



# Computer Concepts

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# Getting Started

## SECTION A

**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.



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### 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.



**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.



**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).

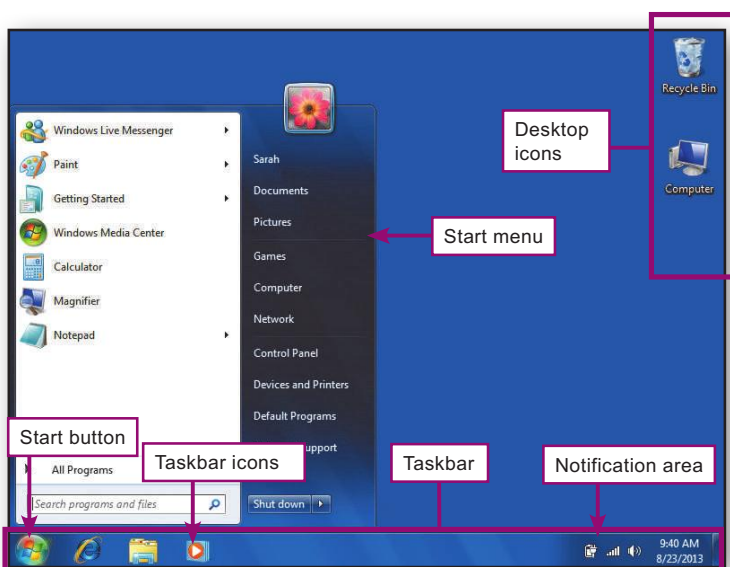


**FIGURE 4**

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.



► **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.



**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

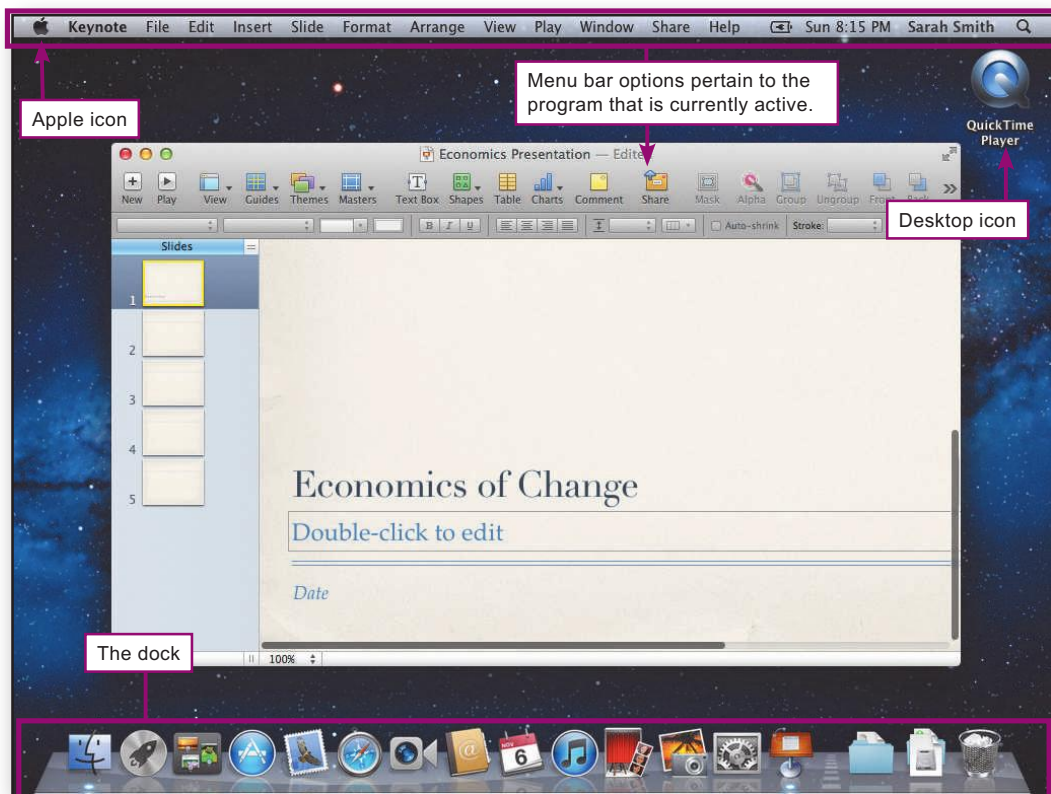
The Mac OS X desktop includes icons, a fixed menu bar, and a dock.

**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.



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## 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.

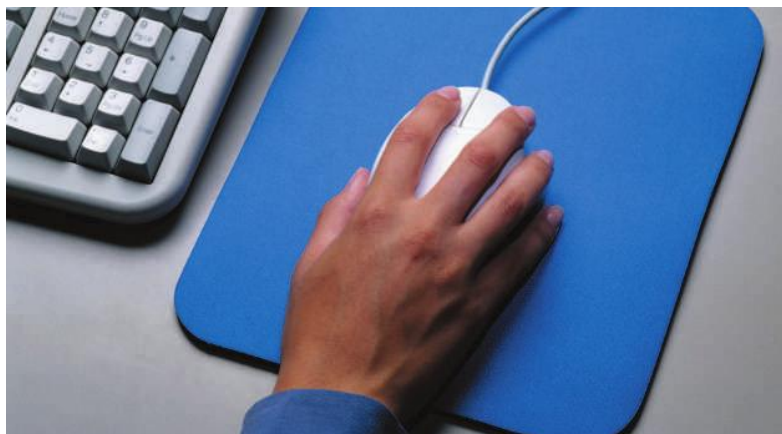
**FIGURE 7**

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



**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.



Spike Maiford/Photodisc/Getty Images

**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
<b>Click</b>	Press the left mouse button once, and then immediately release it.	Select an object
<b>Double-click</b>	Press the left mouse button twice in rapid succession without moving the body of the mouse.	Activate an object
<b>Right-click</b>	Press the right mouse button once, and then immediately release it.	Display a shortcut menu
<b>Drag</b>	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.





- 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.

**TERMINOLOGY NOTE**

Mac keyboard shortcuts use the Command key  and the Option key  instead of the Ctrl or Alt keys.

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.

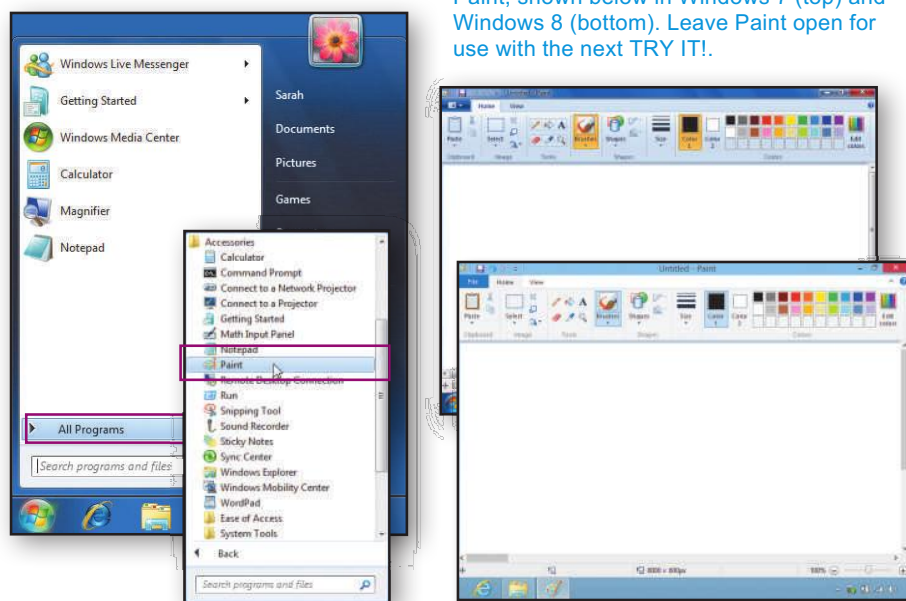
**Windows 8:** From the Start screen, type **pa** and then select **Paint**.

**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**.

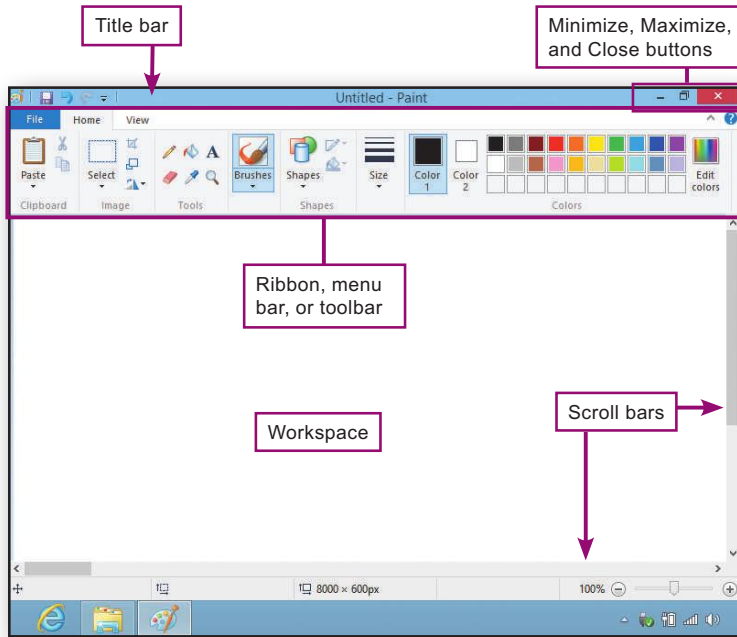
2. Wait a few seconds for your computer to display the main screen for Microsoft Paint, shown below in Windows 7 (top) and Windows 8 (bottom). Leave Paint open for use with the next TRY IT!.





► **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.

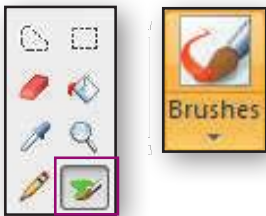
The **workspace** is the area in which your document or drawing is displayed.

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.

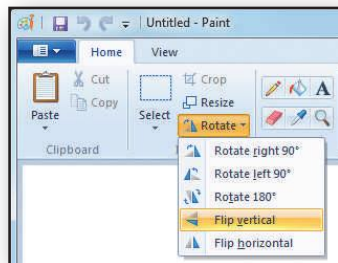


2. Move the pointer to the workspace, hold down the left mouse button, and then drag the mouse to paint a shape.

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.

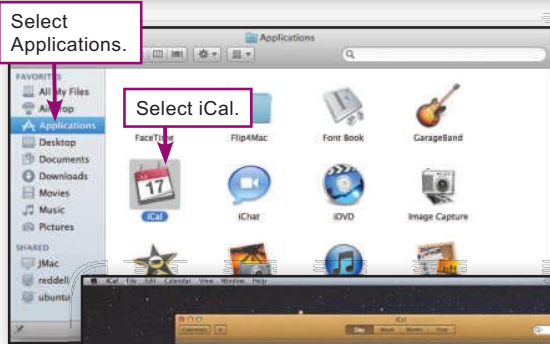
**Use Finder to start a program**

1. Click the  **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.



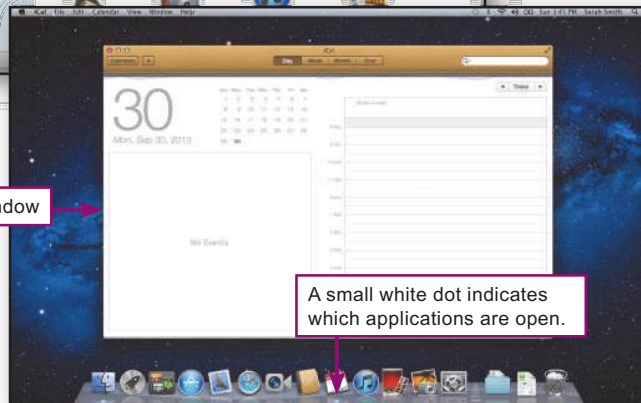
Select Applications.

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 next to *Start week on* to change the day to Monday.
4. Click the  **Close** button to close the Preferences dialog box.

**Close a program**

1. Click **iCal** on the menu bar.
2. Click **Quit iCal** to close the window and terminate the application.

Select iCal, then click Preferences.

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

Click here to change the calendar start day.

