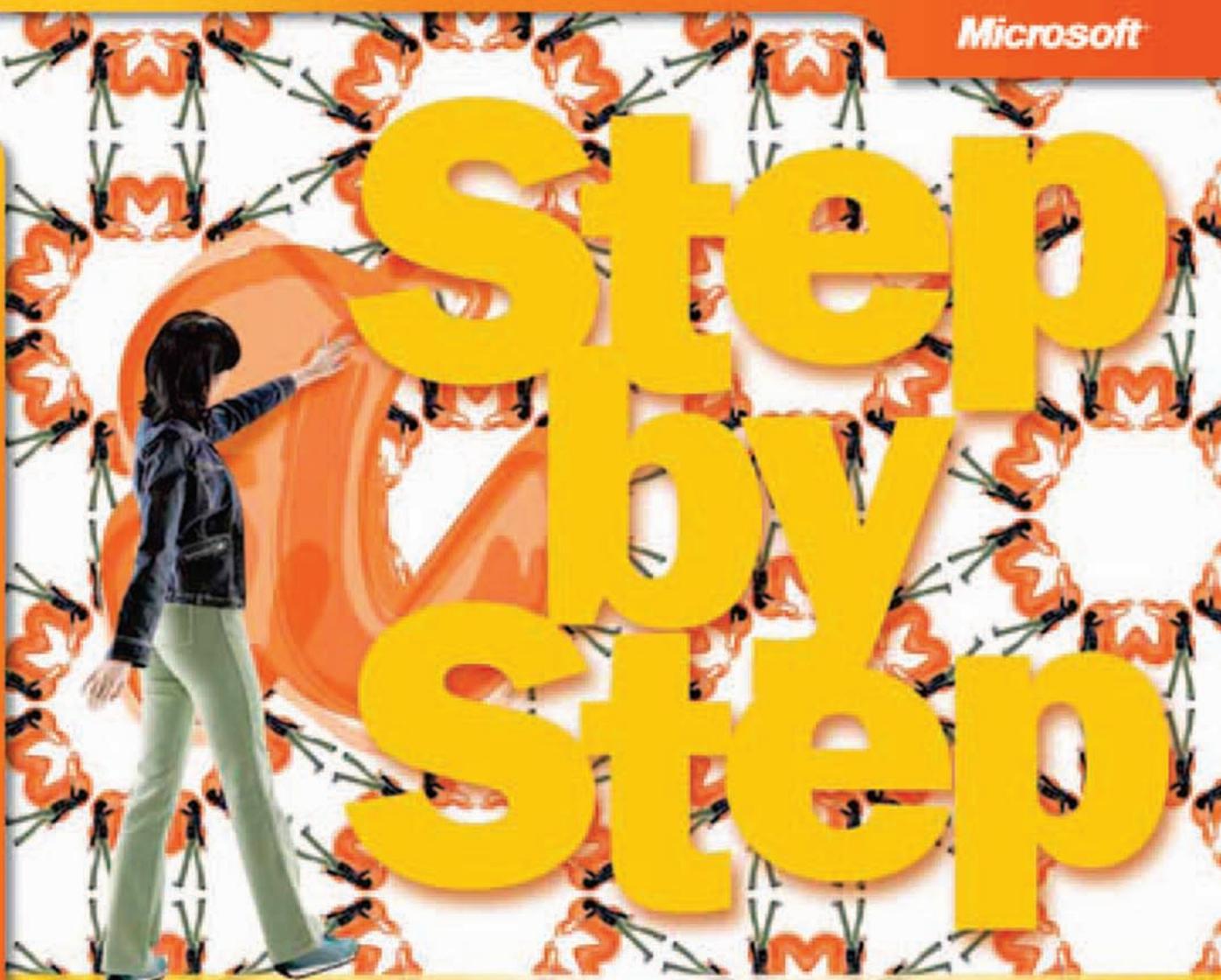


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Introducing Expression Design

Microsoft Expression Design is a professional design tool used to create vector and bitmap illustrations and elements for desktop publishing, print, and the Web. Traditional shape tools and drawing tools—such as the Pen, Polyline, and B-Spline tools—give the artist or illustrator everything necessary for dramatic and creative illustrations. By using skeletal strokes to provide the utmost in editing power, brush strokes are placed along vector paths, keeping the strokes fully editable, even one anchor point at a time, for total control and precision. Brush strokes can emulate artistic media like watercolors and acrylics for unique capabilities in a vector illustration program.

Expression Design is part of Microsoft Expression Studio, which is an integrated group of applications that, in addition to Expression Design, includes the following:

- **Expression Blend.** A professional design tool used to create engaging, Web-connected multimedia experiences for Windows.
- **Expression Web.** A professional design tool used to create modern, standards-based sites that deliver superior quality on the Web.
- **Expression Media.** A professional asset management tool for visually cataloging and organizing all your digital assets, and that provides for effortless retrieval and presentation.

Today's graphic designers work in a variety of media, and the ability to use one suite of integrated products to provide clients with designs for print, the Web, and animation is a great time saver. Microsoft Expression Studio provides the tools and the power to work for all types of output in one package.

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Information for Readers Running Windows XP

The graphics and operating system–related instructions in this book reflect the Windows Vista user interface. However, Windows Vista is not required; you can also use a computer running Windows XP with Service Pack 2 (SP2) installed.

Most of the differences you will encounter when working through the exercises in this book on a computer running Windows XP relate to appearance rather than functionality. For example, the Windows Vista Start button is round rather than rectangular and is not labeled with the word *Start*; window frames and window-management buttons look different; and if your system supports Windows Aero, the window frames might be transparent.

In this section, we provide steps for navigating to or through menus and dialog boxes in Windows XP that differ from those provided in the exercises in this book. For the most part, these differences are small enough that you will have no difficulty in completing the exercises.

Managing the Practice Files

The instructions given in the “Using the Book’s CD” section are specific to Windows Vista. The only differences when installing, using, uninstalling, and removing the practice files supplied on the companion CD are the default installation location and the uninstall process.

On a computer running Windows Vista, the default installation location of the practice files is *Documents\Microsoft Press\Expression Design SBS*. On a computer running Windows XP, the default installation location is *My Documents\Microsoft Press\Expression Design SBS*. If your computer is running Windows XP, whenever an exercise tells you to navigate to your *Documents* folder, you should instead go to your *My Documents* folder.

To uninstall the practice files from a computer running Windows XP:



1. On the Windows taskbar, click the **Start** button, and then click **Control Panel**.
2. In **Control Panel**, click (or in Classic view, double-click) **Add or Remove Programs**.
3. In the **Add or Remove Programs** window, click **Microsoft Expression Design Step by Step**, and then click **Remove**.
4. In the **Add or Remove Programs** message box asking you to confirm the deletion, click **Yes**.

Using the Start Menu

Folders on the Windows Vista Start menu expand vertically. Folders on the Windows XP Start menu expand horizontally. However, the steps to access a command on the Start menu are identical on both systems.

To start Microsoft Expression Design on a computer running Windows XP:



- Click the **Start** button, point to **All Programs**, click **Microsoft Expression**, and then click **Microsoft Expression Design**.

Navigating Dialog Boxes

On a computer running Windows XP, some of the dialog boxes you will work with in the exercises not only look different from the graphics shown in this book but also work differently. These dialog boxes are primarily those that act as an interface between Expression Design and the operating system, including any dialog box in which you navigate to a specific location.

For example, to navigate to the *My Pictures* folder in Windows XP:

- On the **Start menu**, click **My Pictures**.

To move back to the *My Documents* folder in Windows XP:

- On the toolbar, click the **Up One Level** button.



Up One Level

Features and Conventions of This Book

This book has been designed to lead you step by step through all the tasks you are most likely to want to perform in Microsoft Expression Design. If you start at the beginning and work your way through all the exercises, you will gain enough proficiency to be able to create complex illustrations by using vector and bitmap tools. However, each topic is also self contained. If you have worked with another graphic design program, or if you completed all the exercises and later need help remembering how to perform a procedure, the following features of this book will help you locate specific information:

- **Detailed table of contents.** Scan this listing of the topics and sidebars within each chapter to quickly find the information you want.
- **Chapter thumb tabs.** Easily locate the beginning of the chapter you want.
- **Topic-specific running heads.** Within a chapter, quickly locate the topic you want by looking at the running head of odd-numbered pages.
- **Detailed index.** Look up specific tasks and features and general concepts in the index, which has been carefully crafted with the reader in mind.
- **Companion CD.** Install the practice files needed for the step-by-step exercises, and consult a fully searchable electronic version of this book and other useful resources contained on this CD.

In addition, we provide a glossary of terms for those times when you need to look up the meaning of a word or the definition of a concept.

You can save time when you use this book by understanding how the *Step by Step* series shows special instructions, keys to press, buttons to click, and so on.

Convention	Meaning
	This icon indicates a reference to the book's companion CD.
USE	This paragraph preceding a step-by-step exercise indicates the practice files or programs that you will use when working through the exercise.
BE SURE TO	This paragraph preceding or following a step-by-step exercise indicates any requirements you should attend to before beginning the exercise or actions you should take to restore your system after completing the exercise.
OPEN	This paragraph preceding a step-by-step exercise indicates files that you should open before beginning the exercise.
CLOSE	Large numbered steps guide you through hands-on exercises in each topic.
1	Large numbered steps guide you through hands-on exercises in each topic.
2	
1	Small numbered steps guide you through procedures in sidebars and in expository text.
2	
→	An arrow indicates a procedure that has only one step.
Tip	These paragraphs give you a helpful hint or shortcut that makes working through a task easier, or information about other available options.
Important	These paragraphs point out information that you need to know to complete a procedure.
Troubleshooting	These paragraphs warn you of potential missteps that might prevent you from continuing with the exercise.
See Also	These paragraphs direct you to more information about a given topic in this book or elsewhere.
	In step-by-step exercises, keys you must press appear as they would on a keyboard.
	A plus sign (+) between two key names means that you must hold down the first key while you press the second key. For example, "Press  +  " means "hold down the  key while you press the  key."
Program interface elements and user input	In steps, the names of program elements (such as buttons, commands, and dialog boxes) and text that you are supposed to type are shown in bold characters.
Glossary terms	Terms explained in the glossary are shown in bold italic characters.
<i>Paths and emphasized words</i>	Folder paths, URLs, and emphasized words are shown in italic characters.

Using the Book's CD

The CD inside the back cover of this book contains the practice files you'll use as you work through the exercises in this book. By using practice files, you can jump right in and concentrate on learning how to get the most out of Microsoft Expression Design.

CD Contents

The following table lists the practice files necessary to complete the exercises.

Chapter	Practice files
Chapter 1: Working with Documents	<i>WorkingDocuments\pear.design</i> <i>WorkingDocuments\tree.design</i>
Chapter 2: Navigating the Workspace	<i>NavigatingWorkspace\pear.design</i> <i>NavigatingWorkspace\tree.design</i>
Chapter 3: Manipulating Objects	<i>ManipulatingObjects\hearts.design</i> <i>ManipulatingObjects\objects.design</i>
Chapter 4: Working with Layers	<i>UnderstandingLayers\layers.design</i>
Chapter 5: Using the Drawing Tools	<i>UsingDrawingTools\B-Spline1.design</i> <i>UsingDrawingTools\B-Spline2.design</i> <i>UsingDrawingTools\clipping_paths.design</i> <i>UsingDrawingTools\compound_paths.design</i> <i>UsingDrawingTools\path_operations.design</i> <i>UsingDrawingTools\pentool.design</i> <i>UsingDrawingTools\polyline1.design</i> <i>UsingDrawingTools\polyline2.design</i>
Chapter 6: Using Fills	<i>UsingFills\heart.design</i> <i>UsingFills\my_rose.design</i> <i>UsingFills\paintbrush.design</i> <i>UsingFills\pattern.bmp</i> <i>UsingFills\properties_panel.design</i>

continued

Chapter	Practice files
Chapter 7: Using Strokes	<i>UsingStrokes\blends.design</i> <i>UsingStrokes\hand.design</i> <i>UsingStrokes\my_heart.design</i> <i>UsingStrokes\paths_and_clones.design</i> <i>UsingStrokes\redrose.png</i> <i>UsingStrokes\save_stroke.design</i>
Chapter 8: Working with Text	<i>WorkingText\abc.design</i> <i>WorkingText\barchart.design</i> <i>WorkingText\ransom.design</i> <i>WorkingText\smile.design</i> <i>WorkingText\smile_dot.design</i> <i>WorkingText\valentine.design</i> <i>WorkingText\wordballoon.design</i>
Chapter 9: Working with Bitmap Images	<i>WorkingBitmaps\berries.bmp</i> <i>WorkingBitmaps\ghost.design</i> <i>WorkingBitmaps\leaves.bmp</i> <i>WorkingBitmaps\pumpkin.design</i> <i>WorkingBitmaps\trickortreat.design</i>
Chapter 10: Exporting and Printing Your Work	<i>ExportingWork\dragon.design</i> <i>ExportingWork\keyboard.design</i> <i>ExportingWork\knight.design</i> <i>ExportingWork\lamp_squirrel.design</i> <i>ExportingWork\phrenology.design</i> <i>ExportingWork\water.design</i>

In addition to the practice files, the CD also includes exciting resources that will enhance your ability to get the most out of using this book and Expression Design, including an electronic version of the book in PDF format.

Minimum System Requirements

To use this book, your computer should meet the following requirements:

- **Processor.** Pentium 700 megahertz (MHz) or higher; 2 gigahertz (GHz) recommended.
- **Memory.** 512 megabytes (MB) of RAM; 1 gigabyte (GB) or more recommended.

- **Hard disk.** For the eBooks and downloads, we recommend 3 GB of available hard disk space with 2 GB on the hard disk where the operating system is installed.
- **Operating system.** Windows Vista or later, Windows XP with Service Pack 2 (SP2), or Windows Server 2003 with Service Pack 1 (SP1) or later.
- **Drive.** CD or DVD drive.
- **Display.** Monitor with 1024x768 or higher screen resolution and 16-bit or higher color depth.
- **Software.** Microsoft Expression Design.

Tip Actual requirements and product functionality may vary based on your system configuration and operating system.

Installing the Practice Files

You must install the practice files on your hard disk before you can use them in the chapters' exercises. Follow these steps to prepare the CD's files for your use.

Important Installing the practice files requires the privileges of a local system administrator.

To install the files from the CD:

- 1.** Remove the companion CD from the envelope at the back of the book, and insert it into the CD drive of your computer.

The Step By Step Companion CD License Terms appear. Follow the on-screen directions. To use the practice files, you must accept the terms of the license agreement. After you accept the license agreement, a menu screen appears.

Important If the menu screen does not appear, click the Start button and then click Computer. Display the Folders list in the Navigation Pane, click the icon for your CD drive, and then in the right pane, double-click the StartCD.exe file.

- 2.** Click **Install Practice Files**.

If you are installing the practice files on a computer running Windows Vista, a File Download – Security Warning dialog box opens.

3. Click **Run**, and when an **Internet Explorer – Security** dialog box opens, click **Run**. The Microsoft Expression Design Step By Step dialog box opens.
4. Click **Next** on the first screen, click **I accept the terms in the license agreement**, and then click **Next**.
5. If you want to install the practice files to a location other than the default folder (*Documents\Microsoft Press\Expression Design SBS*), click the **Change** button, select the new drive and path, and then click **OK**.

Important If you install the practice files to a location other than the default, you will need to substitute that path within the exercises.

6. Click **Next** on the **Choose Destination Location** screen, and then click **Install** on the **Ready to Install the Program** screen to install the selected practice files. If a User Account dialog box opens stating that an unidentified program wants to access your computer, click **Allow**.
7. After the practice files have been installed, click **Finish**.
8. Close the **Step by Step Companion CD** window, remove the companion CD from the CD drive, and return it to the envelope at the back of the book.

Using the Practice Files

When you install the practice files from the companion CD, the files are stored on your hard disk in chapter-specific subfolders under *Documents\Microsoft Press\Expression Design SBS*.

Wherever possible, each chapter is started with the default settings in Expression Design. To reset the workspace, click **Reset Active Workspace** on the **Window** menu. Then type **D** to set the stroke and fill to the default settings. Although you do not have to complete every chapter in order, some exercises make use of user-created files.

A Housekeeping segment at the beginning of each chapter explains any preparation you need to take before you start working through the chapter, as shown here:

Important Before you can use the practice files in this chapter, you need to install them from the book's companion CD to their default location. See "Installing the Practice Files."

Each exercise within a chapter is preceded by a Housekeeping segment that lists the practice files needed for that exercise. The text also explains any preparation you need to take before you start working through the exercise, as shown here:



USE the *tree.design* file. This practice file is located in the *Documents\Microsoft Press\Expression Design SBS\WorkingDocuments* folder.

BE SURE TO start Expression Design before beginning this exercise.

OPEN the *tree.design* file.

You can browse to the practice files in Windows Explorer by following these steps:



Start

1. On the Windows taskbar, click the **Start** button, and then click **Documents**.
2. In your *Documents* folder, double-click *Microsoft Press*, double-click *Expression Design SBS*, and then double-click a specific chapter folder. The folders are named to correspond to their respective chapters.

Removing the Practice Files

You can free up hard disk space by uninstalling the practice files that were installed from the companion CD. The uninstall process deletes any files that you created in the *Documents\Microsoft Press\Expression Design SBS* folder while working through the exercises.

Follow these steps:



Start

1. On the Windows taskbar, click the **Start** button, and then click **Control Panel**.
2. Under **Programs**, click **Uninstall a program**.
3. Click **Microsoft Office Expression Design Step by Step**, and then click **Uninstall**.
4. In the **Programs And Features** dialog box, click **Yes**.
5. In the **User Account Control** dialog box, click **Allow**.

Important Microsoft Product Support Services does not provide support for this book or its companion CD.

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Getting Help

Every effort has been made to ensure the accuracy of this book and the contents of its CD. If you run into problems, please contact the appropriate source, listed in the following sections, for assistance.

Getting Help with This Book and Its CD

If your question or issue concerns the content of this book or its companion CD, please first search the online Microsoft Press Knowledge Base, which provides support information for known errors in or corrections to this book, at the following Web site:

www.microsoft.com/mspress/support/search.asp

If you do not find your answer in the online Knowledge Base, send your comments or questions to Microsoft Learning Technical Support at:

mspinput@microsoft.com

Getting Help with Microsoft Expression Design

If your question is about Microsoft Expression Design, and not about the content of this Microsoft Press book, help is available from the Help menu of Expression Design itself. Click Help, and then click User Guide or press F1.

If you need additional help, please search the Microsoft Help and Support Center or the Microsoft Knowledge Base at:

support.microsoft.com

In the United States, Microsoft software product support issues not covered by the Microsoft Knowledge Base are addressed by Microsoft Product Support Services. The Microsoft software support options available from Microsoft Product Support Services are listed at:

www.microsoft.com/services/microsoftservices/srv_support.msp

Outside the United States, for support information specific to your location, please refer to the Worldwide Support menu on the Microsoft Help And Support Web site for the site specific to your country:

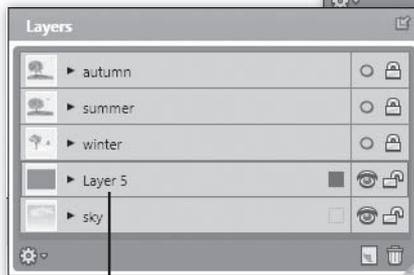
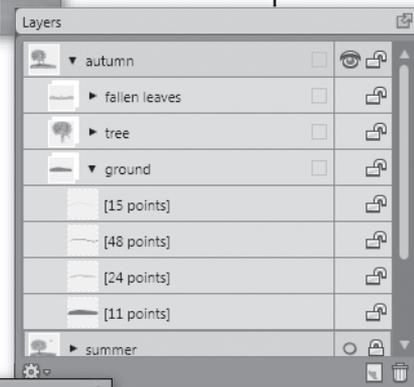
support.microsoft.com/common/international.aspx

Chapter at a Glance

Understand layers,
page 74



Explore layers,
page 76



Manipulate layers,
page 82

4 Working with Layers

In this chapter, you will learn to:

- ✓ Understand layers.
 - ✓ Explore layers.
 - ✓ Manipulate layers.
 - ✓ Set layer options.
-

One of the best features of Microsoft Expression Design is its use of layers. Layers give you the flexibility to design several versions of a document, decide what parts of a document will be printable, and much more.

In this chapter, you will first learn what layers are and why they are important. You will learn how to use the Layers panel to expand, collapse, add, delete, move, hide, and group layers. You will also learn to use the Layers panel to select groups of objects in one step.



Important Before you can use the practice files in this chapter, you need to install them from the book's companion CD to their default location. See "Using the Book's CD" at the beginning of this book for more information.

Troubleshooting Graphics and operating system–related instructions in this book reflect the Windows Vista user interface. If your computer is running Windows XP and you experience trouble following the instructions as written, please refer to the "Information for Readers Running Windows XP" section at the beginning of this book.

Understanding Layers: What They Are and Why They Are Important

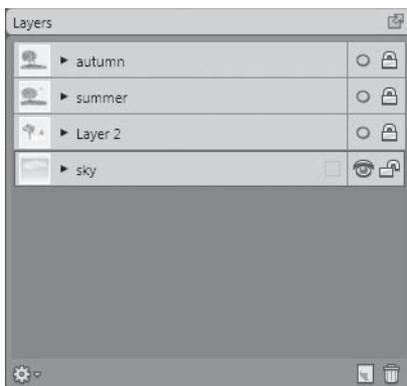
The *layers* concept is one that is often very difficult for new users of graphics software to grasp. The truth is, once you understand the concept, you will be amazed that you were ever able to work without them. To cite one simple example, when you put an object on another layer, you can show or hide the object or make it non-printing.

Using layers, you can easily hide and show whole layouts. One use for this technique is to create a two-sided document, such as a brochure or greeting card, and put all content for the front on one layer, and all content for the back on another layer. By showing one layer and hiding the other, you can work on (or print) the front or back independently, yet both layers are conveniently saved in one document.

So what exactly are layers?

In Expression Design, layers are like virtual stacks of transparent pages. These stacks function like the transparent plastic pages in some biology textbook illustrations. For instance, imagine an illustration of a hand, showing the skin. When you turn the skin page, an image of the muscles, blood vessels, and bone appears underneath. Flip the next page and the muscle page is transparent, showing the vessels and bone beneath, and so on. Layers are like those transparent pages: transparent areas of the layer let the lower layers remain visible. The areas on the layer that contain *content* hide whatever is on the layers below.

Layers are accessible from the Layers panel. From this panel, layers can be manipulated, hidden, moved, grouped, and much more.



In the Layers panel, layers are shown in the layers list. Layers are displayed in the Layers panel in the order in which their content is on the page; the top layer is at the top of the stacking order. Each layer has a small thumbnail of the layer content to the left of its name.

In this exercise, you will explore the Layers panel and the layers in a file. You will float the Layers panel in the workspace, and then display a magnified thumbnail view of the layer's contents.

USE the *layers.design* file. This practice file is located in the *Documents\Microsoft Press\Expression Design SBS\UnderstandingLayers* folder.

BE SURE TO start Expression Design before beginning this exercise.

1. Open the *layers.design* file.

In the image window, you should see blue sky and clouds. In the right pane of the workspace in the Layers panel, the layer thumbnail shows a small representation of the layer contents, in this case the blue sky and clouds.

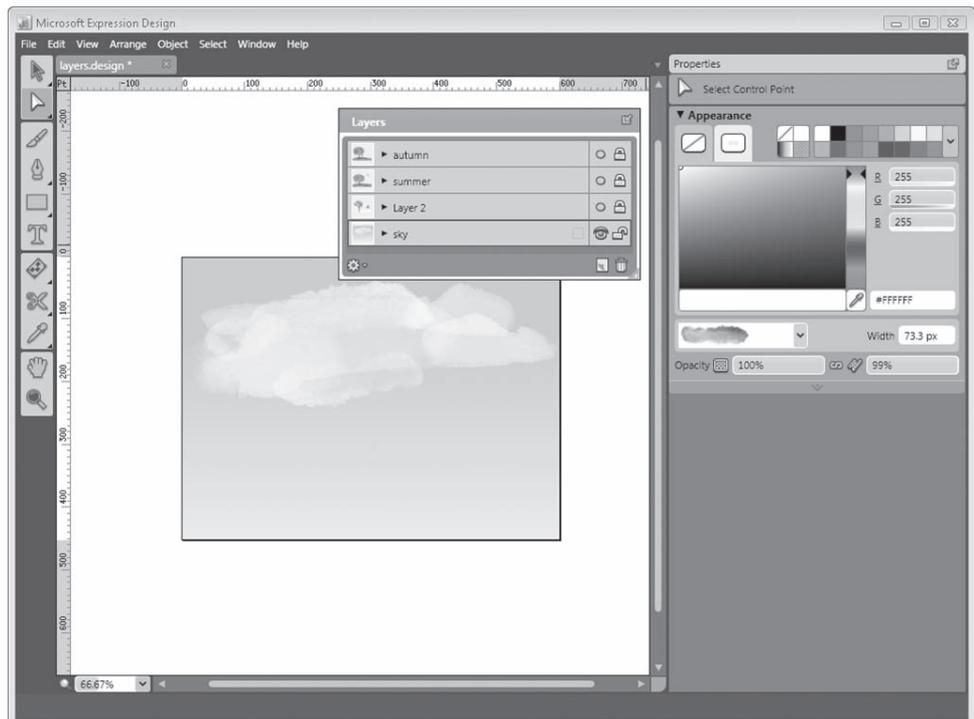


Float

2. Click the **Float** button to float the panel in the workspace.

You can now drag the panel in the workspace and place it where it is convenient. Whether you choose to float the panel or leave it docked in the pane is a matter of personal preference.

Tip If the Layers panel is not visible, click Layers on the Window menu to open it.



This image has four layers: *sky*, *Layer 2*, *summer*, and *autumn*. *Sky* is the bottom layer in the Layers panel, making it the bottom layer in the stacking order. When the layers are visible, the content in the *Layer 2*, *summer*, and *autumn* layers will show above the *sky* layer.

3. Point to the **summer** thumbnail.

A larger pop-up thumbnail appears, showing the contents of the layer.



Tip If the thumbnail does not pop up when you point to it, click the Layer Options button. Then, on the Layer Options menu, click Thumbnail Options, and click Popup Thumbnails. Note that you can also set the size of the layer thumbnail here. You can choose from Large, Medium, or Small, or you can turn layer thumbnails off altogether by choosing None.

Exploring Layers

With the Layers panel, you have a lot of control over many aspects of your document. You can show and hide layers, add new layers, delete layers you no longer need, or rename the layers. You can also select a whole layer or specific objects on a layer so that you can easily group layers or to change the stacking order.

Naming, Hiding, and Collapsing and Expanding Layers

A single document can have many layers, each with different properties and content. Every Expression Design document always contains at least one layer. When you create a new document, Expression Design automatically creates an empty layer. By default, this layer is named *Layer 1*. When you add new layers, they are named consecutively: *Layer 2*, *Layer 3*, and so on. However, it is very helpful, especially in a document with many layers, to name the layers with meaningful names.

A button on the right side of the Layers panel shows whether each layer is hidden or visible. When a layer is hidden, the button looks like a circle, and when a layer is visible, the button looks like an eyeball. For example, in the *layers.design* file, the *sky* layer displays the eyeball; the other three layers display the circle because they are hidden.

Because Expression Design is a vector drawing program, most of its files have hundreds of objects. Each brush stroke you lay down, every shape you draw, every object added to the page is a separate object with its own sub-layer in the Layers panel. An image with many layers can make the Layers panel very long and hard to navigate. You can keep the panel manageable by collapsing and expanding it when you need to access an object on the layer. When layers are expanded, the object lists for each layer are visible, including groups.

In this exercise, you will name layers in the Layers panel. Then you will hide and show layer content in the image window by using the Toggle Layer Visibility button in the Layers panel. You will also keep the size of the Layers panel manageable by collapsing and expanding layers.

USE the *layers.design* file. This practice file is located in the *Documents\Microsoft Press\Expression Design SBS\UnderstandingLayers* folder.

OPEN the *layers.design* file, if it is not already open.

1. In the **Layers** panel, double-click **Layer 2**, and replace the text with the word **winter**.
2. Press to commit the change. Click **Save** on the **File** menu to save the changes to the file.



Visibility On



Visibility Off

3. On the **sky** layer, click the **Toggle Layer Visibility** button. The image window is now blank because the *sky* layer is hidden.
4. Click the **Toggle Layer Visibility** button to make the *sky* layer visible again.
5. On the **winter** layer, click the **Toggle Layer Visibility** button to make it visible.



The image window now displays snow on the ground, a snowman, and a tree with bare branches from the *winter* layer, and sky and clouds from the *sky* layer. The area around the objects in the winter layer is transparent, allowing the objects in the sky layer to show through.



6. On the **sky** layer, click the **Toggle Layer Visibility** button. The sky and clouds disappear from the image window.



7. On the **sky** layer, click the **Toggle Layer Visibility** button to redisplay the layer.
8. On the **summer** layer, click the **Toggle Layer Visibility** button.

The image window displays a green summer tree, some birds, and a patch of green grass. The rest of the *summer* layer is transparent. Because of the transparency, the sky and clouds from the *sky* layer and the snowman from the *winter* layer are also visible.



Tip You can toggle the visibility of all the layers except one by pressing Alt and clicking on the Toggle Layer Visibility button of the layer you want to keep visible.

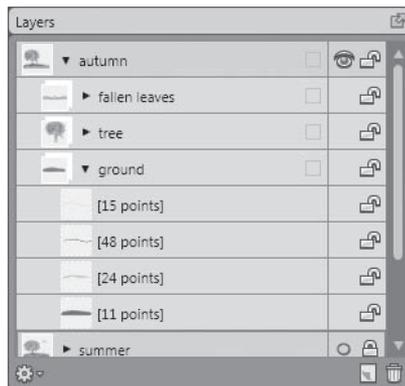


Expand

- In the **Layers** panel, in the list of layers, click the **Expand** button on the **autumn** layer to display the object list.

The layer expands to show the object list for the layer, which consists of three groups: *fallen leaves*, *tree*, and *ground*. All three groups in this layer are collapsed.

- Click the **Expand** button to the left of the ground group to expand the group and display its object list.



Collapse

- On the **autumn** layer, click the **Collapse** button to close the object list.



BE SURE TO collapse all of the layers in the Layers panel before continuing to the next exercise.

Tip As you add paths and objects to a document, Expression Design gives them generic names, such as [5 points]. Consider naming important paths, groups, or objects to find them quickly if you want to select them to be edited or moved to another layer.

Selecting, Locking, and Grouping Layers

Layers cannot be selected if they are not visible, nor can they be selected if they are locked. When a layer is visible, a hollow square button displays to the right of the name. This button is used to select all unlocked content on a layer.

You can lock and unlock layers by using the Toggle Lock buttons in the Layers panel. These buttons have two states, **locked** and **unlocked**, as indicated by the corresponding padlock images. Locking a layer works the same as locking an object, with the exception that when you lock a layer, the entire layer is locked and none of the objects on it can be edited or moved. When you lock a layer, it is protected from being changed by the accidental move of an object on the page. It is also protected from global changes you make to the rest of the document.

Hidden layers are always locked; unlocking a layer makes it visible. You can lock a visible layer, too, so that the objects on the locked layer are still visible but you cannot accidentally move, delete, or alter the objects on it.

Grouping similar objects and/or paths together often makes them much easier to work with. However, objects and paths can be difficult to select when there are many of them or they are behind other objects. To make this task easier, you can expand a layer in the Layers panel so the object list is displayed, and then press Shift while clicking the objects you want to select. You can then group the objects by clicking Group on the Arrange menu. To ungroup grouped objects, click Ungroup on the Arrange menu. Groups can be contained within each other.

Grouping objects by using the Layers panel is often easier than selecting objects by clicking on them, because an object that is behind another can be difficult to select. Selecting via the Layers panel is also easier when you have many objects to select at once, as you will understand when you try to select all of the branches or leaves at once.

In the following exercise, you will select layers and lock and unlock them by using the Layers panel. You will also group objects in the Layers panel to organize them and make difficult selections easier.



USE the *layers.design* file. This practice file is located in the *Documents\Microsoft Press\Expression Design SBS\UnderstandingLayers* folder.

OPEN the *layers.design* file, if it is not already open.



Visibility Off



Layer Selection

1. Click the **summer** layer's **Toggle Layer Visibility** button.

The *sky* layer should be visible, and the *autumn* and *winter* layers hidden.

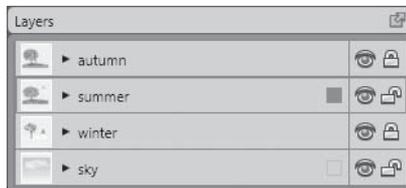
2. Click the **Layer Selection** button on the **summer** layer to select all content on the layer.

Because there are no locked objects, all layer content will be selected. The square button turns solid blue, and you will be able to see the paths on all objects on the layer in the image window. In this case, the summer tree, leaves on the ground, and the birds are selected.

Tip When an object is low in the stacking order, it can be hard to select with the selection tools. If you click the object's thumbnail or name in the Layers panel, you can easily select it.

3. Click the **Toggle Layer Visibility** button on the **autumn** and **winter** layers.

Notice that the *autumn* and *winter* layers are locked and therefore cannot be selected. The *summer* layer is unlocked and selected; the *sky* layer is unlocked and not selected. Because the *sky* layer is not locked, if you click the clouds or the sky background in the image, they would become selected, along with their layer.



Tip You can hold the Alt key as you click a Lock button to lock all layers except the layer you clicked. If all of the other layers are currently locked, holding Alt as you click a Lock button unlocks them all.

4. Experiment with locking and unlocking layers to get a feel for how the feature works by clicking the Toggle Lock button for each of the layers.

- Before continuing, click **Revert** on the **File** menu to return the file to the state from which it was last saved.

This should leave the file in the same state it was in when you started this exercise.



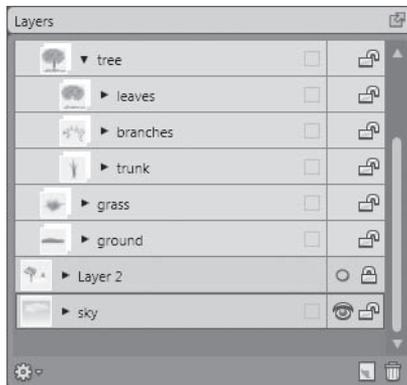
Visibility Off



Expand

- Show the **summer** layer by clicking its **Toggle Layer Visibility** button.
- In the **Layers** panel, expand the **summer** layer by clicking the **Expand** button.
- Expand the **tree** group by clicking its **Expand** button.

The *tree* group has three groups within it: *leaves*, *branches*, and *trunk*. The branches would be extremely difficult to select without the Layers panel, because many of them are behind leaves, but it is a simple matter to select all of them from the object list.



- In the **tree** group, select **branches**, and then on the **Arrange** menu, click **Group**.

The leaves would be hard to select for the sheer number of them and the fact that they are intermingled with the small upper branches of the tree. Selecting groups of items from the object list greatly simplifies this task.



BE SURE TO click **Revert** on the **File** menu to return the document to the last saved state before continuing.

Manipulating Layers

Layers are even more useful in that you can arrange them to suit your purposes. Add them to your document window, delete them, reorder them, or move objects from one layer to another, all by way of simple, intuitive controls.

Adding a New Layer

As you work in Expression Design, you will very often want to add new layers to your documents. Objects on their own layers are easy to hide and show, so you can try different versions of an illustration while retaining the original version, all within one file. In the *layers.design* file, a new layer was used to add autumn leaves on the tree while retaining the green summer leaves.

Layers also give you the flexibility to print only part of the design. One way this technique can be used is to design the front and back of a greeting card on separate layers. The back layer can be hidden so the front layer can be edited or printed, or you can hide the front layer to print or edit on the back.

In this exercise, you will add a new layer to the document.



USE the *layers.design* file. This practice file is located in the *Documents\Microsoft Press\Expression Design SBS\UnderstandingLayers* folder.

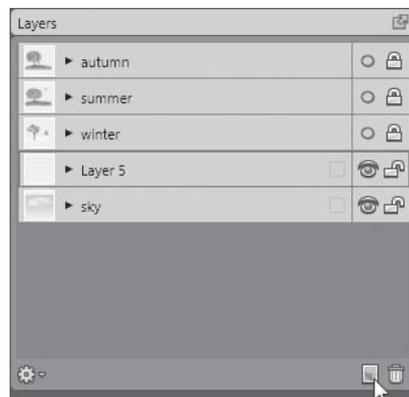
OPEN the *layers.design* file, if it is not already open.

1. In the **Layers** panel, click the **sky** layer to select it.

This can also be referred to as making it the active layer.

2. To add a new layer to the document, click the **New Layer** button at the bottom of the **Layers** panel.

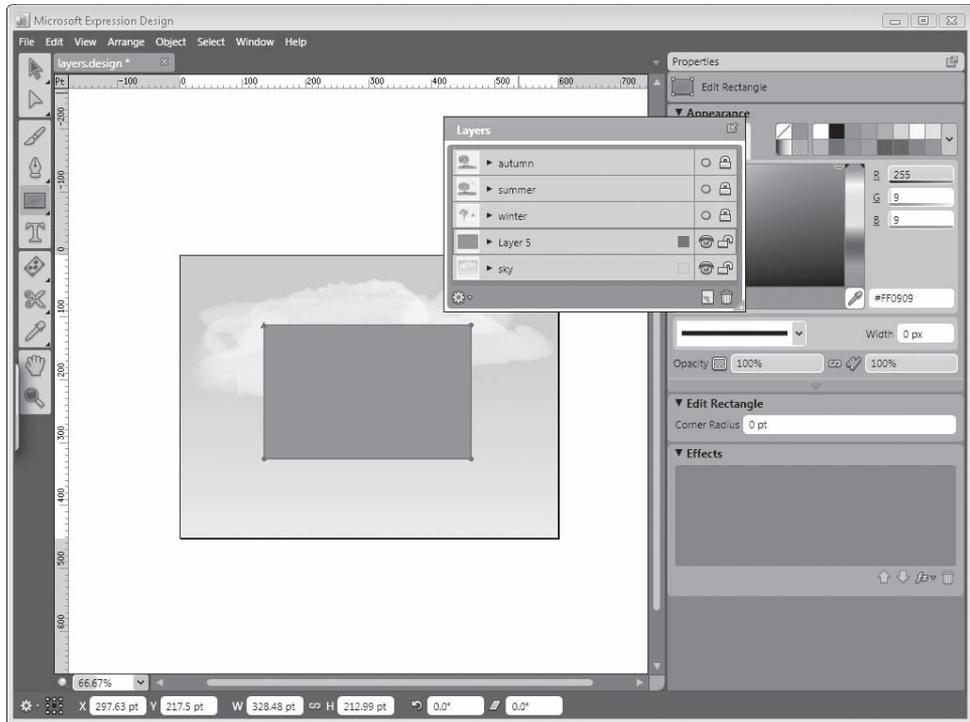
A new layer called *Layer 5* displays directly above the *sky* layer.



3. Select the **Rectangle** tool, and drag a rectangle of any size in the image window. The rectangle displays on *Layer 5*, above the *sky* layer.

Note Stroke and Fill are not important as long as something is added to *Layer 5*.

4. Keep the image open so it can be used in the next exercise.



Tip By default, Expression Design adds the new layer immediately above the layer that is currently selected. If you prefer the new layer to be added to the beginning of the layer list, so that the layer goes immediately to the top of the stacking order, point to Options on the Edit menu, and then click General to open the General options page. Clear the Create New Layer Above Current Layer check box, and then click OK to accept the change.

Deleting Layers and Changing Layer Order

Not only can you create layers, you can delete them as well. The beauty of layers is that they give you the freedom to make many changes to an image without changing the original. After you decide on the final design, you can easily delete any unnecessary layers.

You can also change the stacking order of layers. To move layers up or down in the stacking order, drag and drop them into place in the Layers panel.

In this exercise, you will delete layers and change their stacking order by using the Layers panel.

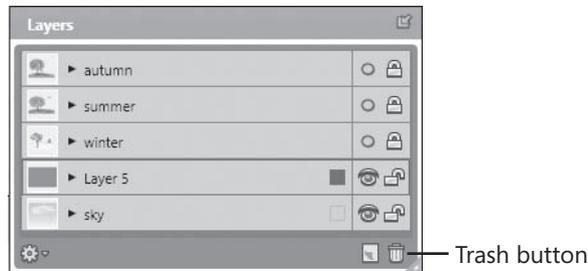
USE the *layers.design* file. This practice file is located in the *Documents\Microsoft Press\Expression Design SBS\UnderstandingLayers* folder.

OPEN the *layers.design* file, if it is not already open.



Trash

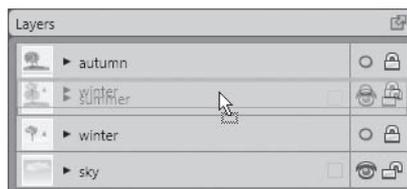
1. Select **Layer 5**, and then in the lower portion of the **Layers** panel, click the **Trash** button to delete the layer.



The Delete Layer dialog box opens.

2. In the **Delete Layer** dialog box, click **Yes** to confirm the deletion.
3. In the **Layers** panel, drag the **winter** layer to position it above the **summer** layer and below the **autumn** layer.
4. When the yellow line displays, drop the layer into place.

The stacking order of the layers changes.



Moving Objects to Another Layer

Often, to keep similar or related objects together, you might want to move them to another layer. You can do this by using the Layers panel. Whenever you create a new object, Expression Design's default action is to place it on the layer that is currently selected in the Layers panel. When you select any object on the page, the Layers panel automatically selects the layer the object is on, as long as the layer is unlocked. To move a selected object from one layer to another, expand the source layer in the Layers panel so that the object list is visible. Drag the object to another position on the same layer, or to another layer. When the yellow line displays under the name, drop the object.

An object can be copied to another layer by using the Copy command to copy it from one layer and the Paste command to paste it to another. This places a copy of the object on the new layer while leaving the original on the layer from which it was copied. To remove the object from one layer and place it on another, use the Cut command.

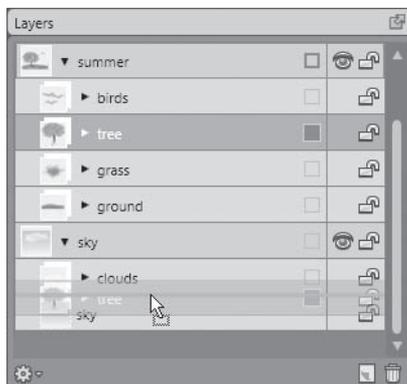
In this exercise, you will move objects to another layer by dragging and dropping in the Layers panel and by using the Copy and Cut commands.



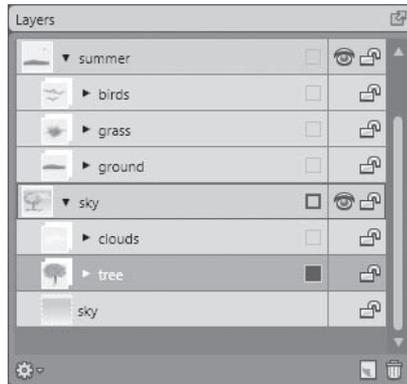
USE the *layers.design* file. This practice file is located in the *Documents\Microsoft Press\Expression Design SBS\UnderstandingLayers* folder.

OPEN the *layers.design* file, if it is not already open.

1. Make sure the **summer** layer is visible. Expand the **summer** layer, and select the **tree** group.
2. Expand the **sky** layer. If you cannot see all of the layers, resize the panel by pulling down and dragging the bottom-right corner.
3. Drag the **tree** group to the **sky** layer, and drop it under the **clouds** group when the yellow line is visible.



The *tree* group is now on the *sky* layer, between the *sky* object and the *clouds* group, and the *tree* group should be selected.



Tip If you drag an object to the layer rather than to a position in the object list of that layer, it is placed at the bottom of the stacking order in the new layer.

4. Click **Cut** on the **Edit** menu. Select the **summer** layer. Click **Paste** on the **Edit** menu, and the **tree** group will be moved from the **sky** layer to the **summer** layer.
Using the Cut command removes objects from the layer and places them on the layer you paste them onto.
5. Collapse the **summer** layer. Click the **Toggle Layer Visibility** button to display the **winter** layer, and then expand the layer. Select the **derby** group.
6. On the **Edit** menu, click **Copy**.
7. Select the **sky** layer, then click **Paste** on the **Edit** menu to paste the **derby** group onto the **sky** layer.
8. Click the **Toggle Layer Visibility** buttons on the **summer** and **winter** layers to hide them.

The derby graphic should be visible in the image window, and if you look at the *sky* layer in the layers panel, the *derby* group is now above the *clouds* group.

Tip When you paste using the Copy command, the selection is placed in the center of the page. To copy the selection to the top of the stack, on the Edit menu, click Paste In Front. The selection is copied to the new layer in the same position on the page it occupied on the original layer at the top of the stack. To copy the selection to the bottom of the stack, on the Edit menu, click Paste In Back and it will be pasted in the same position on the page, but at the bottom of the stack. This is true when pasting to the same layer or to another layer.

9. Experiment with these options in the practice file, moving any of the groups to another layer, cutting, copying, and trying the **Paste In Front** and **Paste In Back** commands from the previous tip. Make sure the layer you want to copy or move to is visible and not locked.

Tip Although it would seem to be exactly what you want, the Paste With Layer command on the Edit menu will not move the selection to another layer. It places the object back on the original layer.



CLOSE the *layers.design* file without saving your changes. If you are not continuing directly to the next chapter, exit Expression Design.

Setting Layer Options

At the bottom of the Layers panel is the Layer Options button, which opens the Layer Options menu. On this menu are several options you should be aware of:

- **New Layer.** Use this option to create a new layer above the current layer.
- **Duplicate Layer.** Use this to create a copy of the layer above the original with *copy* appended to its name.
- **Delete Layer.** Use this option to throw the selected layer in the Trash.
- **Layer Color.** Use this option to show the color paths when objects are selected on the layer.
- **Layer Render Style.** Use this sub-menu to access the same options that are available in **Display Quality** on the **View** menu, with the addition of Path. (See Chapter 2, “Navigating the Workspace.”)
- **Thumbnail Options.** Use this sub-menu to control the display of thumbnails, as discussed in “Understanding Layers” earlier in this chapter.

Key Points

- Layers are like stacks of transparent paper. Where there is content, the layer is opaque; where there is no content, the layer is transparent, letting objects on the layers below show through.
- You can rename layers in the Layers panel by double-clicking the layer's name and typing a new name. Press Enter to commit the change.
- You can use the Toggle Layer Visibility button to show and hide layer content. Hold the Alt key as you click the button to toggle visibility for all other layers at once.
- Hidden layers are always locked and cannot be selected. You can lock or unlock visible layers.
- You can select a layer's contents by clicking its square layer selection button. Remember, you cannot select a locked layer.
- You can expand and collapse object lists in the Layers panel to make the panel easier to scroll through.
- You can lock layers to protect them from accidental movements or object deletions and to protect them against global changes made to the document.
- You can select hard-to-reach objects by clicking them in the Layers panel object list. You can then group or ungroup them by clicking the corresponding command on the Arrange menu.
- You can add new layers by clicking the New Layer button at the bottom of the Layers panel. By default, new layers are added above the currently selected layer.
- You can easily delete layers you no longer need by selecting them and clicking the Trash button at the bottom of the Layers panel.
- You can change the stacking order of layers by dragging them in the Layers panel to a new position.
- You can use the Layer Options menu at the bottom of the Layers panel to create, duplicate, and delete layers or set options for layers.

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