



Finding Files

Finding your files when you need them is obviously important. You will know where to find a file you create if you take note of the folder location the first time a file is saved. You also will need to understand how files, folders, and drives are organized on your computer so you can navigate through the drive and folder system. Finally, you need to become familiar with the search tools in Win 7 that can help you find files that have been misplaced.

LESSON OBJECTIVES

After studying this lesson, you will be able to:

- Describe and use various storage devices
- Use Explorer to locate files and folders
- Plug in and properly unplug a USB flash drive
- Identify different types of folders used by Win 7
- Find files and folders with Windows Search

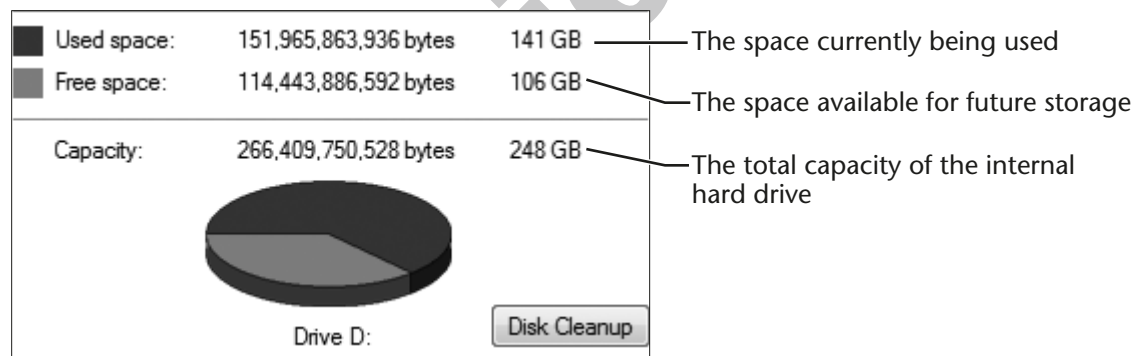
Case Study: Checking Up on the Hard Drive

Jamal has had his computer for a while, and he is becoming concerned about two potential problems:

- Since he bought a digital camera, he thinks the pictures he has been saving on his computer may fill the hard drive to its maximum capacity.
- He also worries that all of his files would be lost if he had a fire in his house or if the hard drive in his computer failed.

A friend suggested that Jamal could save backup copies of the files on one or more external hard drives. Because an external hard drive is portable, he could keep it in his office at work. The external hard drive at work would keep the backup copies of his files safe from disasters at home.

Jamal first wanted to determine the capacity of his hard drive and how much of it was being used. His friend showed him how to determine the capacity of the hard drive by looking at its Properties box. It looked like this:



Jamal could see that the drive was more than half full. He decided to buy an external hard drive with a capacity of at least 500 GB and start backing up his files on the new drive on a regular basis.

Learning About Storage Media

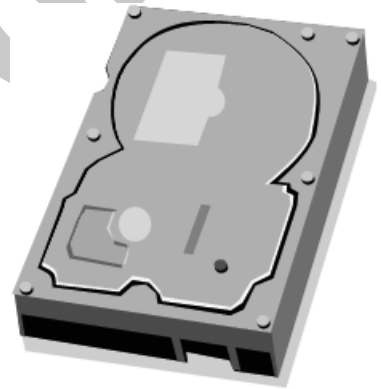
On most computers, you have many options for saving files you have created. Some of these storage devices are internal (inside the computer) and can't be moved. Others are portable and can be moved from computer to computer.

Types of Storage Devices

All of these devices can be used to store the various types of files you create, including documents, pictures, music, and videos.

Internal Hard Drive This is the *permanent* storage inside the computer. Most of your files and all of the software that runs on your computer reside on this internal drive.

CD/DVD Drives You can save files and folders on CDs or DVDs just like the ones your music and movies are delivered on. CDs and DVDs are used to store files because of their large storage capacity and their portability.



External Hard Drives You can purchase hard drives that plug into your computer through a USB port (drives are discussed in the Behind the Screen: Drive Designations section on page 112). These external drives work just like internal hard drives with the added advantage of being portable, enabling you to access your files on multiple computers.



Photo courtesy of Western Digital Corporation

USB Flash Drives USB flash drives are sometimes referred to as keychain drives or thumb drives. These small, key-sized drives allow you to easily carry files between computers at home, at work, or anywhere.



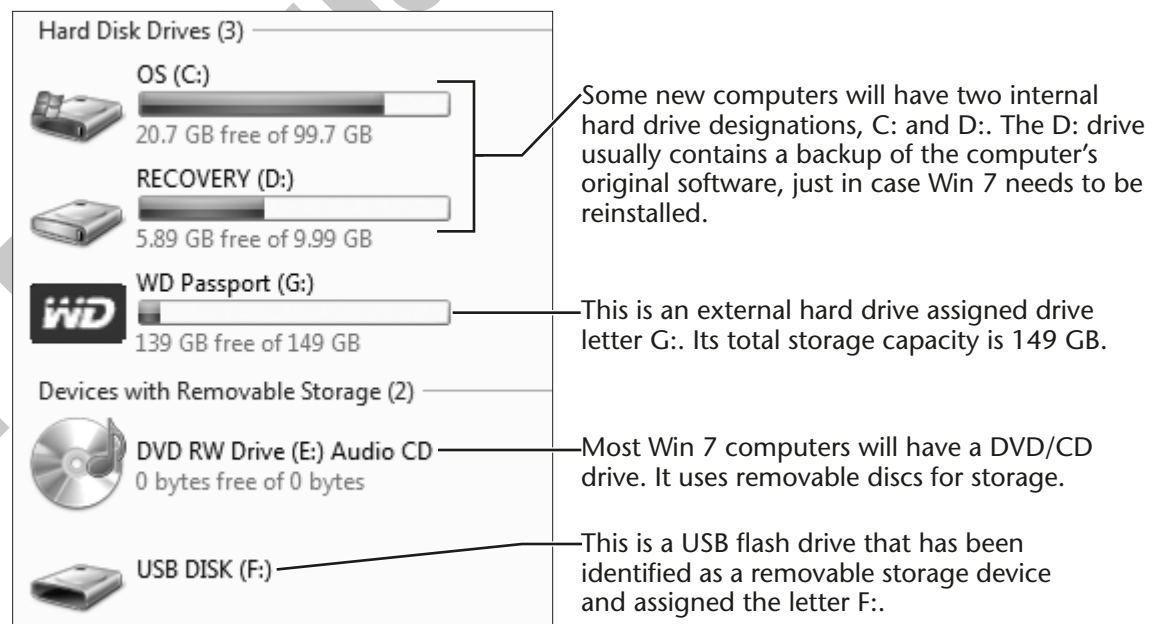
Network Drives Sometimes your computer will be connected to hard drives on other computers via a network. Although network drives may be located in another room or another building, these remote drives can be used just like an internal drive or a portable storage device plugged into a USB port.

Viewing Storage Drives in Win 7

In an office, you might store your files in a filing cabinet. The filing cabinet could have one drawer or many drawers. Storage on your computer is similar. Each storage device is like a drawer in a filing cabinet. Most Win 7 computers will have two or more drives included: an internal hard drive and a CD/DVD burner. If you attach a USB flash drive to your computer, it is like having another drawer in which you can store data. Computers attached to a network may have access to several more drives.

Drive Letters Win 7 provides an orderly process to deal with multiple drives. Each drive is assigned a *drive letter* to help identify it. Obviously, you need to be able to view the drives and their drive letters, as well as the data stored on the drives, for them to be useful. Windows Explorer is the Win 7 feature that lets you view the drives and their data. (Explorer is covered in more detail later in this lesson.)

Viewing the Drives The Computer window lets you view the drives and then open the drives to see the data stored on them. In the figure below, Explorer has grouped the hard disk drives and the devices with removable storage. It also has displayed the drive names, drive letters, and additional information about drive capacity.



Drive Designations

History Storage devices or drives in the computer are designated with letters of the alphabet followed by a colon (:). The alphabet letter and colon combination has been around since the early beginnings of computers, when there were no graphic images to represent drives.

What Determines Drive Order? There are logical reasons why drives are assigned certain letters—at least for the first few drives in your computer.

Drive designations A: and B: are reserved for floppy disk drives. For years, this was the most common portable storage device. Most computers sold now do not come with floppy drives. USB flash drives have replaced floppy drives.

The C: drive is always the main internal drive in the computer. This is the drive on which the Win 7 software resides.

After the first three drive designations, the rules change a bit. You will see drives in various combinations and orders depending on how the computer is configured.

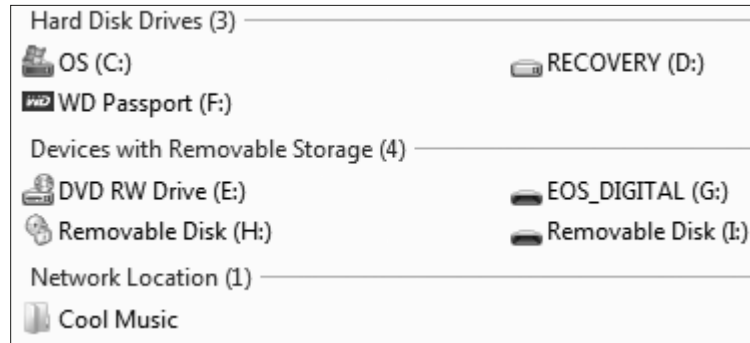
Internal drives get designated first, starting with hard drives, then CDs and DVDs.

Network drives are assigned next.

External drives are last and generally are assigned designations based on the order in which they are attached to the computer.

Behind the Screen *(continued)*

Numerous drives can be connected to your computer.



Example of a computer with seven drives connected and a network drive connection

TIP! There are two important things to remember about drive letter assignments: The main internal drive in the computer will always be drive C:, but your USB flash drive *will not necessarily have the same letter designation on every computer where it is used.*



HANDS-ON 4.1 View Drives on Your Computer

In this exercise, you will learn how to view the various drives on your computer.

1. Choose Start  → Computer.



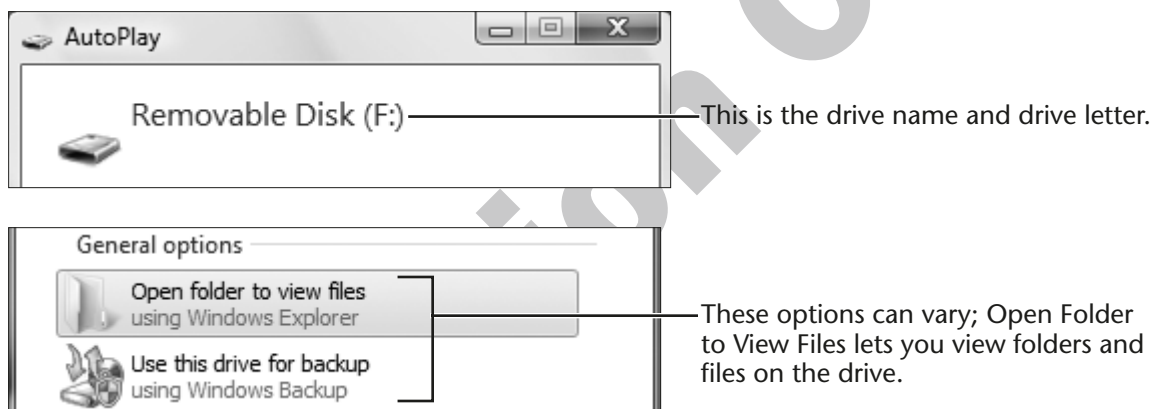
The Computer Explorer window appears. Notice the drives and drive letters on your computer.

2. Close  the Computer Explorer window.

Plugging In and Unplugging a Flash Drive

There is more to using a USB flash drive than inserting and removing it from a USB port on your computer. Your USB flash drive must be recognized by Win 7 when it is first plugged in and safely unplugged to avoid damage to data stored on the drive.

Plugging In and AutoPlay Your USB flash drive can be plugged in to any USB port on a computer, but before you can use it, Win 7 must recognize the drive. Recognition can take a few moments; when completed, an AutoPlay dialog box usually appears. AutoPlay displays the drive name, its assigned drive letter, and a list of options available for that drive.



An AutoPlay dialog box





Unplugging Safely Before you remove your USB flash drive, you must make sure Win 7 is no longer using the drive for any reason, such as saving a file. There is a risk of damaging the files on the USB flash drive if it is unplugged improperly. There are two primary methods to unplug a USB flash drive while the computer is running. (You can always safely unplug the drive after you properly shut down the computer.)

- **Activity light method:** If a USB flash drive has a blinking activity light, do not unplug the drive until a few seconds after the light stops blinking.

- **Safely Remove Hardware and Eject Media command:** If you want to be absolutely sure the drive can be unplugged safely, Win 7 provides the Safely Remove Hardware and Eject Media command. With this method, Win 7 notifies you when all activity on the USB flash drive stops and displays a prompt like the one below, letting you know that you can unplug it.




QUICK REFERENCE: Plugging In and Safely Unplugging a USB Flash Drive

Task	Procedure
Plug in a USB flash drive	<ul style="list-style-type: none"> • Insert your USB flash drive into any USB port. • When the USB flash drive has been recognized, an AutoPlay dialog box will appear.
Safely unplug a USB flash drive using the Safely Remove Hardware and Eject Media command	<ul style="list-style-type: none"> • Close  all windows being used by the USB flash drive. • If necessary, click the Show Hidden Icons  button on the Notification Area so all icons are visible. • Click the Safely Remove Hardware and Eject Media  icon. • Choose the drive you wish to unplug from the list. • Wait for a Safe to Remove Hardware dialog box to tell you the device can be safely removed. • Unplug the drive.
Safely unplug using the activity light	<ul style="list-style-type: none"> • Close  all windows being used by the USB flash drive. • Wait a few seconds after the activity light stops blinking and then unplug the device.

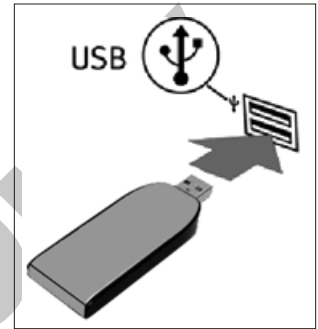



HANDS-ON 4.2 View Your USB Flash Drive

In this exercise, you will learn how to properly plug in your USB flash drive to the computer, open and close a file, and then safely unplug it.


1. Choose Start  → Computer.
2. Insert your USB flash drive into an available USB port on the computer.


Once your drive is recognized, it will show up in the Computer Explorer window under the Devices with Removable Storage section, as shown in the following illustration. At this point, the USB flash drive is recognized and can be used like any other storage device on the computer. Take note of the name and drive letter because you will use these later in the exercise.



3. Close  the AutoPlay window if it appears. (You will explore the AutoPlay dialog box in Lesson 5, Storing Files).
4. Double-click to open your USB flash drive.
Win 7 displays the contents of the drive. If you used this drive in Lesson 3, Working with a Program, you should see the documents and Paint pictures you created in that lesson.

NOTE! In the next step, watch your USB flash drive immediately after you open the Memo to Ted Edwards file. You should see a small activity light flashing somewhere on the drive.

5. Double-click to open the Memo to Ted Edwards file.
The activity light on the USB flash drive flashes to indicate that it's performing some activity with the files on the drive.
Depending on the software installed on your computer, Win 7 launches WordPad, Word, or some other word processing program to display the file.
6. Tap  to insert a blank line in the document.

7. Close  the word processor window.
 8. When prompted to save the file, click the Yes button.
The activity light flashes again. It's important to make sure that this light has stopped flashing before you unplug your USB flash drive (as you will do in a moment).
 9. You can now safely unplug the USB flash drive from the computer.
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For Evaluation Only

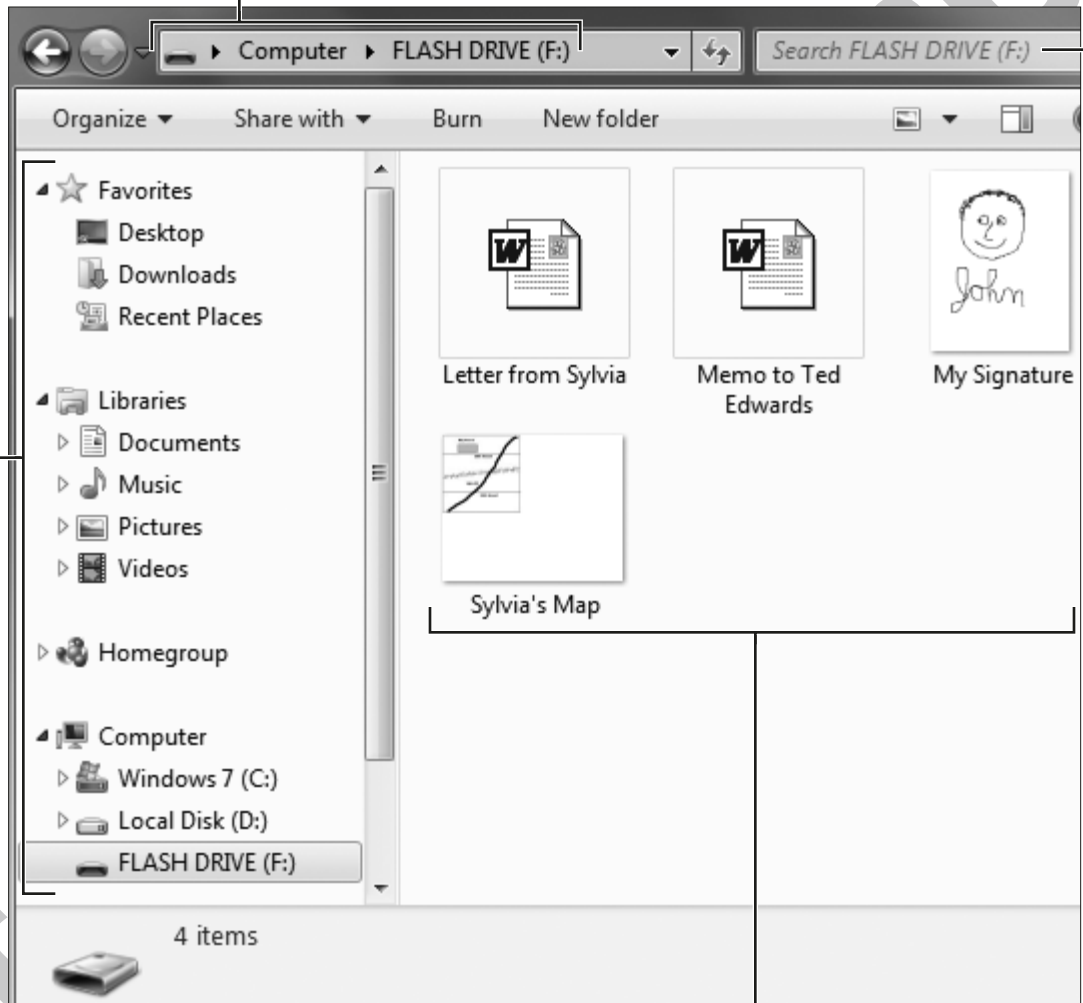
Using Windows Explorer

Windows Explorer (or simply Explorer) is the Win 7 program that lets you view a computer's drives and the data on them. The following figure displays some key features of an Explorer window.

The address bar shows you where you are in the drive and folder system. In this example, you are viewing a USB flash drive. The address bar also lets you move around in the drive and folder system.

The Search box allows you to look for files and folders on your computer when you have forgotten their location or name.

The Folders pane lets you view all folders on all drives.



The View pane shows you everything in the drive or folder you have selected. In this example, the USB flash drive contains four documents.

NOTE! Throughout the rest of this book, the Explorer window will be referred to as a folder window.

Common Folder Window Tasks

The folder window allows you to perform several useful tasks:

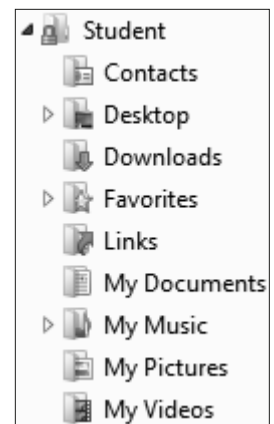
- **Browsing** for files and folders
- **Searching** for files and folders
- **Creating** new folders and using them to organize your documents
- **Renaming** files and folders
- **Moving and copying** files and folders
- **Deleting** files and folders

This lesson concentrates on the first two tasks. The other tasks will be covered in the next lesson.

! NOTE! Don't confuse Windows Explorer with Internet Explorer. Windows Explorer is used to explore drives, folders, and files on your computer; Internet Explorer is a web browser used to explore the Internet.

Locating Personal Folders

When a new login name is created, Win 7 creates a set of personal folders on the internal hard drive like the ones shown at right. These folders are intended to be the storage locations for that individual's folders and files. Because of their importance as a person's primary storage locations, Win 7 also provides quick access commands to these folders from various locations, such as the Start menu and folder windows. In the illustration, the login name is Student, so the main data folder also is given the name Student.

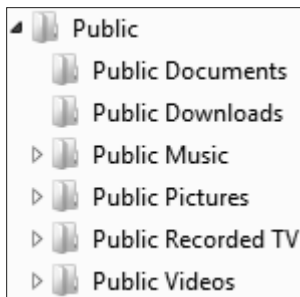


! TIP! You can tell personal folders from normal folders because they have a custom graphic.

Locating Public Folders

Public folders are useful on machines where there are multiple users. Unlike personal folders, which are set up for each user, public folders are accessible by anyone on the computer.

These folders are useful if you have pictures or documents that need to be accessed by multiple people at home or at your office.



Navigating Your Drives and Folders

Being able to navigate drives and folders to locate your files is a critical skill. There are three easy-to-use navigation features built into the folder window:

- The address bar
- The Folders pane
- The Back and Forward buttons

Folders and Subfolders Files are organized using folders. Folders can be further organized by adding more folders within them called subfolders. Any folder can have subfolders. This system is like having a filing cabinet drawer full of files organized in folders.



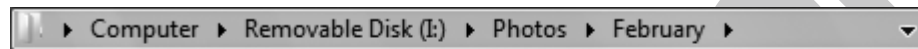
The Photos folder has a subfolder called February. The February folder also has a subfolder called Best.

The Address Bar

The address bar runs across the top of a folder window. The address bar displays a *path* (hierarchy) that includes a starting location and any drive, folders, or subfolders linked to the location currently open. The path is like a map with signs pointing to your present location. The path is Explorer's way of saying, "You are here, and this is how you got here." You can see how to navigate to your present location by following the path to the left.

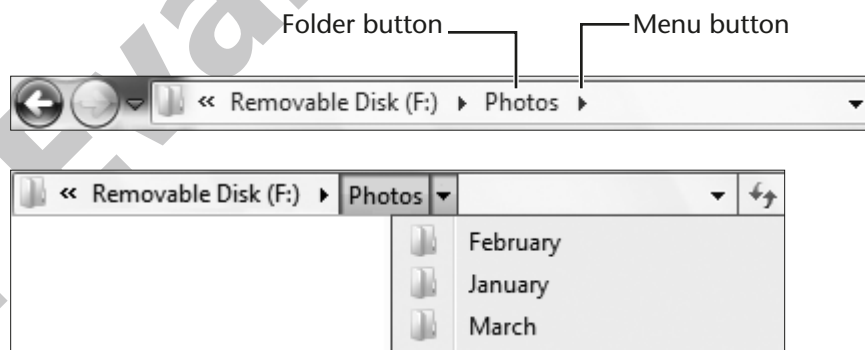
This path (hierarchy) begins with the Computer folder on the left end of the path.

The folder you are currently viewing is the February folder at the right end of the path.




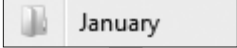
As you move left up the path, you are navigating up the folder structure toward the beginning of the path.

Navigating Via the Address Bar The subfolders listed in the path actually are buttons that, when clicked, open that subfolder in the folder window. Each subfolder in the path also has a drop-down menu that shows its subfolders (accessed with the menu button ▶). The subfolders on the drop-down menu also display in the folder window if clicked. You are able to navigate (browse) the folder structure of the path using these subfolder buttons and drop-down menus.



The menu ▶ button displays a list of subfolders in the Photos folder.


QUICK REFERENCE: Navigating with the Address Bar Path

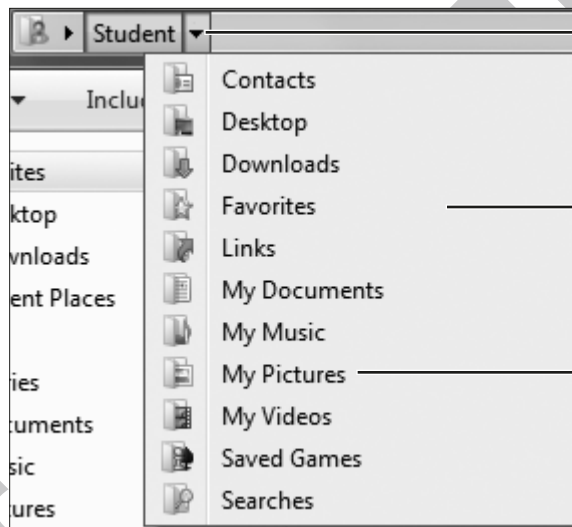
Task	Procedure
Move to a different folder on the path	<ul style="list-style-type: none">• Move your mouse pointer over a folder name on the path to see its button and click. 
Move to a subfolder in a folder on the path	<ul style="list-style-type: none">• Move your mouse pointer over the menu ► button to see its button and click. • Click a subfolder on the drop-down list.



HANDS-ON 4.3 Navigate with the Address Bar

In this exercise, you will use the address bar to navigate in the user's folder.

1. Choose Start  and then choose the command with your login name at the top of the right pane.
Win 7 opens a folder window to display the user's folder.
2. Follow these steps to navigate to the My Pictures folder:



A Click on the menu ► button to the right of the folder with your login name. In this example, the folder is called Student.

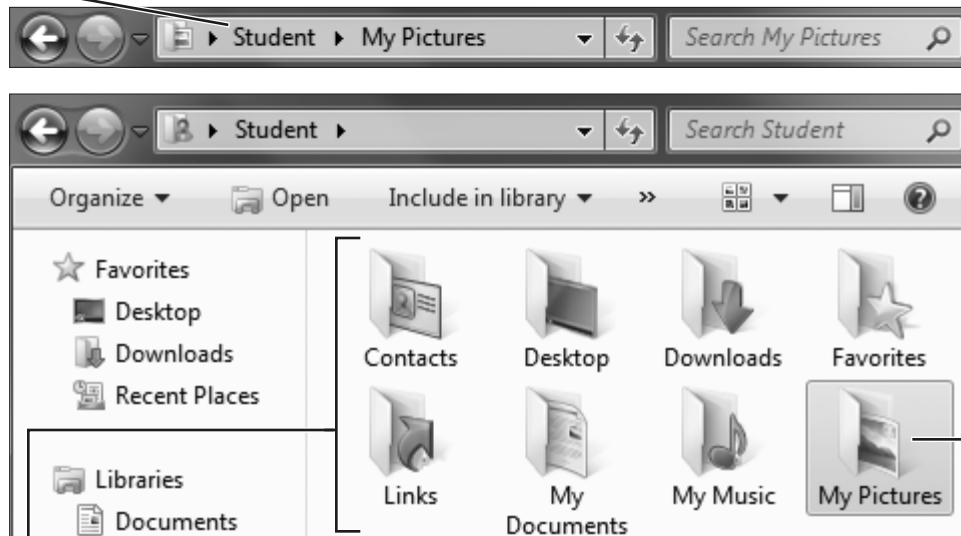
B Review (but don't click) the list of subfolders in the Student personal folder.

C Choose the My Pictures folder from the list.

Win 7 displays the content of the My Pictures folder and adds the folder name to the end of the address bar path.

3. Follow these steps to explore the default folders:

- A** Taking care not to click a menu ► button, click the name of the folder that represents your login name (which may not match this figure).



- B** Notice the display of default personal folders that Win 7 has created for your login name.

- C** Double-click to display the My Pictures folder again.

Using the Back and Forward Buttons

The Back and Forward buttons remember the order of the folders that you have viewed. If you choose to view a subfolder and then change your mind, the Back button will change your view back to your previous folder.



If you change your mind again, you can return to the subfolder you were just viewing by using the Forward button. The buttons work a lot like the back and forward buttons on a DVD remote control to move back and forth through the frames of a movie.

- The Back button takes you back to previously viewed locations in the reverse order of the way they were originally viewed.
- The Forward button doesn't work until you move back at least one step. (This is why that button is usually grayed out.)

TIP! The Back and Forward buttons in Internet Explorer work just like the buttons in a folder window.



HANDS-ON 4.4 Practice with the Back and Forward Buttons

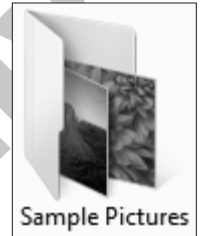
In this exercise, you will use the Back and Forward buttons in a folder window to navigate folders.

1. Choose Start  → Pictures.

Win 7 opens a folder window and displays the contents of the Pictures folder.

2. Double-click the Sample Pictures folder.

The View pane (right panel) now displays the contents of the Sample Pictures folder. Notice that the Forward button is faded. This indicates that the button is inactive. The Forward button won't work until you use the Back button at least once.



3. Click the Back button to move back into the Pictures folder.



Win 7 returns you to the previous view—in this case the Pictures folder. Notice that the Forward button is now colored, indicating that it is active.

4. Click the Forward button to return to the Sample Pictures folder.



Win 7 moves you forward to the folder from which you had moved back, in this case back to the Sample Pictures folder.

5. Click  the folder window.

Units of Measure for Computer Storage

Size and capacity in the computer world are based on the byte. A byte is the smallest unit of measurement in the computer world. When you are typing a letter, each character you type is one byte of information.

Measurement	Is Equal to...
Byte	1 character (e.g., <i>a, b, !</i> , etc.)
Kilobyte or “K”	1024 bytes
Megabyte or “meg”	1024 kilobytes
Gigabyte or “gig”	1024 megabytes
Terabyte	1024 gigabytes

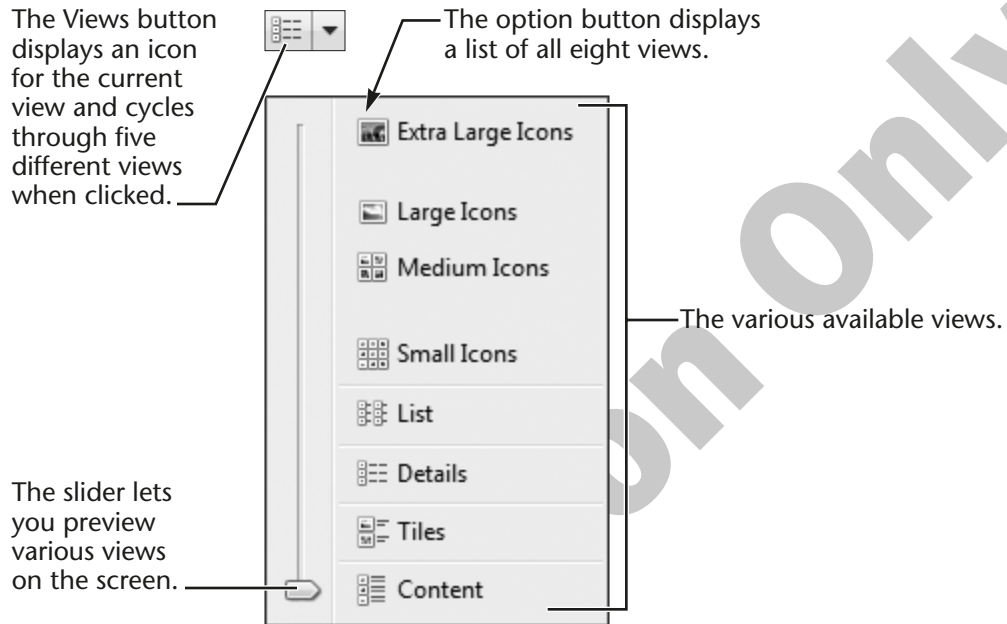
NOTE! This note is for math junkies only! Notice that all the numbers end in 24. Computer numbers tend to be based on factors of 8. To simplify these numbers, you often will see them rounded to the nearest thousand.

Common Data File Sizes Different types of data that you create will require different amounts of storage space. A basic rule of thumb is that the more complicated the file, the more space it needs. A photo will need more space than a typed document; a home video will need more space than a photo.

Item	Approximate Size
Word processing document	20–30 kilobytes per page
Digital camera photo	1–7 megabytes, depending on your camera, the picture’s quality, and its size
Music file	3–6 megabytes per song, depending on the audio quality and song length
Video file	1–20 megabytes for every 30 seconds, depending on the video’s quality and format
HD video	1.7 megabytes per second or 50–55 megabytes per 30 seconds.

Changing the Folder View

The way folder and file information is displayed in the folder window can be changed using the View button or View options button. The View button can be clicked to cycle through eight different views. The option button can be used to display the eight view options.


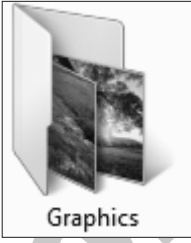

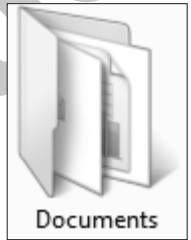




As you work with files and folders, you may find that some views work better than others for various tasks.

! TIP! Folder and drive windows remember their view settings when closed. You may want to change the view as you complete the lesson exercises to more closely match the exercise figures.

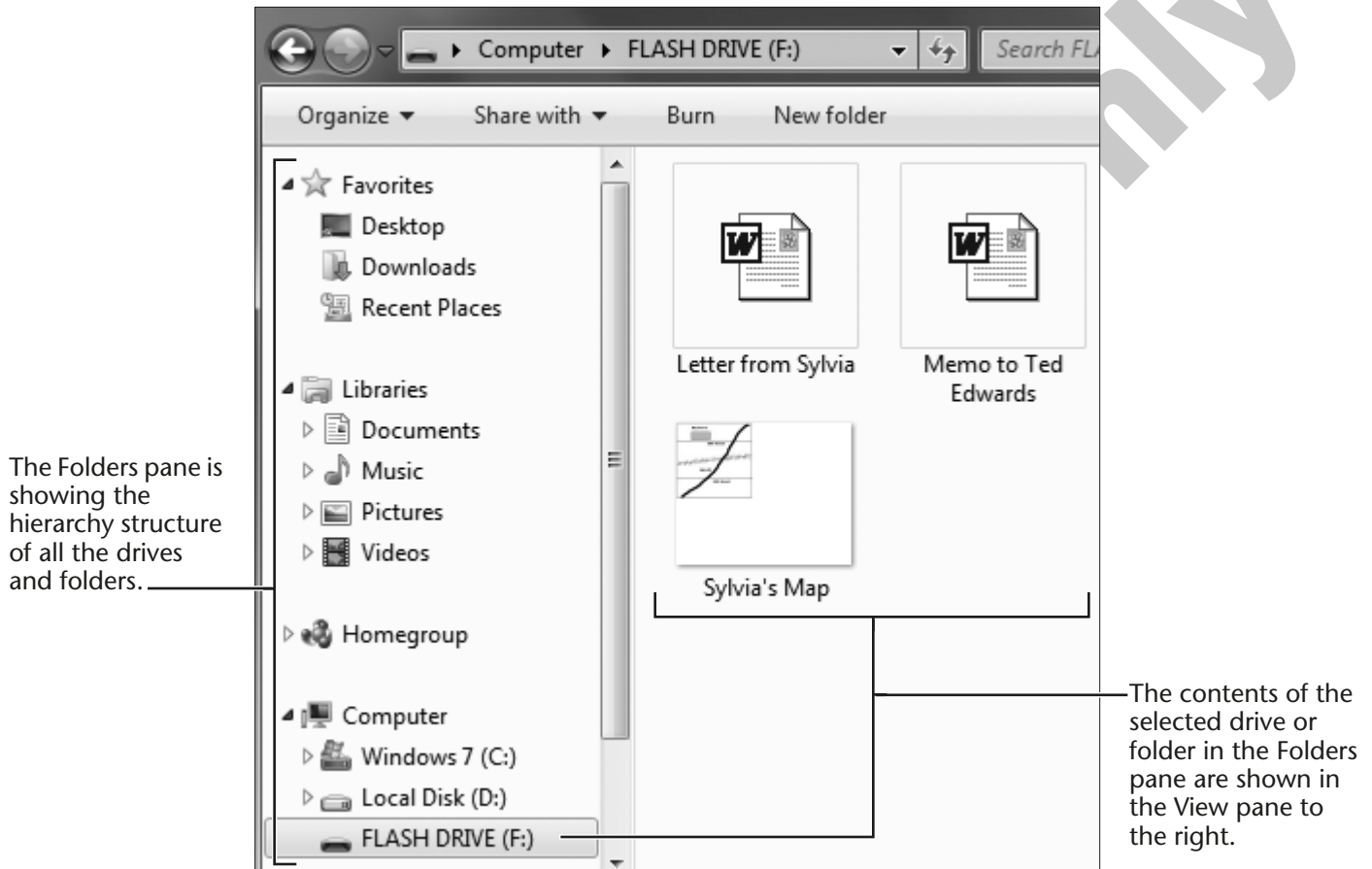
Identifying the Contents of a Folder



The icons used to identify folders can tell you a lot about the kind of information stored in that folder. Win 7 changes the look of a folder icon (in certain views) to help you identify whether it holds subfolders or files and to indicate the file types. The folders will look different on each computer and change over time, depending on the files available in the folder to make the representations. The following table shows some of the common folder icons seen in Win 7.

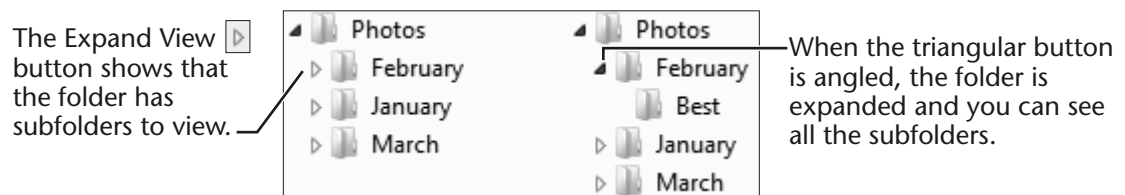
Folder Type	Description	Folder Type	Description
 Basic Folder	This folder may be empty.	 Graphics	This folder contains only graphics and displays actual pictures.
 Multiple Files and Folders	When multiple file types are in the same folder, a generic folder like this is used.	 Documents	This folder contains documents. It may display program icons from Microsoft Office and other software.
 Music	This folder contains music; it displays album covers if available.	 Videos	This folder contains videos. It displays the first frame of a video or a program icon.

The Folders Pane

The Folders pane enables you to select files from a more complete view of the folder “tree” (hierarchy), starting with the Desktop. The Folders pane displays all the drives and folders on your computer, plus any attached external drives and their folders. When you click a folder, the contents of that folder are displayed in the View pane to the right of the Folders pane.



Expanding Subfolders Some folders may have an Expand View  button on the left. The Expand View  button enables you to see the subfolders in that folder. When clicked, the folder expands to show its subfolders without changing the view pane. When the triangular button is angled, it indicates that the folder is expanded.





HANDS-ON 4.5 Navigate with the Folders Pane

In this exercise, you will use the Folders pane in a folder window to navigate among folders.

1. Choose Start → Computer.
2. Maximize the Computer window.
3. Follow these steps to navigate with the Folders pane:

A Click the Expand View button next to Computer (if necessary) to expand the folder.

B Click to expand Local Disk (C:). (The drive name may vary.)

C Click to expand Users.

D Click to expand Student.

E Choose the My Documents folder from the list.

The screenshot shows the Folders pane in Windows Explorer. The tree view is expanded to show the 'My Documents' folder. The path is: Computer > Local Disk (C:) > Users > Student > My Documents. The 'My Documents' folder is highlighted at the bottom of the list. Arrows from the instructions point to the 'Expand View' button, the 'Local Disk (C:)' folder, the 'Users' folder, the 'Student' folder, and the 'My Documents' folder.

The View pane should now show the contents of the Documents folder. Depending on what others have done on the computer, there may or may not be many (or even any) items in this folder.

4. Choose the My Pictures folder in the Folders pane. (You may need to scroll down the list to make this folder visible.)
The View pane displays the contents of the My Pictures folder.
5. Close the window.

Searching for Files

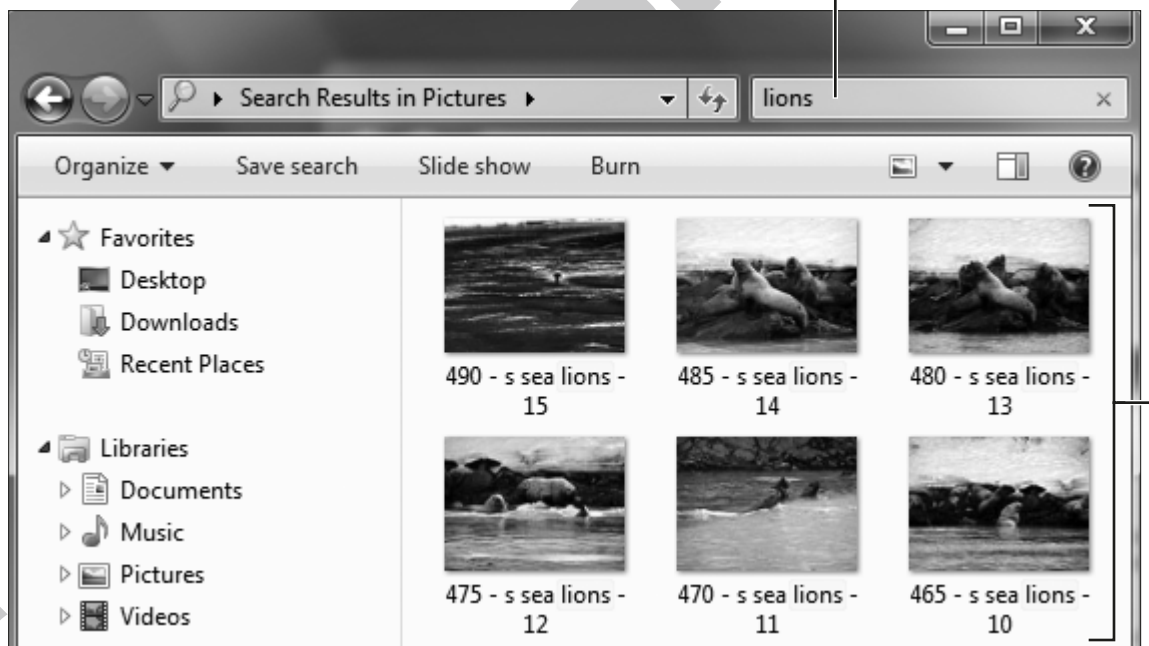
Win 7's Search command allows you to easily look for lost files or folders. By typing in part of a filename or some text from a document, Search displays (filters) the files and folders it finds that match your search text.

How Search Works

By default, Search automatically looks at files in the folder you are currently viewing, plus all of your personal folders, including Documents, Pictures, Music, and many more.

Win 7 gathers information about your various documents in the background while you work. This information is gathered into a large index that makes Search work faster and more accurately.

When you type one or more words in the Search box and tap **Enter**...



...Win 7 displays all files and folders related to your search text.

NOTE! Search may not seem important now, but as your music library grows or you start using a digital camera, the number of files in your personal folders may blossom into thousands. Without Search, finding lost files could become tedious.

QUICK REFERENCE: Searching for Files

Task	Procedure
Search for a file or folder	Type one or more search words in the Search box and tap Enter .



HANDS-ON 4.6 Find a File with Windows Search

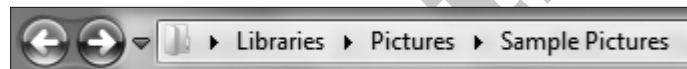
In this exercise, you will use Search to locate pictures in the Sample Pictures folder.

1. Choose Start  → Pictures.

Win 7 displays the Pictures library folder, one of the default folders created in the Windows Library folder.

2. Double-click to open the Sample Pictures folder as shown at right.

The Sample Pictures folder appears. Notice that this folder contains various pictures. Also, notice that the path to this folder is different. This path leads to a folder in the Libraries folder, rather than to a folder with your username.




3. Type **penguins** in the Search box.



Observe what is happening in the View pane. Win 7 is sorting through the sample pictures and leaving only the pictures that match your search request.

Win 7 will also display pictures if the search request matches “tags” or “keywords” that have been imbedded in the picture. None of the pictures have imbedded tags in the Sample Pictures folder.



4. Exit  Search as shown to return to displaying all of the files in the Sample Pictures folder (not just the ones found by your search).





Concepts Review

True/False Questions

- | | | Page number |
|---|-------------|--------------------|
| 1. You can securely remove a USB flash drive by simply unplugging it at any time. | true | false _____ |
| 2. You can use Windows Search to find music and pictures as well as documents. | true | false _____ |
| 3. Every login name has its own personal folders. | true | false _____ |
| 4. USB flash drives are often called thumb drives. | true | false _____ |
| 5. Folders can contain other folders (subfolders). | true | false _____ |
| 6. Search will look for files only in the folder you are currently viewing. | true | false _____ |

Multiple Choice Questions

- My Documents, My Pictures, and My Music are examples of _____.
Page number: _____
 - media folders
 - personal folders
 - login folders
 - search folders
- How do you securely unplug a USB flash drive?
Page number: _____
 - Use the Safely Remove Hardware and Eject Media icon in the Notification Area.
 - Close all open programs and gently remove it from the USB port once the Activity light stops blinking.
 - Shut down the computer properly and remove it from the USB port.
 - All of the above
- In a folder window, you can navigate to various folders using _____.
Page number: _____
 - the address bar
 - the Back and Forward buttons
 - the Folders pane
 - All of the above
- A USB flash drive is a _____.
Page number: _____
 - a removable storage device
 - an internal storage device
 - a temporary storage device
 - a network storage device





Skill Builders

SKILL BUILDER 4.1 Find the Remaining Capacity of a Drive

In this exercise, you will discover which folders and files are stored on your USB flash drive and how much space is left to store additional data.

Find What's Stored on Your USB Flash Drive

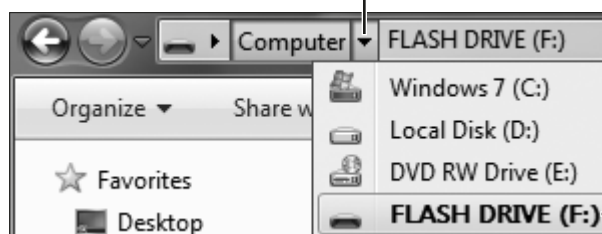
1. Plug your USB flash drive into a USB port on the computer.
Depending on how it is configured, Win 7 probably will open an AutoPlay window asking what you want to do with the newly plugged-in drive.
2. Choose Open Folder to View Files from the bottom of the list. (You might need to scroll down to see this option.)

3. If an AutoPlay box does not appear after step 1, choose Start  → Computer and double-click on the USB flash drive icon to open it in a folder window; otherwise skip to step 4.
Notice that a USB flash drive button has been added to the taskbar.
4. Open any folders on your USB flash drive to see what data has been stored, or continue with the next step if there aren't any folders on the drive.
Are there any subfolders? What file types (data, photos, music) have you copied to the drive?

Find Out How Much Free Space Is Available

Now you will give a command to display the available space on your USB Flash drive.

5. Follow these steps to return to viewing the contents of your USB flash drive:

A Click the Computer menu button in the address bar.

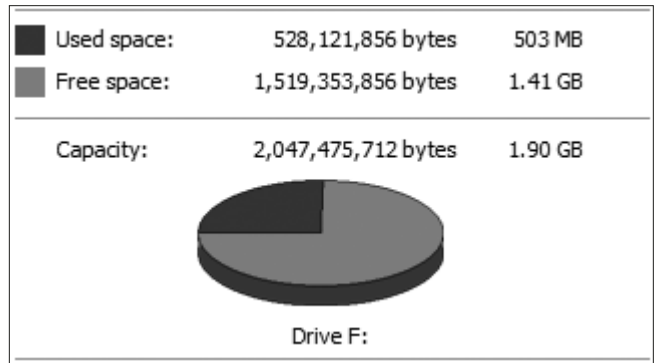


B Choose your USB flash drive from the list (your name and drive letter may be different).

6. Right-click the USB flash drive icon and choose Properties.

Win 7 displays a pie chart and details about the storage space on your flash drive.


The Properties dialog box will show how much space is used and how much space is available for additional data.



7. Click OK.
8. Close  both windows.

SKILL BUILDER 4.2 View the Public Folders

In this exercise, you will learn how to find and view the Public folders from the address bar.

1. Choose Start  → Computer.
2. Follow these steps to navigate to the Public folders:

A Click the menu ► button to the right of Computer on the address bar.


B Choose drive C: from the list. (The drive name may vary.)



C Click the drive C: menu ► button and choose Users.

D Click the Users menu ► button and choose Public.

The Public folders are displayed in the View pane of the window.

3. Choose Computer on the address bar.
You are now back in the folder window that displays your drives.
4. Close  the window.