK ANSWERS

TRY IT! questions and activities embedded throughout the chapter keep learning interactive.

DIAGRAMS AND SCREENSHOTS on every page make it easy to visualize concepts.

FAQS break down concepts into manageable chunks of information.

QUICKCHECK questions throughout the chapter give you a chance to make sure you understand the main concepts.

THE INTERACTIVE MULTIMEDIA EBOOK CD

The **NP2014 EBOOK CD** is a digital version of your textbook with multimedia and interactive activities designed to enhance your learning experience.

Works alone or with the printed book

Every page of the eBook CD **MIRRORS THE PRINTED TEXTBOOK**, so use the tool that's most convenient and that best suits your learning style.

Brings concepts to life

In the eBook CD, photos turn into **VIDEOS**. Illustrations become **ANIMATED DIAGRAMS**. Screenshots activate guided **SOFTWARE TOURS**, so you can see how applications and operating systems work even if they aren't installed on your computer.

Makes learning interactive

As you read each chapter, be sure to complete the computer-scored **TRY IT!s** and the **QUICKCHECKS** at the end of each section. When you complete a chapter, try the interactive, **COMPUTER-SCORED ACTIVITIES**. Take some **PRACTICE TESTS** to gauge how well you'll perform on exams.

You can master hundreds of computer concepts using the **NEW PERSPECTIVES LABS**. Use **WEBTRACK** to easily transmit your scores to your instructor. If you have questions as you're reading, use **CHIRPS** to send questions anonymously to your instructor.

The digital textbook is easy to use. It is packed with **MULTIMEDIA**, and offers plenty of **COMPUTER-SCORED ACTIVITIES**.

Interactive **NEW PERSPECTIVES LABS** give you hands-on experience with concepts and software.
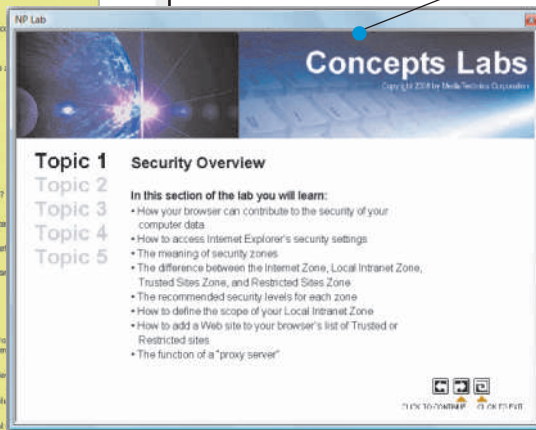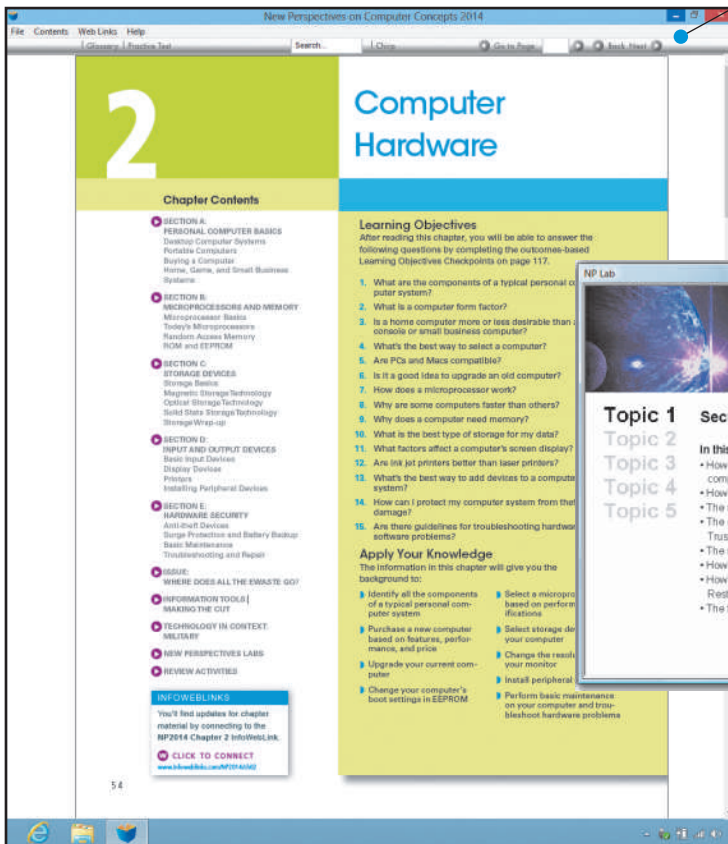
THE NP2014 ONLINE COURSEMATE WITH EBOOK

The NP2014 CourseMate is packed full of information and includes an inter-active, multimedia eBook plus activities to accompany each chapter. Follow the directions in Section D of the Orientation chapter to sign up for an account and access the NP2014 CourseMate.

Lets you study anywhere

CourseMate includes an **ONLINE EBOOK**, so you can access your text-book from any computer that's connected to the Internet. eBook activities can be tracked by instructors using WebTrack.

Gives you options

Want to find out where to focus your study time? Start with a **PRE-QUIZ**. Looking for a fun way to review? Try an **ONLINE GAME** that packages chap-ter concepts into an entertaining quiz show or action game. When you're ready for some serious exam preparation, work with the **CHAPTER QUIZZES** to see how well you understand key concepts. Need some last-minute review? Load up your portable music player with a **CHAPTER OVERVIEW** and **AUDIO FLASHCARDS**.

Reinforces your understanding

DETAILED LEARNING OBJECTIVES help you determine if you've mastered all the requirements for completing a chapter.

Keeps track of your progress

CourseMate's **ENGAGEMENT TRACKER** records the time you spend on various activities, saves your scores, and shares them with your instructor. You can optionally send scores from the activities within the eBook to your instructor's WebTrack.

Now you can listen to Audio Overviews and Flashcards on your computer or study while you are out and about by downloading them to your portable music player.

Jamie Duplass /Shutterstock.com

ONLINE EBOOK lets you access your textbook from any computer that's con-nected to the Internet.

Listen to chapter highlights or practice key terms with handy **AUDIO OVERVIEWS** and **AUDIO FLASHCARDS**.

Quizzes, games, and more provide many ways to explore and review.
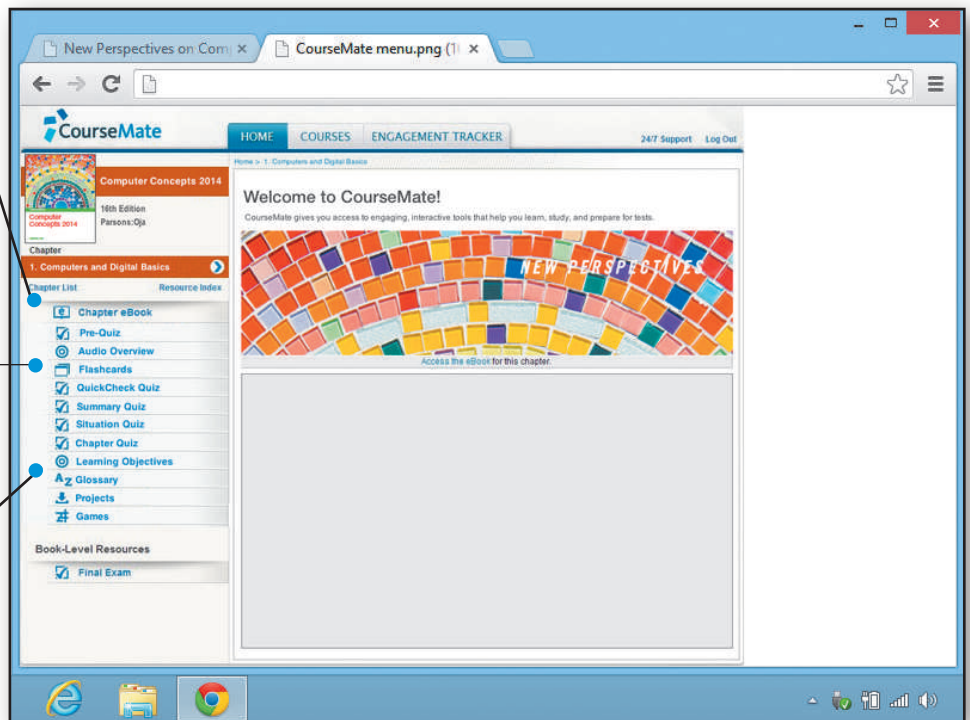
INSTRUCTOR RESOURCES

NP2014 resources provide instructors with a wide range of tools that enhance teaching and learning. These resources and more can be accessed from the NP2014 Instructor Companion Site. Log in by connecting to *www.cengagebrain.com*.

Instructor's Manual: Help is only a few keystrokes away

The NP2014 Instructor's Manual offers the following comprehensive instructional materials:

- Chapter table of contents
- Chapter Objectives
- FastPoll Clicker questions
- Bullet-point lecture notes for each chapter section
- Key terms
- Classroom activities and teaching tips, including how to effectively use and integrate CourseMate online content, interactive multimedia eBook content, and labs.

Tabbing Guide

If you've used previous editions of *New Perspectives on Computer Concepts*, you'll appreciate the Tabbing Guide that lets you see at a glance what's been updated for this edition. Use it to make revisions to your syllabus, as necessary.

Orientation scripts

We can help you introduce students to our technology. We've supplied complete orientation scripts for the NP2014 CD and Online CourseMate.

Solution Files

Your password-protected instructor resources provide answers to all the QuickChecks, Lab Assignments, Interactive Summaries, Interactive Situation Questions, Learning Objective CheckPoints, Concept Maps, Projects, Issue TRY IT!s, and Information Tools TRY IT!s.

Clicker Questions

Did your students read the assignment? Find out by using the FastPoll questions supplied with the Instructor's Manual and included in the NP2014 PowerPoint presentations. Each question is numbered so you can collect results using Chirps or a third-party course polling system. Even if you don't have polling technology, you can use FastPoll questions with a simple show of hands or as a quick paper-and-pencil quiz.

Course Presenter PowerPoints

Instructors can deliver engaging and visually impressive lectures for each chapter with the professionally designed Course Presenter PowerPoints available from the NP2014 Instructor Companion Site.

Technology Guide

Do you need to learn how to use WebTrack, the eBook CD, and the CourseMate interactive eBook? We now offer instructors a Technology Guide that provides step-by-step instructions for collecting WebTrack data, adding your own annotations to the digital textbook, exporting student scores, and much more.

ANNOTATIONS! Instructors can create their own text, graphical, or video annotations that students will see as they read their digital textbook. Find out more about this innovative feature in the Technology Guide.

INSTRUCTIONAL TECHNOLOGY TOOLS

The NP team provides technology assets to help instructors optimize instruction, facilitate learning, and use their time effectively.

ExamView: Testbanks and powerful testing software

With ExamView, instructors can generate printed tests, create LAN-based tests, or test over the Internet. Examview testbanks cover the same material as Practice Tests and Test Yourself testbanks, but the questions are worded differently so the ExamView testbanks contain a unique collection of questions for graded tests and exams. The ExamView software is available from the NP2014 Instructor Companion Site.

WebTrack

Monitoring student progress is easy. With WebTrack's store-and-forward system, a student can transmit scores to an instructor, who can download them at any time. Newly downloaded scores are consolidated with previous scores and can be displayed, printed, or exported in a variety of report formats.

WebTrack setup is easy. We mean it! Simply download one file, start the app, and then create an ID and password. You don't even have to enter your students' names; your student list populates automatically as students submit results. You can link to WebTrack assets from the NP2014 Companion site.

InfoWebLinks

Each chapter has a dedicated InfoWebLinks page containing significant post-publication updates. Be sure to check InfoWebLinks periodically at *www.infoweblinks.com/np2014*.

Chirps

Would you like to know the questions students have while reading their textbooks? Chirps let you find out! Similar to tweets, our Chirps feature allows students to send questions to instructors from within the eBook CD. Instructors can also use Chirps as an in-class polling system, or as an asynchronous polling tool for online students. To learn about this versatile new NP technology, refer to the Technology Guide.

Engagement Tracker

For courses that take advantage of the activities on the NP2014 Online CourseMate, the Engagement Tracker monitors student time on tasks and records scores that help instructors keep track of student progress.

SAM and MindTap Reader eBook

SAM (Skills Assessment Manager) is a robust assessment, training, and project-based system that enables students to be active participants in learning valuable Microsoft Office skills and technology concepts. The MindTap Reader version of New Perspectives on Computer Concepts 2014 works within the SAM environment for courses that combine concepts and Office skills. Let SAM be an integral part of your students' learning experience! Please visit www.cengage.com/samcentral.

WebⓈTrackIII

WebTrackIII Instructor's Page

WEBTRACKIII is now available as a portable app that instructors can carry on a USB flash drive and use on their classroom, office, or home computer.

SAM

MindTap

FROM THE AUTHORS

Many of today's students have substantially more practical experience with digital devices than their counterparts of 15 years ago, but even these students may lack a cohesive framework for their knowledge. Our Concept Map feature throughout the chapters is designed to help students organize technology-related facts, terms, and experiences. Our new TRY IT! activities are designed to keep students actively learning on every page.

The goal of *New Perspectives on Computer Concepts* is to bring every student up to speed with computer basics, and then go beyond basic computer literacy to provide students with technical and practical information that every college-educated person would be expected to know.

In producing the 2014 edition of this very popular textbook, we incorporated significant technology trends that affect computing and everyday life. Concerns for data security, personal privacy, and online safety, controversy over digital rights management, an explosion of interest in mobile apps and cloud computing, and the skyrocketing sales of Macs are just some of the trends that have been given expanded coverage in this edition of the book.

Whether you are an instructor or a student, we hope that you enjoy the learning experience provided by our text-based and technology-based materials.

ACKNOWLEDGEMENTS

The book would not exist—and certainly wouldn't arrive on schedule—were it not for the efforts of our media, editorial, and production teams. We thank Kate Russillo for her developmental edit and tireless work on every detail of the project; Suzanne Huizenga for a miraculously detailed copy edit; Marie E. Lee and Donna Gridley for their executive leadership of the New Perspectives series; Jennifer Goguen McGrail for managing production; Julia Leroux-Lindsey and Brianna Hawes for managing the book's ancillaries; Elinor Gregory for marketing; and our brilliant sales reps for encouraging instructors to adopt this book for their intro courses.

The MediaTechnics team worked tirelessly and we can't offer enough thanks to Donna Mulder for revising the screentours; Tensi Parsons for her extraordinary devotion to desktop publishing; Keefe Crowley for his versatile skills in producing the online and CD eBooks, creating videos, taking photos, and maintaining the InfoWebLinks site; Chris Robbert for his clear narrations; and Debora Elam, Kevin Lappi, Joseph Smit, Nikki Smit, Marilou Potter, Michael Crowley, and Kelsey Schuch for checking and double-checking the alpha and beta CDs.

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In addition, our thanks go to the New Perspectives Advisory Committee members and reviewers listed on the next page, who have made a tremendous contribution to New Perspectives. Thank you all!

June Parsons and Dan Oja

ACADEMIC, TECHNICAL, AND STUDENT REVIEWERS

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NEW PERSPECTIVES

Orientation

Chapter Contents

Apply Your Knowledge The information in this chapter will give you the background to:

◗ Start your computer, use the keyboard, and operate the mouse

◗ Work with Windows or Mac OS

◗ Use word processing software

◗ Carry out research on the Web using a search engine and other resources such as Wikipedia

◗ Send e-mail

◗ Take effective steps to guard your privacy and safety online

◗ Access the NP2014 interactive eBook and online CourseMate for labs, quizzes, CourseCasts, and games

◗ Use eBook CD resources, such as pre-assessments, practice tests, labs, and interactive summaries

O - 2

●TRY IT!

WHAT DO I NEED TO GET STARTED?

To complete the activities in Sections A, B, and C, you'll need access to a computer, Internet access, your e-mail address, and your instructor's e-mail address. To complete optional Sections D and E, you'll need access to the interactive eBook CD or CourseMate eBook.

To be sure you have what you need, use the following checklist. Check off the boxes for each item that you have.

☐ Access to a computer. If you're using your own computer, you might need a user ID and password to log in. Don't write your password down, but make sure you know what it is.

☐ Access to the Internet. You might need a user ID and password if you use your school's network to access the Internet. Check with your instructor or lab manager to learn how your school handles network access.

☐ An interactive, digital version of the textbook, such as the eBook CD or the CourseMate eBook. The eBook CD requires a CD or DVD drive. If your computer does not have this type of drive, check with your instructor. CourseMate eBook versions of your textbook require a browser. Your school network might provide access to the eBook CD or CourseMate eBook from lab computers.

☐ Your e-mail address. Your instructor should explain how you can obtain an e-mail address if you don't already have one. Write your e-mail address here:

_____

☐ Your instructor's e-mail address. To correspond with your instructor, you'll need your instructor's e-mail address. Write it here:

_____

☐ Your instructor's WebTrack address. If your instructor will be collecting your scores with WebTrack, make sure that you have your instructor's WebTrack address. Write it here:

_____

NEW PERSPECTIVES

Computer
Concepts 2014

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Getting Started

WHEN YOU USE the *New Perspectives on Computer Concepts* textbook, you will not only learn about computers; you'll also use computers as learning tools. Section A is designed to get computer novices quickly up to speed with computing basics, such as turning on computer equipment, working with Windows or Mac OS, using a mouse and computer keyboard, and accessing Help. Read through this section while at a computer so that you can do the TRY IT! activities.

COMPUTER EQUIPMENT

❱ **What do I need to know about my computer?** Computers come in many packages, including small handheld smartphones, portable tablets and laptops, and stationary desktop models. A computer runs software applications (also called programs and apps) that help you accomplish a variety of tasks. Computer systems consist of several components.

❱ **What are the important components of my computer system?** Your computer is housed in a case called a system unit that contains circuitry, including the microprocessor that is the "brain" of your computer and memory chips that temporarily store data. It also contains storage devices, such as a hard disk drive.

Your computer system includes basic hardware devices that allow you to enter information and commands, view work, and store information for later retrieval. Devices for entering information include a keyboard, mouse, touchpad, or touchscreen. A display device, sometimes called a monitor, allows you to view your work. A printer produces "hard copy" on paper. Speakers output music, movie soundtracks, and various sounds that help you pay attention to what happens on the screen.

❱ **Where are the important components of a desktop computer system?** A desktop computer is designed for stationary use on a desk or table. Figure 1 shows the key components of a desktop computer system.

PC OR MAC?

In addition to being classified as desktops, laptops, tablets, and smartphones, personal computers can be classified by their operating systems.

Microsoft Windows is the world's most popular operating system for desktop and laptop computers. Windows computers are sometimes referred to as PCs.

OS X is the operating system used by desktop and laptop computers called Macs that are manufactured by Apple.

iOS is the operating system for iPhones, iPods, and iPads.

Android is the operating system for many non-Apple smartphones and tablets.

Microsoft Windows RT is the operating system for tablets in the Windows family.

FIGURE 1

A desktop computer system includes several components that can be connected by cables or wirelessly.

◗ **Where are the important components of a laptop computer system?** Laptop computers (sometimes called notebook computers) are small, lightweight computers designed to be carried from place to place. The components of a laptop computer system, except the printer, are housed in a single unit, as shown in Figure 2.

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LCD screen

Speakers

Touchpad

Keyboard

Storage devices

FIGURE 2

A laptop computer includes a flat-panel screen, keyboard, speakers, and touchpad in the same unit that contains the microprocessor, memory, and storage devices. An external mouse is sometimes used instead of the touchpad.

◗ **How do I identify my computer's storage devices?** Your computer contains a hard disk housed inside the system unit. It might also have a USB connector and some type of drive that works with CDs and DVDs. Figure 3 can help you identify your computer's storage devices and their uses.

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FIGURE 3

You should use the hard disk to store most of your data. To transport data, use a USB drive. For backups, use an external hard drive. Use an external DVD drive to run the eBook CD if your computer has no built-in drive to handle CDs and DVDs.

DVD drive

DVD drives play CDs and DVDs. Most of today's DVD drives can write data on blank CDs and DVDs.

USB flash drive

A USB flash drive is about the size of a highlighter and plugs directly into the computer system unit.

External drive

External hard drives and DVD drives can be connected to a computer using a USB cable.

◗ **Do I have to log in?** Most computers take a minute or two to power up, and you might be required to log in by entering a user ID and password. For security, you should use a password for all your digital devices.

Your computer is ready to use when it displays the Windows 8 Start screen, the Windows 7 desktop, or the Mac OS desktop (refer to the next two pages), and you can move the arrow-shaped pointer with your mouse.

◗ **Should I turn it off?** After a period of inactivity, most computers are configured to enter a sleep mode that powers down the screen and other components. You can leave your computer in sleep mode if you plan to use it from time to time during the day.

If you're not planning to use your computer for a few days, you can initiate a shutdown sequence. When using a Windows computer, click the on-screen Start button, select Shut Down or Turn Off Computer, and follow the instructions on the screen. If there is no Start button, move the pointer to the lower-left corner of the screen. When the "charms" appear, select ⚙ Settings, and then select the Power icon. To shut down a Mac, click the Apple icon in the upper-left corner of the screen and select Shut Down.

When using computers in a school lab, ask about the shutdown procedure. Your lab manager might want you to log out but leave the computer on.

TRY IT!

Turn your computer on

1. Locate the power switch for any devices connected to your computer and turn them on.

2. Locate the power switch for your computer and turn it on.

3. If a message asks for your user ID and/or password, type them in, and then press the **Enter** key on your computer's keyboard.

4. Wait for the desktop to appear.

WINDOWS BASICS

◗ **What is Windows?** Microsoft Windows is an example of a type of software called an operating system. The operating system controls all the basic tasks your computer performs, such as running application software, manipulating files on storage devices, and transferring data to and from printers, digital cameras, and other devices. The operating system also controls the user interface—the buttons, menus, and controls you see on the screen and how you use them.

◗ **What is the Windows Start screen?** The Windows Start screen offers a quick way to access many computer tools, including apps, e-mail, and social sites (Figure 4).
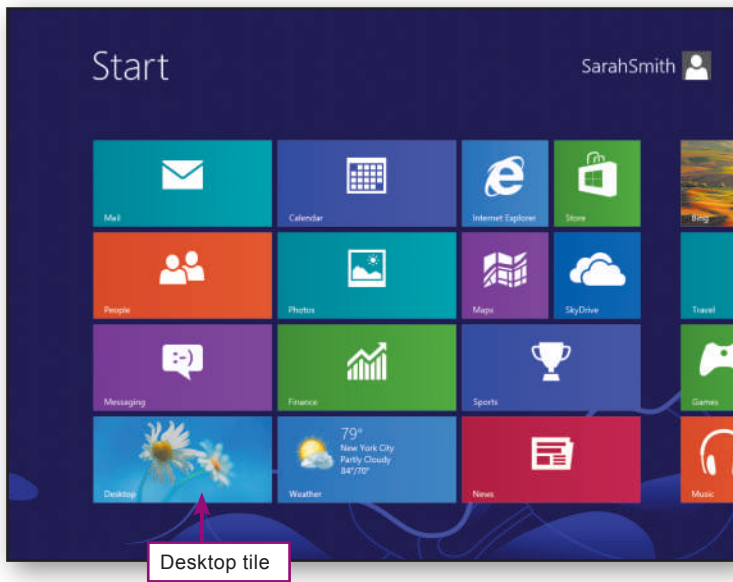
Desktop tile

FIGURE 4

Windows 8 is ready to use when it displays the Start screen. You can click any of the colored tiles to select tools and apps. To view a Windows desktop similar to the one in Figure 5, click the Desktop tile. Any time you want to get back to the Start screen, press the Windows key on your keyboard.

Windows key

◗ **What is the Windows desktop?** Windows 7 and earlier versions have no Start screen. Instead, they start by displaying the Windows desktop shown in Figure 5.

Desktop icons

Start menu

Start button

Taskbar icons

Taskbar

Notification area
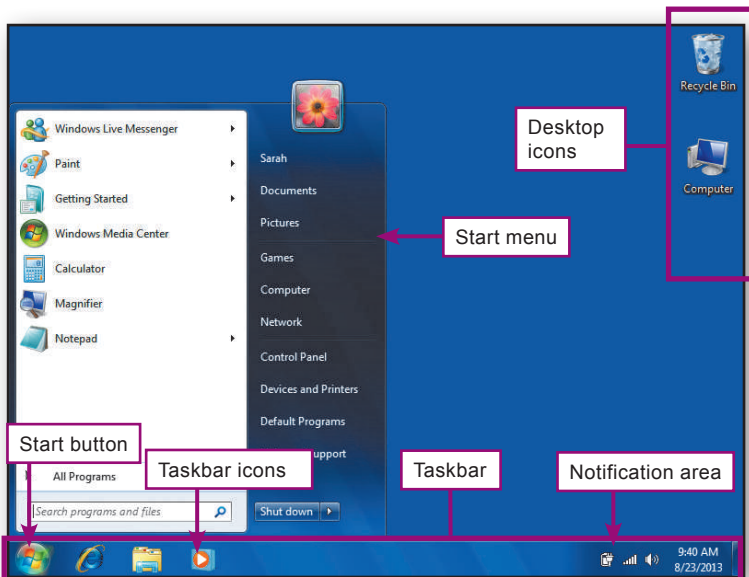
FIGURE 5

Desktop icons can represent programs, documents, folders, or other electronic tools.
The **taskbar** is the area displayed at the bottom of the desktop.
The **Start button** displays the Start menu, which lists programs installed on your computer. Windows 8 has no Start button or Start menu.
The **Start menu** lists application and utility programs installed on your computer.
The **Notification area** displays the current time and the status of programs, devices, and Internet connections.

MAC OS X BASICS

◗ **What is Mac OS?** Mac OS is the operating system used on many of today's Macintosh computers. The most recent version of this operating system is Mac OS X, featured in Figure 6.

◗ **How similar are the Mac and Windows desktops?** The Mac and Windows desktops have many similarities, such as the use of icons, menus, and rectangular on-screen windows. However, there are notable differences in the two desktops, such as the Mac desktop's dock, Apple icon, and fixed menu bar. If you switch between computers running Windows and Mac OS X, you should be aware of these differences.

◗ **What is the dock?** The dock is a collection of icons that represent programs, files, and other activities. Usually the dock is located at the bottom of the screen, but it can be configured to appear on the left side or right side of the screen if that better suits the way you work. You can add icons to the dock for programs you use frequently so they are easily accessible.

◗ **What is the Apple icon?** The Apple icon is the first icon on the menu bar located at the top of the Mac desktop. It is always visible, regardless of the program you're using. Clicking the Apple icon displays a menu that you can use to configure preferences for your computer display and devices. The Apple icon menu also includes options for logging out and shutting down your computer.

◗ **How does the fixed menu bar work?** The Mac desktop contains a menu bar that remains at the top of the screen. The options on this menu bar change according to the program you are using. In contrast, the menus for Windows programs are incorporated into individual program windows; so if you have more than one window open, each program window displays a menu.

FIGURE 6

The Mac OS X desktop includes icons, a fixed menu bar, and a dock.

Desktop icons can represent devices, programs, documents, folders, or other electronic tools.

The **dock** displays icons for frequently used programs and files.

The **menu bar** contains the Apple icon and menu options for the active program.

The **Apple icon** is used to display a menu of options for setting preferences, moving the dock, logging in, and shutting down.

Menu bar options pertain to the program that is currently active.

Apple icon

QuickTime Player

Desktop icon

The dock
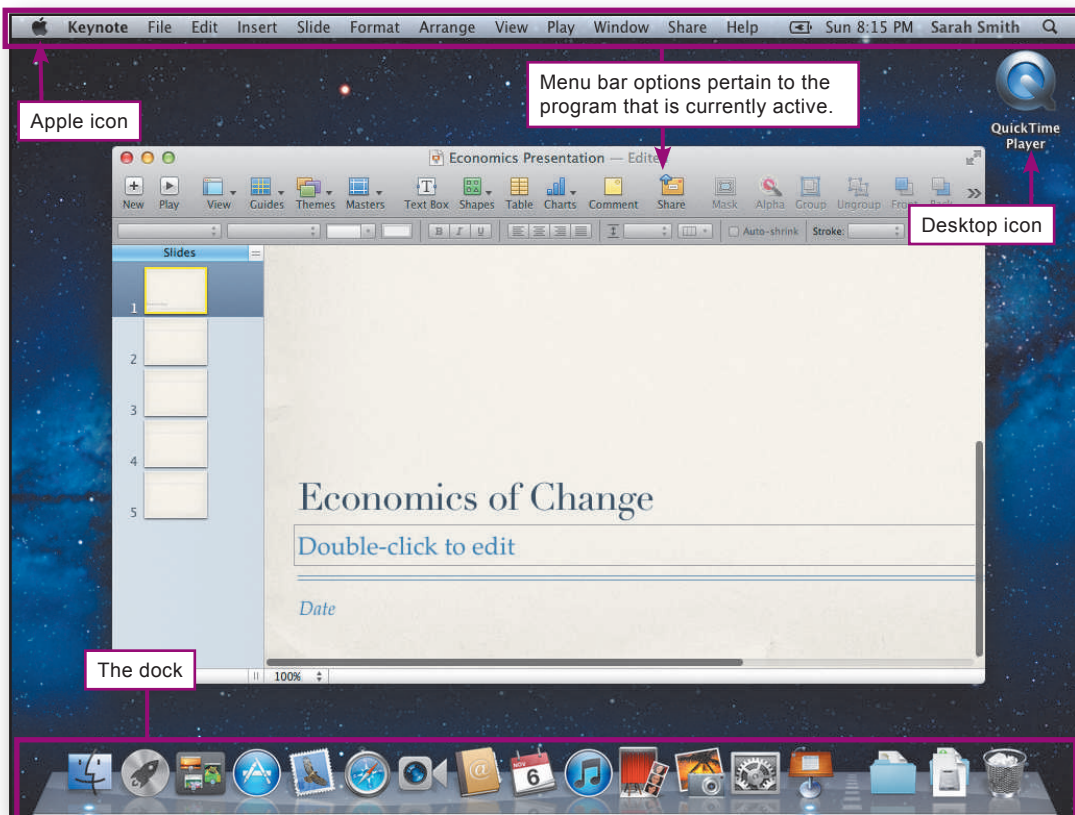
MOUSE BASICS

◗ **What is a mouse?** A mouse is a device used to manipulate items on the screen, such as the buttons and icons displayed on the Windows desktop. The mouse controls an on-screen pointer. The pointer is usually shaped like an arrow ▷, but it can change to a different shape depending on the task you're doing. For example, when the computer is busy, the arrow shape turns into an hourglass ⧗ or a circle ◯, signifying that you should wait for the computer to finish its current task before attempting to start a new task.

PC-compatible mice have at least two buttons located on top of the mouse. Most mice also include a scroll wheel mounted between the left and right mouse buttons. Your mouse might include additional buttons on the top or sides (Figure 7).

◗ **How do I use a mouse?** Hold the mouse in your right hand as shown in Figure 8. When you drag the mouse from left to right over your mousepad or desk, the arrow-shaped pointer on the screen moves from left to right. If you run out of room to move the mouse, simply pick it up and reposition it. The pointer does not move when the mouse is not in contact with a flat surface.

FIGURE 7

For basic mousing, you only need to use the mouse buttons; but the scroll wheel is also handy.

Left mouse button / Right mouse button / Scroll wheel / Additional buttons

Spike Mafford/Photodisc/Getty Images

FIGURE 8

Rest the palm of your right hand on the mouse. Position your index finger over the left mouse button and your middle finger over the right mouse button.

TRY IT!

Use your mouse

1. With your computer on and the desktop showing on the screen, move your mouse around on the desk and notice how mouse movements correspond to the movement of the arrow-shaped pointer.

2. Move the mouse to position the pointer on the User icon, Start button, or Apple icon.

3. Click the left mouse button to open the User menu, Start menu, or Apple menu.

4. Press the **Esc** key on your keyboard to close the Start menu.

There are several ways you can manipulate on-screen objects. Although you might not be able to manipulate every object in all possible ways, you'll soon learn which mouse actions are allowed for each type of control. The following list describes your repertoire of mouse actions.

Action	How to	Result
Click	Press the left mouse button once, and then immediately release it.	Select an object
Double-click	Press the left mouse button twice in rapid succession without moving the body of the mouse.	Activate an object
Right-click	Press the right mouse button once, and then immediately release it.	Display a shortcut menu
Drag	Hold the left mouse button down while you move the mouse.	Move an object

KEYBOARD BASICS

◗ What are the important features of a computer keyboard?
You use the computer keyboard to input commands, respond to prompts, and type the text of documents. An insertion point that looks like a flashing vertical bar indicates where the characters you type will appear. You can change the location of the insertion point by using the mouse or the arrow keys. Study Figure 9 for an overview of important computer keys and their functions.

FIGURE 9

Computer keyboards include special function keys.

A **Function** keys activate commands, such as Save, Help, and Print. The command associated with each key depends on the software you are using.

B The **Print Screen** key prints the contents of the screen or stores a copy of the screen in memory that you can print or manipulate with graphics software.

C The **Esc** (Escape) key cancels an operation.

D The **Windows** key on a PC displays the Windows 8 Start screen.

E The **Page Up** key displays the previous screen of information. The **Page Down** key displays the next screen of information.

F The **Backspace** key deletes one character to the left of the insertion point.

G The **Insert** key switches between insert mode and typeover mode.

H The **Home** key takes you to the beginning of a line or the beginning of a document, depending on the software you are using.

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I The **Tab** key can move your current typing location to the next tab stop or the next text-entry box.

J The **Caps Lock** key capitalizes all the letters you type when it is engaged, but does not produce the top symbol on keys that contain two symbols. This key is a toggle key, which means that each time you press it, you switch between uppercase and lowercase modes.

K The **Shift** key capitalizes letters and produces the top symbol on keys that contain two symbols.

L You hold down the **Ctrl** key while pressing another key. On a Mac, the Command key, marked with an Apple or ⌘ symbol, works the same way. The result of Ctrl or Alt key combinations depends on the software you are using.

M You hold down the **Alt** key while you press another key.

N The **Enter** key is used to indicate that you have completed a command or want to move your typing position down to the next line.

O The **Delete** key deletes the character to the right of the insertion point.

P The **End** key takes you to the end of a line or the end of a document, depending on the software you are using.

Q The **right-click** key accomplishes the same task as right-clicking a mouse button, and usually opens a shortcut menu.

R The **arrow** keys move the insertion point.

S The **numeric keypad** produces numbers or moves the insertion point, depending on the status of the Num Lock key shown by indicator lights or a message on the screen.

▶ **What's a keyboard shortcut?** A keyboard shortcut allows you to use the keyboard rather than the mouse to select menu commands. If you see <Ctrl X>, Ctrl+X, [Ctrl X], Ctrl-X, or Ctrl X on the screen or in an instruction manual, it means to hold down the Ctrl key while you press X. For example, Ctrl-X is a keyboard shortcut that cuts out text or objects.

▶ **What if I make a mistake?** Everyone makes mistakes. The first rule is don't panic! Most mistakes are reversible. The following hints and tips should help you recover from mistakes.

What Happened	What to Do
Typed the wrong thing	Use the Backspace key to delete the last characters you typed.
Selected the wrong menu	Press the Esc key to close the menu.
Opened a window you didn't mean to	Click the X button in the upper corner of the window.
Computer has "hung up" and no longer responds to mouse clicks or typed commands	Hold down the Ctrl, Shift, and Esc keys, and then follow instructions to close the program.
Pressed the Enter key in the middle of a sentence	Press the Backspace key to paste the sentence back together.

WORKING WITH WINDOWS SOFTWARE

▶ **How do I start Windows applications?** The Windows 8 Start screen includes tiles for many applications. Just click a tile to start the software of your choice. Or you can type the first few characters of the application's name and then select it from a list.

When using earlier versions of Windows, you can click the Start button to display the Start menu, which includes a list of recently accessed programs. Clicking the All Programs option displays a list of every program installed on your computer.

TRY IT!

Start Microsoft Paint

1. Use the Start screen or Start button.

Windows 8: From the Start screen, type **pa** and then select **Paint**.

Windows 7: Click the **Start** button to display the Start menu shown on the right.

Click **All Programs** to display a list of all software installed on your computer.

Click **Accessories**, and then click **Paint**.
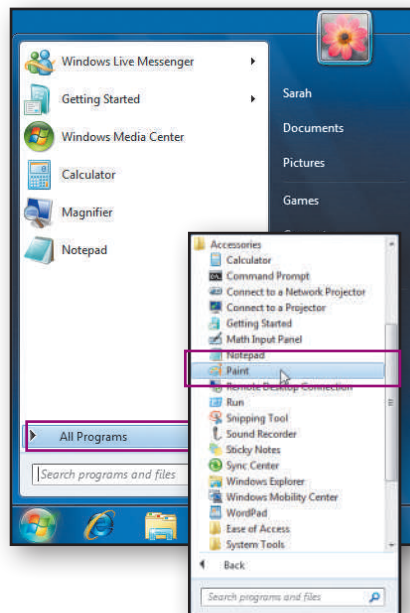
2. Wait a few seconds for your computer to display the main screen for Microsoft Paint, shown below in Windows 7 (top) and Windows 8 (bottom). Leave Paint open for use with the next TRY IT!.
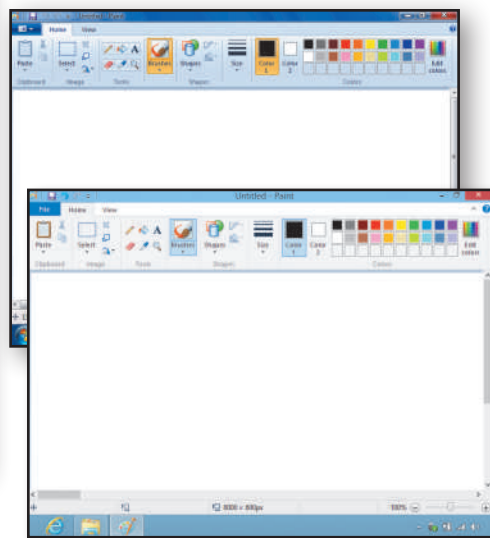
▶ **How do I tell the software what I want to do?** Word processing, photo editing, and other software designed for use on computers running the Windows operating system is referred to as Windows software. Most Windows software works in a fairly uniform way and uses a similar set of controls.

Each software application appears within a rectangular area called a window, which can include a title bar, a menu bar or ribbon, a workspace, and the various controls shown in Figure 10.
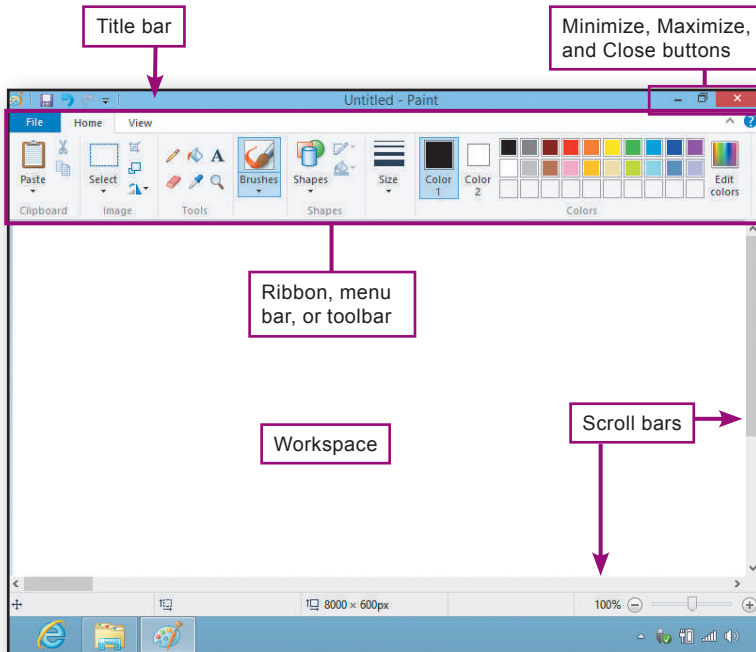
FIGURE 10

The **title bar** displays the title of the software, the name of the current data file, and the window sizing buttons.

The **Minimize button** shrinks the window to a button at the bottom of the screen.

The **Maximize button** stretches the window to fill the screen.

The **Close button** closes the window and exits the program.

A **ribbon**, **menu bar**, or **toolbar** displays the titles of menus and tools that you can click to select commands.

A **scroll bar** can be clicked or dragged to see any material that does not fit in the displayed window.

The **workspace** is the area in which your document or drawing is displayed.

Title bar

Minimize, Maximize, and Close buttons

Ribbon, menu bar, or toolbar

Workspace

Scroll bars

If you're unfamiliar with Windows controls, take a few minutes to complete the steps in the TRY IT! box below.

TRY IT!

Use the toolbar or ribbon

1. As shown below, click the **Brushes** button on the Paint toolbar or ribbon.
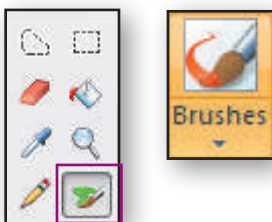
2. Move the pointer to the workspace, hold down the left mouse button, and then drag the mouse to paint a shape.

3. Release the mouse button when the shape is complete.

Use the ribbon or menu bar

1. Click the arrow next to **Rotate**, and then click **Flip vertical**.
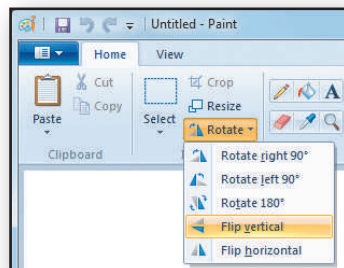
In old versions of Paint, click **Image**, click **Flip/Rotate**, click **Flip Vertical**, then click the **OK** button.

Your shape is now upside down.

Use the sizing buttons

1. Click the [☐] **Minimize** button.

2. The Paint window shrinks down to a button on the taskbar at the bottom of the screen.

3. Click the taskbar button to make the Paint window reappear.

4. Click the [☒] **Close** button to close the Paint program and remove its window from the screen. If you see a message asking if you want to save changes, click the Don't Save button.

WORKING WITH MAC SOFTWARE

▶ **How do I start programs on the Mac?** When using Mac OS X, you can click icons in the dock to easily start programs. For programs that are not in the dock, you can click the Finder icon and then click the Applications option. If you need to brush up on Mac controls, follow the instructions in the TRY IT! box below.

TRY IT!

Find out which programs are in the dock

1. Position the mouse pointer over each of the icons in the dock and wait for the program name to appear.

Use Finder to start a program

1. Click the [icon] **Finder** icon on the left side of the dock.

2. When the Finder window (similar to the one at right) appears, click the **Applications** option.

3. Double-click the **iCal** option to start the iCal calendar program and display the iCal window shown at right.

Select Applications.

Select iCal.

iCal window

A small white dot indicates which applications are open.

Use a menu and dialog box

1. Click **iCal** on the menu bar at the top of the screen.

2. Click **Preferences** to display a dialog box.

3. Click the [button] button next to *Start week on* to change the day to Monday.

4. Click the [X] **Close** button to close the Preferences dialog box.

Select iCal, then click Preferences.

This button closes a window, but does not terminate the application.

Click here to change the calendar start day.

Close a program

1. Click **iCal** on the menu bar.

2. Click **Quit iCal** to close the window and terminate the application.

HELP

◗ **How can I get help using software?** If you've had problems using software, you're not alone! Everyone has questions at one time or another. Most software offers several sources of help, such as the following:

◗ **Message boxes.** When using software, it is important to pay attention to any message boxes displayed on the screen. Make sure you carefully read the options they present. If the box doesn't seem to apply to what you want to do, click its Cancel button to close it. Otherwise, set the options the way you want them, and then click the OK button to continue.

◗ **User manual.** Whether you're a beginner or a power user, the manual that comes with software can be an excellent resource. User manuals can contain quick-start guides, tutorials, detailed descriptions of menu options, and tips for using features effectively. Many manuals are offered online along with tools you can use to browse through them or look for the answer to a specific question.

◗ **Google it.** If you encounter a software problem, open your browser and use a search engine like Google to enter your question. Be sure to specify the name of the application you are using, along with your computer's operating system.

◗ **Check YouTube.** Connect to YouTube and enter the name of your software. You might find useful videos showing how to use the coolest features.

◗ **Help menu.** The Help menu provides access to on-screen documentation, which can contain detailed instructions, tips, and FAQs. Answers to specific questions can be found by entering search terms, consulting the index, or browsing through a table of contents (Figure 11).

FIGURE 11

Clicking the ⓘ Help button or the Help menu produces a list of help options, where you can enter search terms or browse through topics.
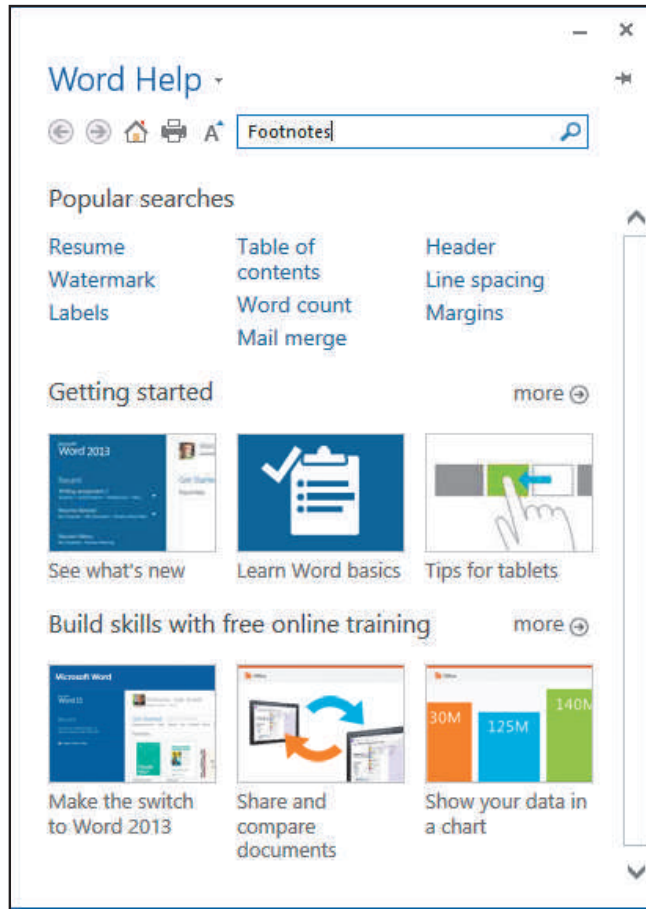
QuickCheck

1. The case that holds a computer's circuitry, memory, and storage devices is called a(n) [_____] unit.

2. Instead of using the on/off switch to turn off a computer, you should instead use the Shut Down option. True or false? [_____]

3. On the Mac desktop, the [_____] displays a row of program icons.

4. Ctrl-X is an example of a keyboard [_____] .

5. On a PC the [_____] key can be used to delete the last character you typed.

▶ CHECK ANSWERS

Documents, Browsers, and E-mail

TO COMPLETE ASSIGNMENTS for your course, you should be able to work with documents, browsers, and e-mail. Section B walks you through the basics.

CREATING DOCUMENTS

◗ **How do I create and save a document?** To create a document, simply type text in the workspace provided by word processing software such as Microsoft Word, OpenOffice Writer, LibreOffice Writer, or Apple iWork Pages. The flashing vertical insertion point (Figure 12) indicates your place in the document. Figure 13 explains how to save a document.

Type your document into the workspace.

The ribbon offers controls similar to those on menus and toolbars.

Press the Enter key only at the end of titles and paragraphs, but do not press Enter when you reach the right margin.

The flashing vertical insertion point marks your place.
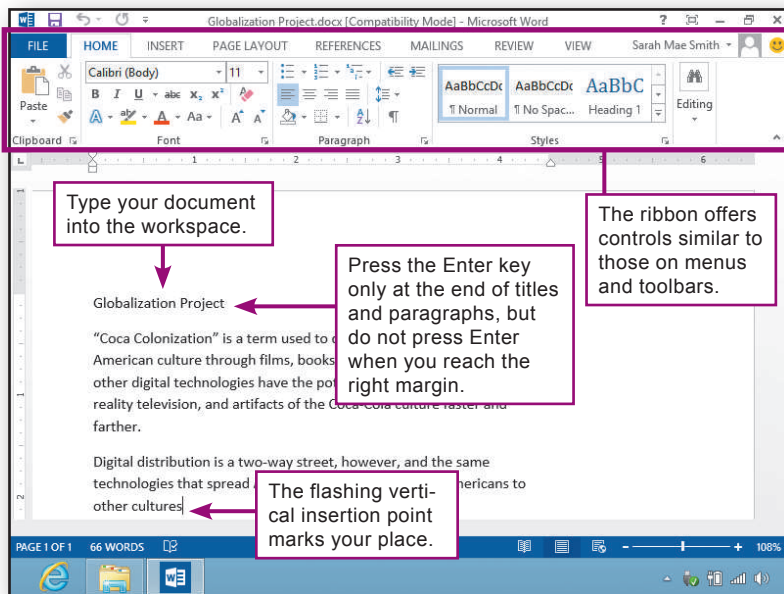
FIGURE 12

When typing text, you can use the following keys to move within a document and make revisions:

◗ **Backspace:** Delete the character to the left of the insertion point. On Macs, hold down the Fn key while pressing the Delete key.

◗ **Delete:** Delete the character to the right of the insertion point.

◗ **Enter:** End a paragraph and begin a new line.

◗ **Arrow keys:** Move the insertion point up, down, right, or left.

Save your work in the Documents folder or library for now.

Click the Save button.

Use a descriptive name for the file that holds your document.
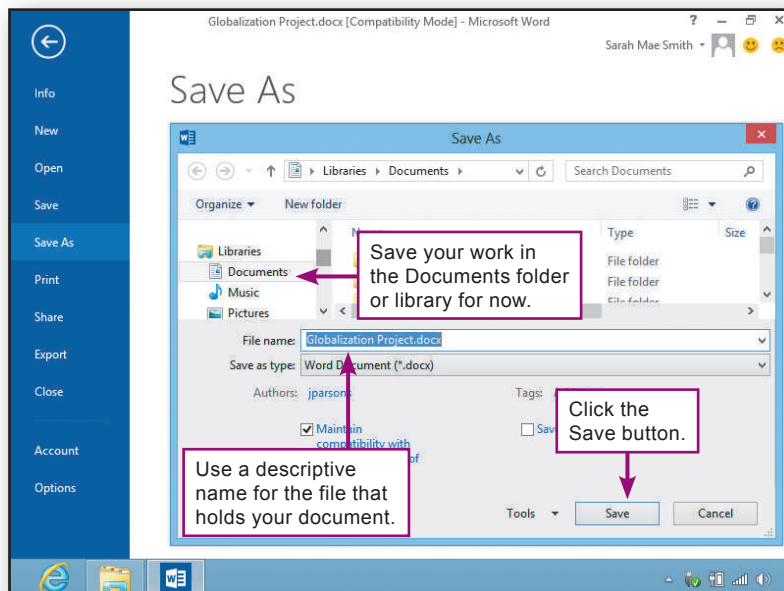
FIGURE 13

It is a good idea to save your document every few minutes, even if it is not finished. When you save a document, use the Save icon at the top of the screen. Your computer is probably configured to save documents on the hard disk in a library called Documents or a folder called My Documents. There is no need to change that until you gain more experience. File names can be several words long; just do not use the * / \ " ' : symbols in the file name.

0 - 14

▶ How do I print a document? To print a document, simply click the File tab, File menu, or Office button and then select Print. Your computer displays a window containing a series of print options. If you want to print a single copy of your document, these options should be correct, so you can click the Print or OK button to send your document to the printer.

▶ Can I send a document to my instructor? You can e-mail a document by using the Send option accessed from the File tab, File menu, or Office button (Figure 14). To do so, you must know your instructor's e-mail address. Documents that you send along with e-mail messages are referred to as attachments. You'll learn more about e-mail later in the Orientation, but keep this option in mind because it is a handy way to submit assignments, such as projects and term papers.

▶ How do I find my documents again in the future? If you want to revise a document sometime in the future, simply start your word processing software; click the File tab, File menu, or Office button; and then click Open. Your computer should display a list of documents stored in the Documents folder. Locate the one you want to revise and double-click it.

▶ What should I do when I'm done? When you're ready to quit, you can close the document by clicking the Close option from the File tab, File menu, or Office button. When you want to close your word processing software, click the ✖ Close button (Windows) or click the program name on the menu bar and then select Quit (Mac).

FIGURE 14

To e-mail a document:
▶ In Word 2013, click the File tab, click Share, and then select Email (below).

▶ In Word 2010, click the File tab, select Save & Send, and then select Send as Attachment.

▶ In Word 2007, click the Office button, point to Send, and then select E-mail.

▶ In Word 2003, OpenOffice Writer, or LibreOffice Writer, click File, and then select Send or Send To.

▶ In iWork Pages, click the Share tab and then select the e-mail option.
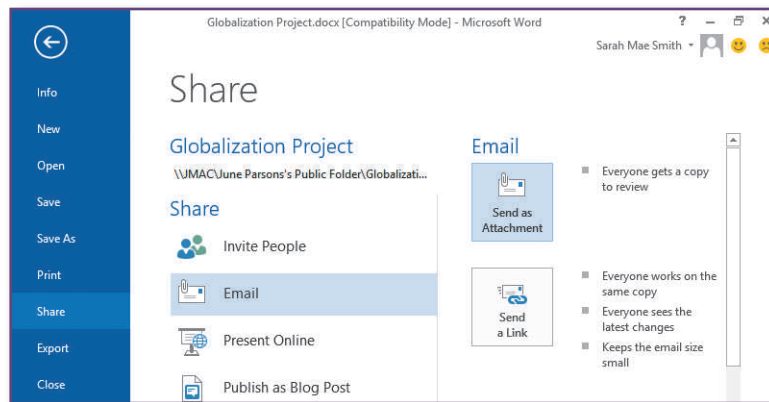
TRY IT!

Create a document

1. Windows 8: Click the **Microsoft Word** or **LibreOffice** tile on the Start screen.

Windows 7: Click the **Start** button, and then click the **Microsoft Word** or **LibreOffice** option.

Mac: Click the **Finder** icon, select the **Applications** option, and then click to open iWork Pages or Microsoft Word.

2. Click the word processing workspace to position the insertion point in the upper-left corner.

3. Type a paragraph. Refer to Figure 12 for keys to use while typing and revising your work.

4. When the first paragraph is complete, press the **Enter** key to begin a new paragraph.

5. Type a second paragraph of text.

Save a document

1. Click the 💾 **Save** icon located near the top of the window.

2. Make sure the Documents library or folder is selected, as shown in Figure 13 on the previous page.

3. In the *File name* box, type a name for your document.

4. Click the **Save** button.

5. When the Save As dialog box closes, your document is saved.

Print a document, close it, and exit your word processing application

1. Click the **File** tab, **File** menu, or **Office** button, and then click **Print**.

2. Make sure the page range is set to **All**.

3. Make sure the number of copies is set to **1**.

4. Click the **Print** or **OK** button and wait a few seconds for the printer to produce your document.

5. Close the document by clicking the **File** tab, **File** menu, or **Office** button and then clicking **Close**. The workspace should become blank.

6. Exit your word processing software by clicking the ✖ **Close** button (Windows), or by clicking the program name on the menu bar and then selecting **Quit** (Mac).

INTERNET AND WEB BASICS

▸ **What is the Internet?** The Internet is the largest computer network in the world, carrying information from one continent to another in the blink of an eye (Figure 15). The computers connected to this network offer many types of resources, such as e-mail, instant messaging, social networking, popular music downloads, and online shopping.

▸ **What is the Web?** Although some people use the terms *Internet* and *Web* interchangeably, the two are not the same. The Internet refers to a communications network that connects computers all around the globe. The Web—short for World Wide Web—is just one of the many resources available over this communications network.

The Web is a collection of linked and cross-referenced information available for public access. This information is accessible from Web sites located on millions of computers. The information is displayed as a series of screens called Web pages. You'll use the Web for general research and for specific activities designed to accompany this textbook. To use the Web, your computer must have access to the Internet.

▸ **How do I access the Internet?** Most digital devices can be configured to connect to the Internet over telephone, cell phone, satellite, or cable television systems. Internet access can be obtained from school computer labs, local service providers such as your cable television company, and national Internet service providers such as AOL, AT&T, Comcast, Verizon, and EarthLink.

To expedite your orientation, it is assumed that your computer has Internet access. If it does not, consult your instructor, or ask an experienced computer user to help you get set up.

▸ **How do I know if my computer has Internet access?** The easiest way to find out if your computer can access the Internet is to try it. You can quickly find out if you have Internet access by starting software called a browser that's designed to display Web pages.

Browser software called Internet Explorer is supplied with Microsoft Windows. Mac OS X includes a browser called Safari. Other browsers, such as Firefox and Chrome, are also available. Follow the steps in the TRY IT! box to start your browser.

HOW TO USE A WEB BROWSER AND SEARCH ENGINE

▸ **How do I use a browser?** A browser lets you enter a unique Web page address called a URL, such as *www.google.com*. You can also jump from one Web page to another by using links. Links are usually underlined; and when you position the arrow-shaped mouse pointer over a link, it changes to a hand shape.

FIGURE 15

The Internet communications network stretches around the globe.
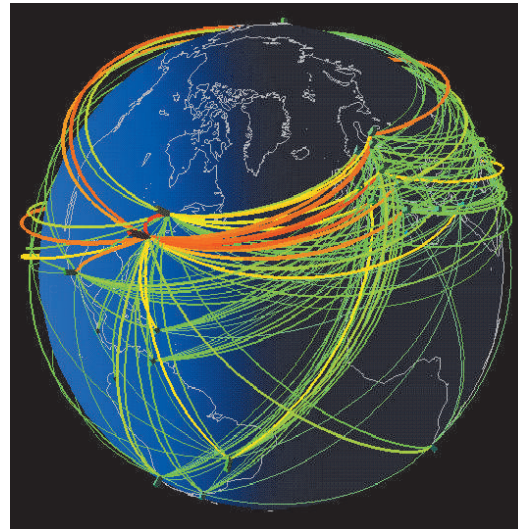
Courtesy of Stephen G. Eick

TRY IT!

Start your browser

1. Click the icon for your browser. It is usually located on the Start screen, near the Start button, or on the dock.

2. Your computer should soon display the browser window.

If your computer displays a *Connect to* box, click the **Dial** button to establish a dial-up connection over your telephone line.

You'll need to cancel the browser command and consult an experienced computer user if:

• Your computer displays a "working off line" message.

• Your computer displays an Internet Connection Wizard box.

Although browsers offer many features, you can get along quite well using the basic controls shown in Figure 16.
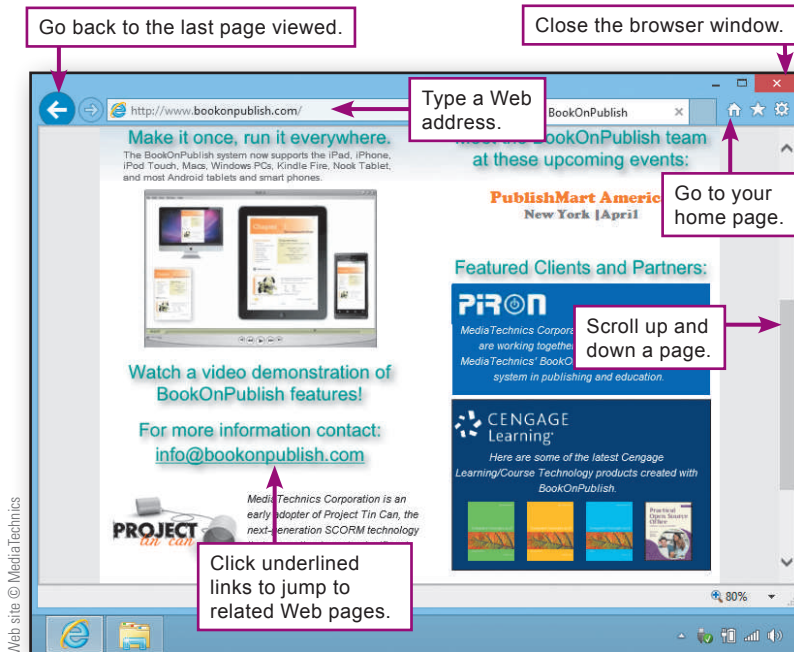
Go back to the last page viewed.

Close the browser window.

Type a Web address.

Go to your home page.

Scroll up and down a page.

Click underlined links to jump to related Web pages.

Web site © MediaTechnics

Orientation

◗ **How do I find specific information on the Web?** If you're looking for information and don't know the Web site where it might be located, you can use a search engine to find it. Follow the steps in the TRY IT! box to "google it" by using the Google search engine.

TRY IT!

Use a search engine

1. Make sure the browser window is open.

2. Click the Address box and type:

www.google.com

3. Press the **Enter** key. Your browser displays the Web page for the Google search engine.

4. Click the blank search box and then type **national parks**.

Google ™   Advanced Search   Preferences
national parks
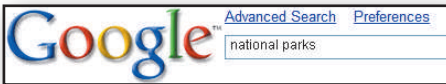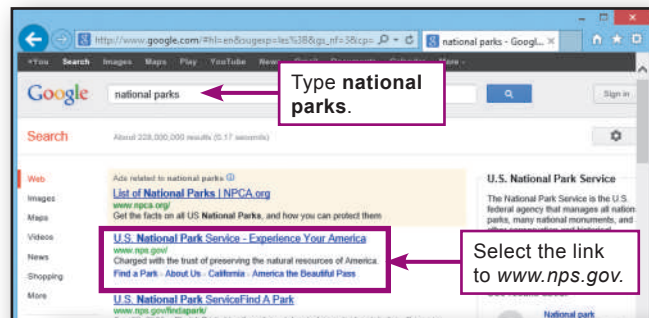
5. Press the **Enter** key. Google displays a list of Web pages that relate to national parks.

6. Click the underlined **U.S. National Park Service** link. Your browser displays the Park Service's home page.

7. Leave your browser open for the next TRY IT!.

Type **national parks**.

Select the link to *www.nps.gov.*

Search results © 2012 Google

Courtesy of the U.S. Park Service

▶ **What are the best sources of information on the Web?**
The best sources of information are easy to access, dependable, and preferably free. Sites such as Wikipedia, Answers.com, WhatIs.com, and HowStuffWorks are great sources for general information and researching topics for computer courses.

When you're looking for information on the Web, remember that virtually anyone can post anything. Consequently, some information you encounter might not be accurate.

To check the quality of information provided by a Web site, you can cross-check facts with other sites. Be sure to check when the material was posted or updated to determine if it is current. You might also consider the information source. Blogs, tweets, Facebook posts, and YouTube videos often express opinions rather than facts.

▶ **How does Wikipedia work?** Wikipedia is an encyclopedia that is written and maintained by the people who use it. More than 23 million articles on a vast range of topics have been submitted and updated by users, many of them experts. Wikipedia information tends to be accurate because users are continually reading the articles and correcting inaccurate or biased information. However, some vandalism occurs and from time to time a few articles contain false or misleading information.

Most Wikipedia articles include a View history tab that tracks changes. Check the date of the last change to determine if the information is current. Articles also include a Discussion tab that can help you spot controversial aspects of the information. Use the TRY IT! below to see how Wikipedia works.

TRY IT!

Check out Wikipedia

1. In the Address bar of your browser, type **www.wikipedia. org** and then press the **Enter** key.

2. When the Wikipedia window appears, enter **cyberspace** in the search box and then press **Enter**.

3. Read a bit of the article to get an idea of its scope and detail. Do you detect any bias in the article?

4. Click the **View history** tab. Look at the last few updates. Does this article seem up to date?

5. Click the **Discussion** tab. What is the status of the article? Does it contain controversial statements? Can you envision how you might use Google or other Web resources to explore specific controversies?

6. Click the **Article** tab to return to the Cyberspace article.

7. You can leave your browser open for the next TRY IT!.

Discussion tab

View history tab

Enter additional searches here.

Courtesy of Wikipedia.org
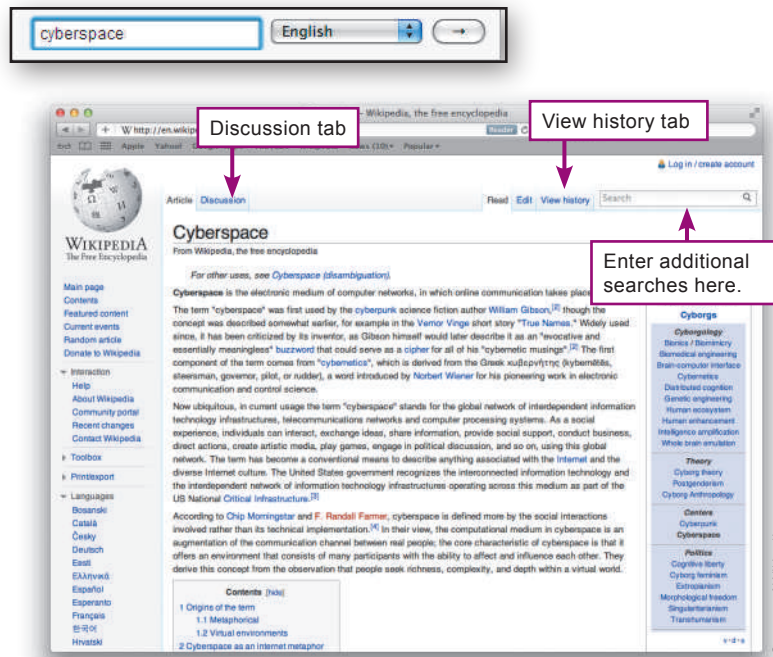
WORKING WITH E-MAIL

▸ **What is e-mail?** E-mail is a form of communication that relies on computer networks, such as the Internet, to transmit messages from one computer to another. Like regular mail, e-mail messages are sent to a mailbox where they are kept until the recipient retrieves them. Messages might arrive at their destination within seconds, or might not arrive for a few hours. Once sent, e-mail messages cannot be recalled.

▸ **What do I need to use e-mail?** To send and receive e-mail, you need an Internet connection, an e-mail account, and software that enables you to compose, read, and delete e-mail messages. An e-mail account consists of an e-mail address (Figure 17), a password, and a mailbox. You can usually obtain an e-mail account from your Internet service provider, your school, or a Webmail provider, such as Hotmail, Yahoo! Mail, or Gmail.

Webmail providers store your mail online. To access your mail, simply use your browser. In contrast, local mail, such as Microsoft Outlook, transfers mail to your computer and requires you to use special e-mail software instead of a browser.

▸ **How do I get a Webmail account?** Registering for a Webmail account is easy and many online e-mail providers offer free basic service. Work with the TRY IT! below to see how.

FIGURE 17

E-mail Addresses

An e-mail address consists of a user ID followed by an @ symbol and the name of a computer that handles e-mail accounts. Ask your instructor for his or her e-mail address. It is likely similar to the following:

instructor@school.edu

When typing an e-mail address, use all lowercase letters and do not use any spaces.

TRY IT!

Get a Web-based e-mail account

1. In the Address bar of your browser, enter **www.gmail.com**.

2. When the Gmail window appears, click the button labeled **CREATE AN ACCOUNT**.

3. Follow the directions to enter your first name, last name, and username.

4. The login name you select is checked for uniqueness. If it is already in use, you'll have to try a different one.

5. When you've selected a valid username, continue down the page to create a password. Try not to use a name, a date, or any dictionary word as your password.

6. Continue down the page to complete the rest of the registration form.

7. Before finalizing your registration, review the information you've entered and jot down your login name and password.

8. Read the Terms of Service. If you agree, click the **Next step** button. That's it! You now have a Gmail account.

You might have to try several usernames to find one that is available.

Try to choose a strong password.

If the CAPTCHA text is too garbled, you can get different text by clicking this icon.

Web site © 2012 Google

▶ **Is Webmail better than local e-mail?** Both Web-based and local e-mail have their advantages and disadvantages. Webmail accounts are definitely easier to set up and you can use them from any computer with an Internet connection. Webmail accounts are also ideal for "throw-away" accounts.

▶ **What is a throw-away e-mail account?** Whether you use local mail or Webmail for your regular correspondence, you might consider creating one or two throw-away accounts for occasions when you have to give an e-mail address, but you don't want any continued correspondence from that source. Later in the chapter, you'll learn more about how e-mail scams and online marketing contribute to all the junk e-mail you receive. Your throw-away e-mail address can become the recipient for lots of those messages, and eventually you can simply delete the throw-away account and all the junk it contains.

▶ **How do I create and send an e-mail message?** Many e-mail systems are available, and each uses slightly different software, making it impossible to cover all options in this short orientation. You might want to enlist the aid of an experienced computer user to help you get started. The steps in the TRY IT! box pertain to Gmail, but other e-mail packages work in a similar way.

E-MAIL PRIVACY

E-mail messages are not necessarily private; their contents might be seen during system maintenance or repair, and commercial e-mail archives are subject to search by government agencies.

Free Web-based mail is typically searched as you write it by digital bots that look for keywords, like *vacation* or *pet*, to display related advertising. If you want more privacy, consider private e-mail providers and local e-mail software.

TRY IT!

Create and send e-mail

1. If Gmail is not open, open your browser and type **www.gmail.com** in the address box. Log in to your Gmail account.

2. Click the **Compose** button to display a form like the one below.

3. Follow steps 4 through 6 as shown below.

7. When your message is complete, click the **SEND** button and Gmail sends the message.

8. You can continue to experiment with e-mail. When done, use the **Sign out** option under the link for your account (circled), then close your browser.

Note: With some local e-mail configurations, the Send button places the e-mail in an Outbox and you have to click the **Send/Receive** button on the toolbar to ship the message out from your computer.

4. Click the **To** box and type your instructor's e-mail address.

5. Click the Subject box and type **Let me introduce myself**.

6. Click the empty workspace and type a few lines about yourself. You can use the Backspace and arrow keys to edit, if necessary.

Google software © 2012 Google
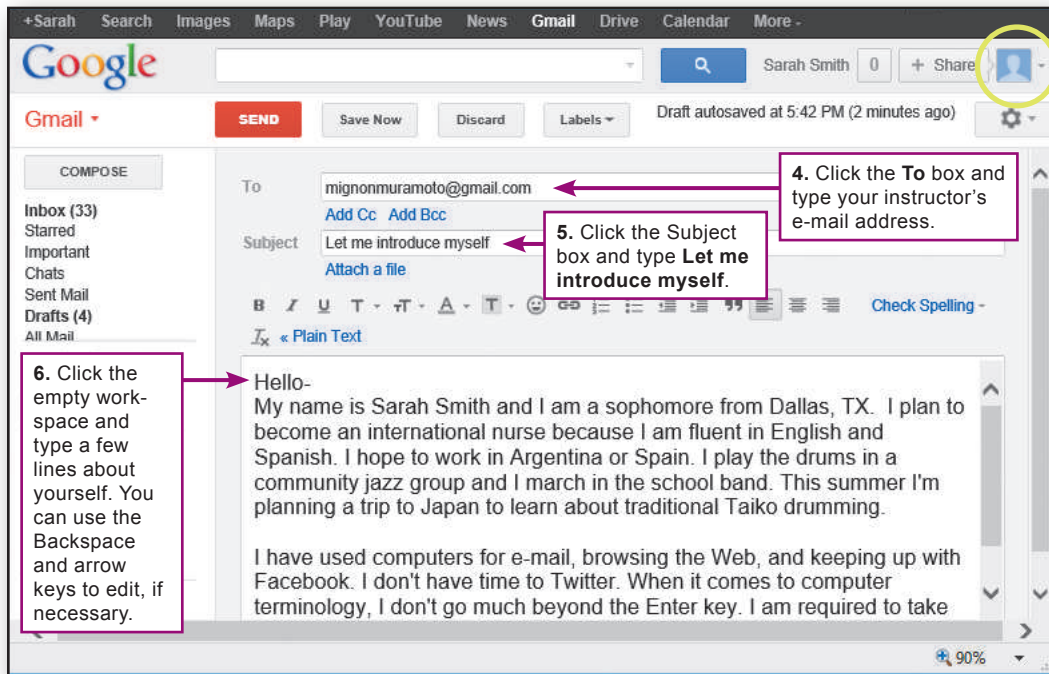
◗ **How do I get my e-mail?** As with sending mail, the way you get mail depends on your e-mail system. In general, clicking the Send/Receive button collects your mail from the network and stores it in your Inbox. Your e-mail software displays a list of your messages. The new ones are usually highlighted or shown in bold type. You can click any message to open it, read it, and reply to it, as shown in Figure 18.

◗ **How do I log off?** When working with a Webmail account, it is important to use the Log out or Sign out link before you close your browser. Taking this extra step makes your e-mail less vulnerable to hackers.

FIGURE 18

When e-mail software displays your Inbox, you can:

◗ Open a message and read it.

◗ Reply to a message.

◗ Delete unwanted messages (a good idea to minimize the size of your mailbox).

◗ Forward a message to someone else.
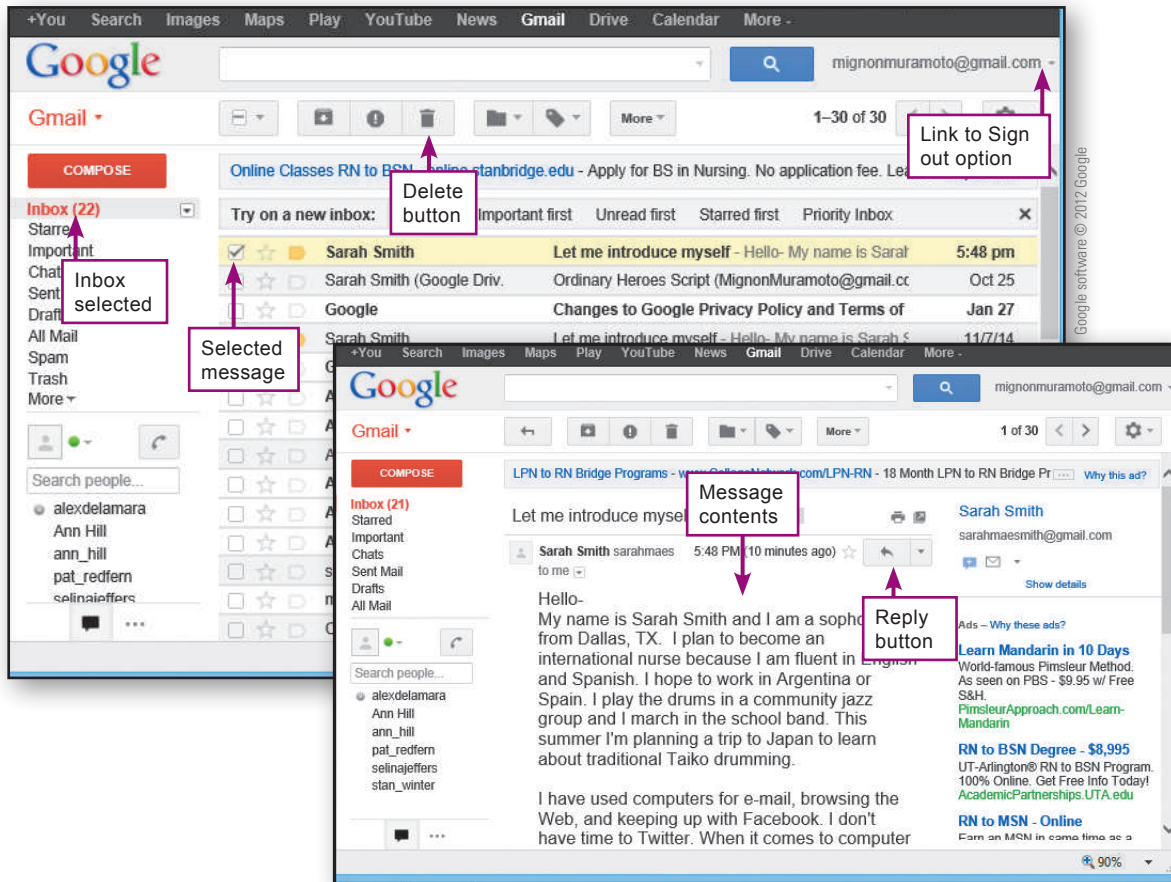
QuickCheck

1. Documents that you send along with e-mail messages are referred to as [_____] .

2. Popular [_____] software includes Internet Explorer, Chrome, and Firefox.

3. When looking for information on the Web, you can use a(n) [_____] engine to produce a list of links to Web pages that might contain the information you seek.

4. An e-mail [_____] looks something like student@school.edu.

5. To access Webmail, you use a browser; but to access [_____] e-mail, you use e-mail software such as Microsoft Outlook.

▶ CHECK ANSWERS

Security and Privacy

AS WITH MOST OTHER facets of modern life, the digital world has its share of troublemakers, scam artists, and identity thieves. Section C offers some tips on navigating through the sometimes rough neighborhoods of cyberspace, while keeping your data safe and your identity private.

SECURING YOUR DIGITAL DEVICES AND DATA

◗ **What's at risk if my computer or phone is stolen?** The value of a stolen computer or phone is not so much in the hardware as in the data it contains. With stolen data such as your bank account numbers and PINs, a thief can wipe out your checking and savings accounts. With your credit card numbers, a thief can go on a spending spree. Even worse, a criminal can use stolen data to assume your identity, run up debts, get into legal difficulties, ruin your credit rating, and cause you no end of trouble.

◗ **How can I protect my data from theft?** Never leave your devices unattended. If a thief steals your computer or phone, you can make it difficult to access your data by setting up a password. Until the password is entered, your data is off limits. Thieves will not be able to get beyond the login screen and should not be able to easily access your data.

Use security tools to protect your phone. Keep it locked while not in use and consider subscribing to a tracking service that allows you to use a Web site to find your phone, lock it, or erase it.

Many new computers are shipped with a standard administrator password that everyone knows. If you are the only person using your computer, you can use the administrator account for your day-to-day computing, but create a secure password (Figure 19) for this account as soon as you can.

Your computer might also include a preset guest account with a nonsecure password such as *guest*. You should disable this guest account or assign it a secure password.

FIGURE 19

To create a secure password:

◗ Use at least eight characters, mixing numbers with letters, as in *2by4lumber*.

◗ Do not use your name, the name of a family member, or your pet's name.

◗ Do not use a word that can be found in the dictionary.

◗ Do not forget your password!

● TRY IT!

Check the accounts on your computer

1. Access user accounts.

Windows 8: From the Start screen, type **c** and then select **Control Panel**. Select **User Accounts** and then select **Manage another account**.

Windows 7: Click the **Start** button, and then select **Control Panel**. Select **User Accounts and Family Safety**, select **User Accounts**, and then select **Manage another account**. (You might be required to enter an administrator password.)

Mac: Click the **Apple** icon, select **System Preferences**, and then select **Accounts**.

2. Check the password protection on all accounts. If you are working on a school lab computer, do not make changes to the account settings. If you are using your own computer, click the Administrator account and make sure it has a secure password.

For security, all active accounts should be password protected.

SarahSmith
Local Account
Administrator
Password protected

Pat Redfern
pat_redfern@yahoo.com
Password protected

Guest
Guest account is off

O-22
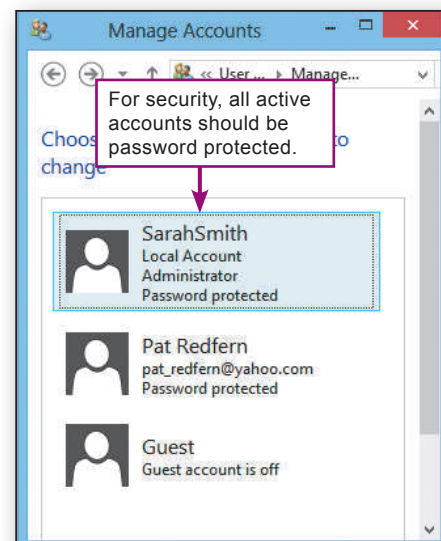
AVOIDING VIRUSES

▶ **What's so bad about viruses?** The term *virus* has a technical meaning, but is loosely used when referring to malicious programs that circulate on infected downloads, in e-mail attachments, and on the Internet. This malware, as it is sometimes called, can steal your data, destroy files, or create network traffic jams. It might display an irritating message to announce its presence, or it might surreptitiously spread itself to various files or mail itself out to everyone in your e-mail address book.

After a virus takes up residence in a computer or phone, it is often difficult to disinfect all your files. Rather than wait for a virus attack, you can take steps to keep your digital devices virus free.

▶ **How can I steer clear of malware?** It helps to avoid risky behaviors, such as downloading pirated software, opening e-mail attachments from unknown senders, installing random social networking plug-ins, installing non-approved apps, and participating in illegal file sharing.

Antivirus software protects digital devices from malware (Figure 20). Because fewer viruses target Macs, OS X users who don't engage in risky online activities sometimes opt to work without antivirus software.

If you use antivirus software, configure it to run continuously whenever your computer is on. You should make sure your antivirus software is set to scan for viruses in incoming files and e-mail messages. At least once a week, your antivirus software should run a full system check to make sure every file on your computer is virus free.

As new viruses emerge, your antivirus software needs to update its virus definition file. It gets this update as a Web download. If you've selected the auto update option, your computer should automatically receive updates as they become available.

FIGURE 20

Popular Antivirus Software

Windows Defender

Norton AntiVirus

McAfee AntiVirus Plus

Kaspersky Anti-Virus

F-Secure Anti-virus

Panda Antivirus

Trend Micro Antivirus+

AVG AntiVirus FREE

Avast! Free Antivirus

TRY IT!

Get familiar with your antivirus software

1. Look for antivirus software (refer to Figure 20 for a list). In Windows 7, click the **Start** button, and then select **All Programs**. In Windows 8, scroll through the tiles on the Start screen. On the Mac, use **Finder** to access the Applications folder.

Can't find any? If you are using your own computer and it doesn't seem to have antivirus software, you can connect to an antivirus supplier's Web site and download it.

2. Open your antivirus software. Each antivirus program has unique features.

3. Explore your antivirus software to find out if it offers options to:

- Scan incoming e-mail.

- Run continuously in the background—a feature sometimes called Auto Protect.

- Block malicious scripts.

4. Check the date of your last full system scan. If it was more than one week ago, you should check the settings that schedule antivirus scans.

5. Check the date when your computer last received virus definitions. If it was more than one week ago, you should make sure your antivirus software is configured to receive automatic live updates.

Windows Defender is included with Windows 8. You can access it from the Start screen by typing **w**.
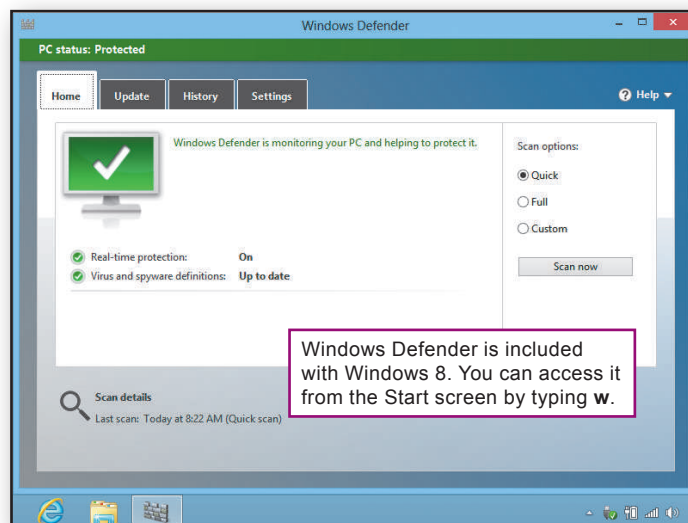
PREVENTING INTRUSIONS

▶ **Is the Internet risky?** The Internet offers lots of cool stuff: music, movies, online shopping and banking, and much more. Most Internet offerings are legitimate, but some downloads contain viruses, and shady characters called hackers control programs that lurk about waiting to infiltrate your digital devices. If a hacker gains access to your phone or computer, he or she can view your files and steal personal information.

An infiltrated computer can be used as a launching platform for viruses and network-jamming attacks, or turned into a server for pornography and other unsavory material. Hackers have even found ways to turn thousands of infiltrated computers into "zombies," link them together, and carry out coordinated attacks to disrupt online access to Microsoft, Bank of America, and other Internet businesses.

▶ **How do hackers gain access?** Intruders gain access by exploiting security flaws in your device's operating system, browser, and e-mail software. Companies such as Microsoft, Apple, and HTC constantly produce software updates to fix these flaws. As part of your overall security plan, you should download and install security updates as they become available.

▶ **Do I need a firewall?** Firewall software and Internet security suites, such as those listed in Figure 21, provide a protective barrier between a computer and the Internet. If your computer is directly connected to the Internet, it should have active firewall software. If your computer connects to a local area network for Internet access, the network should have a device called a router to block infiltration attempts.

When a firewall is active, it watches for potentially disruptive incoming data called probes. When a probe is discovered, your firewall displays a warning and asks what to do. If the source looks legitimate, you can let it through; if not, you should block it (Figure 22).

▶ **Where do I get a firewall?** Mac OS X and Windows include built-in firewalls. Third-party Internet security suites also include firewall modules.

FIGURE 21

Popular Firewall Software and Internet Security Suites

Emsisoft Online Armor
McAfee Internet Security
ZoneAlarm Free Firewall
Norton Internet Security
Mac OS X Firewall
Agnitum Outpost Firewall
Windows Firewall
Comodo Firewall
Kaspersky Internet Security
Trend Micro Internet Security

FIGURE 22

When your firewall software encounters new or unusual activity, it asks you what to do.
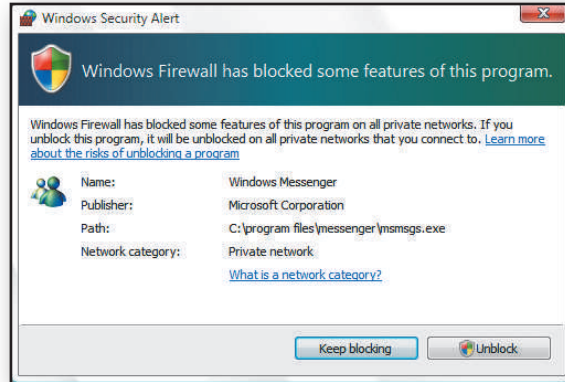
TRY IT!

Check your Windows computer's firewall

1. Access the **Control Panel** and then click the **Windows Firewall** link.

2. If the Windows firewall is not active, you should check to see if a third-party firewall is protecting your computer. To do so in Windows 7, click the **Start** button, select **All Programs**, and then look through the program list for firewalls such as those in Figure 21. In Windows 8, scroll through the tiles on the Start screen. If you find a firewall listed, start it and explore to see if it has been activated.
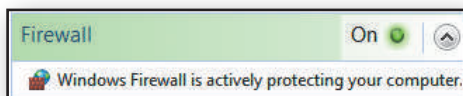
Check your Mac computer's firewall

1. Click the **Apple** icon, and then select **System Preferences**.

2. Click the **Security** icon, and then click the **Firewall** button.

3. If the firewall is off, click the **Start** button if you want to activate it.

4. If the Start button is grayed out, click the lock at the bottom of the page and then enter an administrator name and password.

Orientation
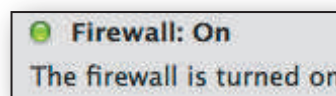
SAFE BROWSING

❱ **Are some Web sites dangerous?** When you access Web sites, data is transferred to your device and displayed by your browser. Most of this data is harmless, but Web-based malware and spyware have the potential to search your device for passwords and credit card numbers, monitor your Web-browsing habits for marketing purposes, block your access to legitimate Web sites, or surreptitiously use your device as a staging area for illicit activities.

❱ **How can I block spyware?** The first line of defense is to never click pop-up ads—especially those with dire warnings, such as the ad in Figure 23, about your computer being infected by a virus or spyware! To close an ad, right-click its button on the taskbar at the bottom of your screen, and then select the Close option from the menu that appears.

Most browsers can be configured to block spyware and pop-up ads. Your antivirus software might offer similar options.

❱ **What other steps can I take to browse the Web safely?** Browsers include security features. You should take some time to become familiar with them. For example, Internet Explorer allows you to specify how you want it to deal with potentially dangerous ActiveX components, HTML scripts, spyware, and cookies. If you don't want to be bothered by these details, however, Internet Explorer offers several predefined configurations for Medium, Medium-High, and High security. Most Internet Explorer users set security and privacy options to Medium-High.

Your browser might also offer features such as private browsing, do not track, and delete browser history that can make your Web experience safer and more private.

FIGURE 23

Some pop-up ads contain fake warnings about viruses, spyware, and intrusion attempts.

TRY IT!

Check Internet security and privacy options

1. Start your browser and look for its security settings.

Internet Explorer: Click **Tools**, and then select **Internet Options**. Click the **Security** tab. Normally, your security setting should be Medium High. Click the **Privacy** tab. Your privacy setting should be Medium. If your version of IE offers a Pop-up Blocker, make sure its box contains a check mark so that it is activated.

Firefox: Click the **Firefox** tab or menu, select **Options** or **Preferences**, and then click **Content**. Make sure there is a check mark in the box for **Block pop-up windows**.

Safari: Click **Safari** on the menu bar. Make sure there is a check mark next to **Block Pop-Up Windows**.

Chrome: Click the **Chrome menu** icon, select **Settings**, and then click **Show advanced settings**. Click the **Content settings** button. Under Pop-ups, make sure that the **Do not allow** option is selected.

2. Use your browser's Help to find out if the following features are available:

Private browsing

Do not track

Delete browser history
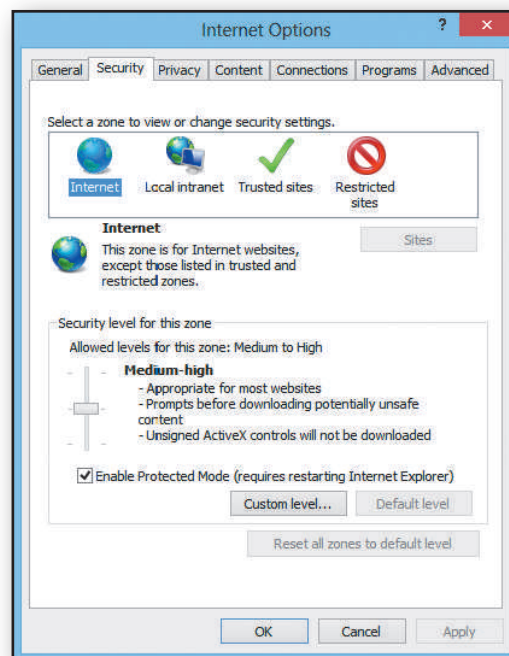
PROTECTING E-COMMERCE TRANSACTIONS

▶ **Is online shopping safe?** Online shopping is generally safe. From time to time, shoppers encounter fake storefronts designed to look like legitimate merchants but that are actually set up to steal credit card information. You can avoid these fakes by making sure you enter correctly spelled URLs when connecting to your favorite shopping sites.

▶ **How safe is my credit card information when I'm shopping online?** Online shopping has about the same level of risk as using your credit card for a telephone order or giving it to a server when you've finished eating in a restaurant.

That's not to say that credit cards are risk free. Credit cards are surprisingly vulnerable both online and off. Anyone who handles your card can copy the card number, jot down the expiration date, and try to make unauthorized charges. Thieves can break in to merchant computers that store order information. Thieves might even pick up your credit card information from discarded order forms. Despite these risks, we continue to use credit cards.

Many people are concerned about their credit card data getting intercepted as it travels over the Internet. As you wrap up an online purchase and submit your credit card information, it is transmitted from your computer to the merchant's computer. Software called a packet sniffer, designed for legitimately monitoring network traffic, can be used by unscrupulous hackers to intercept credit card numbers and other data traveling over the Internet.

▶ **How can I keep my credit card number confidential?** When you submit credit card information, make sure the merchant provides a secure connection for transporting data. Normally, a secure connection is activated when you're in the final phases of checking out—as you enter your shipping and credit card information into a form and click a Submit button to send it.

A secure connection encrypts your data. Even if your credit card number is intercepted, it cannot be deciphered and used. To make sure you have a secure connection, look for the lock icon. The Address box should also display a URL that begins with *https://*.

TRY IT!

Identify a secure connection

1. Start your browser and connect to the site **bookstore.gpo.gov**.

2. Select any book and place it in your online shopping cart.

3. Click the **Go to Checkout** button to reach step 1 of the checkout process.

4. At the checkout screen, do you see any evidence that you're using a secure connection?

5. Close your browser so that you don't complete the transaction.

Secure *https://* in URL

Look for a lock icon in the address bar at the top of the window, or on the taskbar at the bottom of the browser window.
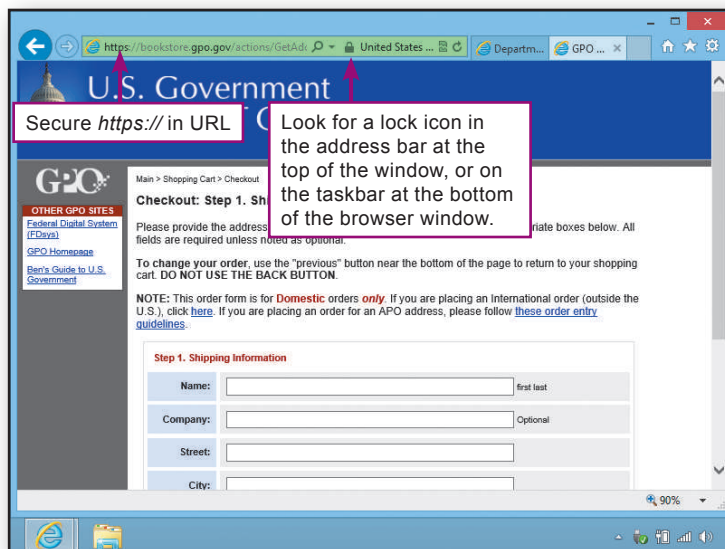
AVOIDING E-MAIL SCAMS

◗ **What are e-mail scams?** From time to time, you hear about con artists who have bilked innocent consumers out of their life savings. The Internet has its share of con artists, too, who run e-mail scams designed to collect money and confidential information from unsuspecting victims. E-mail scams are usually distributed in mass mailings called spam.

◗ **What do I need to know about spam?** The Internet makes it easy and cheap to send out millions of e-mail solicitations. In the United States, the CAN-SPAM Act requires mass-mail messages to be labeled with a valid subject line. Recipients are supposed to be provided with a way to opt out of receiving future messages.

Legitimate merchants and organizations comply with the law when sending product announcements, newsletters, and other messages. Unscrupulous spammers ignore the law and try to disguise their solicitations as messages from your friends, chat room participants, or co-workers (Figure 24).
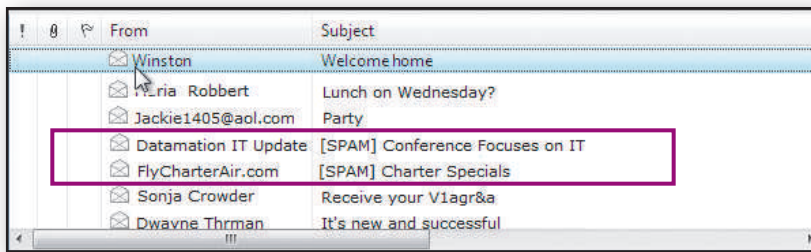
FIGURE 24

Some e-mail systems use spam filters to flag suspected spam by adding [SPAM] to the subject line. Spam filters are not perfect, however. Some spam is not flagged and occasionally legitimate mail is mistaken for spam.

◗ **Is spam dangerous?** Some mass mailings contain legitimate information, including daily or weekly newsletters to which you've subscribed. Many mass mailings, however, advertise illegal products. Others are outright scams to get you to download a virus, divulge your bank account numbers, or send in money for products you'll never receive.

Beware of e-mail containing offers that seem just too good to be true. Messages about winning the sweepstakes or pleas for help to transfer money out of Nigeria (Figure 25) are scams to raid your bank account.
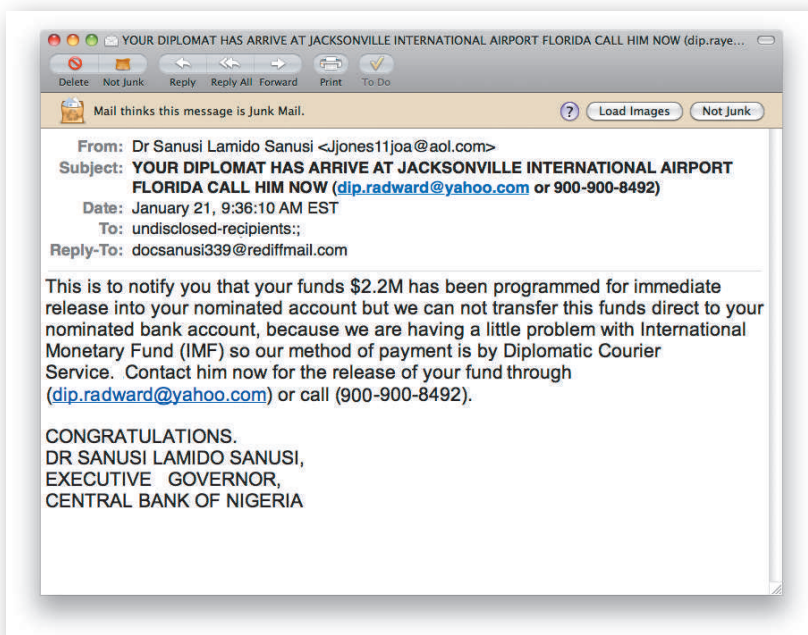
FIGURE 25

Many variations of this African money-transfer fraud—complete with deliberate grammatical errors—have circulated on the Internet for years. Victims who respond to these preposterous e-mails have found their bank accounts raided, their credit ratings destroyed, and their reputations ruined. According to the FBI, some victims have even been kidnapped!

▶ **What's phishing?** Phishing (pronounced "fishing") is a scam that arrives in your e-mailbox looking like official correspondence from a major company, such as Microsoft, PayPal, eBay, UPS, Yahoo!, or AOL. The e-mail message is actually from an illegitimate source and is designed to trick you into divulging confidential information or downloading a virus.

Links in the e-mail message often lead to a Web site that looks official, where you are asked to enter confidential information such as your credit card number, Social Security number, or bank account number.

The following are examples of phishing scams you should be aware of:

▶ A message from Microsoft with an attachment that supposedly contains a security update for Microsoft Windows. Downloading the attachment infects your computer with a virus.

▶ A message that appears to come from PayPal, complete with official-looking logos, that alerts you to a problem with your account. When you click the Billing Center link and enter your account information, it is transmitted to a hacker's computer.

▶ A message from UPS or the postal service informing you that a package cannot be delivered until you click a link to print or download a mailing label. Clicking the link installs malware on your computer.

▶ **How do I avoid e-mail scams?** If your e-mail software provides spam filters, you can use them to block some unsolicited mail from your e-mailbox. Spam filters are far from perfect, however, so don't assume everything that gets through is legitimate. Use your judgment before opening any e-mail message or attachment.

Never reply to a message that you suspect to be fraudulent. If you have a question about its legitimacy, check whether it's on a list of known scams. Never click a link provided in an e-mail message to manage any account information. Instead, use your browser to go directly to the company's Web site and access your account as usual. Microsoft never sends updates as attachments. To obtain Microsoft updates, go to the Control Panel and click the Windows Update option.

● **TRY IT!**

Arm yourself against e-mail scams

1. Start your browser and connect to the site **www.millersmiles.co.uk**. Browse through the list of recent phishing attacks.

2. Open your e-mail software and find out if it includes spam filters. You can usually find this information by clicking **Help** on the menu bar and then typing **spam filter** in the search box.

3. Explore how your e-mail software handles messages that might be spam. Can you create customized spam filters, or does your software have automatic filtering?

4. Spam filters sometimes catch legitimate mail and group it with junk mail. Check your Trash, Spam, or Junk folder. Does it contain any legitimate messages that were automatically labeled as spam and blocked from your Inbox?
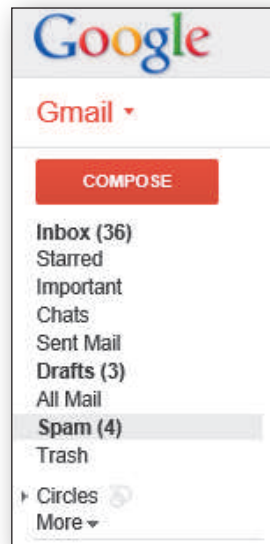
PROTECTING YOUR PRIVACY

◗ **How much information about me has been collected online?** Information about you is stored in many places and has the potential to be consolidated by government agencies, private businesses, and criminals. Some databases are legitimate—those maintained by credit bureaus and medical insurance companies, for example. By law, you have the right to ask for a copy of these records and correct any errors you find. Many other databases, such as those maintained at e-commerce sites and those illegally acquired by hackers, are not accessible, and you have no way of checking the data they contain.

◗ **What's the problem with having my personal information in a few databases?** The problem is that many companies share their databases with third parties. Your personal data might start in a single legitimate database, but that data can be sold to a continuous chain of third parties who use it to generate mass mailings that clog up your Inbox with marketing ploys, unwanted newsletters, and promotions for useless products.

◗ **Can I control who collects information about me?** To some extent, you can limit your exposure to future data collection by supplying personal data only when absolutely necessary. When filling out online forms, consider whether you want to or need to provide your real name and address. Avoid providing merchants with your e-mail address even if you're promised a $5 coupon or preferred customer status. A small reward might not be worth the aggravation of an Inbox brimming with spam and e-mail scams. You should also be careful when using public computers (Figure 26).

◗ **Can I opt out?** Some mass e-mailings give you a chance to opt out so that you don't receive future messages. Opting out is a controversial practice. On mailings from reputable businesses, clicking an opt-out link might very well discontinue unwanted e-mail messages. However, opting out does not necessarily remove your name from the database, which could be sold to a third party that disregards your opt-out request.

Scammers use opt-out links to look for "live" targets, perhaps in a database that contains lots of fake or outdated e-mail addresses. By clicking one of these opt-out links, you've played right into the hands of unscrupulous hackers—this action lets them know that your e-mail address is valid.

Most experts recommend that you never use opt-out links, but instead go to the sender's Web site and try to opt out from there. If you are tempted to use an opt-out link directly from an e-mail message, carefully examine the link's URL to make sure you'll connect to a legitimate Web site.

FIGURE 26

Using public computers poses security risks from people looking over your shoulder, spyware that collects your keystrokes, and the footprint you leave behind in cookies and temporary Internet pages.

AP Photo/Darren Hauck

To minimize risks when using public computers:

◗ Be sure to log out from all sites and close all browser windows before quitting.

◗ Delete cookies and browser history.

◗ Avoid using public computers for financial transactions such as filing your taxes.

◗ Reboot the computer before you quit.

◗ If you're using your own portable apps from a USB drive, make sure your computer is running antivirus software.

● **TRY IT!**

Check your privacy

1. Start your browser and go googling by connecting to **www.google.com**. Enter your name in the Search box. What turns up?

2. Connect to **www.peoplefinders.com**. Enter your name and state of residence. Click the **Search** button. Notice all the information that's offered.

3. Connect to **www.ciadata.com** and scroll down the page to view the kind of information anyone can obtain about you for less than $100.

4. Read about your rights to view credit reports at the Federal Trade Commission site:
       www.ftc.gov/bcp/menus/consumer/credit/rights.shtm

SAFE SOCIAL NETWORKING

▶ **What's the risk at sites like Twitter, Facebook, and LinkedIn?** A prolific Twitter user with 650 followers had a nasty surprise one morning. She discovered that private messages she'd sent to specific friends were showing up on her public feed for everyone to see. Although this is an extreme example of how things can go wrong on social networking sites, embarrassing incidents are all too frequent.

The more information you reveal at social networking sites, the more you increase your susceptibility to identity theft, stalking, and other embarrassing moments, such as when a prospective employer happens to see those not-so-flattering photos of you on your spring break.

▶ **How do I stay safe and keep my stuff private when using social networking sites?** The first rule of social networking safety is never share your Social Security number, phone number, or home address. Unfortunately, everyone has access to Web-based tools for finding addresses and phone numbers, so withholding that information provides only a thin security blanket.

Most social networking sites depend on references and friends-of-friends links to establish a trusted circle of contacts. *Trusted* is the key word here. When using social networking sites, make sure you understand what information is being shared with friends, what information is available to strangers on the site, and what data is available publicly to search engines.

Be careful about revealing personal information at social networking sites, blogs, chat rooms, and Twitter. Many online participants are not who they appear to be. Some people are just having fun with fantasy identities, but others are trying to con people by telling hard luck stories and faking illnesses. Resist the temptation to meet face to face with people you've met online without taking precautions, such as taking along a group of friends.

▶ **And what about the site itself?** Social networking sites, like any online business, are always looking for ways to make a profit. Every participant is a valuable commodity in a database that can be used for marketing and research. Before you become a member, read the site's privacy policy to see how your personal data could be used. Remember, however, that privacy policies can change, especially if a site goes out of business and sells its assets.

You should also find out if you can remove your data from a site. Although most sites allow you to deactivate your information, some sites never actually remove your personal information from their databases, leaving it open to misuse in the future.

● TRY IT!

Check your social networking sites

1. Log in to any social networking site you use.

2. Locate the site's privacy policy and read it. Are you comfortable with the ways in which the site protects your personal information?

3. If you are not familiar with the site's options for designating who can view your personal data, find out how you can limit its public exposure.

4. Find out if you can delete your data from the site.

ONLINE PRIVACY AND SAFETY GUIDELINES

▶ **What should I do?** Online safety and online privacy are important aspects of computer use today. The average consumer must remain constantly vigilant to detect if his or her personal data has been misused or has fallen into the wrong hands.

Cyberthreats are becoming more troubling. Who would imagine that the webcam at the top of your laptop computer screen could be remotely controlled by hackers to capture video of you without your knowledge?

If you recognize that anything on the Web or in e-mail messages is not necessarily private, you've got the right outlook. You can use the guidelines in Figure 27 to keep track of your personal data and stay safe online.

FIGURE 27

Online Privacy and Safety Guidelines

▶ Use a password to protect your data in case your computer is stolen.

▶ Don't leave your digital devices unattended in public places.

▶ Run antivirus software and keep it updated.

▶ Install software service packs and security patches as they become available, but make sure they are legitimate.

▶ Install and activate firewall software, especially if your computer is directly connected to the Internet by an ISDN, DSL, satellite, or cable connection.

▶ Do not publish or post personal information, such as your physical address, passwords, Social Security number, phone number, or account numbers, on your Web site, in your online resume, in your blog, or in other online documents.

▶ Be wary of contacts you make in public chat rooms and social networking sites.

▶ Don't click pop-up ads.

▶ Install and activate antispyware and ad-blocking software.

▶ Do not reply to spam.

▶ Ignore e-mail offers that seem too good to be true.

▶ Establish a throw-away e-mail account and use it when you have to provide your e-mail address to marketers and other entities whom you don't want to regularly correspond with.

▶ Make sure you control who has access to the data you post at social networking sites.

▶ Do not submit data to a social networking site until you've read its privacy policy and have made sure that you can remove your data when you no longer want to participate.

▶ Avoid using opt-out links in mass mailings unless you are certain the sender is legitimate.

▶ When using public computers, avoid financial transactions if possible. Make sure you log out from password-protected sites. Delete cookies and Internet history. Reboot the computer at the end of your session.

▶ Regard e-mail messages as postcards that can be read by anyone, so be careful what you write!

▶ Cover the webcam on your computer with a sticky note when it is not in use.

▶ Use the private browsing feature offered by your browser when you don't want to store a record of sites you've visited.

▶ Activate your browser's Do Not Track feature if you don't want Web sites to collect information about your visit.

QuickCheck

1. Internet security suites usually include antivirus and antispyware tools. True or false? [____]

2. [____] software can block intrusion attempts such as hacker probes.

3. Most Web browsers include settings for blocking pop-up ads. True or false? [____]

4. E-mail scams are usually distributed in mass mailings called [____].

5. Using opt-out links is the most secure and dependable way to reduce the amount of spam you receive. True or false? [____]

▶ CHECK ANSWERS

NP2014 Online CourseMate

THE INTERNET offers access to information that's useful to just about everyone, and New Perspectives students are no exception. When you purchase access to the New Perspectives 2014 Online CourseMate, you'll find targeted learning materials to help you understand key concepts and prepare for exams.

COURSEMATE RESOURCES

◗ **What's on CourseMate?** The New Perspectives 2014 CourseMate includes a digital version of your textbook loaded with videos, software tours, and activities. The CourseMate menu includes even more goodies such as quizzes, games, and audio files that you can download to your iPod or other portable device. Figure 28 highlights the features you'll find on the NP2014 CourseMate.
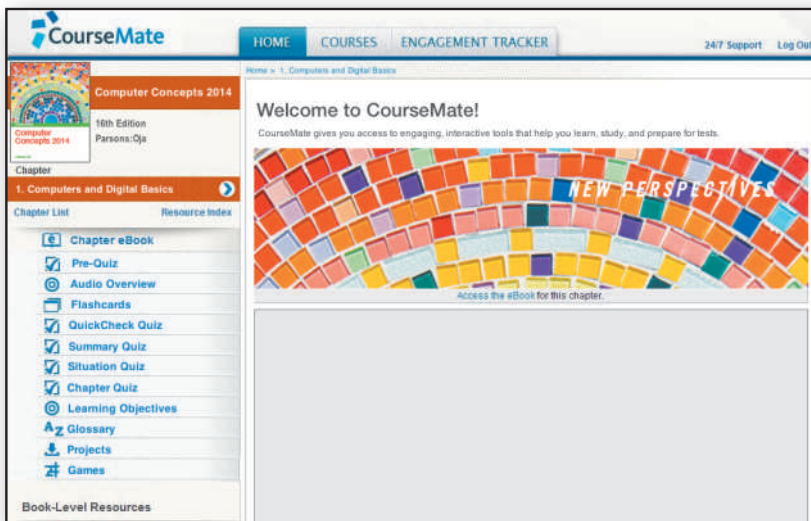
FIGURE 28

NP2014 CourseMate Features

Web site © Cengage Learning

eBook
The NP2014 interactive, multimedia eBook gives you access to your textbook from any computer connected to the Internet.

Detailed Objectives
Access an expanded version of the Learning Objectives that are included at the beginning of each chapter.

Pre-Quiz
Before starting a chapter, take the pre-quiz to find out how to best focus your study time.

TechTerm Flashcards
Make sure you understand all of the technical terms presented in the chapter.

Audio Overview
Listen to a five-minute audio presentation of chapter highlights on your computer or download the files to your MP3 player to study on the go.

Audio Flashcards
Interact with downloadable audio flashcards to review key terms.

Projects
Get ideas for term papers, group projects, and assignments.

Quizzes
Check your understanding and ability to apply concepts.

Student Edition Labs
Get hands-on practice with key topics presented in a chapter.

Games
Have some fun while refreshing your memory about key concepts that might appear on the exam.

Glossary
Get a quick overview of all the key terms presented in each chapter.

COURSEMATE ACCESS

◗ **How do I access the NP2014 CourseMate?** CourseMate is hosted on the CengageBrain Web site, *www.cengagebrain.com*. The first time you connect to CengageBrain, sign up for an account. When you have completed the short registration process, you can search for materials by logging in (Figure 29).

FIGURE 29

Open your browser to connect to CengageBrain.

First-time users can click this link to set up a CengageBrain account.

Once you have a CengageBrain account, you can enter your user name and password to access course materials.
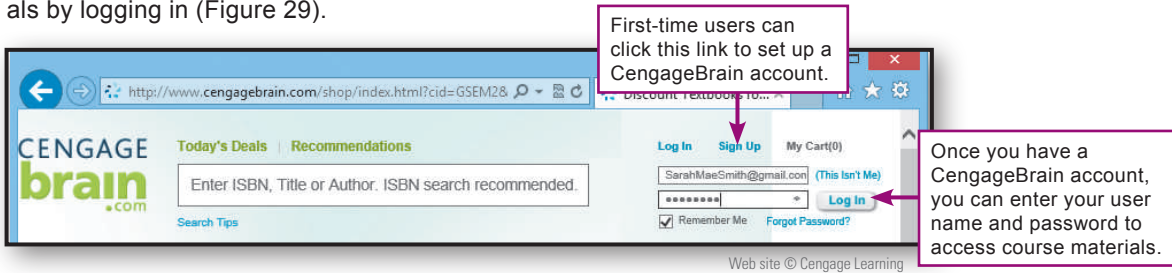
◗ **How do I add NP2014 to my dashboard?** After you've logged in to CengageBrain, enter the ISBN for your book. If you have an access code, enter it, too.

There are several digital and print options for the NP2014 textbook, as well as bundles that include both print and digital versions. Make your selection carefully. Complete the purchase process, as necessary, and the NP2014 CourseMate will appear on your CengageBrain dashboard (Figure 30).

FIGURE 30

The Home page of your CengageBrain dashboard displays the course materials you've selected.

Use the Open button to access the CourseMate and interactive eBook for NP2014.
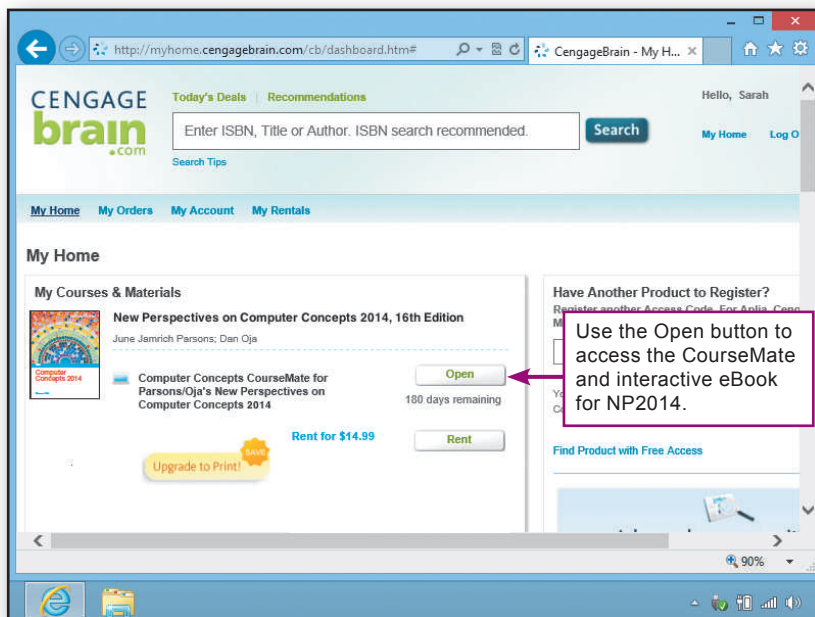
TRY IT!

Get started with CourseMate

1. Start your browser and connect to *www.cengagebrain.com*.

2. If you are accessing CengageBrain for the first time, click the **Sign Up** link and follow the instructions to create your account.

3. Once you've created a CengageBrain account, you can log in by entering your user name and password, and then clicking the **Log In** button.

4. Add the NP2014 title that's used in your course. Choose carefully to make sure you get the correct edition, version, and electronic format.

5. Open the NP2014 CourseMate.

COURSEMATE ACTIVITIES

◗ **How do I use CourseMate?** The NP2014 CourseMate includes two major assets: an interactive, multimedia textbook and a set of activities designed to help you review chapter material, prepare for tests, and extend your understanding of various topics. Let's take a look at the activities first because you might want to use some of them even before you begin reading a chapter.

CourseMate activities are displayed in a list on the left side of the screen, as shown in Figure 31.
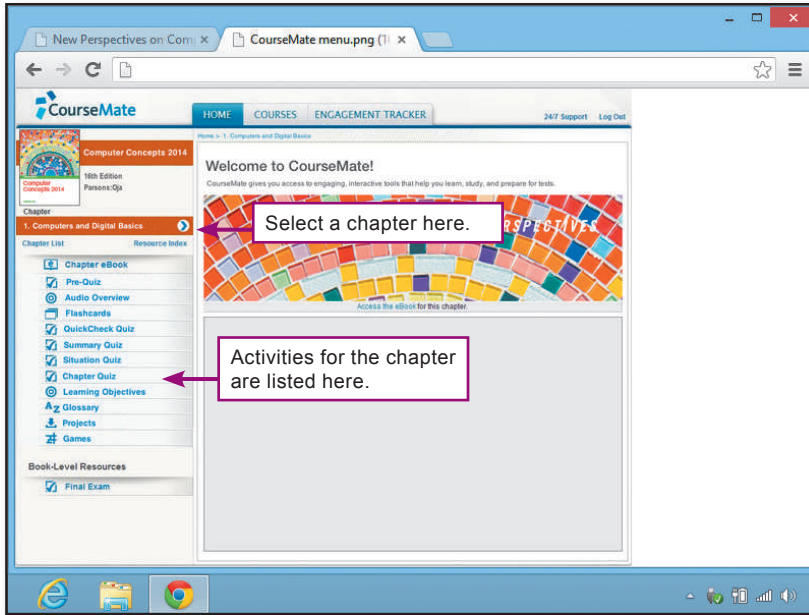
FIGURE 31

CourseMate offers activities you can use before and after reading a chapter.

◗ **Where do I start?** Consider the following tips for using CourseMate activities as an effective study tool:

◗ Before beginning a chapter, try the Pre-Quiz activity to find out where to focus your study time.

◗ The Audio Overview presents a high-level introduction to chapter highlights. Use it as an orientation or as a quick refresher before an exam.

◗ If you like a challenge, use the online games as a review activity; you'll get high scores if you understand the chapter material.

◗ Quizzes are a great way to make sure that you understand and can apply key concepts presented in a chapter.

◗ For last-minute review, load up your iPod with the Audio Flashcards. You can listen to them for a quick refresher on your way to the test!

◗ **Can I submit scores from CourseMate activities to my instructor?** Your results from various CourseMate activities are automatically recorded for your instructor using the Engagement Tracker.

TROUBLE?

If your computer has trouble properly displaying CourseMate or your online eBook, try using a different browser.

Google Chrome seems to be the browser that offers the most consistent browsing experience for PCs and Macs. You can download Chrome for free from *www.google.com/chrome*.

TRY IT!

Explore CourseMate

1. Select **Chapter 1** and then try some CourseMate activities.

2. Be sure to check out the Audio Overview, Flashcards, and Games.

ONLINE INTERACTIVE EBOOK

◗ **What is the NP2014 interactive eBook?** The digital version of NP2014 uses an advanced eBook technology that's chock full of activities designed to help readers focus on important concepts and remember them when it is time to take a test.

Each page of the eBook looks exactly like the printed book, so students and instructors are literally all on the same page for assignments and discussions.

◗ **How do I access the NP2014 interactive eBook?** You can access the eBook from the list on the left side of the CourseMate screen. Select the Chapter eBook option. The NP2014 eBook opens in a new tab or new browser window, depending on how your browser is configured (Figure 32).

CengageBrain screen   CourseMate screen   eBook screen
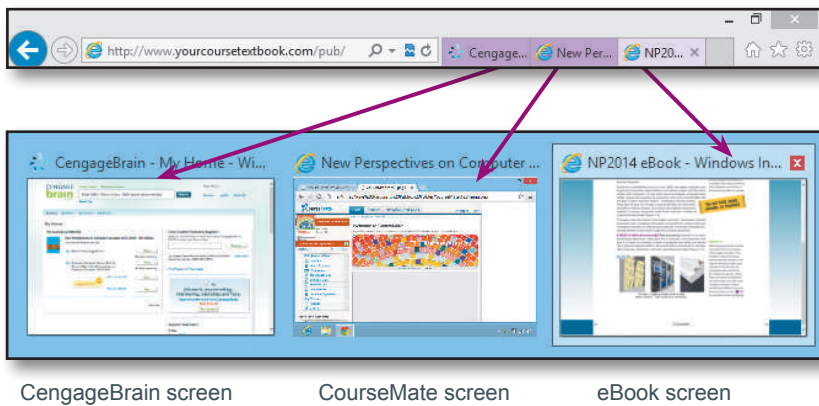
FIGURE 32

Remain aware of the windows and tabs that hold the CourseMate and eBook so that you don't mistakenly close one or the other during a session.

◗ **How do I navigate through the interactive eBook?** You can turn pages using the arrows at the top and bottom of each page. Use the Contents link at the top of each page to jump to the first page of the chapter. Use the links on the first page to jump to any section of a chapter or to end-of-chapter activities.

◗ **How do I work with videos and software tours?** You can click the ▶ Video button to open a video window or software tour. Then use the control buttons to play, pause, or stop playback (Figure 33).
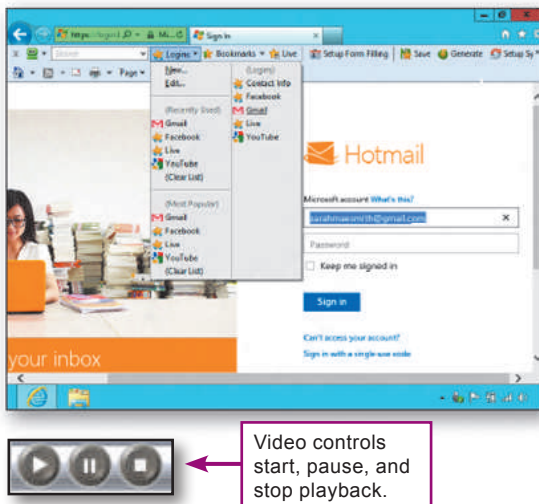
FIGURE 1-47

Password managers help you keep track of all your passwords. ▶ If you've never used a password manager and want to see how one works, start the guided tour for this figure in your interactive eBook.

Video controls start, pause, and stop playback.

FIGURE 33

Most videos play within the page, whereas software tours play in a separate window. Look for the playback controls on the left side of the video or software tour window.

◗ **Are my eBook activities tracked?** Quizzes and Practice tests in the NP2014 eBook are computer scored. You have the option of saving your results and sending them to your instructor.

The first time you start a quiz or practice test, you'll see a message box like the one in Figure 34. If you want to send your scores, fill in the box. If you do not want to send your scores, click the *Do not track results for this session* check box.
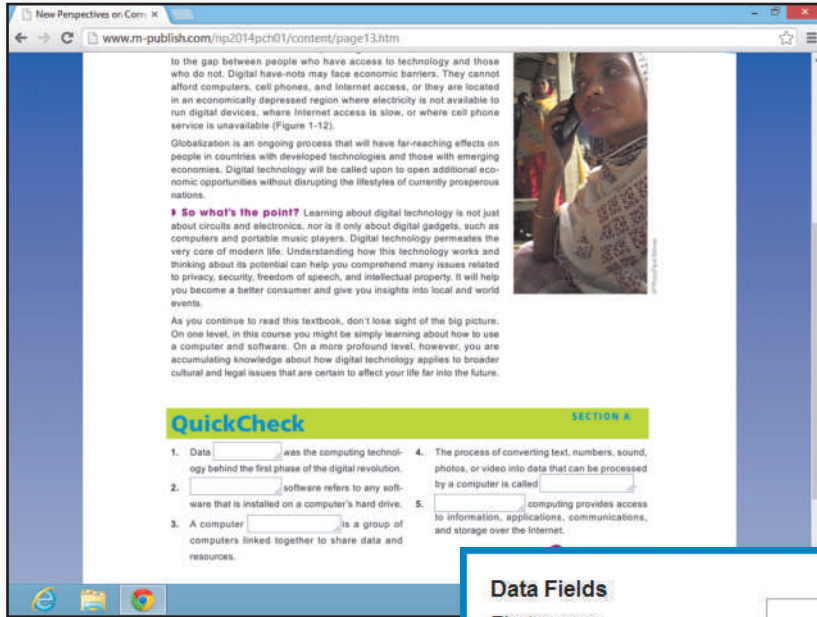
FIGURE 34

The data entered for tracking and sending your scores remains in effect for an entire session until you close the eBook. If you change your mind about tracking, simply close the eBook and then open it again.

If you want your scores tracked and sent to your instructor, fill in the boxes.

Put a check mark in this box if you do not want your scores tracked.

QuickCheck

1. To access the NP2014 CourseMate, you need a user name and password. True or false? _____

2. The _____ Tracker automatically records your scores for quiz activities listed on the CourseMate main screen.

3. Audio Flashcards can be loaded on an iPod. True or false? _____

4. The Audio _____ is a five-minute audio presentation of chapter highlights.

5. The interactive eBook opens in a new _____ or window of your browser.

▶ CHECK ANSWERS

Interactive eBook CD

SECTION E

IF YOU CAN'T DEPEND ON your Internet connection, you might consider the interactive, digital version of your textbook that is available on CD. This section describes its features.

EBOOK CD BASICS

◗ **How do I start the eBook CD?** To start the eBook CD on any Windows computer, follow the instructions in the TRY IT! box below.

◗ **What if I have a Mac?** If you have a Mac that runs Parallels or Boot Camp, that means you have access to the Windows operating system on your Mac. Boot up your Mac in Windows mode and then use the eBook CD just as you would on a Windows computer.

If your Mac runs only OS X, you can still access the digital textbook by performing a simple conversion process. For instructions on how to convert the eBook CD for your Mac, connect to *www.infoweblinks.com/np2014* and look for the MacPac link.

◗ **What if my computer has no CD drive?** You can use an external CD drive or install the eBook CD on a local drive. Refer to the NP2014 technical support link at *www.infoweblinks.com/np2014*.

QUESTIONS?

Additional FAQs about the eBook CD are posted at *www.infoweblinks.com* under the Technical Support link. You'll find information on topics such as what to do if the CD doesn't start, and how to use the eBook CD in a computer without a CD drive.

TRY IT!

Start the eBook CD

1. Insert the eBook CD into your computer's CD or DVD drive, label side up.

2. Wait a few seconds until the eBook CD has loaded.

3. When the main Computer Concepts screen appears, proceed to step 4.

- If an Autoplay box appears, select *Run eBook CD.exe*.
- If the CD does not start automatically, click the Start button, click Computer, and then double-click the CD or DVD drive icon.

The eBook CD allows you to save your scores for QuickChecks, practice tests, and other activities. But for this session, you do not need to track this data.

4. Click the **File** menu, and then select **Change Tracking Options**.

5. To disable tracking for now, make sure the box next to *Save Tracking data* is empty. If the box contains a check mark, click the box to empty it.

6. Click the **OK** button to close the Tracking Options dialog box.

Click File, and then select Change Tracking Options.

Make sure this box in the tracking window is empty.

No Tracking file selected. Results will not be saved.
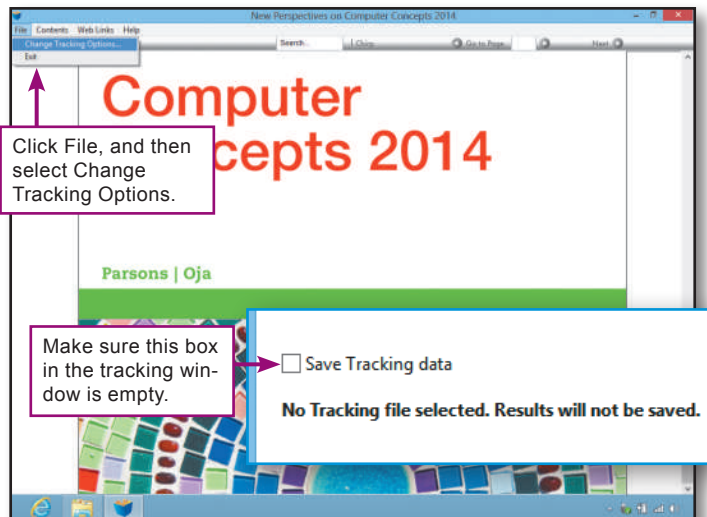
◗ **How do I navigate through the book?** The eBook CD menu and toolbar near the top of the screen contain tools you can use for navigation. The Next and Back buttons turn one page at a time. To get to the first page of any chapter, you can select it from the Contents menu.

The eBook CD pages mirror the pages in the printed book. So if you want to take the QuickCheck that's on page 21 of your printed textbook, for example, you can use the Go to Page option on the toolbar to jump right to it.

◗ **What are the other menu and navigation options?** The menu bar includes a Web Links menu that opens your browser and connects to InfoWebLinks. The menu bar also includes a Help menu where you can access instructions and troubleshooting FAQs. The Glossary button provides access to definitions for key terms. An Annotation button appears when your instructor has posted comments or lecture notes. If your instructor has not posted annotations, the button will not appear.

◗ **How do I exit the eBook CD?** When you have completed a session and want to close the eBook CD, you can click the [×] button in the upper-right corner of the title bar (Windows). On Mac OS X, you can click *NP2014 eBook CD* on the menu bar and select Quit. Figure 35 helps you locate the Close button and eBook CD navigation tools.

TERMINOLOGY NOTE

The eBook CD requires Adobe Flash Player for displaying labs. The Flash Player is installed on most computers. If the eBook CD cannot find your Flash Player when it starts, you'll be directed to go online to download and install it.

FIGURE 35

Key Features of the eBook CD Menu Bar and Toolbar

The Contents menu takes you to the first page of any chapter you select.

The Back button displays the previous page.

The Next button displays the next page.

The Glossary button helps you look up key terms.

To jump to a specific page, enter the page number in the box, and then click the ▶ button.

The Close button closes the eBook CD on Windows computers.
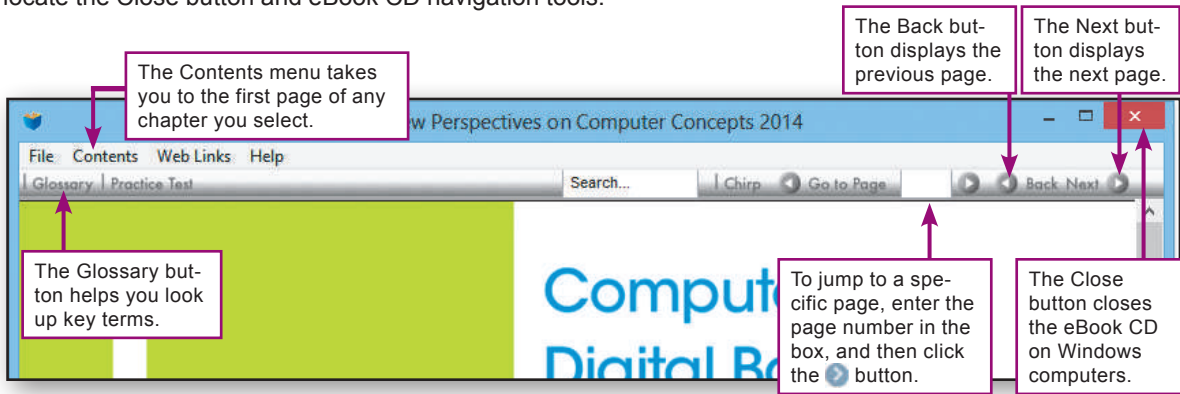
TRY IT!

Open a chapter and navigate the eBook CD

1. Click **Contents** on the menu bar. The Contents menu appears.

2. Click **Chapter 2**.

3. When Chapter 2 appears, click the **Next** button twice until you see page 56.

4. Click the **Back** button twice to go back to the first page of Chapter 2.

5. Click the white box on the right side of *Go to Page*. Type **89**, and then click the **Go to Page** ▶ button.

6. Click the ◀ **Go to Page** button. Now you should be back at the first page of Chapter 2.

7. Scroll down the page until you can see the Chapter Contents listing. As shown at right, you can use this list to quickly jump to Sections A, B, C, D, or E; Issues; Technology in Context; NP Labs; and Review Activities.

8. Click ▶ **Section D** to jump to Section D.

Use the scroll bar to scroll down the page.

The ▶ icons indicate clickable links to sections, labs, and other activities on the CD.
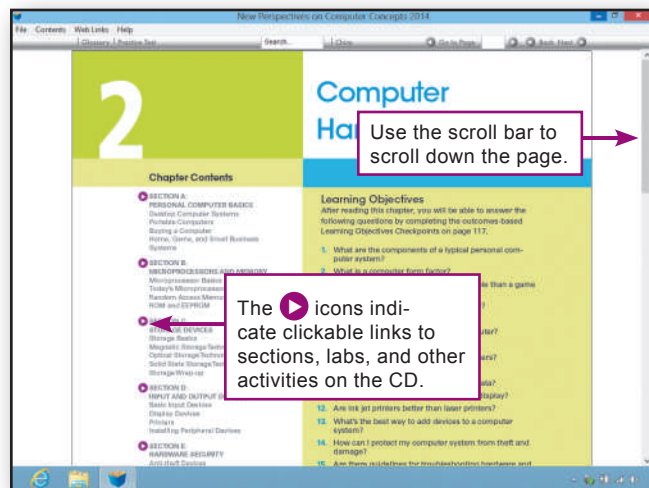
MULTIMEDIA AND COMPUTER-SCORED ACTIVITIES

◗ **What kinds of multimedia are included in the eBook CD?** Figures in your book marked with the ▶ icon morph into multimedia tours, animations, and videos. A tour takes you on a guided software tour—even if you don't have the software installed on your computer! Animations and videos visually expand on the concepts presented in the text.

◗ **How do I access software tours and other multimedia?** To access multimedia elements, simply click the ▶ icon while using the eBook CD.

◗ **Which activities are computer scored?** Figure 36 lists the eBook CD activities that are computer scored. You can use these activities to gauge how well you remember and understand the material you read in the textbook.

Suppose you're reading Chapter 2. Work with the TRY IT! below to see how multimedia and computer-scored activities work.

FIGURE 36

eBook CD Computer-scored Activities

> **Interactive Summary**
>
> **Interactive Situation Questions**
>
> **Interactive Practice Tests**
>
> **Concept Map**
>
> **QuickChecks**
>
> **Lab QuickChecks**

Orientation

TRY IT!

Explore multimedia and computer-scored activities

1. Use the **Go to Page** control to jump to page 79.

2. On page 79, Figure 2-27 contains an ▶ icon. Click any line of the figure caption to launch the video.

3. When you want to stop the video, click any blank area of the eBook CD page. To restart the video, click the ▶ icon again.

4. Now, try a computer-scored QuickCheck. Use the **Go to Page** control to get to page 87 and scroll down the page until you can see the entire set of QuickCheck questions.

5. Click the answer box for question 1, and then type your answer. Most answers are a single word. Upper- and lowercase have no effect on the correctness of your answer.

6. Press the **Tab** key to jump to question 2, and then type your answer. Don't worry if you don't know the answer; you haven't actually read Chapter 2 yet. Just make a guess for now.

7. When you have answered all the questions, click the ▶ CHECK ANSWERS icon. The computer indicates whether your answer is correct or incorrect.

8. Continue to click **OK** to check the rest of your answers.

9. When you've reviewed all your answers, the computer presents a score summary. Click **OK** to close the dialog box.

Click the OK button to check each answer.
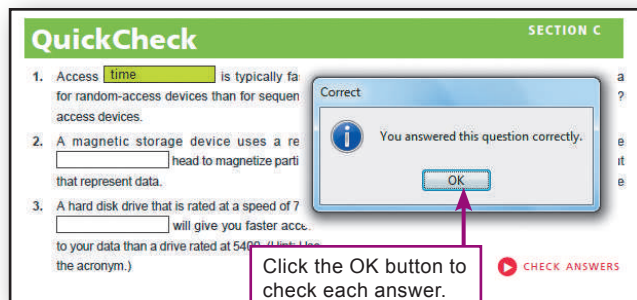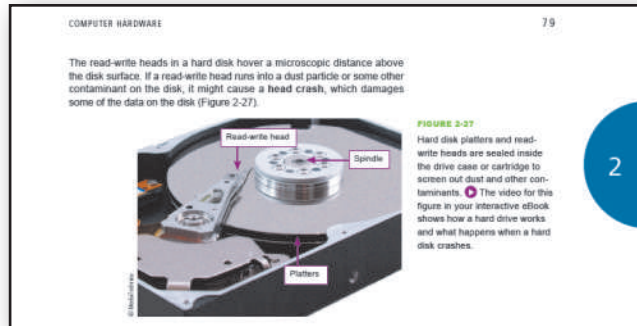
NEW PERSPECTIVES LABS

◗ **What about labs?** Your eBook CD includes New Perspectives Labs that give you hands-on experience applying concepts and using software discussed in each chapter. Labs in the eBook CD are divided into topics, and each topic ends with a QuickCheck so that you can make sure you understand key concepts.

In addition to lab QuickChecks, each New Perspectives Lab also includes a set of assignments located on the Lab page of each chapter. Your instructor might require you to complete these assignments. You can submit them on paper, as an e-mail message, or as a document in your Blackboard drop box according to your instructor's directions.

◗ **How do I launch a lab?** First, navigate to the lab page using the New Perspectives Labs option from the Chapter Contents list, or type in the corresponding page number from the printed book. Click the lab's ▶ icon to start it, as explained in the TRY IT! below.

TRY IT!

Open a lab

1. Click **Contents** on the eBook CD menu bar and select **Chapter 1**.

2. Scroll down to the Chapter Contents list and click ▶ **New Perspectives Labs**.

3. When the New Perspectives Labs page appears, click ▶ **OPERATING A PERSONAL COMPUTER**.

4. The lab window opens. Click the ▣ button to view objectives for Topic 1.

5. Click the ▣ button again to view page 1 of the lab. Read the information on the page, and then continue through the lab, making sure to follow any numbered instructions.

6. After page 8, you will encounter the first QuickCheck question. Click the correct answer, and then click the **Check Answer** button. After you find out if your answer was correct, click the ▣ button to continue to the next question. Complete all the QuickCheck questions for Topic 1.

7. For this TRY IT!, you don't have to complete the entire lab. When you are ready to quit, click the ▣ button.

8. Click the ▣ button again. Your Lab QuickCheck results are displayed.

9. Click the **OK** button to return to the eBook CD.

TRACKING YOUR SCORES

❱ **Can I save scores from QuickChecks, labs, and other activities?** To save your scores, you have to create a Tracking file. The file can be located on a rewritable CD, your computer's hard disk, a USB flash drive, or a network drive where you have permission to store files.

❱ **How do I make a Tracking file?** The Tracking Options dialog box lets you create a Tracking file and designate where you want to store it. Work with the TRY IT! below to create a Tracking file.

TRY IT!

Create a Tracking file

1. Make sure your eBook CD is open.

2. Click **File** on the eBook CD menu bar, and then click **Change Tracking Options**.

3. When the Tracking Options dialog box appears, click the **Create** button.

4. When the Create Tracking File dialog box appears, enter the requested data (see illustration at right), and then click **Continue**. The Save As (Windows) or Save (Mac) dialog box appears.

5. Use the dialog box to specify the location and name for your Tracking file. (See the illustration at right for Windows or the illustration below for Macs.)

6. After selecting a name and location for your Tracking file, click the **Save** button.

7. Back at the Tracking Options dialog box, make sure there is a check mark in the box labeled *Save Tracking data*, and then click the **OK** button. Now your Tracking file is ready to receive your scores.

Create Tracking File

First name: Sam
Last name: Jones
Student ID: 123456789
Class Section: CSC 101A

Continue   Cancel

Enter the information requested. In this box, enter a unique identification, such as your student ID number.

Save As

Save in: Documents

Name
- family1
- Visual Prolog Proje
- Visual Prolog Exam
- Prolog
- Finale Files
- Rowing
- Wolf Research

Recent places
Desktop
Libraries
Computer
Network

File name: tracking-123456789.tk3
Save as type: Tracking Files (*.tk3)

Save   Cancel

If you want your Tracking file located somewhere other than the Documents folder, click this button and then select a device and folder. *Write down the location so you don't forget it!*

Enter a name for your Tracking file. Your instructor might supply guidelines for this step.

Click Save to create the file.

On a Mac, you can specify the name of your tracking file here.

Save As: tracking–123456789
Where: Documents

Cancel   Save

Click this button to specify the location for your Tracking file. On Macs, the Documents folder is a good location.

Click Save to create the file.

◗ **How do I get scores into my Tracking file?** Whenever the *Save Tracking data* box is checked, all scored activities are automatically saved in your Tracking file. In the previous TRY IT!, you activated tracking; so until you go back into Tracking Options and remove the check mark from *Save Tracking data*, your scores will be saved.

◗ **What happens if I do an activity twice?** While tracking is active, all your scores are saved. If you do an activity twice, both scores are saved. Your scores are dated, so you and your instructor can determine which scores are the most recent.

◗ **Can I review my scores?** You can see all your scores in a Tracking Report.

◗ **Can I delete or change my scores?** No. Your Tracking data is encrypted and cannot be changed.

Work with the TRY IT! below to see how easy it is to save scores and view your Tracking Report.

TRY IT!

Complete a Practice Test

To start tracking your scores, you can complete a Practice Test.

1. Click the **Practice Test** button located on the eBook CD toolbar.

2. The first question of a ten-question Practice Test appears. Answer the question, and then click the **Next** button.

3. Answer the remaining questions, and then click the **Check Answers** button.

4. When you see your score summary, click the **OK** button. You can then step through each of your answers or view a study guide.

5. Click the **Study Guide** button. A browser window opens to display each Practice Test question, your answers, and the corresponding page numbers in your textbook.

6. Close the Study Guide by clicking the [X] button on your browser window (Windows), or by clicking the browser name in the Mac menu bar and then selecting **Quit** (Mac).

7. Click the **Close** button on the Practice Test window to close it and save your scores.

View the contents of your Tracking file

1. Click **File** on the eBook CD menu bar.

2. Click **View Tracking Report**. Your computer opens your browser and displays a summary score for the Practice Test you completed. The list of summary scores grows as you save additional Practice Tests, QuickChecks, Interactive Summaries, Interactive Situation Questions, and Lab QuickChecks.

3. To close the Tracking Report, close the browser window (Windows) or the TextEdit window (Mac).

Thursday, February 15   9:11:13 AM

New Perspectives on Computer Concepts

Name:	Sam Jones
Student ID:	123456789
Class Section:	CSC 101A
Tracking file:	Documents\tracking-123456789.tk3

Correct:	8
Points Possible:	10
Score:	80.00%

#	Question	Your Answer	Scored As	Review Page
1	The _____ conversion process allows photos, sounds, and other media to travel over the Internet as ASCII text e-mail attachments.	MIME	Correct	34
2	A URL never contains a(n) _____.	B	Correct	26
3	Personal computer systems typically include the following devices EXCEPT _____.	A	Incorrect	10
	Personal computers are available as desktop computers, tablet computers, or			

Sunday, August 24   7:16:33 PM

Tracking Report
New Perspectives on Computer Concepts

Name:	Sam Jones
Student ID:	123456789
Class Section:	CSC 101A
Tracking file:	Macintosh HD:Users Sam:Documents:tracking-123456789.tk3

#	Activity	Date	Time	Points Earned	Points Possible	Score
1	NP2014 Chapter 01 Practice Test	8/24	7:16 PM	8	10	80.00%

◗ How do I submit scores from my Tracking file? You can use the Submit Tracking Data option on the File menu to send your scores to your instructor. The files are sent over an Internet service called WebTrack.

◗ Are the scores erased from my Tracking file when they are sent? No. Your scores remain in your file—a copy is sent to your instructor. If your instructor's computer malfunctions and loses your data, you can resubmit your Tracking file. It is a good idea to back up your Tracking file using the Back Up Tracking File option on the File menu.

◗ What are chirps? A chirp is a short message, similar to a Twitter-style tweet. You can use chirps to send queries to your instructor. Your instructor might also use chirps as a classroom polling system. Chirps work through WebTrack.

TRY IT!

Send your Tracking data and send a chirp

1. Click **File** on the eBook CD menu bar, and then click **Submit Tracking Data**.

2. Make sure your instructor's WebTrack address is correctly displayed in the Tracking Data Destination dialog box, and then click **Continue**.

3. Your computer opens a browser window, makes an Internet connection, and contacts the WebTrack server.

4. When the WebTrack screen appears, make sure the information displayed is correct, and then click the **Submit** button.

5. When you see a message that confirms your data has been submitted, you can close the browser window.

6. To send a chirp, click the **Chirp** button on the eBook CD toolbar.

7. When the Chirps panel appears, enter your message in the box labeled *Your message*.

8. Click the **Send** button.

9. Close your eBook CD.

Make sure your instructor's WebTrack ID is entered here.

Enter your question here.
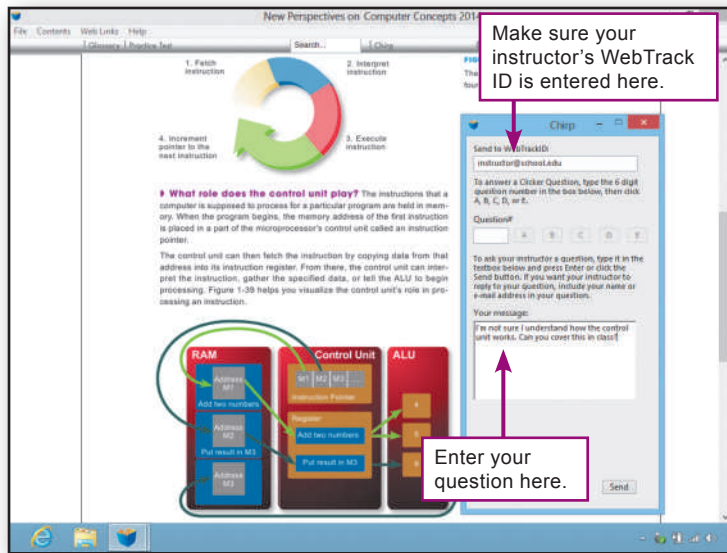
QuickCheck   SECTION E

1. Figures in the book marked with an & sign morph into multimedia software tours, animations, and videos. True or false? _____

2. When you use the NP2014 eBook CD, a(n) _____ button appears if your instructor has posted comments or lecture notes.

3. To save your scores, you have to create a(n) _____ file.

4. New Perspectives _____ are divided into topics and each topic ends with a QuickCheck.

5. WebTrack provides a way to submit scores to your instructor. True or false? _____

▶ CHECK ANSWERS

Computer Concepts 2014

Parsons | Oja

NEW PERSPECTIVES

1

Computers and Digital Basics

Chapter Contents

INFOWEBLINKS

You'll find updates for chapter material by connecting to the **NP2014 Chapter 1** InfoWebLink.

🅦 CLICK TO CONNECT
www.infoweblinks.com/np2014/ch01

Learning Objectives

After reading this chapter, you will be able to answer the following questions by completing the outcomes-based Learning Objectives Checkpoints on page 53.

1. What are the four phases of the digital revolution?
2. What is convergence and how does it apply to the digital revolution?
3. How does digital technology affect society?
4. How do computers work with input, output, processing, storage, and stored programs?
5. What's the difference between an operating system and application software?
6. How do personal computers differ from servers, mainframes, and supercomputers?
7. Are portable media players and mobile phones classified as computers?
8. Why are microcontrollers the computers no one sees?
9. Aren't data and information the same thing?
10. What's the difference between analog and digital?
11. How do digital devices use 1s and 0s to work with numbers, text, images, and sound?
12. Why is there so much jargon pertaining to bits and bytes?
13. What hardware components manipulate the bits that represent data?
14. Why do computers need programs?
15. How do a microprocessor's ALU and control unit work?
16. How do hackers steal passwords?
17. How can I create secure passwords?

Apply Your Knowledge

The information in this chapter will give you the background to:

▸ Inventory the digital devices you own

▸ Put digital technology in the context of history, pop culture, and the global economy

▸ Read computer ads with an understanding of technical terminology

▸ Select secure passwords for protecting your computer and Internet logins

▸ Use a password manager to keep track of all your passwords

▸ Use digital devices with an awareness of how they might infringe on your privacy

1

⬤ TRY IT!

WHAT'S MY DIGITAL PROFILE?

The average American consumer owns more than 24 digital devices. Before you begin Chapter 1, take an inventory of your digital equipment to find the brands, models, and serial numbers. Tuck this information in a safe place. It can come in handy when you need to call technical support, arrange for repair services, or report missing equipment.

1. Fill in the following table for any digital equipment you own, rent, lease, or use.

	BRAND	MODEL	SERIAL NUMBER
COMPUTER			
KEYBOARD			
MOUSE			
MONITOR			
PRINTER			
DIGITAL CAMERA			
DIGITAL MUSIC PLAYER			
INTERNET OR NETWORK DEVICE			
MOBILE PHONE			
GAME CONSOLE			
OTHER (LIST)			

3