Foundation Flash CS5 for Designers

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Chapter 1

Learning the Flash CS5 Professional Interface

Welcome to Flash Professional CS5 Professional. We suspect you are here because you have seen a lot of the great stuff Flash can do and it is now time for you to get into the game. We also suspect you are here because you have discovered Flash is more complex than you originally thought. The other reason you may be here is because you are an existing Flash user and CS5 is suddenly a lot different from Flash 8 or even Flash CS3 or CS4, and you need to get a handle on this new stuff in relatively short order. Whatever your motivation, both of us have been in your shoes at some point in our careers, which means we understand what you are feeling. So, instead of jumping right into the application, let's go for walk.

What we'll cover in this chapter:

- Exploring the Flash interface
- Using the Flash stage
- Working with panels
- The difference between a frame and a keyframe

- Using frames to arrange the content on the stage
- Using layers to manage content on the stage
- Adding objects to the Library
- Testing your movie

If you haven't already, download the chapter files. You can find them `www.friendsofED.com/download.html?isbn=1430229940`.

These are the files used in this chapter:

- `Magnify.fla` (`Chapter01/Exercise Files_CH01/Exercise/Magnify.fla`)
- `Leaf.fla` (`Chapter01/Exercise Files_CH01/Exercise/Leaf.fla`)
- `Properties.fla` (`Chapter01/Exercise Files_CH01/Exercise/Properties.fla`)
- `Layerss.fla` (`Chapter01/Exercise Files_CH01/Exercise/Layers.fla`)
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- `FliesBuzzing.mp3` (`Chapter01/ExerciseFiles_CH01/Exercise/FliesBuzzing.mp3`)
- XFL_Example (`Chapter01/ExerciseFiles_CH01/Exercise/XFL_Example/`)

What we are going to do in this chapter is take a walk through the authoring environment—called the **Flash interface**—pointing out the sights and giving you an opportunity to play with some of the stuff we will be pointing out. By the end of the stroll, you should be fairly comfortable with Flash and have a good idea of what tools you can use and how to use them as you start creating a Flash movie.

As we go for our walk, we will also be having a conversation that will help you understand the fundamentals of creating a Flash movie. Having this knowledge right at the start of the process gives you the confidence to build upon what you have learned. So, let's start our walk right at the beginning of the process, the **`Start`** page.

Getting started

A couple of seconds after you double-click the application icon to launch Flash, the **`Start`** page, shown in Figure 1-1, opens. This page, which is common to all the CS5 applications, is divided into six discrete areas.

Figure 1-1. The **`Start`** page

- **`Create from Template:`** This category is a bit misleading. Double-clicking one of the choices actually opens the **`New from Template`** dialog box shown in Figure 1-2. If you have used previous versions of Flash, you will immediately notice that the variety and utility of the offered templates—more than 50 of them—has greatly expanded.

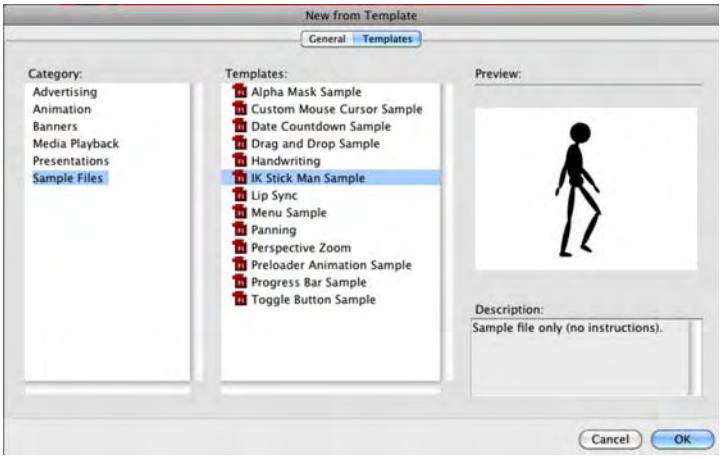


Figure 1-2. Flash Professional CS5 contains a new lineup of templates designed to help you become more productive.

- **`Open a Recent Item:`** The documents listed in this category are the ones you have opened recently. Provided you haven't moved them to another location or deleted them, clicking one will open the document. The **`Open`** link at the bottom of the list lets you browse for files not contained in this list
- **`Create New:`** The middle area of the page is where you can choose to create a variety of new Flash documents. Your choices include a blank Flash document, which is the ActionScript 3.0 choice and is called a **flah**; a project aimed at a tablet, cell phone, or other mobile device; an AIR file; a series of code-based documents; and a Flash project, which is used to organize multiple `.fla` files in a given project.

> *The key to the **`Start`** page is the ability to select a new document based upon which version of ActionScript will be used in the document. The current version of ActionScript is 3.0, which was introduced in Flash CS3. The previous version of this language, used in Flash MX 2004 and Flash 8, was ActionScript 2.0. We will be digging into ActionScript 3.0 in greater depth in Chapter 4. From this point on, unless otherwise stated, you will be selecting the **`ActionScript 3.0`** option when opening new documents throughout this book.*

- **`Extend:`** Click this, and, providing you have an Internet connection, you will be taken to the Adobe Exchange. This is a location where Flash designers and developers offer a variety of small applications, called **extensions**, that add to or improve upon Flash's functionality. These extensions can either be purchased or are offered for free.
- **`Learn:`** The right area of the page is reserved for a variety of links that are designed to help you discover more about a specific aspect of Flash.

The items at the bottom allow you to explore the new features of Flash, explore the Flash Developer Center where experts (including the authors of this book) write about the code side of Flash, and explore the Design Center where the artistic aspects of the application are presented and discussed. The last link, **`Adobe TV`**, is a rather extensive set of video tutorials.

> *We are willing to bet those of you who have used Flash in the past missed a sweet little change when you launched Flash. In previous versions of Flash, when you launched the app, the **`Welcome`** screen appeared and took over the computer. You couldn't do anything else while Flash was loading. That annoyance is a thing of the past, so feel free to return to Twitter while Flash boots.*

Creating a new Flash document

Let's continue our stroll through Flash by creating a new Flash document. To do this, simply click the **`ActionScript 3.0`** button in the **`Create New`** area of the **`Start`** page. This opens the interface shown in Figure 1-3.

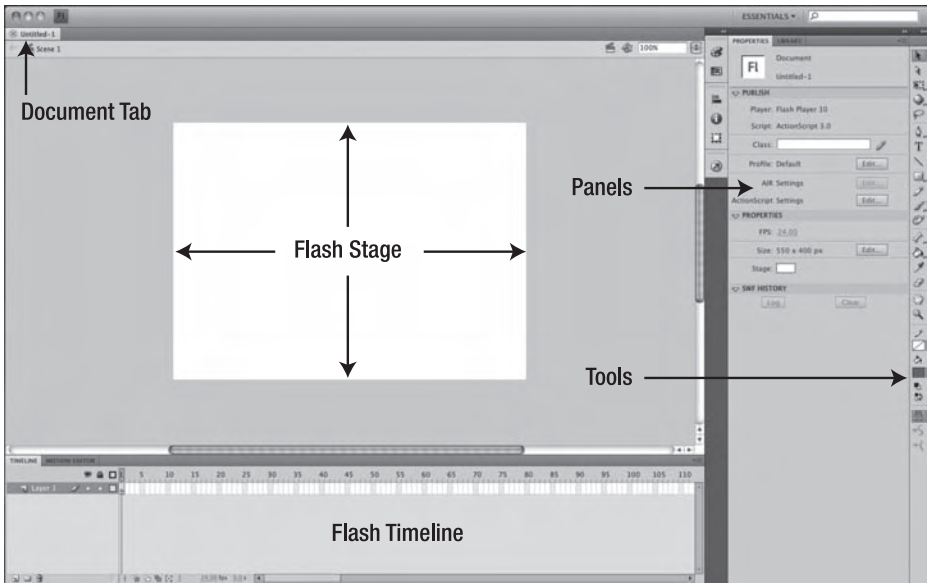


Figure 1-3. The Flash authoring environment

This interface is the feature-rich authoring environment that is the heart and soul of Flash. The Object Windows Library (OWL) first introduced in the CS4 lineup is now common to practically all Adobe applications in the CS5 lineup from Adobe. If you are a Mac user and, depending upon your "rabidity" of all things Mac, you are going to either love this interface or hate it. The reason is that Adobe has dispensed with the floating panels that tended to drive Flash developers and designers who worked "cross platform" up the wall, across the ceiling, and down the other wall.

Let's now step into that big white area on the screen and take a moment to look around. The **stage**, that large white area in the center of the screen, is where the action happens. A good way of regarding the stage in relation to Flash is this: if it isn't on the stage, the user isn't going to see it. There will be instances where this last statement is not *exactly* true, but we'll get into those later in this book.

On the far-right edge of the screen is a set of tools that will allow you to draw, color, and otherwise manipulate objects on the stage. Just to the left of these tools is the **`Properties`** panel.

At the bottom of the interface is the **`Timeline`** panel, which longtime Flash users simply refer to as the **timeline**. This is the place where action occurs. As you can see, the timeline is broken into a series of boxes called **frames**. The best way of regarding frames is as individual frames of a film. When you put something

on the stage, it will appear in a frame. If you want it to move from here to there, it will start in one frame and move to another position on the stage in another frame a little further along the timeline. The box with the vertical red stem draped over the timeline is called the **playhead**. Its purpose is to show you the current frame being displayed. When a Flash movie is playing through a browser, the playhead is in motion, and the user is seeing the frame where the playhead is located. This is how things appear to move in Flash. Another thing you can do with the playhead is drag it across the timeline while you are creating the Flash movie. This technique is known as **scrubbing** the timeline and has its roots in film editing.

To the right of the stage are the panels. Panels are used to modify and manipulate whatever object you may have selected on the stage or to even add an object to the stage. These objects can be text, photographs, line art, short animations, video, or even interface elements called **components**. You can use the panels and the menus to change not only the characteristics of the objects but also how the objects behave on the stage. Panels can be connected to each other (**docked**), or they can float freely in the interface (**floating**) and can be placed anywhere you like. To move a panel simply, click the **`Panel`** tab and drag it to a new location. If you see a blue line, the panel will dock to that location.

From our perspective, one of the more indispensable panels is the **`Properties`** panel. We'll talk about this a little later, but as you become more comfortable with the application, this panel will become a very important place for you. In fact, we can't think of any chapter in this book where we don't refer to this panel.

Managing your workspace

As you may have surmised, the Flash authoring environment is one busy place, and if you talk to a Flash developer or designer, they will also tell you it can become one crowded place as well. As you start creating Flash projects, you will discover that screen real estate is a valuable commodity because it fills up with floating panels and other elements. This has all changed in Flash Professional CS5. Here's how you manage the panels:

- **Collapse panels:** At the top of the **`Tools`** panel and the **`Panels`** area on the right side of the screen is an icon that looks like a double arrow (see Figure 1-4). Click it, and the panels will collapse and become icons. If you click the arrow above the tools, the **`Tools`** panel changes from a single strip to an icon. The process is called **panel collapse**, and it is designed to free up screen space in Flash.

Figure 1-4. Panels can be collapsed to give you more screen space.

- **Show collapsed panels as icons only:** Sometimes you need the extra interface room taken up by the panel's name. Roll the mouse pointer to the left or right edge of the panel strip. When the mouse pointer changes to a double-sided arrow, click and drag to expand and show the panel's name, or shrink to the width of the icons in the strip.
- **See tooltips for panel icons:** When a panel is collapsed to nothing more than its icon, you only need to place the mouse pointer over an icon, and a tooltip showing the panel name will appear. This is especially handy when you see an icon and wonder, "What panel is that?"
- **Open and close drawers:** Click an icon, and the contents of that panel will fly out, as shown in Figure 1-5. Click it again, and it will slide back. These panels that fly out and slide back are called **drawers**.

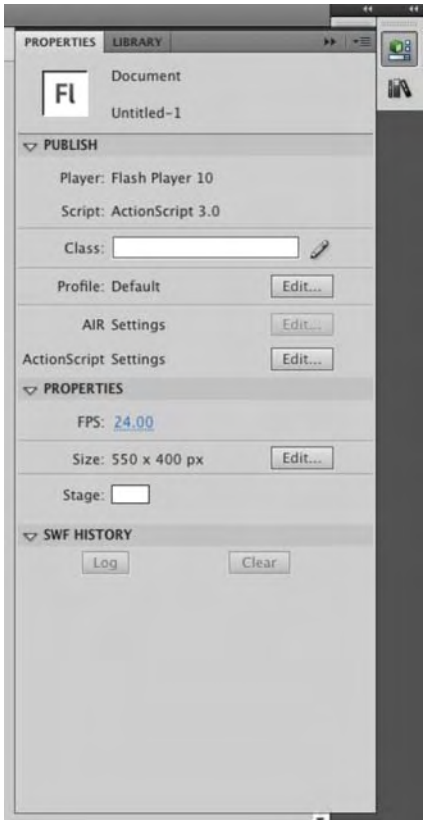


Figure 1-5. Click a panel icon, and the contents slide out. Click the icon again, and they slide in.

- **Minimize panels**: Another method of buying screen real estate is to minimize panels you aren't using. Double-click the tab with the panel's name, and the panel collapses upward. Double-click it again, and it expands to its original dimensions.

- **Close panels:** Right-click (Windows) or Control+click (Mac) a panel, and select **Close** from the context menu. This not only closes the panel but also removes it from your workspace. To get it back, simply open the **Window** menu, and click the name of the panel you closed to restore it.
- **Add panels to sets:** A collection of panel icons, as shown in Figure 1-6, is called a **panel set**. To create a customized panel set, drag one panel icon onto another panel. When you release the mouse, the panel will expand to include the new panel added. To remove a panel from a set, just drag the panel icon to the bottom of the stack.

Figure 1-6. A typical panel set

> *Though not a technique, this tip falls squarely into the "Well, it's about time" category of new stuff. If you drag a floating panel over another interface element, the floating panel will become somewhat transparent and let you see what is under the panel.*

To save your customized workspace, select **Window ➤ Workspace ➤ New Workspace**, and enter a name for your custom workspace into the New Workspace dialog box. Click **OK** to add the workspace. If you want to delete one of your workspaces, select **Window ➤ Workspace ➤ Manage Workspaces**. When the **Manage Workspaces** dialog box opens, select the space to be deleted, and click the **Delete** button.

Speaking of workspaces, at the top right of the Flash interface is a drop-down list of "prerolled" workspaces that came with the application. The default is **Essentials**. If you click and hold down that button, a drop-down list of the choices appears. If you want to return the workspace to its "out-of-the-box" look, select the **Reset Essentials** item in the menu.

Now that you have learned to become the master of the work environment, let's take a look at how you can also become the master of your Flash document and wander over to the **Preferences** and **Properties** areas of Flash.

Setting document preferences and properties

Managing the workspace is a fundamental skill, but the most important decision you will make concerns the size of the Flash stage and the space it will take up in the browser. That decision is based upon a number of factors, including the type of content to be displayed and the items that will appear in the HTML

document beside the Flash movie. These decisions all affect the stage size and, in many respects, the way the document is handled by Flash. These two factors are managed by the **Preferences** dialog box and the **Document Properties** panel.

Document preferences

To access preferences, select **Edit ➤ Preferences** (Windows) or **Flash Professional ➤ Preferences** (Mac). This will open the Flash **Preferences** dialog box. There is a lot to this dialog box, and we'll explore it further at various points throughout this book. For now, we are concerned with the general preferences in the **Category** area of the window. Click **General**, and the window will change to show you the general preferences for Flash, as shown in Figure 1-7.

Figure 1-7. The general preferences can be used to manage not only the workspace but also items on the stage.

If you examine the selections, you will realize they are fairly intuitive. You can choose to see the **Welcome** screen when the application starts, to see tooltips when the mouse pointer is over a tool or object, and to have a test movie appear in a tabbed window or float. You can determine how items are selected on the stage and the timeline and even the colors that will be used to tell you what type of object has been selected on the stage.

> *If you have been using Flash for a few years, the expansion of the **Highlight color** list to include a variety of objects is a welcome addition.*

Now that you know how to set your preferences, let's take a look at managing a document's properties. Click the Cancel button to close the **Preferences** dialog box. When it closes, let's wander back to the stage and explore how a document's properties are determined.

Document settings

To access the **Document Settings** dialog box, use one of the following techniques:

- In the **Properties** panel, click the **Edit** button in the **Properties** area—not the **Publish** area. This will open the **Document Settings** dialog box shown in Figure 1-8.
- Select **Modify ➤ Document**.
- Press Ctrl+J (Windows) or Cmd+J (Mac).
- Right-click (Windows) or Control+click (Mac) the stage, and select **Document Properties** from the context menu.

> *As you have just seen, there are a number of methods you can use in Flash to obtain the same result. In this case, it is opening the **Document Settings** dialog box. Which one is best? The answer is simple: whichever one you choose.*

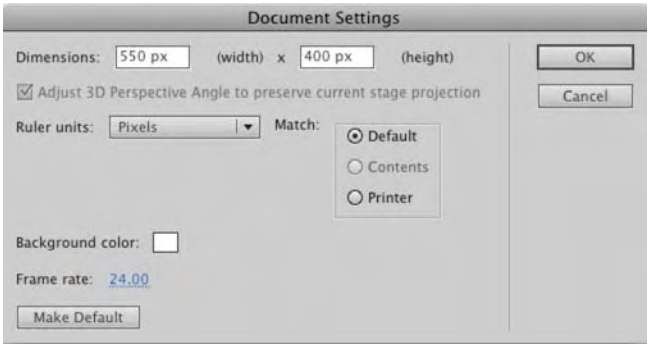


Figure 1-8. Set the stage size through the **Document Settings** dialog box.

Now that the **Document Settings** dialog box is open, let's look around. The **Dimensions** input area is where you can change the size of the stage. Enter the new dimensions, press the Enter (Return) key, or click the **OK** button, and the stage will change. The **Match** area is commonly used to shrink the stage to the size of the content on the stage. The **Contents** radio button is currently grayed out because the stage is empty.

> *For those of you wondering about the **Adjust 3D Perspective Angle** … selection, sit tight. This is better explained in Chapter 9.*

For example, if you change the **Dimensions** setting to a width of **400** pixels and height of **300** pixels, set the **Background color** option to **#000099**, and then click **OK**, the stage will shrink to those dimensions and change color to the dark blue chosen. The changes, as shown in Figure 1-9, are also reflected in the **Properties** panel.

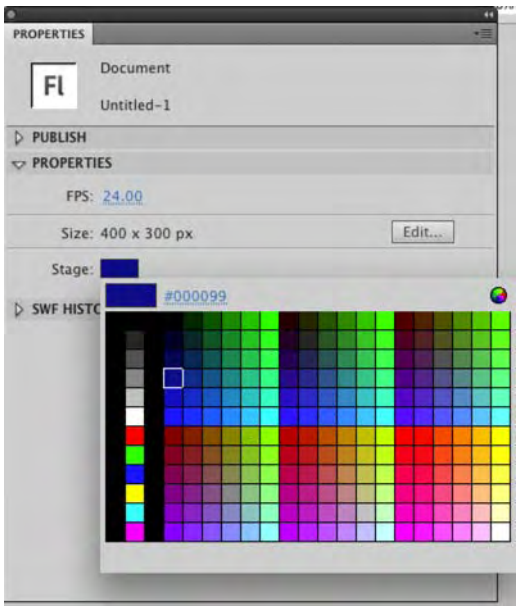


Figure 1-9. Changes made to the document properties are shown in the **Properties** panel.

> *The only two document properties that can be directly changed through the **Properties** panel are the frame rate (**FPS**) and the stage color (**Stage**).*

Zooming the stage

There will be occasions when you discover the stage is a pretty crowded place. In these situations, you'll want to be sure that each item on the stage is in its correct position and is properly sized. Depending on the size of the stage, this could be difficult because the stage may fill the screen area. Fortunately, Flash allows you to reduce or increase the magnification of the stage through a technique called **zooming**. (Note that zooming the stage has no effect upon the actual stage size that you set in the **Document Settings** dialog box.)

To zoom the stage, click the **Magnification** drop-down menu near the upper-right corner of the stage. The drop-down menu shown in Figure 1-10 contains a variety of sizes ranging from **Fit in Window** to **800%** magnification. For example, click the **400%** option, and the stage will most likely fill your screen, as shown in Figure 1-11. Just keep in mind you are not scaling the image on the stage. You are actually magnifying the stage and its contents. Click the **25%** option, and you will see not only the stage but the entire pasteboard, that grey area surrounding the stage, as well.

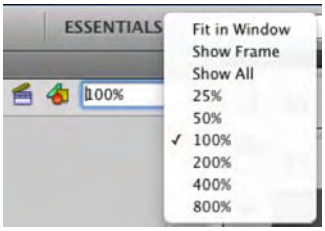


Figure 1-10. Select a zoom level using the **Magnification** drop-down menu.

If you want more zoom, you can get a lot closer than 800 percent. Select **View ➤ Zoom In** or **View ➤ Zoom Out** to increase the zoom level to 2000 percent. If you want a real bird's-eye view of the stage, **Zoom Out** allows you to reduce the magnification level to 8 percent. For you keyboard junkies, **Zoom In** is Ctrl+= and **Zoom Out** is Ctrl+ -. If you are a control freak, you can enter your own value. Just keep in mind the maximum zoom level is 2000 percent, and the minimum zoom level is 8 percent.

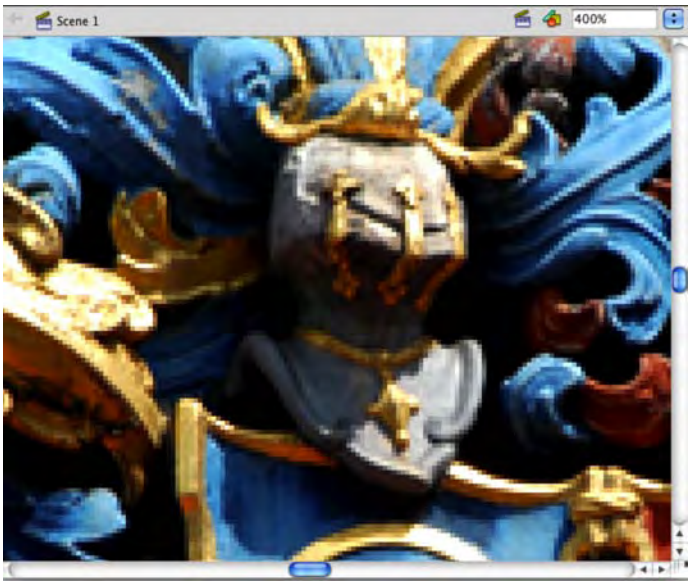


Figure 1-11. Selecting a 400 percent zoom level brings you close to the action.

If you want a side-by-side comparison in which one image is at 100 percent view and the other is at 400 percent or 800 percent, follow these steps:

1. Open the **`Magnify.fla`** file in the `Chapter 1 Exercise` folder.
2. Select **`Window ➤ Duplicate Window`**. The current document will appear in a separate tab.
3. Set the new window's magnification level to **`400%`**.
4. Undock the 100 percent window, as shown in Figure 1-12, and let it float.
5. Select the image in the floating window by clicking the image and dragging it around the stage. You will see the zoomed-in version in the docked window also moves. This is a really handy feature if precise positioning of elements on the stage is critical.
6. Click each window's close button to close the window. Don't save the changes.

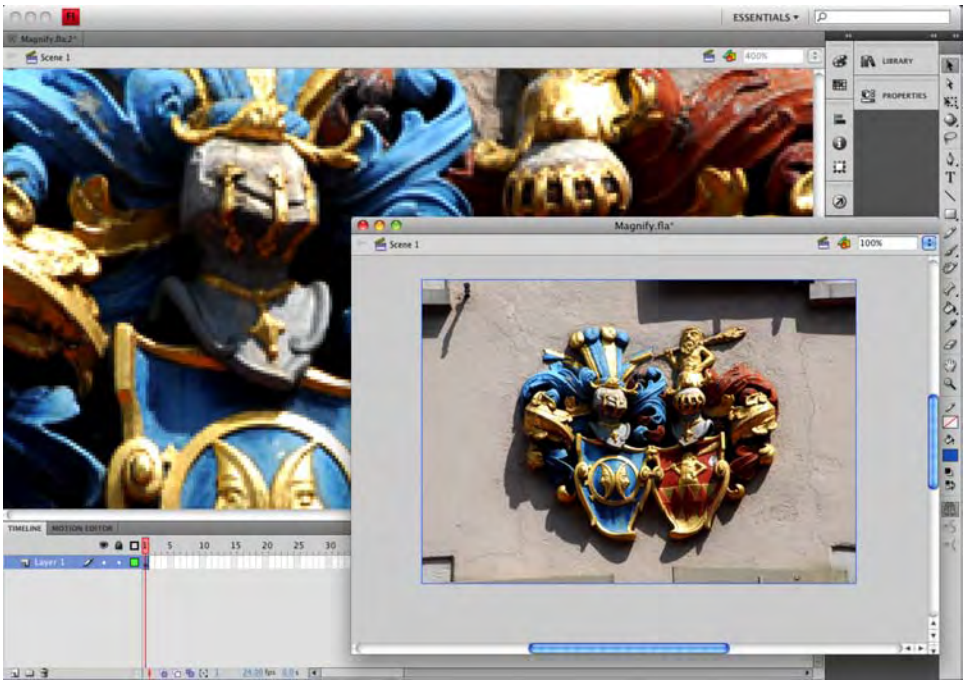


Figure 1-12. Duplicating a window gives you a bird's-eye view and a detailed view of your work simultaneously.

Exploring the panels in the Flash interface

At this point in our stroll through the Flash interface, you have had the chance to play with a few of the panels. We also suspect that by this point you have discovered that the Flash interface is modular. By that we mean that it's an interface composed of a series of panels that contain the tools and features you will use on a regular basis, rather than an interface that's locked in place and fills the screen. You have also discovered that these panels can be moved around and opened or closed depending upon your workflow needs. In this section, we are going to take a closer look at the more important panels that you will use every day. They include the following:

- The timeline
- The **Library** panel
- The **Properties** panel
- The **Motion Editor**
- The **Tools** panel
- The **Help** panel

The timeline

Here's the secret behind how one becomes a proficient Flash designer: master the timeline, and you will master Flash.

When somebody visits your site and an animation plays, Flash treats that animation as a series of still images. In many respects, those images are comparable to the images in a roll of film or one of those flip books you may have played with when you were younger. The ordering of those images on the film or in the book is determined by their placement on the film or in the book. In Flash, the order of images in an animation is determined by the timeline.

The timeline, therefore, controls what the user sees and, more importantly, when they see it. To understand this concept, let's go for a walk in a Canadian forest while the leaves are falling from the trees.

At its most basic, all animation is movement over time, and all animation has a start point and an end point. The length of your timeline will determine when animations start and end, and the number of frames between those two points will determine the length of the animation. As the author, you control those factors.

For example, Figure 1-13 shows you a simple animation. It is a maple leaf that falls from the top of the stage to the bottom of the stage. From this, you can gather that the leaf will move downward when the sequence starts and will continue to its finish position at the bottom of the stage once it has twisted in the middle of the sequence.

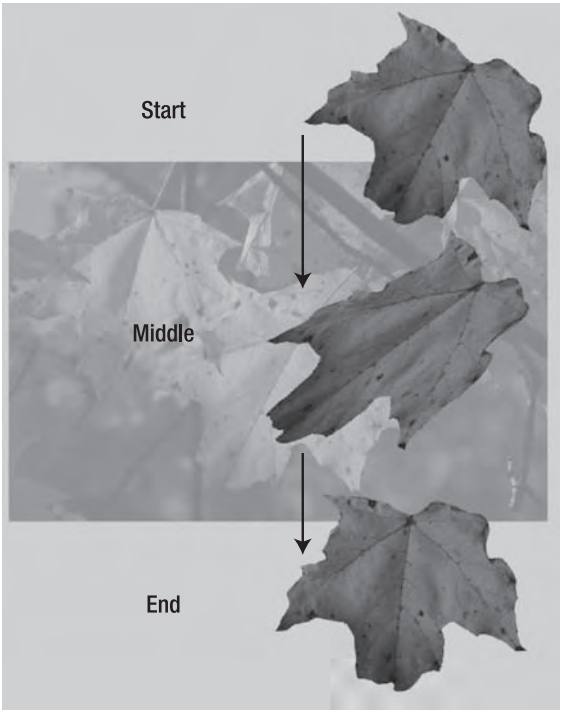


Figure 1-13. A simple animation sequence

Figure 1-14. Animation is a series of frames on the timeline.

So, where does time come into play? Time is the number of frames between the start and middle or middle and end points in the animation. The default timing in a Flash movie—called **frame rate**—is 24 frames per second (fps). In the animation shown previously, the duration of the animation is 48 frames, which means it will play for 2 seconds. You can assume from this that the leaf's middle location, where it twists, is the 24th frame of the timeline. If, for example, you wanted to speed up the animation, you would reduce the length of the timeline to 12 frames; if you wanted to slow it down, you would increase the number of frames to 72 or decrease the frame rate. If you would like to see this animation, open the `Timeline.swf` file in the `01_Complete` folder.

So much for a walk in the woods; let's wander over to the timeline and look at a frame.

Frames

If you unroll a spool of movie film, you will see that it is composed of a series of individual still images. Each image is called a **frame**, and this analogy applies to Flash.

When you open Flash, your timeline will be empty, but you will see a series of rectangles—these are the frames. You may also notice that these frames are divided into groups. Most frames are white, and every fifth frame is gray (see Figure 1-15), just to help you keep your place. Flash movies can range in length from 1 to 16,000 frames, although a Flash movie that is 16,000 frames in length is highly unusual.

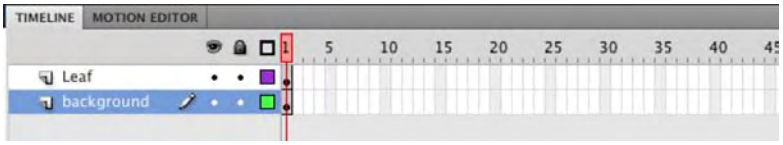


Figure 1-15. The timeline is nothing more than a series of frames.

A frame shows you the content that is on the stage at any point in time. The content in a frame can range from one object to hundreds of objects, and a frame can include audio, video, code, images, text, and drawings either singly or in combination with each other.

When you first open a new Flash document, you will notice that frame 1 contains a hollow circle. This visual clue tells you that frame 1 is waiting for you to add something to it. Let's look at a movie that actually has something in the frames and examine some of the features of frames:

1. Open the `Leaf.fla` file located in the `Chapter 1 Exercise` folder. When the file opens, you will see a yellow leaf, in frame 1, sitting on the stage. You should also note the solid dot in the **`Leaf`** layer. This indicates that there is content in the frame. The empty layer above it has a hollow dot, which indicates there is no content in that frame.
2. Place the mouse pointer on any frame of the timeline, and right-click (Windows) or Control+click (Mac) to open the context menu that applies to frames (see Figure 1-16).

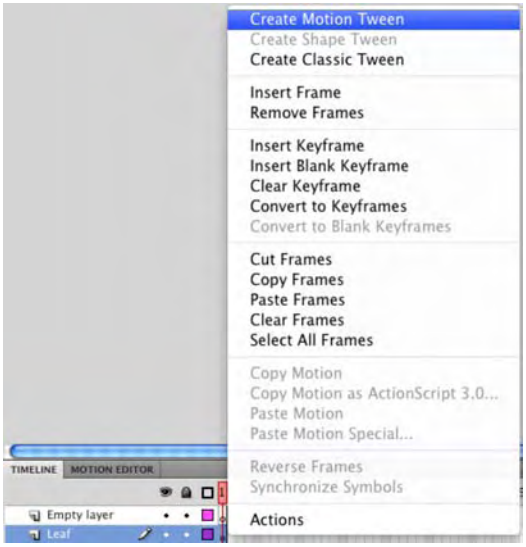


Figure 1-16. The context menu that applies to frames on the timeline

As you can see, quite a few options are available to you. They range from adding motion to the timeline to adding actions (code blocks) that control the objects in the frame. We aren't going to dig into what each menu item does just yet, but be assured, by the time you finish this book, you will have used each menu item.

3. Place the mouse pointer at frame 36 of the **`Leaf`** layer, open the context menu, and select **`Insert Keyframe.`** Repeat this step at frame 72 as well. What you will notice is that the timeline changes to the series of gray frames and three black dots, as shown in Figure 1-17. These gray rectangles represent a span of frames separated by keyframes.

> *If you prefer to use the keyboard, place the mouse pointer at frame 36, and press F5. With that frame selected, press F6. The F5 command adds a frame, and F6 converts the selected frame to a keyframe. If you just want to add a keyframe, select frame 36, and press F6.*

An obvious question at this point is, "So, guys, what's a keyframe?" Remember when we talked earlier about animations and how they had a start point and an end point? In Flash, those two points are called **keyframes**; any movement or changes can occur only between keyframes. In Flash, there are two types of keyframes: those with stuff in them (indicated by the solid dot shown in frame 1 of Figure 1-17) and those with nothing in them. The latter are called **blank keyframes**, and they are shown as frames with a hollow dot. The first frame in any layer, until you add something to that frame, is always indicated by a blank keyframe.

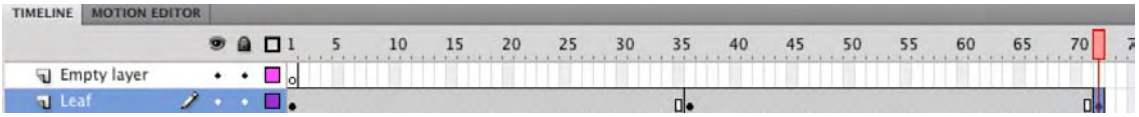


Figure 1-17. The timeline contains three keyframes.

To navigate to specific frames in the timeline, you drag the playhead to the frame. It is the red rectangle with the line coming out of it.

4. Drag the playhead to frame 36, use the **Selection** tool to click the leaf on the stage, and move the leaf down to the middle of the stage. As you moved the leaf, you may have noticed there was a "ghosted" version of the leaf on the screen. This feature was introduced in Flash CS4. What it does is to give you a reference to the starting position of the motion.

> *As mentioned earlier in the chapter, the technique of dragging the playhead across the timeline is called **scrubbing**. As you scrub across the timeline, you will also see the values in the **Current Frame** and **Elapsed Time** areas at the bottom of the timeline change. This is quite useful in locating a precise frame number or time in the animation.*

5. Drag the playhead to the keyframe in frame 72, and drag the leaf off the bottom edge of the stage.
6. Scrub the playhead across the stage. The leaf doesn't do much other than to snap to its new positions as you encounter the keyframes. Let's fix that right now.
7. Right-click (Windows) or Control+click (Mac) between the first two keyframes of the leaf layer, and select **Create Classic Tween** from the context menu. An arrow will appear between the two keyframes. Scrub across the timeline again, and the leaf's movement is much smoother. Repeat this step for the next two keyframes

A **motion tween** is how simple animations are created in Flash. Flash looks at the locations of the objects between two keyframes, creates copies of those objects, and puts them in their positions in the frame. If you scrub through your timeline, you will see that Flash has placed copies of the leaf in frames 2 through 35 and in frames 36 through 71 and put them in their final positions to give the illusion that the leaf is falling.

That was interesting, but we suspect you may be wondering, "OK, guys, do tweens work only for stuff that moves?" Nope. You can also use tweens to change the shapes of objects, their color, their opacity, and a number of other properties. We'll get to them later on in the book.

8. Drag the playhead to frame 36, and click the leaf on the stage. Drag the leaf toward the center of the stage to the bottom of the stage. If you scrub through the timeline, you will see the leaf move quite a distance to the right. This tells you that you can change an animation by simply changing the location of an object in a keyframe.
9. Close the file without saving it.

Using the Motion Editor panel

As you get deeper into working with Flash, you will find there is a reason why the **Timeline** and **Motion Editor** panels are docked beside each other in the interface; motion is created in the timeline and manipulated in the **Motion Editor**. Make a change in one panel, and it is instantly reflected in the other.

In previous versions of Flash, the **Property Inspector**, which is now the **Properties** panel, could be used to change the properties of an animation. This would include techniques such as "ramping" the speed of an animation, called **easing**, or even changing how an animation occurs such as adding or removing rotation. This is still true for shape tweens and classic tweens, but the true power of motion is realized in the **Motion Editor**.

Though we are going to get deeper into using this panel's features in Chapters 7 and 8, now would be a good time to stroll over to it and take a peek at it. Open the `MotionPath.fla` file. When the file opens, the first thing you will notice is there is an icon, as shown in Figure 1-18, beside the layer name. This "zooming square" icon indicates the layer is a tween layer. The term **tween** indicates that something is changing at some point in the layer—we'll get into tweening in more detail later. The other thing you may have noticed, especially if you have used Flash, is there are no arrows between the keyframes. The tween span is indicated in blue, and because of the icon, the use of the arrow is not necessary. The dotted line you see on the stage indicates a tween path.

> *If you are an After Effects user, you may be looking at that tween path and thinking, "Nah, it can't be!" Yes, it is a motion path, and just like an After Effects motion path, you can adjust that path by clicking and dragging one of the dots. Each dot represents a frame of the animation.*

Drag the playhead across the timeline, and you will see the leaf tumble, grow, and shrink as you move the playhead from left to right. Select the **Leaf** layer name on the timeline, and click the **Motion Editor** tab to open the **Motion Editor**, as shown in Figure 1-18.

You may have noticed us mentioning After Effects when we talk about tweens and this panel. This is deliberate because this feature of Flash can trace its roots in a straight line back to After Effects. In that application, objects put in motion or otherwise manipulated over time have a full set of properties and guides for each layer of content in an After Effects project. The major property is motion. Flash users who use After Effects to create motion graphics for their Flash projects find the "After Effects way of doing things" to be relatively compact and simple. The result over the years has been Flash designers wondering why Flash didn't have this feature. Obviously enough of you asked the question because it was introduced in Flash CS4 and has been broadly accepted by the Flash community.

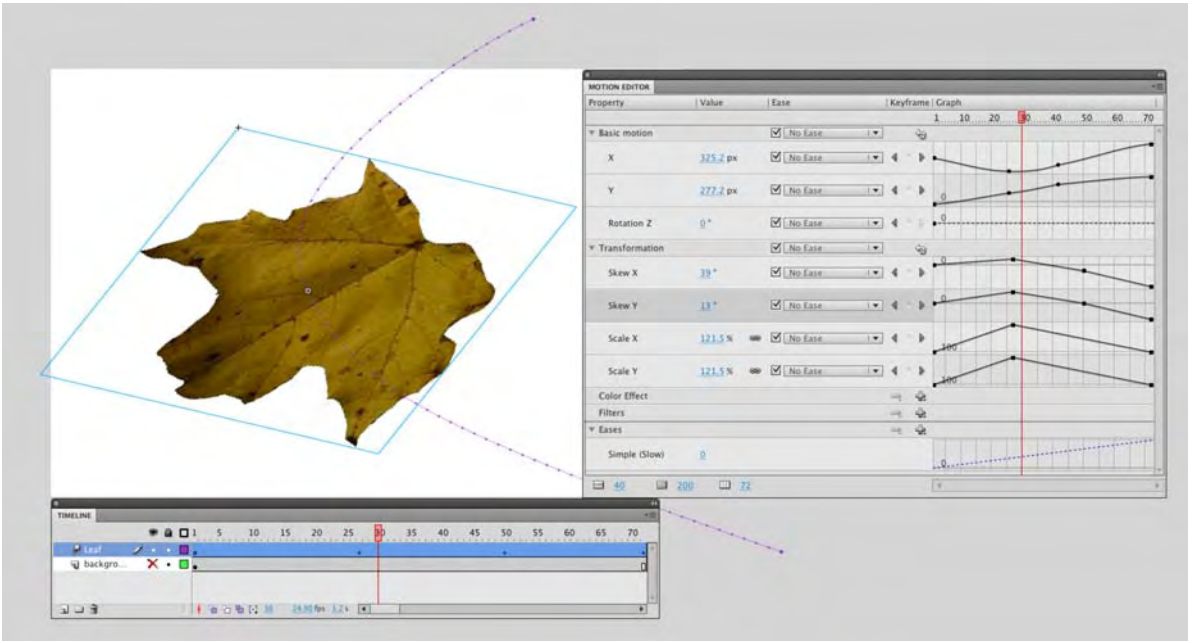


Figure 1-18. A motion layer, tween path, and the **`Motion Editor`** panel

> *Time for a history lesson. Back in 2000, one of us attended FlashForward 2000. That event is regarded by many of the old Flash hands as being Flash's "Woodstock." It was at this conference that Adobe introduced its "Flash killer": LiveMotion. LiveMotion used the same timeline as the* ***`Motion Editor`****. At the time, we (and many people at the conference) thought the timeline was a "sweet" idea, and eight years later, three years after it purchased Macromedia (which owned Flash), Adobe added this feature to Flash.*

If you have never used After Effects, now would be a good time to start easing you into the application, and we'll start with terminology. See those triangles beside the property names in Figure 1-18? If you click one, it rotates down, and the area is revealed. After Effects users call those triangles **twirlies**, and the term used to describe clicking one of them to reveal the contents of the area uses is **to twirl down**. We will be using these terms quite extensively when we talk about the **`Motion Editor`** panel.

The **Motion Editor** panel is broken into five distinct areas:

- **Basic Motion:** If you twirl down Basic Motion, you will see that it controls the movement of the object on the x- and y-axes and rotation on the z-axis.
- **Transformation:** Think of this panel as a "by-the-numbers" version of the **Free Transform** tool, which allows you to slant (**skew**) and resize (**scale**) the selected object.
- **Color Effect:** This panel—click the + sign to open it—allows you to manipulate alpha (transparency), color, brightness, and tint.
- **Filters:** This is where you apply one of the filters—Drop Shadow, Blur, Glow, Bevel, Gradient Glow, Gradient Bevel, Adjust Color—to the object on the stage.
- **Eases:** This area is where you affect the starting or stopping motion of an animation.

When you twirl down an area of the panel, all of the properties it can affect are revealed.

> *The **Color Effect** and **Filters** areas are also available in the **Properties** panel. Why? These are the properties of an object that can be changed, but they can also be "tweened." For example, you could have the leaf change from yellow to red if you tween its **Tint** property.*

At the bottom of the panel there are three icons, and each one, as shown in Figure 1-19, has a blue number beside it. These values allow you to control how the graph and frames will appear in the **Motion Editor**.

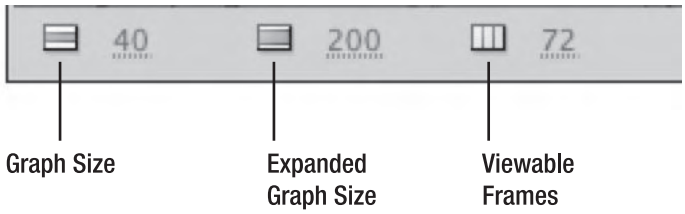


Figure 1-19. You can manage the look of the **Motion Editor** panel.

If you place the mouse pointer over one of the numbers, notice how the mouse pointer changes to a double arrow. This tells you the number can be changed because it is "hot text." One way to change the value is to double-click the number and enter a new value. Another is to click and drag across the number; as you do so, the value changes. This click-and-drag method is called **scrubbing**. Hold down the Shift key when you scrub, and the values will increase by increments of 10; or, simply scrub the numbers to increment by single digits. Scrubbing in this area of the **Motion Editor** works as follows:

- Scrub across the **Graph Size** value, and the side of the graph in the panel gets larger or smaller.
- Scrub across the **Expanded Graph Size** value, and just the graph for the selected property gets larger or smaller. This one, at first, is a bit tricky. Changing the value doesn't result in an immediate change. What you need to do to see the graph is to click the solid color area of the strip. When you do this, the property strip expands to full size, and you can now make the change.
- Scrub across the **Viewable Frames** value, and you will see the frames in the graph get larger or smaller. The maximum value for this feature is the current number of frames in the tween span, not the Flash movie. Notice how you can't get a number larger than the 72 frames in the animation.

Twirl down the **Basic motion** section. If you scrub across any of the values, the object in that particular frame will change.

> *Be careful with that blue back arrow on the title strip. This is the **Reset Values** button, and it doesn't simply reset the values to their original values. Click it, and the tween is removed.*

Click the twirlie in the **Eases** area to open it, and you see that you can remove any "eases" or apply a **Simple (Slow)** ease to the entire area or to individual properties. We aren't going to explain a **Simple (Slow)** ease because you are, for now, just passing by. We'll cover this in greater depth in the animation chapters.

You will notice that you have a timeline in this panel. Obviously, if you have a timeline, you should be able to add a keyframe. Drag the playhead to frame 15 of the timeline in the **Motion Editor**. In the keyframe area are two arrows on either side of a diamond. Click the diamond to add a new keyframe, which is now visible as a dot on the graph, and if you look up at the main timeline, you will see a keyframe has also been added in frame 15 of the main timeline. The diamond also turns golden. If you move the playhead to another position, the keyframe changes back to gray. This should tell you a golden diamond, as shown in Figure 1-20, means there is a keyframe in the frame. If you click the arrows on either side of the diamond, you will jump to the previous keyframe or the next keyframe. When one of those arrows is grayed out, you are essentially being told there are no further keyframes beyond the current position of the playhead.

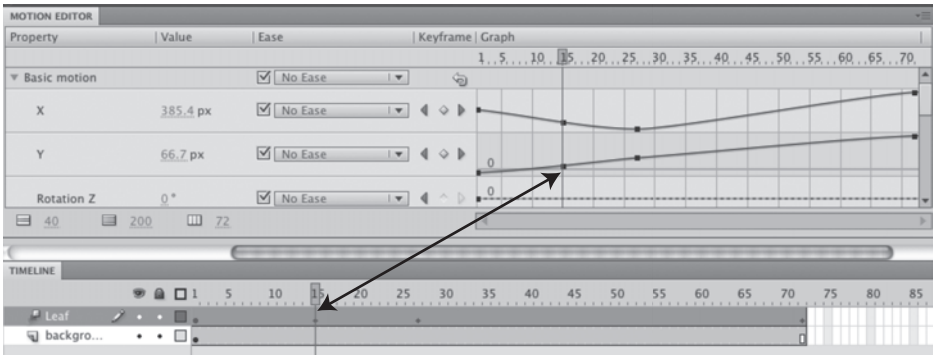


Figure 1-20. Key frames added in the **`Motion Editor`** also appear on the main timeline.

The **`Colors`**, **`Filters`**, and **`Eases`** strips are treated a bit differently. Instead of an arrow, they have plus and minus signs. Click the **+** in the **`Filters`** area. A drop-down menu containing a list of the filters, as shown in Figure 1-21, appears. To remove a filter, click and hold the **–** sign. A drop-down list of the filters applied to that object will appear. Click a filter in that list, and it will be removed.

Figure 1-21. Filters can also be added and tweened.

The Properties panel

We have been mentioning the **`Properties`** panel quite a bit to this point, so now would be a good time to stroll over to it and take a closer look. Before we do that, let's go sit down on the bench over there and discuss a fundamental concept in Flash: everything has **properties**.

What are properties? These are the things objects have in common with each other. Tiago and Tom share the Author property of this book. We are both males. We both have a common language property, English, but we also have properties we don't share. For example, our location properties are Zurich and Toronto. Tiago is a bit taller than Tom. At our most basic, we are humans on the planet Earth. In Flash terms, though, we are objects on the stage. Click the Tiago object, and you will instantly see that, even though he and Tom share similar properties, they also have properties that are different. The properties of any object on the Flash stage will appear in the **`Properties`** panel, and best of all, any properties appearing on the panel can be changed.

The panel, as shown in Figure 1-22, is positioned, by default, to the right of the screen. You can move it elsewhere on the screen by simply dragging it into position and releasing the mouse. There are locations on the screen where you will see a shadow or darkening of the location when the panel is over it. This color change indicates that the panel can be docked into that location. Otherwise, the panel will "float" above the screen.

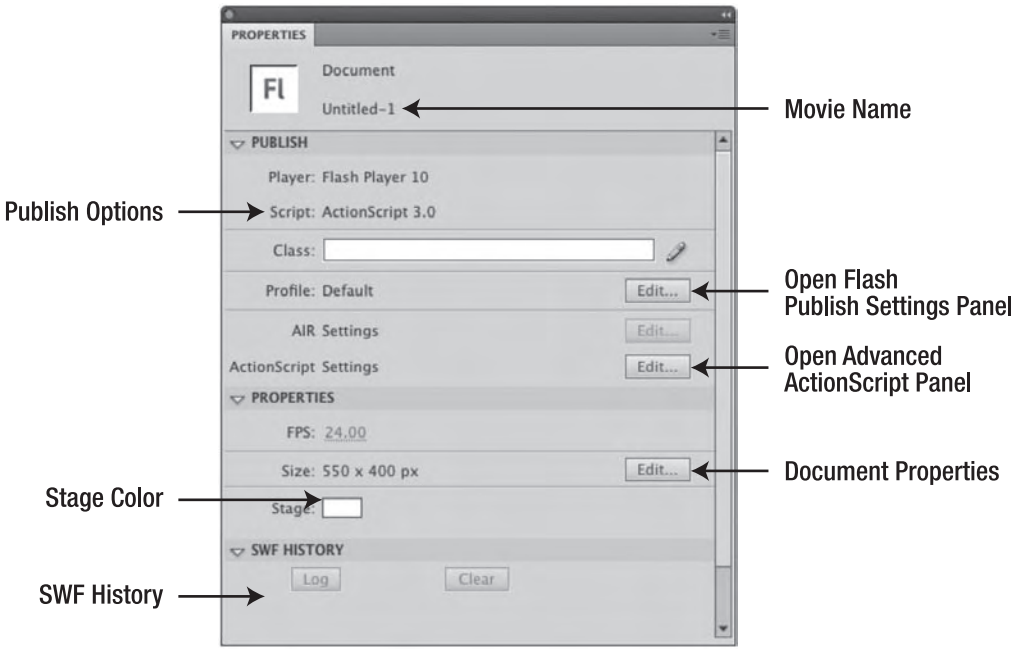


Figure 1-22. The **Properties** panel

New to the **Properties** panels in Flash Professional CS5 is the **SWF History** area. This handy little feature tracks the changes in SWF size and the date and times when the SWF was tested. In Figure 1-23, you can see how this feature works. The latest changes or tests are shown in the **Properties** panel. If you click the **Log** button, the full history appears in the **Output** panel. Tracing changes really isn't necessary with this project. In this case, click the **Clear** button, and the entries in the **Properties** and **Output** panels will be deleted.

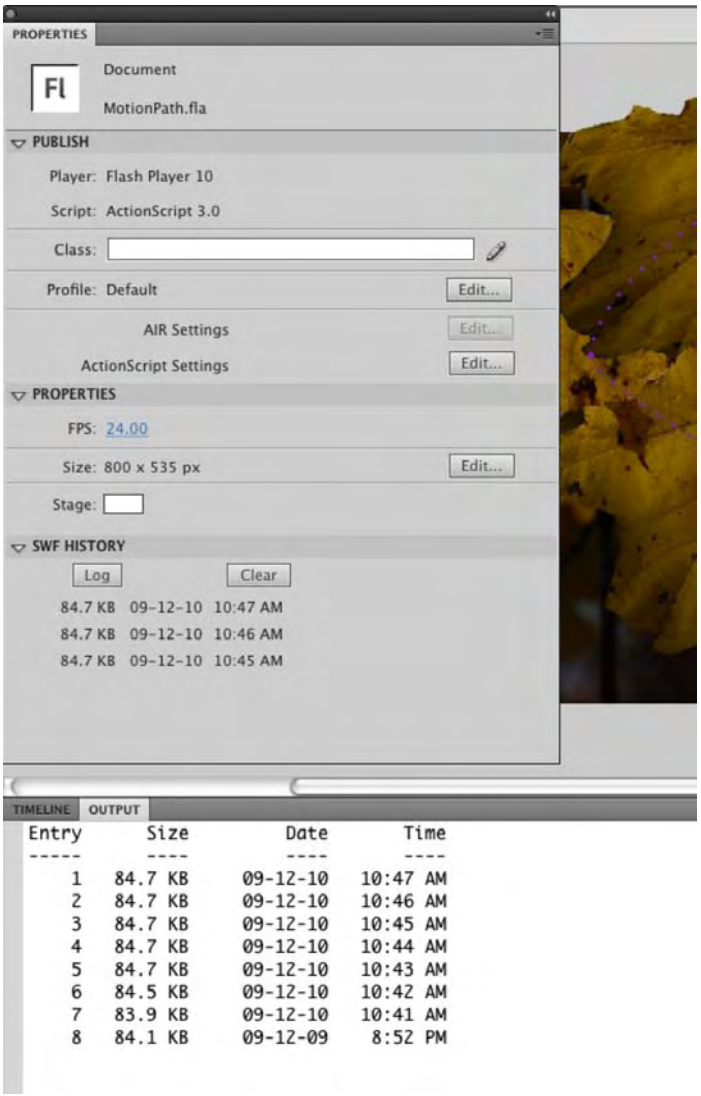


Figure 1-23. SWF History is a useful addition to the application.

When an object is placed on the stage and selected, the **Properties** panel will change to reflect the properties of the selected object that can be manipulated. For example, in Figure 1-24, a box has been drawn on the stage. The **Properties** panel shows you the type of object that has been selected and tells you the stroke and fill colors of the object can also be changed. In addition, you can change how scaling will be applied to the object and the treatment of the red stroke around the box.

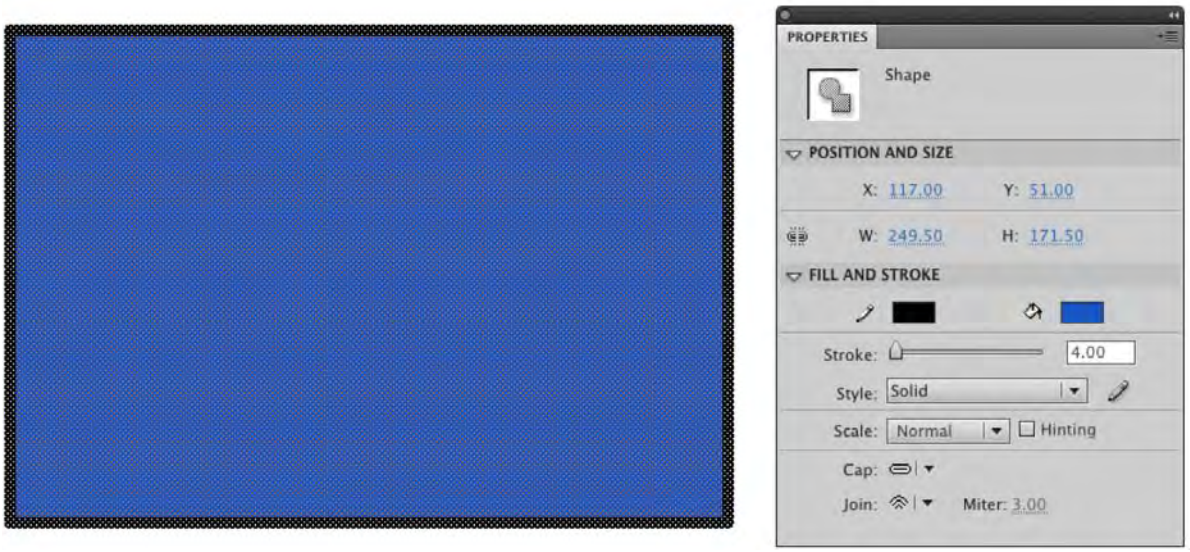


Figure 1-24. The **`Properties`** panel changes to show you the properties of a selected object that can be manipulated (in this case, the size, location, and stroke and fill properties of the box on the stage).

Let's experiment with some of the settings in the **`Properties`** panel:

1. Open the file named `Properties.fla` in the `Exercise` folder. When the file opens, you will see an image of the Summer Palace in Beijing over a black background and the words **`Summer Palace, Beijing`** at the bottom of the stage.
2. In the **`Tools`** panel, click the **`Selection`** tool, which is the solid black arrow at the top of the **`Tools`** panel (see Figure 1-25).

> *Clicking tools is one way of selecting them. Another way is to use the keyboard. When you roll the mouse pointer over a tool, you will see a tooltip containing the name of the tool and a letter. For example, the letter beside the **`Selection`** tool is **`V`**. Press the V key, and the **`Selection`** tool will be highlighted in the **`Tools`** panel.*

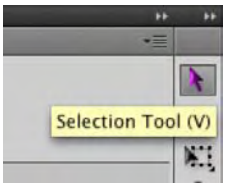


Figure 1-25. Click a tool or use the keyboard to select it.

3. Using the **Selection** tool, click once white area of the stage. The **Properties** panel will change to show you that you have selected the stage and can change its color.

4. In the **Properties** panel, click the **Background Color** chip to open the **Color Picker**, as shown in Figure 1-26. Click the medium gray on the left (#999999), and the stage will turn gray. You have just changed the color property of the stage.

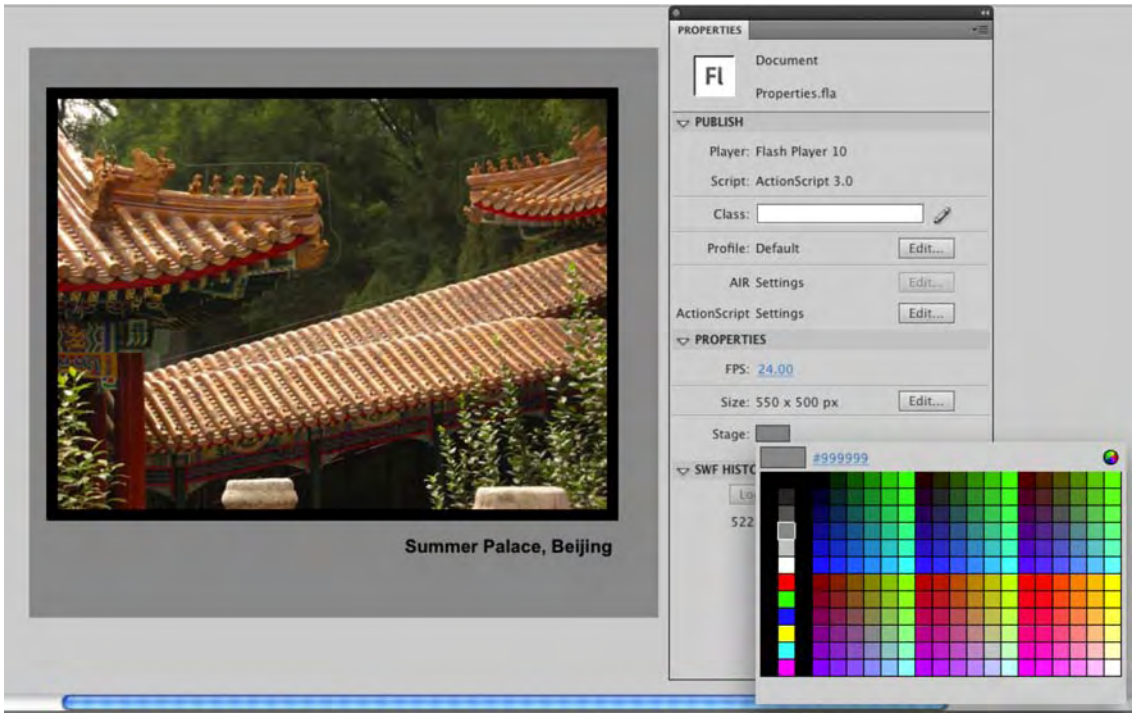


Figure 1-26. Color and stage dimensions are properties of the stage.

5. Click the text. The **Properties** panel will change to show you the text properties, as shown in Figure 1-27, that can be changed. Click the color chip to open the **Color Picker**. When it opens, click the white chip once. The text turns white.

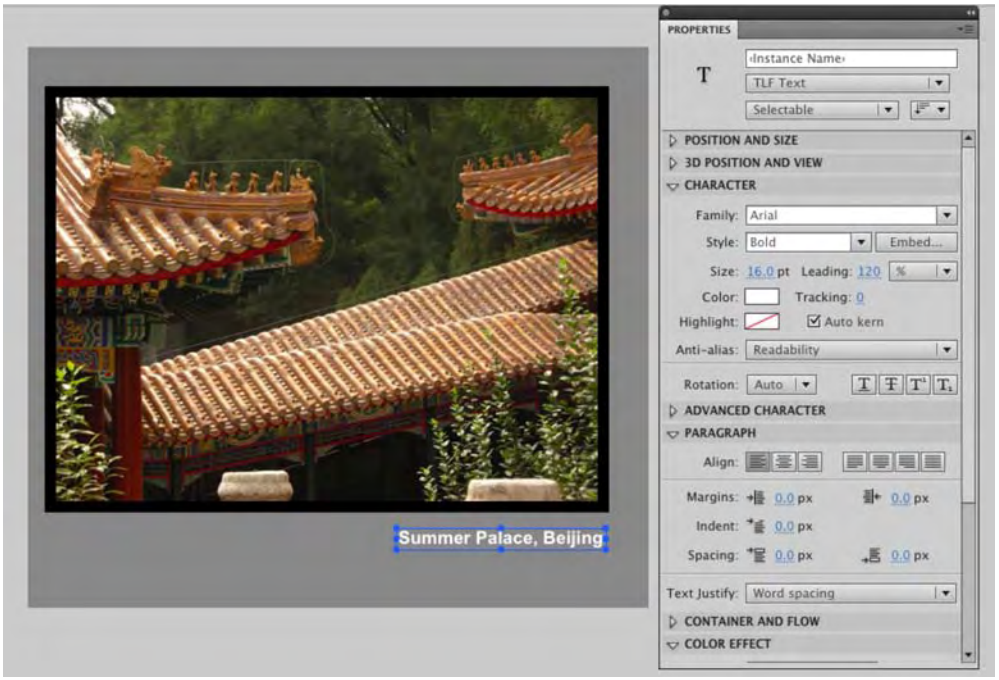


Figure 1-27. Color is just one of many text properties that can be manipulated.

6. Click the black box surrounding the image. The **`Properties`** panel will change to tell you that you have selected a shape and that the fill color for this shape is black. It also lets you know that there is no stroke around the shape. In the **`Position and Size`** areas are four numbers that tell you the width, height, and x and y coordinates of the shape on the stage. Select the **`Width`** value, and change it from **`500`** to **`525.`** Change the **`Height`** number from **`380`** to **`400.`** **`Finally`**, **`change the X and Y values for the selection to 5 and 23`**, as shown in Figure 1-28. Each time you make a change, the selected object will get wider or higher.

> *If you are an After Effects user, then seeing properties as links (or, as they are known in Flash, **hot text**) is not new. If you want to quickly change any value, simply click and drag a value to the left or the right. As you drag, the numbers will change, and the selected object on the stage will reflect these new values as you drag.*

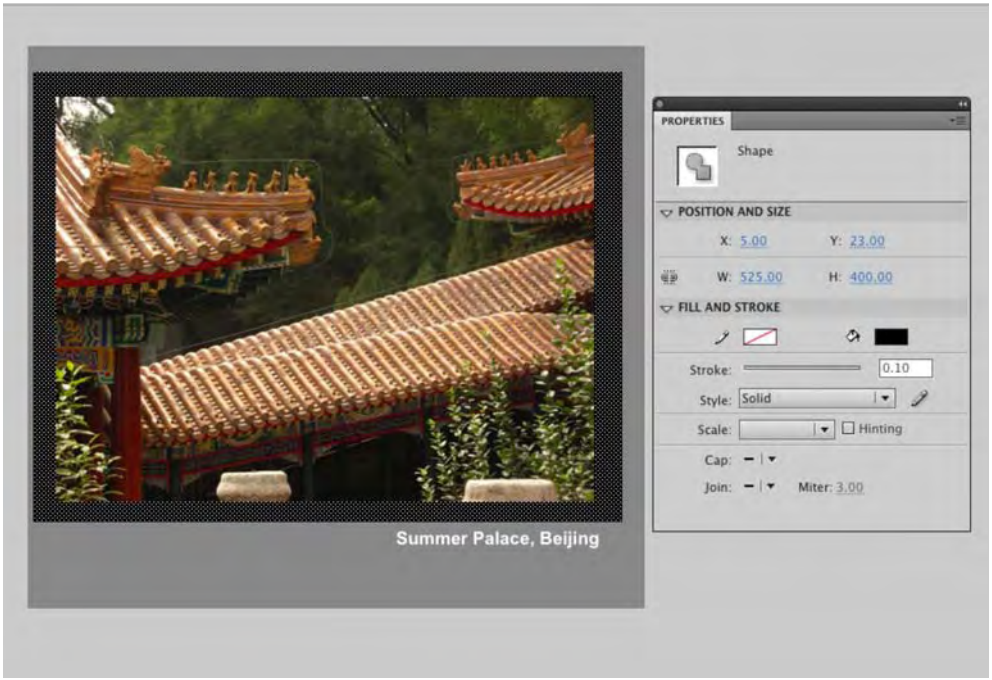


Figure 1-28. The size and the location of selections can also be changed in the **`Properties`** panel.

The Tools panel

The **`Tools`** panel, as shown in Figure 1-29, is divided into four major areas:

- **Tools**: These allow you to create, select, and manipulate text and graphics placed on the stage.
- **View**: These allow you to pan across the stage or to zoom in on specific areas of the stage.
- **Colors**: These tools allow you to select and change fill, stroke, and gradient colors.
- **Options**: This is a context-sensitive area of the panel. In many ways, it is not unlike the **`Properties`** panel. It will change depending upon which tool you have selected.

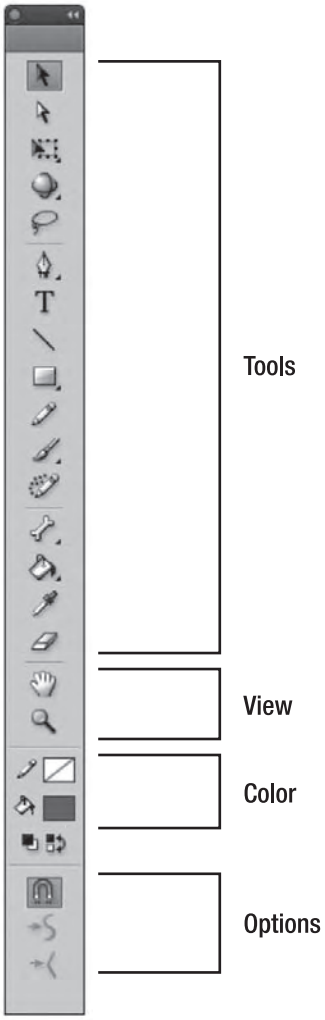


Figure 1-29. The **Tools** panel

If there is a small down arrow in the bottom-right corner of a tool, this indicates additional tool options. Click and hold that arrow, and the options will appear in a drop-down menu, as shown in Figure 1-30.

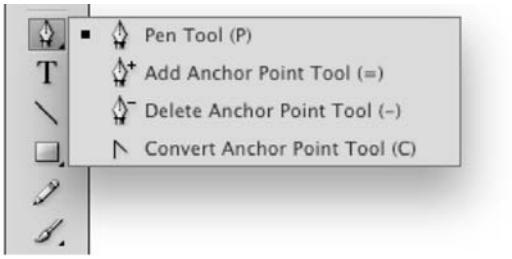


Figure 1-30. Some tools contain extra tools, which are shown in a drop-down list.

The Library panel

The **Library** panel is one of those features of the application that is so indispensable to Flash developers and designers that we simply can't think of anybody who doesn't use it . . . religiously.

In very simple terms, it is the place where content, including video and audio, that is used in the movie is stored for reuse later in the movie. It is also the place where symbols and copies of components that you may use are automatically placed when the symbols are created or the components are added to the stage.

Let's wander over to the **Library** and take a look. If the `Properties.fla` file isn't open, open it now. Click the **Library** icon on the right side of the screen, or click the **Library** tab if the panel isn't collapsed. The **Library** will fly out, as shown in Figure 1-31. Inside the **Library**, you will see the Summer Palace image is actually a library asset. Drag a copy of the image from the **Library** to the stage. Leave it selected, and press the Delete key. Notice that the image on the stage disappears, but the **Library** item is retained. This is an important concept. Items placed on the stage are, more often than not, instances of the item and point directly to the original in the **Library**.

To collapse the **Library** panel, click the stage. Panels, opened from icons, are configured to collapse automatically. If, for some reason, you want to turn off autocollapse, select **Edit ➤ Preferences** (Windows) or (**Flash ➤ Preferences**) to open **Preferences**. Click **General**, and deselect **Auto-Collapse Icon Panels** when the preferences open. Another way of opening and closing the **Library** is to press Ctrl+L (Windows) or Cmd+L (Mac).

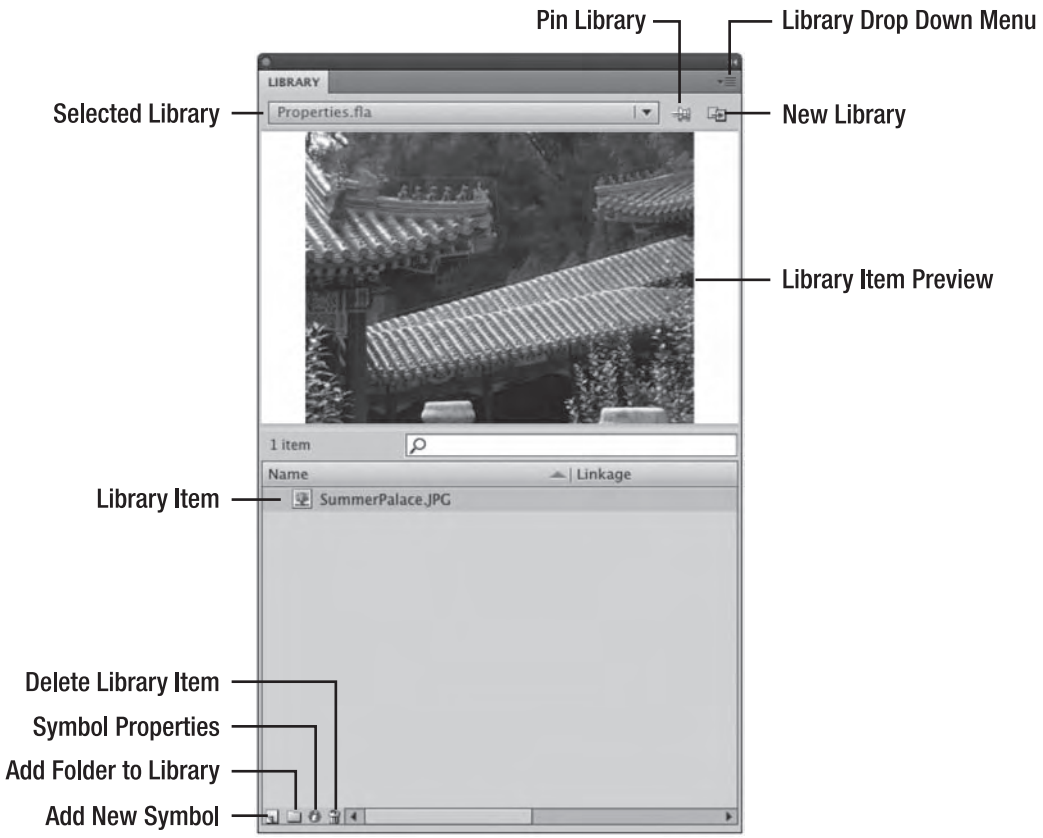


Figure 1-31. The **`Library`** panel

Using layers

The next stop on our walkabout is found under the stage: the layers feature of the timeline. There are a few things you need to know regarding layers:

- You can have as many layers in a Flash movie as you need. They have no effect upon the file size.
- Use layers to manage your movie. Flash movies are composed of objects, media, and code, and it is a standard industry practice to give everything its own layer. This way, you can easily find content on a crowded stage. In fact, any object that is tweened must be on its own layer.
- Layers can be grouped. Layers can be placed inside a folder, which means you can, for example, have a complex animation and have all the objects in the animation contained in their own layers inside a folder.

- Layers stack on top of each other. For example, you can have a layer with a box in it and another with a ball in it. If the ball layer is above the box layer, the ball will appear to be above the box.
- Name your layers. This is another standard industry practice that makes finding content in the movie very easy.

> *Screen real estate is always at a premium. If you need to see more of the stage, double-click the* ***Timeline*** *tab to collapse the layers. Double-click the* ***Timeline*** *tab again, and the layers are brought back.*

Layer properties

Layers can also be put to very specific uses, and this is accomplished by assigning one of five layer properties, as shown in Figure 1-32, to a layer. Though they are called **properties**, they really should be regarded more as layer modes than anything else. We will be covering these in great depth in Chapter 3 and Chapters 7 and 8, which focus on animation, but this is a good place to start learning where they are and what they do. The modes, accessed by right-clicking (Windows) or Control+clicking (Mac) a layer name and clicking **Properties**, are as follows:

- **Normal layer:** This is the layer you have been working with to this point in the book. Objects on these layers **are** always visible, and motion is more or less governed by the **Motion Editor**. You can always identify a normal layer; its icon looks like a folded sheet of paper.
- **Mask layer:** The shape of an object on a masking layer is used to hide anything outside the shape and reveals only whatever is under the object. For example, place an image on the stage and add a box in the layer above it. If that layer is a masking layer, only the pixels of the part of the image directly under the box will be seen. The icon for a mask layer is a square with an oval in the middle of it.
- **Masked layer:** If you have a mask layer, you will also have one of these. Like Siamese twins, mask layers and masked layers—any layer under a mask—are joined together. The icon for a masked layer **looks** like a folded sheet of paper facing the opposite direction as the icon for a normal layer. In addition, the layer name for a masked layer is indented.
- **Folder layer:** The best way of thinking of this mode is as a folder containing layers. They also provide quick access to layer groupings you may create. The icon for a folder layer is a file folder with a twirlie. Click the twirlie, and the layers in the folder are revealed. Click the twirlie again, and the layers collapse.

- **Guide layer**: A guide layer contains shapes, symbols, images, and so on, that you can use to align elements on other layers in a movie. These things are really handy if you have a complex design and want a standard reference for the entire movie. What makes guide layers so important is that they aren't rendered when you publish the SWF. This means, for example, that you could create a comprehensive design (or **comp**) of the Flash stage in either Fireworks CS5 or Photoshop CS5, place that image in a guide layer, and not have to worry about an overly large SWF being published and bloating the SWF with unnecessary file size and download time. The icon for a guide layer is a T-square.

Figure 1-32. The **`Library`** panel

> *Flash Professional CS5, by default, omits layers that are hidden—we get into hiding layers in a couple of minutes—when the SWF is eventually published. The result is a reduction in the size of the SWF.*

Creating layers

Let's start using layers. Here's how:

1. Open the `Layers.fla` document. When it opens, you will see the garden and a couple of butterflies, as shown in Figure 1- 33. If you look at the timeline, you could logically assume this is a simple photograph sitting on a single layer named **`Garden`**.
2. Open the **`Library`**. You will notice that there is an object named **`Butterfly`** contained in the **`Library`**. That object is a movie clip. We'll get into movie clips in a big way in Chapter 3.

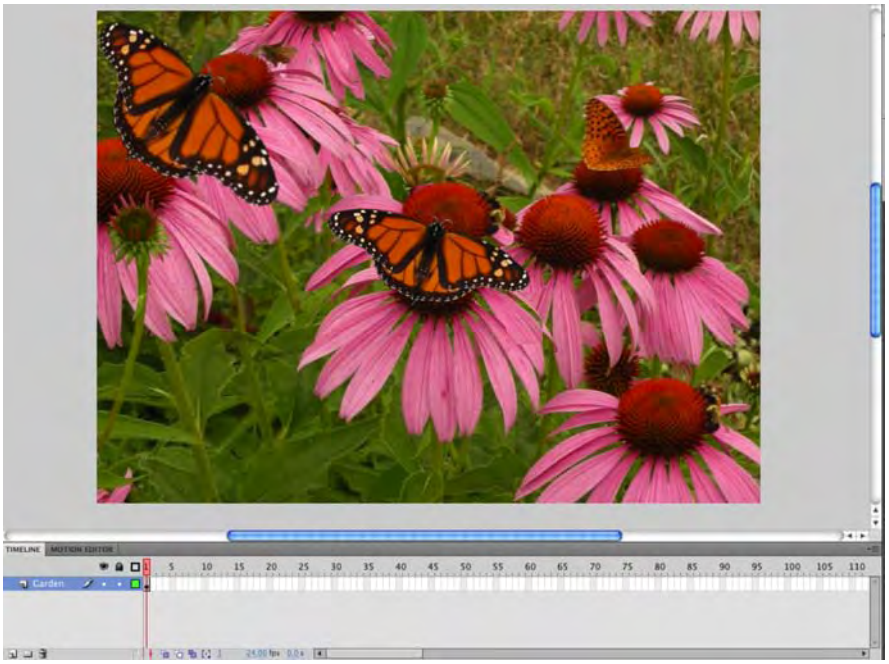


Figure 1-33. We start with what appears to be a photograph of flowers and butterflies.

3. Click the keyframe in the **Garden** layer. Three objects—the two Monarch butterflies and the image—are selected. What you have just learned is how to select everything on a layer. Click the pasteboard to deselect the objects.

4. Each object should be placed on its own layer. Click the **New Layer** button—it looks like a page with a turned-up corner—directly under the **Garden layer** strip. A new layer, named **Layer1**, is added to the timeline.

5. Select **the Garden layer by clicking it,** and add a new layer. Notice how the new layer is placed between **Garden** and **Layer 1**. This should tell you that all new layers added to the timeline are added directly above the currently selected layer. Obviously, **Layer 2** is out of position. Let's fix that.

6. Drag **Layer 2** above **Layer 1**, and release the mouse. Now you know how to reorder layers and move them around in the timeline. Layers can be dragged above or below each other.

7. Add a new layer, Layer 3. Hold on—we have four layers and three objects. The math doesn't work. That new layer has to go.

8. Select **Layer 3**, and click the **Trash Can** icon under the **Garden** strip. **Layer 3** will now be deleted, and now you know how to get rid of an extra layer.

9. Double-click the **Layer 1** layer name to select it. Rename the layer **Butterfly**. Now that you know how to rename a layer, select **File ➤ Revert** to revert the file to its original state. It's now time to learn how to put content on layers.

Adding content to layers

Content can be added to layers in one of two ways:

- Directly to the layer by moving an object from the **Library** to the layer
- From one layer to another layer

Let's explore how to use the two methods to place content into layers:

1. Create a new layer, name it **Butterfly01**, and drag the **Butterfly** movie clip from the **Library** to cover the flower, as shown in Figure 1-34, in the bottom-right corner of the stage. The hollow dot in the layer will change to a solid dot to indicate that there is content in the frame. When moving objects from the **Library** to the stage, be sure to select the layer, sometimes called a **target layer**, before you drag and drop. This way, you can prevent the content from going in the wrong layer. Let's now turn our attention to getting the two other butterflies into their own layers.

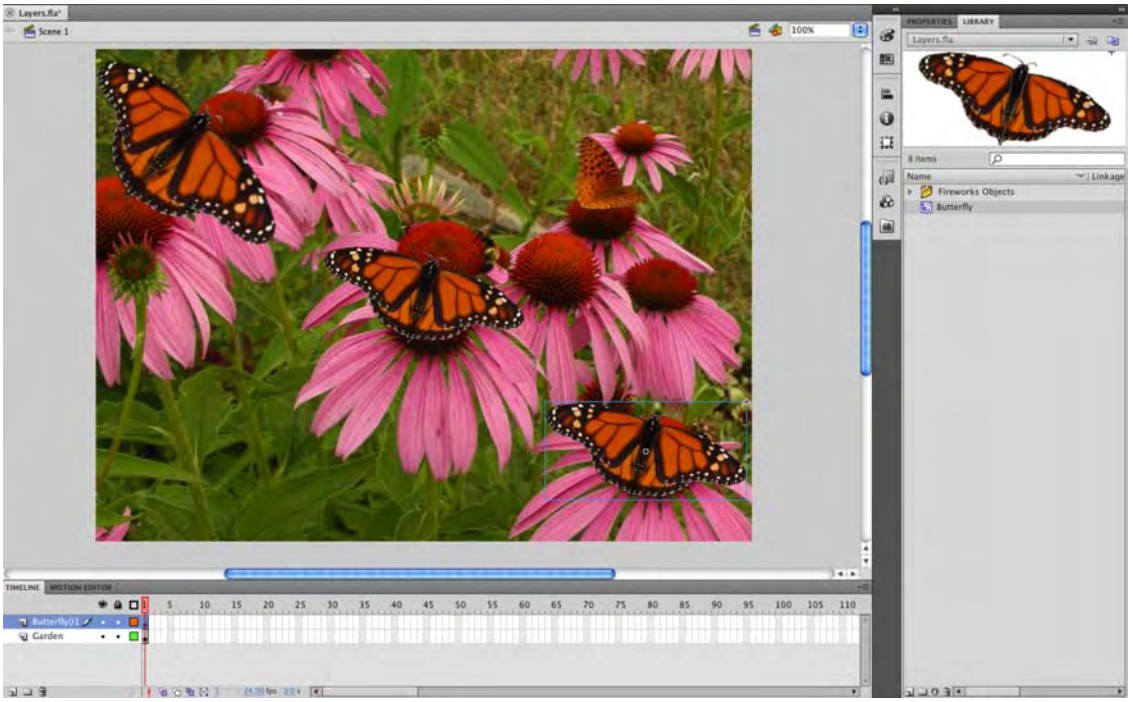


Figure 1-34. Objects can be dragged directly from the **Library** and added to specific layers.

2. With the Shift key held down, click the two butterflies in the center and upper-left corner of the stage. This will select them, and the blue box around each one indicates they are movie clips.

3. Select **Modify ➤ Timeline ➤ Distribute to Layers**, or press Ctrl+Shift+D (Windows) or Cmd+Shift+D (Mac). The butterflies will appear in the new **Butterfly** layers that appear under the **Garden** layer. Rename these layers **Butterfly02** and **Butterfly03**, and move them, as shown in Figure 1-35, above the **Butterly01** layer.

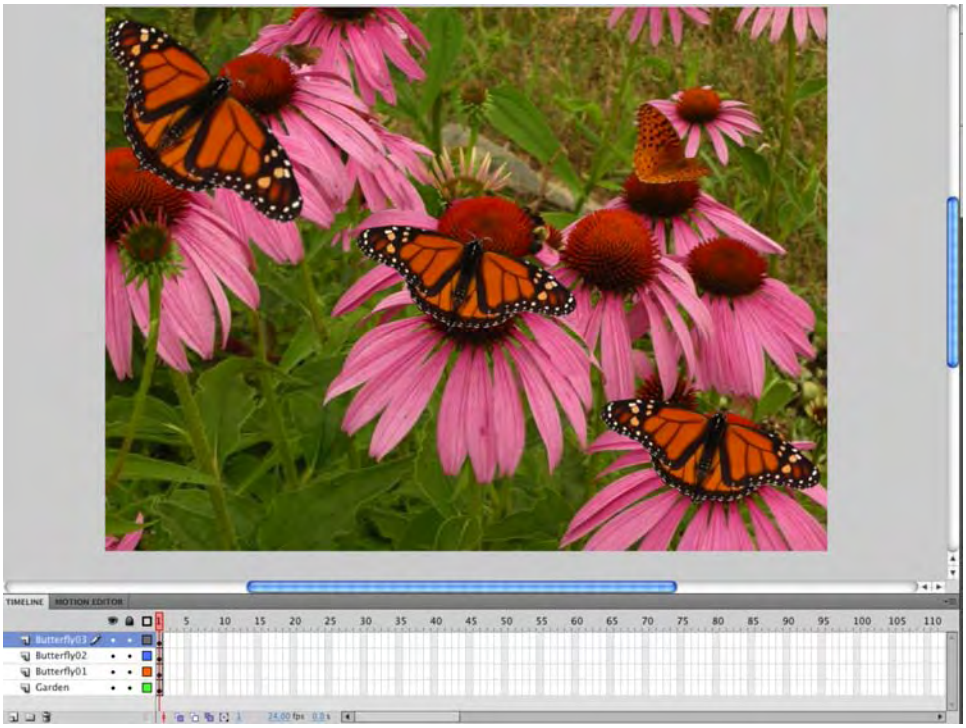


Figure 1-35. Multiple selections can be placed in their own layers using the **Distribute to Layers** command.

The next technique is one that addresses a very common issue encountered by Flash designers: taking content from one layer and placing it in the exact same position in another layer. This is an issue because you can't drag content from one layer to another.

1. Click the **Butterfly** movie clip in the center of the stage, and press Ctrl+X (Windows) or Cmd+X (Mac) to cut the selection out of the layer.

2. With the layer still selected in the timeline, select **Edit ➤ Paste in Place** (see Figure 1-36). A copy of the butterfly will appear in the precise location at which you cut it.

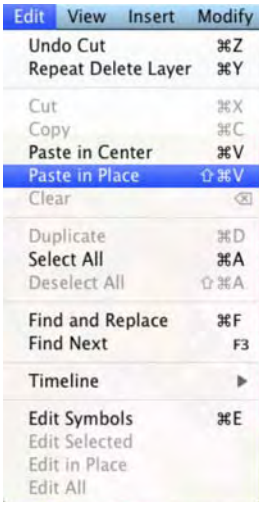


Figure 1-36. **`Paste in Place`** pastes objects in the precise location of the original object that was either cut or copied to the clipboard.

> *Whatever happened to a simple paste command in the* ***`Edit`*** *menu? The* ***`Paste in Center`*** *command replaces it. It has always been a fact of Flash life that any content on the clipboard is pasted into the center of the stage. The name simply acknowledges this.*

Showing/hiding and locking layers

We are sure the three icons—an eyeball, a lock, and a hollow square (shown in Figure 1-37)—above the layers caught your attention. Let's see what they do.

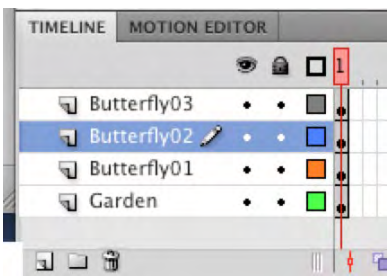


Figure 1-37. The **`Layer Visibility`**, **`Lock`**, and **`Show All Layers As Outlines`** icons. Note the **`Pencil`** icon in the **`Butterfly02`** layer, which tells you that you can add content to that layer.

Click the eyeball icon. Notice that everything on the stage disappears, and the dots under the eyeball in each layer change to a red *x*. This eyeball is the **Layer Visibility** icon, and clicking it turns off the visibility of all the content in the layers. Click the icon again, and everything reappears. This time, select the **Butterfly02** layer, and click the dot under the eyeball. Just the butterfly in the center of the stage disappears. What this tells you is that you can turn off the visibility for a specific layer by clicking the dot in the visibility column.

When you click a layer, you may notice that a pencil icon appears on the layer strip. This tells you that you can add content to the layer. Click the **Butterfly02** layer, and you'll see the pencil icon. Now, click the dot under the lock in the **Butterfly02** layer. The lock icon will replace the dot. When you lock a layer, you can't draw on it or add content to it. You can see this because the pencil has a stroke through it. If you try to drag the **Butterfly** movie clip from the **Library** to the **Butterfly02** layer, you will also see that the layer has been locked because the mouse pointer changes from a tan arrow to a circle with a line through it. Also, if you try to click the butterfly on the stage, you won't be able to select it. This is handy to know in situations where precision is paramount and you don't want to accidentally move something or, god forbid, delete something from the stage.

> *OK, we sort of "stretched the truth" there by telling you that content can't be added to a locked layer. ActionScript is the only thing that can be added to a locked layer. This explains why many Flash designers and developers create an ActionScript-only layer—usually named **scripts** or **actions**—and then lock the layer. This prevents anything other than code from being placed in the layer.*

The final icon is the **Show All Layers As Outlines** icon. Click it, and the content on the stage turns into outlines. This is somewhat akin to the wireframe display mode available in many 3D modeling applications. In Flash, it can be useful in cases where dozens of objects overlap and you simply want a quick "X-ray view" of how your content is arranged. With animation, in particular, it can be helpful to evaluate the motion of objects without having to consider the distraction of color and shading. Like visibility and locking, the outlines icon is also available on a per-layer basis.

> *You can change the color used for the outline in a layer by double-clicking the color chip in the layer strip. This will open the **Layer Properties** dialog box. Double-click the color chip in dialog box to open the Color Picker; then click a color, and that color will be used.*

Grouping layers

You can also group layers using folders. Here's how:

1. Click the **Folder** icon in the **Layers** panel. A new unnamed folder—**Folder 1**—will appear on the timeline. You can rename a folder by double-clicking its name and entering a new name.
2. Drag the three **Butterfly** layers into the folder. As each one is placed in the folder, notice how the name indents. This tells you that the layer is in a folder.
3. Next, remove the layers from the folder. To do so, simply drag the layer above the folder on the timeline. You can also drag it to the left to unindent it.
4. To delete a folder, select it, and click the **Trash Can** icon.

> *Step away from the mouse, and put your hands where we can see them. Don't think you can simply select a folder and click the **Trash Can** icon to remove it. Make sure that the folder is empty. If you delete a folder that contains layers, those layers will also be deleted. If this happens to you, Adobe has sent a life raft in your direction. An alert box telling you that you will also be deleting the layers in the folder will appear. Click **Cancel** instead of **OK**.*

Where to get help

In the early days of desktop computing, software was a major purchase, and nothing made you feel more comfortable than the manuals that were tucked into the box. If you had a problem, you opened the manual and searched for the solution. Those days have long passed. This is especially true with Flash, because as its complexity has grown, the size of the manuals that would need to be packaged with the application would also need to have grown. In this version of Flash, the user manuals are found in the **Help** menu. Here's how to access **Help**:

1. Select **Help** ➤ **Flash Help**, or press the F1 key. The **Help** panel that opens (see Figure 1-38) is one of the most comprehensive sources of Flash knowledge on the planet; best of all, it's free. The **Help** panel is driven by an Adobe AIR application—Adobe Help—that is installed when you install the CS5 applications. The **Help** menu is more generically known as Adobe Community Help.

   The panel is divided into two areas. On the left side you can enter your criteria for very specific topics and choose to have the result drawn from Adobe Help on your computer—**Local**—or from a variety of web sources, **Online**. The right side of the window allows you to choose a more general topic.

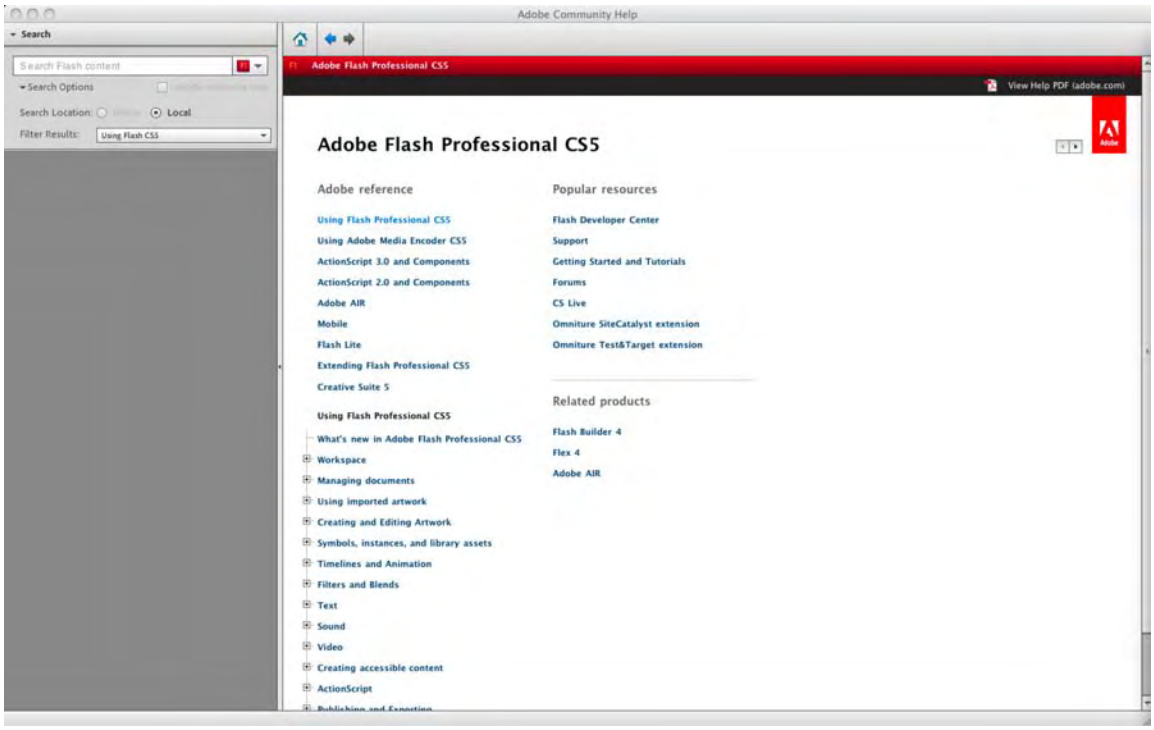


Figure 1-38. The Flash **Help** panel is extensive.

2. Click the **What's new in Adobe Flash professional link** to open it. As you can see, the **Help** topics are actually collections of individual documents designed to help you learn what you need to know, along with practical examples of specific techniques.

3. To go to a specific topic, just type the word into the text input box at the top of the interface, and click the **Search** button. For example, enter **video** into this area, and press the Return (Enter) key. The results are presented directly under your search criteria.

4. Click the first link, **Create video for use in Flash**, and the right pane will fill with the selected page (as shown in Figure 1-39).

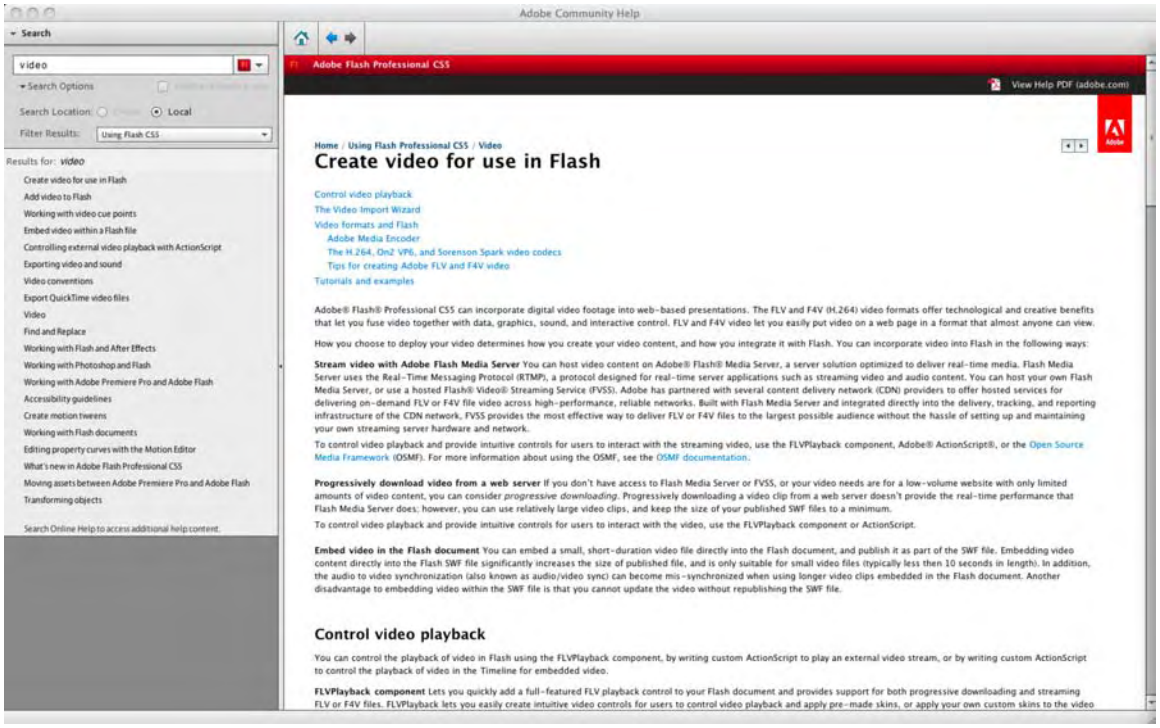


Figure 1-39. Searching a term in the Flash Help documents

So much for the walkabout. It is time for you to put into practice what you have learned.

Your turn: building a Flash movie

In this exercise, you are going to expand on your knowledge. We have shown you where many of the interface features can be found and how they can be used, so we are now going to give you the opportunity to see how all these features combine to create a Flash movie.

You will be undertaking such tasks as the following:

- Using the **`Properties`** panel to precisely position and resize objects on the stage
- Creating layers and adding content from the **`Library`** to the layers
- Using the drawing tools to create a shape
- Creating a simple animation through the use of a tween
- Saving a Flash movie
- Testing a Flash movie

By the end of this exercise, you will have a fairly good understanding of how a Flash movie is assembled and the workflow involved in the process.

1. Open the `Garden.fla` file.
2. When the file opens, if it isn't already open, open the **`Library`** by selecting **`Window ➤ Library`** or pressing Ctrl+L (Windows) or Cmd+L (Mac). As you can see in Figure 1-40, you are starting with a background image and a few movie clips.

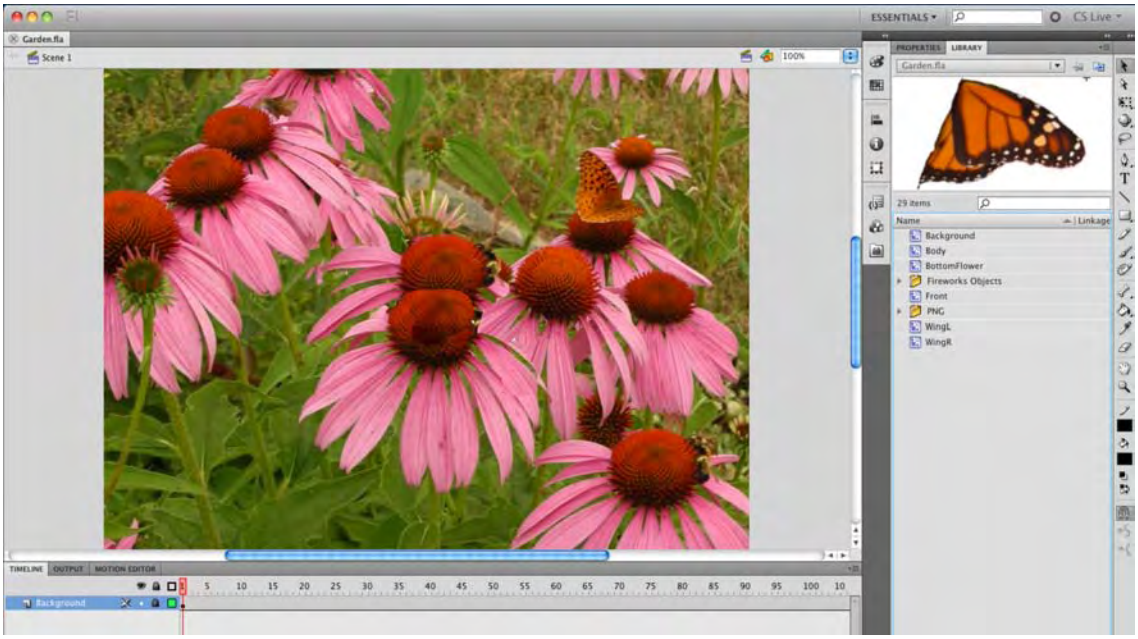


Figure 1-40. The assets are in place. It is your job to turn them into a movie.

3. The **`Library`** is still a bit messy. Let's do a little tidying. Click the **`New Folder`** icon—it looks like a file folder—at the bottom of the **`Library`** panel. A new, untitled folder will appear in the **`Library`**. Double-click the folder name, not the icon, to select the name. Change the folder's name to **`MovieClips`**.
4. Drag all the movie clips—the blue files with the "gear" in the upper-right corner of the icon—into the new folder. A **movie clip** is an animation with its own timeline. We get into that topic in Chapter 3.
5. Create a new folder, and name it **`Audio`**.

6. Let's bring the audio file for this movie into the **Library**. To start, select **File ➤ Import ➤ Import to Library**. Navigate to this chapter's Exercise folder, and select the **FliesBuzzing.mp3** file, as shown in Figure 1-41. Click the **Import to Library** button, and when the file appears in the **Library**, move it to the **Audio** folder.

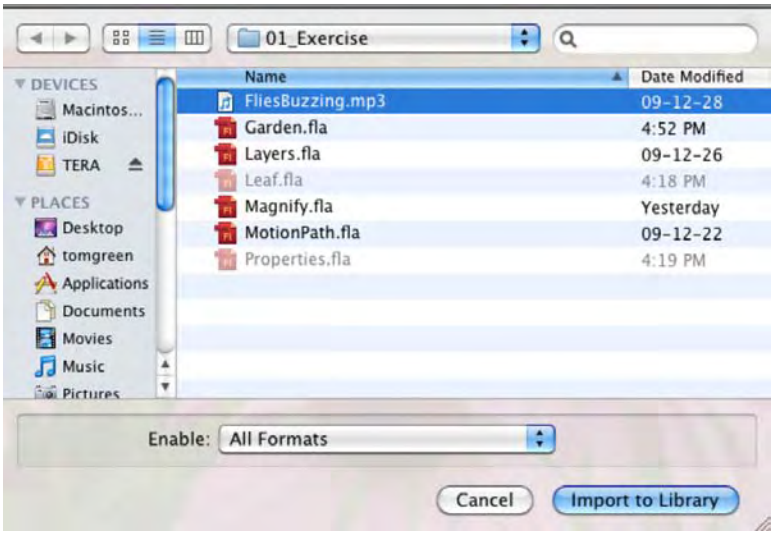


Figure 1-41. Importing a file to the **Library**

> *Though you are given the choice of importing content into the timeline or the **Library**, it is considered a best practice in Flash to import everything directly into the **Library**. The only file without the option of importing its content to the stage is an audio file.*

With the assets in place, we can now turn our attention to the project.

The plan is to have a fly merrily buzz through the flowers and around the butterflies in the garden. The key words are *buzz* and *through*. "Buzz" indicates there is an audio file, and you have brought that into the **Library**. You will be adding that file to the project near the end of the process.

The "through" part may at first appear to be a no-brainer. Of course, a fly is going to buzz through the flowers in the image. No, it isn't. As the movie is currently set up, the fly will buzz above the flat image of the flowers on the stage. It won't go behind the flowers and butterflies because it can't. What this should tell you is that we are going to create the illusion of depth by using the layers in the Flash timeline and creating a butterfly and some flowers for the fly to fly behind.

To accomplish this, we need to first create the butterfly by using movie clips inside a movie clip to create an object. That, of course, was a mouthful, and there is a term for it: **nesting**. Here's how to create a nested movie clip.

Nesting movie clips

Before we start, it is important for you to know we are not going to get into a long discussion on the subject of movie clips, animation, and so on. We are saving those discussions for Chapters 3 and 7. What we want to do here is to get you used to working with the interface, so to start, let's build a butterfly.

1. With the **Library** panel open, click the **New Symbol** button—the turned-up piece of paper—at the bottom of the **Library** panel. **The Create New Symbol** dialog box shown in Figure 1-42 will open.
2. Select the text in the **Name** area, and enter the word **Butterfly**. Select **Movie Clip** from the **Type** drop-down menu. Click **OK**. The dialog box will close, and what looks like a blank stage will open.

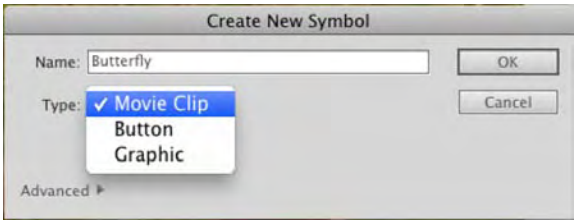


Figure 1-42. Creating a new Flash symbol

The blank stage you are looking at is called the **Symbol Editor**. If you look at the top-left corner of the interface, you will see buttons for **Scene 1** and **Butterfly**. The last symbol you see is the one currently open. In many respects, these are breadcrumbs that enable you to follow your path back to the main timeline, which is always **Scene 1**. The + sign you see in the center of the stage is actually the upper-left corner of the main stage in your Flash movie.

3. Select **Layer 1**, and add two more layers. Starting with the bottom layer, name the layers **Body, RightWing**, and **Leftwing**.
4. Select the **LeftWing** layer, open the **MovieClips** folder in the **Library**, and drag the **WingL** movie clip to the selected layer.
5. Select the **RightWing** layer, and drag the **WingR** movie clip to the stage. These last two steps did exactly the same thing; they put something on the stage in a specific layer. Use whichever technique works for you.
6. Select the **Body** layer, and drag the **Body** movie clip to the stage. You have just placed (**nested**) three movie clips by placing them on separate layers (Figure 1-43) inside a single movie clip. Let's get the **Butterfly** assembled.

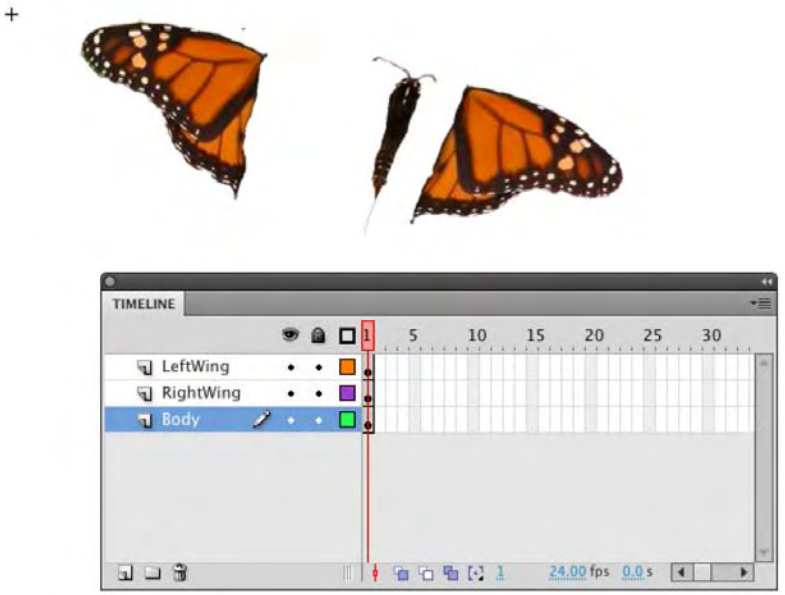


Figure 1-43. Nesting is the practice of placing symbols within other symbols.

7. Select the **`WingL`** movie clip on the stage, and open the **`Properties`** panel. Twirl down the **`Position and Size`** strip, and set the **`X`** and **`Y`** positions for the selection to **`0,0`**, as shown in Figure 1-44.

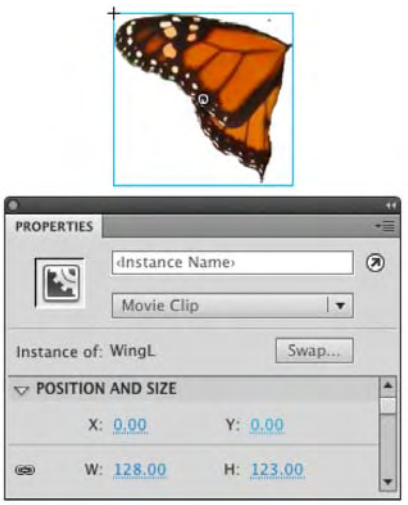


Figure 1-44. Use the hot text feature to accurately position selections on the stage.

8. Click the **Body** movie clip, and drag it into position against the right edge of the left wing. Drag the right wing to the right edge of the **Body** movie clip, as shown in Figure 1-45.
9. Click the **Scene 1** link to save the **Butterfly** movie clip and to return to the main timeline.

> *Here's a little "teacher trick" you might find useful. Use the **Magnifying Glass** tool to zoom in on an object like the butterfly, as shown in Figure 1-45. Then select an object, and use the arrow keys on your keyboard to nudge the selected object into place.*

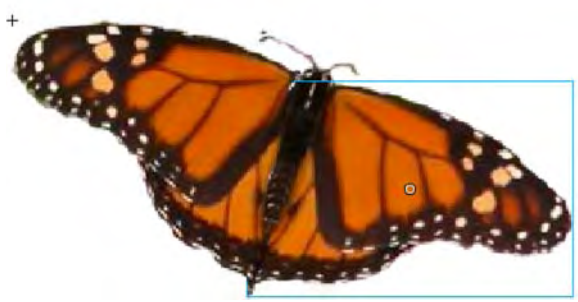


Figure 1-45. The butterfly you will be using in the movie has been assembled.

Drawing the fly

Having discovered how to create a movie clip using existing objects, let's now create one from "scratch." We need a fly to buzz through the garden, and if you poke through the `MovieClips` folder in the **Library**, you will notice the fly is missing.

Before we start, we aren't going to ask you to draw a fly or create a cartoon version of one. Instead, you are going to create a shape that is somewhat "flylike" and have it buzz through the flowers. Follow these steps to create the fly:

1. Select **Insert ➤ New Symbol**, or press the Ctrl+F8 (Windows) or Cmd+F8 (Mac) keys to open the **Create New Symbol** dialog box. In the previous exercise, you used the **New Symbol** button in the **Library** to create a new symbol. This is another method of creating a symbol. Which is best? Who cares? Use what works for you.
2. Name the symbol **Fly**, and select **Movie Clip** as its **Type**. Click **OK** to open the **Symbol Editor**.
3. When the **Symbol Editor** opens, select **400%** from the **Zoom** drop-down menu. This lets you create a rather small object but still be able to see what you are doing.
4. Select the **Pencil** tool, and in the **Stroke** color area of the **Tools**, select **Black** as the stroke color. Draw a shape that looks somewhat flylike.

5. In the tools, set **`Fill Color`** to **`Black`**. Select the **`Paint Bucket`** tool, and click once inside your shape to fill it (Figure 1-46) with black.

6. Click the **`Scene 1`** link to return to the main timeline. When the main timeline appears, put your **`Fly`** movie clip into the **`MovieClips`** folder in the **`Library`**.

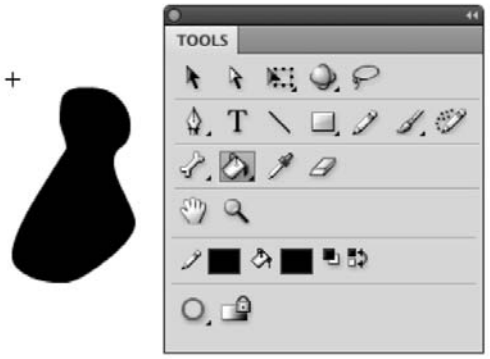


Figure 1-46. The fly shape is filled with a color using the **`Paint Bucket`** tool.

Creating the illusion of depth with Flash

If you spend any time creating Flash movies, you will inevitably be asked, “How did you do that?” Though you can give a long explanation of how you created the movie to develop the technique, the short answer is always, “Magic!”

In this exercise, the “magic” involves manipulating a flat space in such a way that the “illusion” of depth is created. This illusion can be created in a few ways:

- **Use layers to your advantage:** Objects in layers are either above or below the objects contained in the layers above them or below them.
- **A Blur filter can be used to show depth:** Use blurs to provide depth of field much like you do with your camera.
- **The z-axis can be used as the depth axis:** Objects on the Flash stage can be moved or positioned either up and down (y-axis), to the left or right (x-axis), or closer or farther away (z-axis).
- **Tweens are great for creating depth:** Resizing objects over time can create the illusion of objects receding into the distance or moving toward the viewer.

In this part of the exercise, we are going to use all four methods to create depth. Let’s start this process by using the first one: layers. Here’s how:

1. Add three new layers to the `Garden.fla` file. Name the layers **`FrontGarden`**, **`MiddleGarden`**, and **`Butterfly`**. Make sure the **`FrontGarden`** layer is above the **`MiddleGarden`** layer.
2. Select the **`MiddleGarden`** layer, open the **`Library`**, and drag the **`BottomFlower`** movie clip from the **`MovieClips`** folder to the stage.
3. With the **`BottomFlower`** movie clip selected on the stage, move it into position in the bottom-right corner of the stage.
4. Select the **`Butterfly`** layer, and drag the **`Butterfly`** movie clip to the stage.
5. Select the **`FrontGarden`** layer, and drag the **`Front`** movie clip to the stage. Place it at the bottom-left corner of the stage, as shown in Figure 1-47.

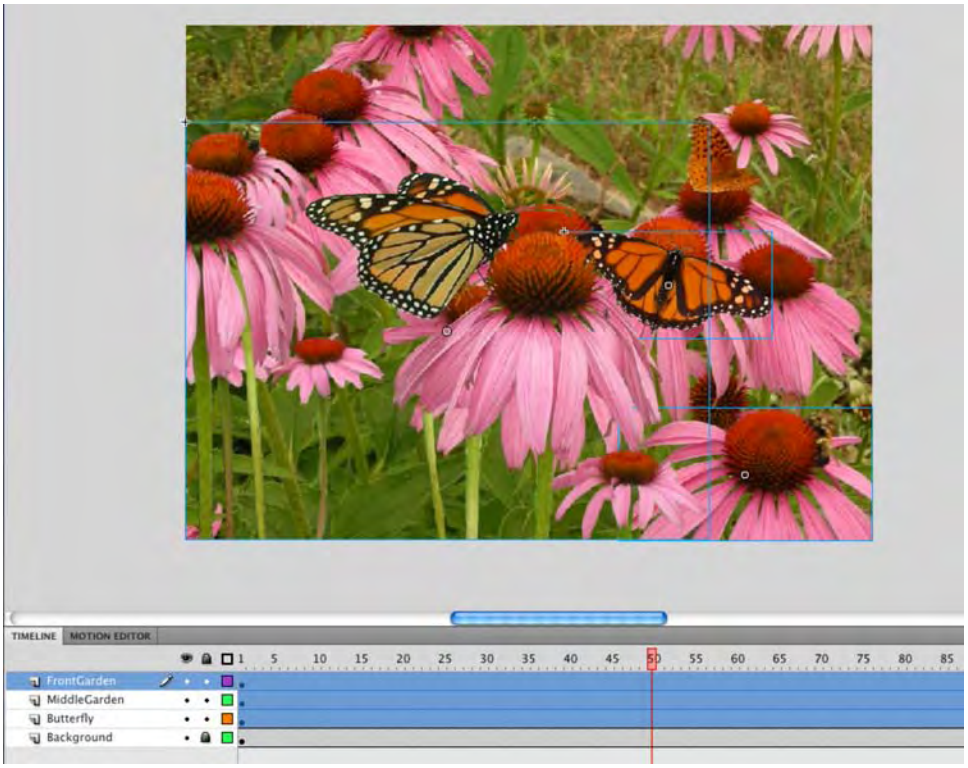


Figure 1-47. Layers are a quick way of adding depth to a movie.

Now that the objects are in place, let's further add to the illusion of depth by adding some depth of field and blurring the background image. Here's how:

1. Drag the playhead to frame 50 of the timeline, and unlock the **Background** layer.
2. Right-click (Windows) or Control+click (Mac) frame 50 of the **Background** layer to open the context menu. Select **Insert Keyframe** from the menu. The black dot that appears in the frame, as shown in Figure 1-48, tells you this is a keyframe.

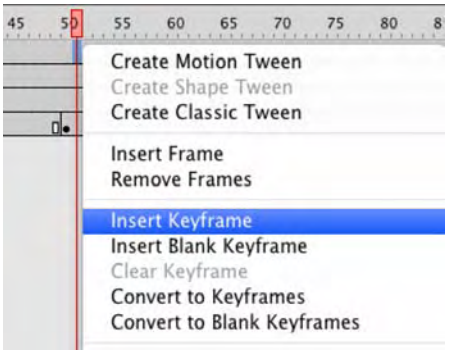


Figure 1-48. Adding a keyframe to a layer

3. Move the playhead to frame 1 of the timeline, and click the background image on the stage to select it.
4. Open **the Properties** panel, and twirl down the **Filters** strip.
5. Click the **Add Filter** button—it looks like a turned-up piece of paper—at the bottom of the panel, and select **Blur** from the pop-up menu. The **Blur** filter's parameters, as shown in Figure 1-49, appear in the panel. Set the **Blur X** and **Blur Y** values to 10, and select **High** from the **Quality** drop-down menu. The image blurs, and the three layers above it remain in sharp focus.
6. Save the file.

> *What's with the keyframe? We are eventually going to require the background to return to sharp focus. Adding the keyframe gives us the flexibility to have the image slowly come into focus through the use of a motion tween.*

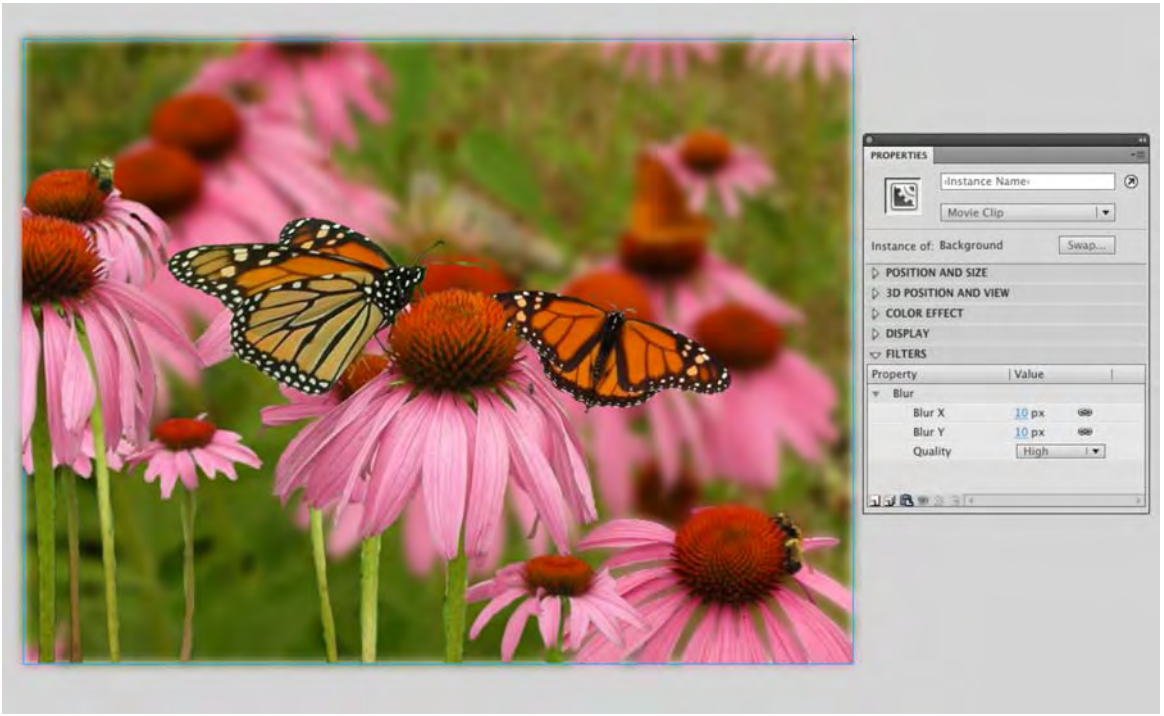


Figure 1-49. Use of a **`Blur`** filter can provide depth of field.

The next technique uses the z-axis to provide depth. Introduced in Flash CS4, the z-axis is becoming a vital 3D tool in the hands of Flash designers and animators. What the z-axis does is to essentially move a camera closer to or farther away from an object. As the camera moves closer to the object, it appears to grow, and as it moves farther away from the object, it shrinks. Let's try it:

1. Lock the **`Background`** layer. Move the playhead to frame 50, and with the Shift key pressed, click in frame 50 of the layers on the timeline. Press the F6 key to add a keyframe to each of the selected frames.

> *In the previous exercise, you used the context menu to add a key frame, and in this one you pressed F6. Which is the best way? Who cares? You have created a keyframe. Having said that, use of the F6 key is more common throughout the Flash community.*

2. Select the **`Front`** movie clip on the stage, and click the **`Properties`** tab to open the **`Properties`** panel.

3. Twirl down the **3D Position and View** strip, and set the **Z** value to -100. The selection, as shown in Figure 1-50, appears to get larger.
4. Use the following 3D position values for the flower and the butterfly in the other two layers:
   - **Flower**: X = 475, Y = 428, Z = -50
   - **Butterfly**: Z = -20
5. Save the file.

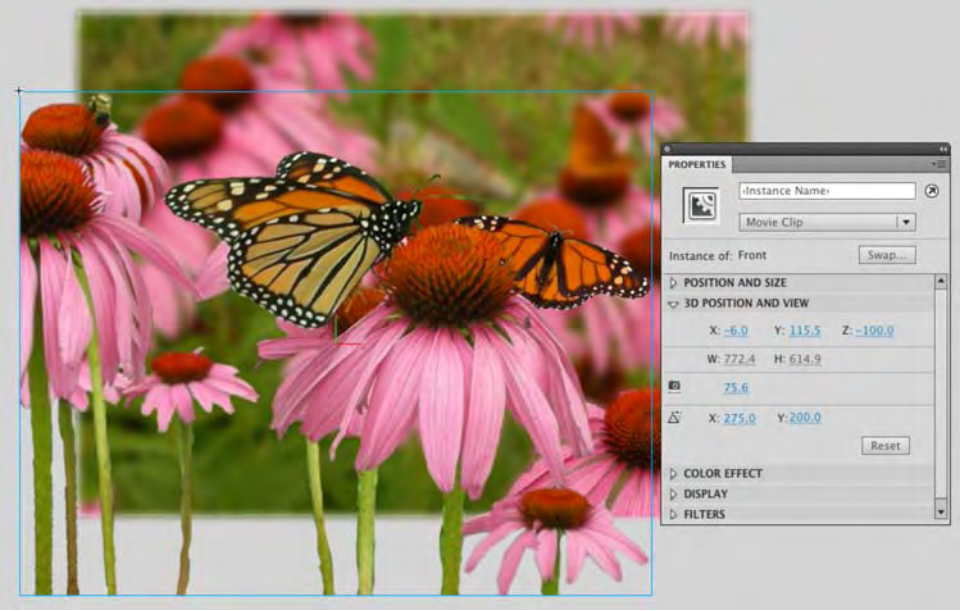


Figure 1-50. Negative values on the z-axis make selections look bigger.

Did the image get larger when we applied the negative z-axis value? Not quite. When thinking of the z-axis, regard the surface of the computer's screen as being the 0 value. Moving away from the screen toward you, using negative z-axis values, actually pulls the object closer to the camera. In this case, the camera is located at a position of about -500 pixels away from the screen. If you change the **Z** value of the selection to **-503**, the image seems to disappear. In fact, the image is now behind the camera, and because you can't swivel the camera, it is essentially out of the movie.

Don't go crazy with this effect. It is processor-intensive, and there are limits to how far you can go without an error message. The reason is this effect is achieved through scaling.

As you change the **Z** values in the **Property** panel, notice how there is a corresponding change in the **W** and **H** values. This is because, as shown in Figure 1-51, as you move along the positive values on the z-axis, you start approaching the object's vanishing point.

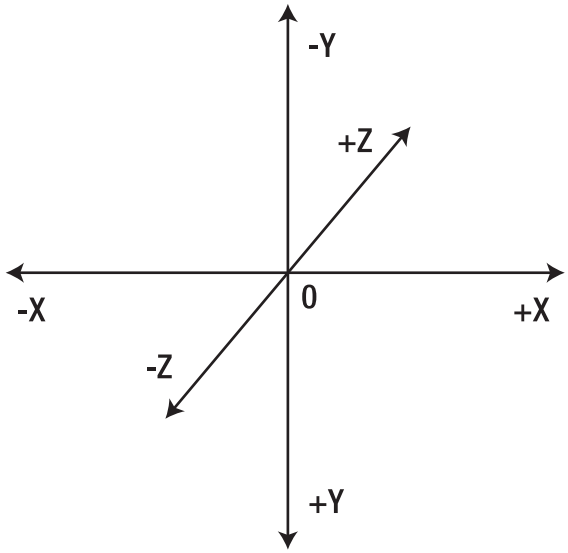


Figure 1-51. Move along positive side of the z-axis, and you approach the vanishing point.

Now that we have the first three methods of creating depth in place, the time has arrived to put those keyframes in frame 50 to good use. What we are going to do is to have the three layers with z-axis values move back to a value of 0, and at the same time, the blurred image will come back into focus.

This can all be done because each of the objects to be affected is a movie clip. Here's how:

1. Right-click (Windows) or Control+click (Mac) between the two key frames in the **FrontGarden** layer. Select **Create Motion Tween** from the context menu. Two things will happen. The first is that the span of frames between the two keyframes turns blue, and the icon for the layer changes from a piece of paper with a turned-up corner to a piece of paper with a comet tail. Both, as shown in Figure 1-52, are graphic indications that you have created a motion layer.
2. Unlock the **Background** layer, and add motion tweens to the remaining layers.

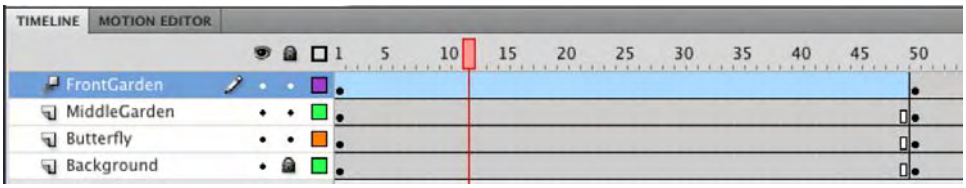


Figure 1-52. The layer icon and the powder blue color indicate a motion layer.

3. Click anywhere on the tween in the **FrontGarden** layer to select the span. Click the **Motion Editor** tab to open the **Motion Editor**, as shown in Figure 1-53.

4. Drag the playhead to the end of the timeline in the **Motion Editor**. Twirl down **Basic Motion**, and change the **Z** value from **-100** to **0**. Notice how the graph changes from a straight line to one that moves upward across the span.

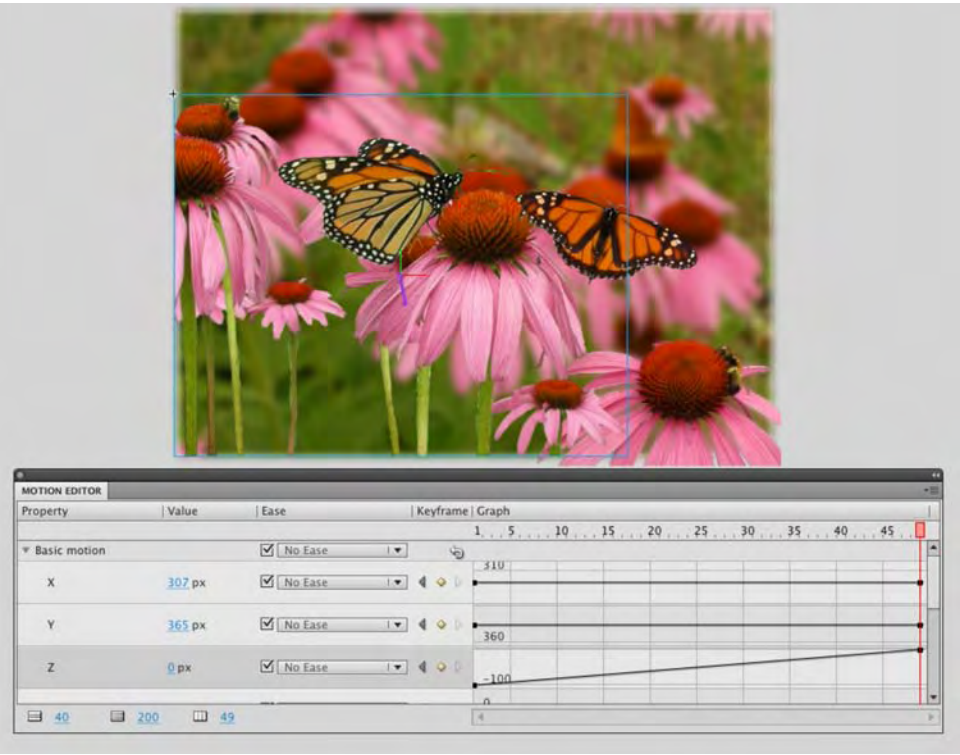


Figure 1-53. Tweens are created by changing property values in the **Motion Editor**.

5. Repeat step 4 for the **MiddleGarden** and **Butterfly** layers. When finished, click the **Timeline** tab to close the **Motion Editor**.

6. Select the object in the **Background** layer, and move the playhead to the last frame of the motion tween.

7. In the **Properties** panel, change the **Blur** amount to **0**. Notice the addition of a keyframe to the layer.

8. The flower in the **MiddleGarden** layer, thanks to the 3D positioning, may be out of position. To fix that, move the playhead to the last frame of the motion tween, select the flower, and move it into position.

9. Scrub the playhead across the tweens, as shown in Figure 1-54, to preview the effect.

10. Save the project.

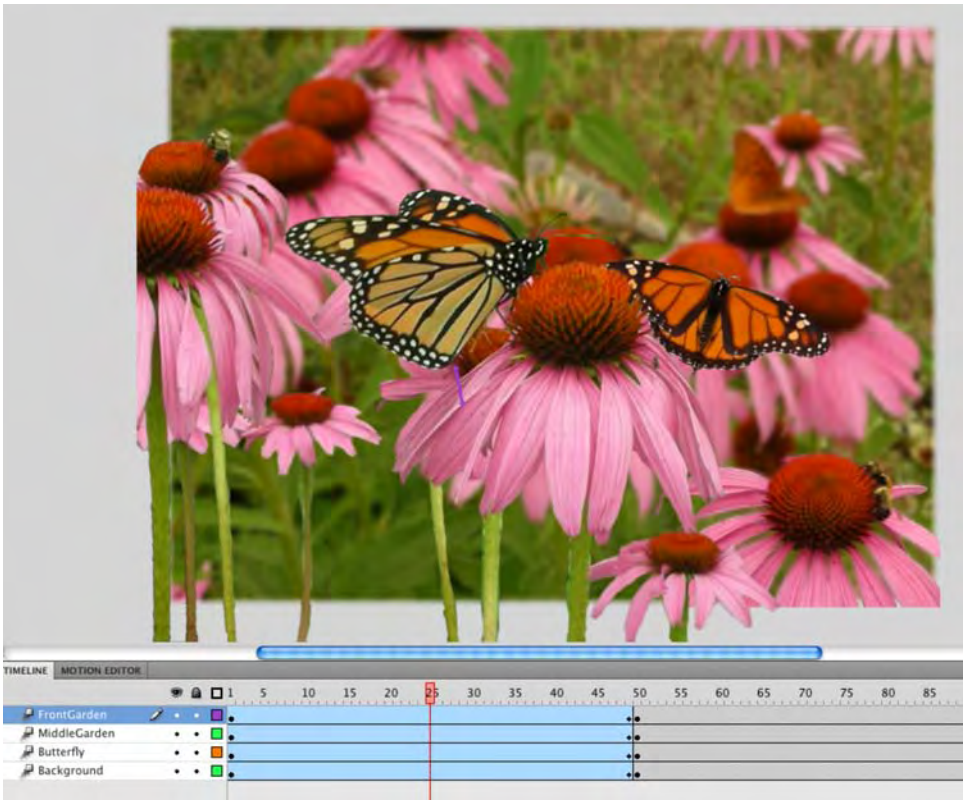


Figure 1-54. Z-axis and blur properties can be tweened to create the illusion of depth.

Creating an animated fly

If you look at the project so far, you should feel pretty good about what you have been able to accomplish with a few mouse clicks. The animation in the garden looks pretty good, and the blur tween is a pretty nifty technique. Naturally, Flash designers are rarely satisfied with their projects when there is something else that could be added to make it even more effective. In this case, the fly needs to buzz among the flowers, butterflies, and bees in the images on the stage. The fly will reinforce the illusion of depth and provide some visual interest to the viewer.

Before we start, let's take a moment and have a brief chat about those last two sentences.

When people first start using this application, there is a real tendency to load up projects with all manner of effects. In many cases, there is no rationale for the inclusion of these effects apart from the designer telling his friends, "Aren't I clever?"

Flash is a powerful tool, and some of the most interesting Flash movies out there are ones where the effects are subtle. They quietly support the design rather than overpower it. In this case, the effect will be a small fly buzzing around the stage. The purpose of the fly is to reinforce the illusion of depth and to provide a subtle animation in an otherwise static image. To create a fly buzzing among the flowers, follow these steps:

1. Select the **Background** layer, and click the **New Layer** button to add a layer directly above the **Background** layer. Name this layer **Fly**.

2. With the **Fly** layer selected, drag the **Fly** movie clip to the stage. Obviously, as shown in Figure 1-55, the fly is a bit large for the garden.

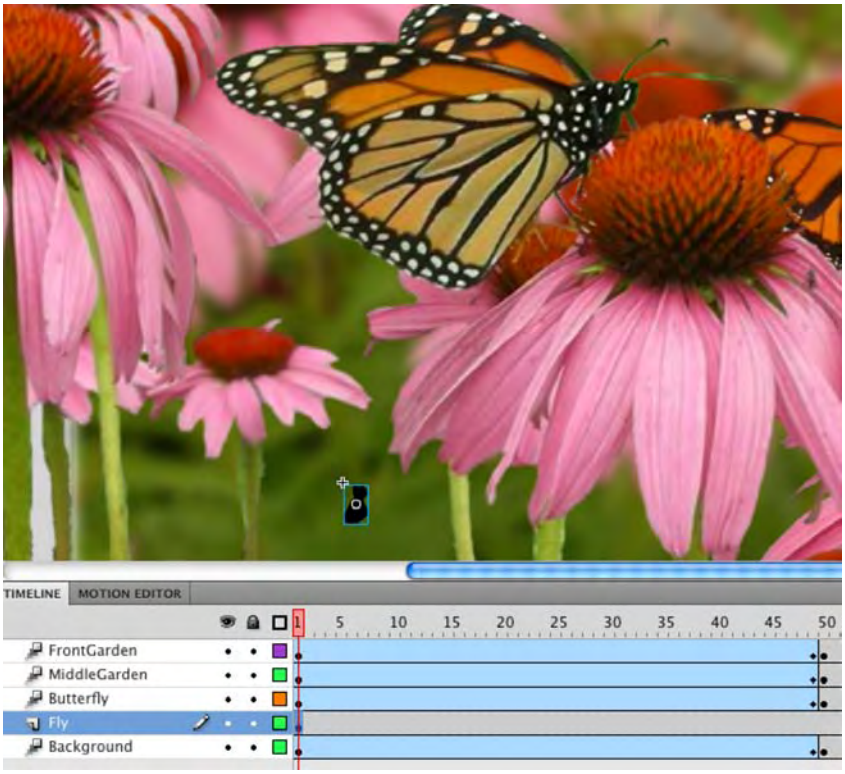


Figure 1-55. The fly is in its own layer and on the stage.

3. Click the fly on the stage, and select the **Free Transform** tool from the **Tools** panel. Click a corner handle, and drag the handle inward to shrink the fly.

4. The fly is still a bit too distinct. With the fly still selected on the stage, apply a **Blur** filter to the selection. Set the **Blur X** and **Blur Y** values to **3 px** and the **Quality** value to **High**. Now that the fly's physical characteristics have been dealt with, let's put the fly in motion.

Using a motion guide

Putting the fly in motion is easy. The hard part is determining how to do it. That may seem a bit odd, but there are several methods for putting the fly in motion. These methods range from frame-by-frame animation to a purely code-driven approach. Picking the one best suited to the task at hand will make or break the project.

If you have ever watched flies, you will see that they move around in an erratic manner. Mimicking this using a frame-by-frame approach would be too time-consuming to be worth it, and coding the movement with changes in directions, loopbacks, and so on, would require some hard-core coding chops. The solution is to draw the path for the fly to follow. Here's how:

1. Lock all of the layers except the **`Fly`** layer, and move the **`Fly`** movie clip to the left of the stage on the pasteboard. Scrub over to frame 721, and add a key frame on the **`Fly`** layer. Return the playhead to frame 1.
2. Right-click (Windows) or Control+click (Mac) the label of the **`Fly`** layer. When the context menu opens, select **`Add Classic Motion Guide`**, as shown in Figure 1-56. When you release the mouse, a new layer named **`Guide:Fly`** appears above the **`Fly`** layer, and the **`Fly`** layer indents.

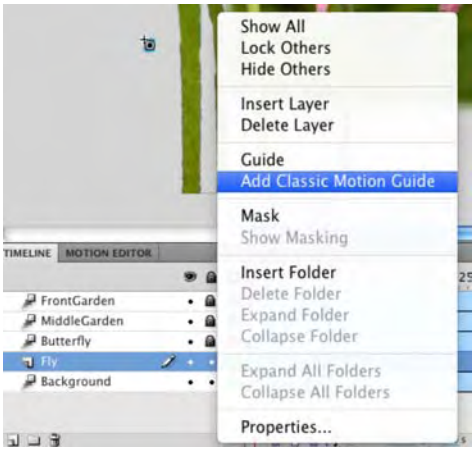


Figure 1-56. Adding a motion guide layer

3. Select the first frame of the **`Guide:Fly`** layer.
4. Select the **`Pencil`** tool, and starting where your fly is located, draw a meandering path, as shown in Figure 1-57, around the stage and finishing on the pasteboard on the other side of the stage.

> *Don't forget that you can smooth out the path after you have drawn it. Simply switch to the **`Selection`** tool, and double-click the path to select it. With the path selected, click the **`Smoothing`** button at the bottom of the **`Tools`** panel to make angular changes a bit more rounded.*

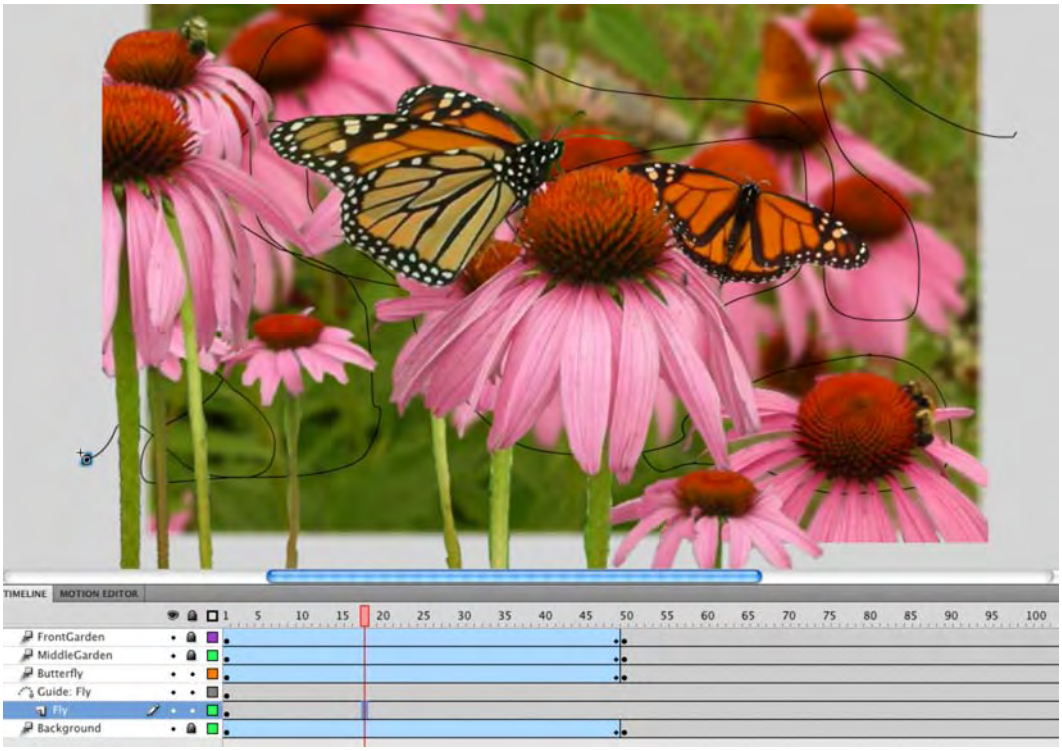


Figure 1-57. The path is drawn in the **`Guide:Fly`** layer. Note that the path starts on the pasteboard to the left and finishes on the pasteboard to the right of the stage.

5. Select the **`Fly`** movie clip in frame 1, and snap it to the start of the path by dragging it to the start of the path and releasing the mouse. Move the playhead to the end of the timeline, and snap the **`Fly`** movie clip to the end of the path.

6. Right-click (Windows) or Control+click (Mac) anywhere between the key frames on the **`Fly`** layer, and select **`Create Classic Tween`** from the context menu. An arrow, as shown in Figure 1-58, will appear on the **`Fly`** layer, and if you scrub the playhead, the **`Fly`** movie clip will travel along the path you drew with the **`Pencil`** tool.

7. Save the movie.

> *If your fly doesn't follow the path, it may not have snapped to the end points of the guide. If this is the case, zoom in on the fly with the magnifying glass tool, and select it. With the fly selected, place the mouse pointer over the fly's registration point—the hollow dot in the selection—and drag the fly to the tip of the line. It should snap into place when you release the mouse.*

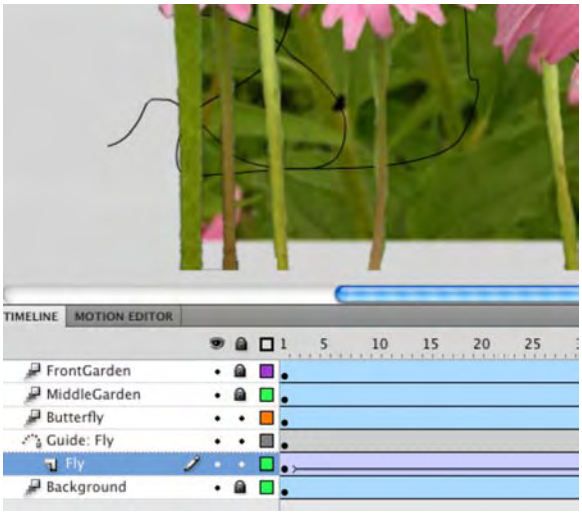


Figure 1-58. The classic tween snaps the movie clip to the path in the **`Guide:Fly`** layer.

Adding audio

Nothing mystifies us more than Flash designers who regard audio as an afterthought. In many respects, this a huge mistake because audio can actually "seal the deal" when it comes to Flash movies. In this case, it's nice to have a fly buzzing around the movie, but the sound of the fly is what makes this whole thing even more believable. Let's add some audio:

1. Add a new layer above the **`FrontGarden`** layer, and name it **`Audio`**.
2. Open the library, and locate the **`FliesBuzzing.mp3`** file in the `Audio` folder. Double-click it to open the **`Sound Properties`** dialog box.
3. Click the **`Advanced`** button to reveal all the features of this dialog box, as shown in Figure 1-59. Click the **`Test`** button to preview the audio file. The fly is buzzing, but you can also hear birds and the wind blowing through the garden.

> *We would like to thank dobroide at freesound.org for permission to use this clip—`20060620.ambiance.forest.summer01.flac`—in this project. This clip and others are available at `http://www.freesound.org/samplesViewSingle.php?id=20026`.*
>
> *For those of you who are interested, the file was downloaded from freesound.org as a `.flac` (Free Lossless Audio Codec) file. It was renamed and converted to an `.mp3` file using xAct for Macintosh. We are telling you this just in case you are a Mac user and you can't get `.flac` files from freesound.org to convert to another format.*

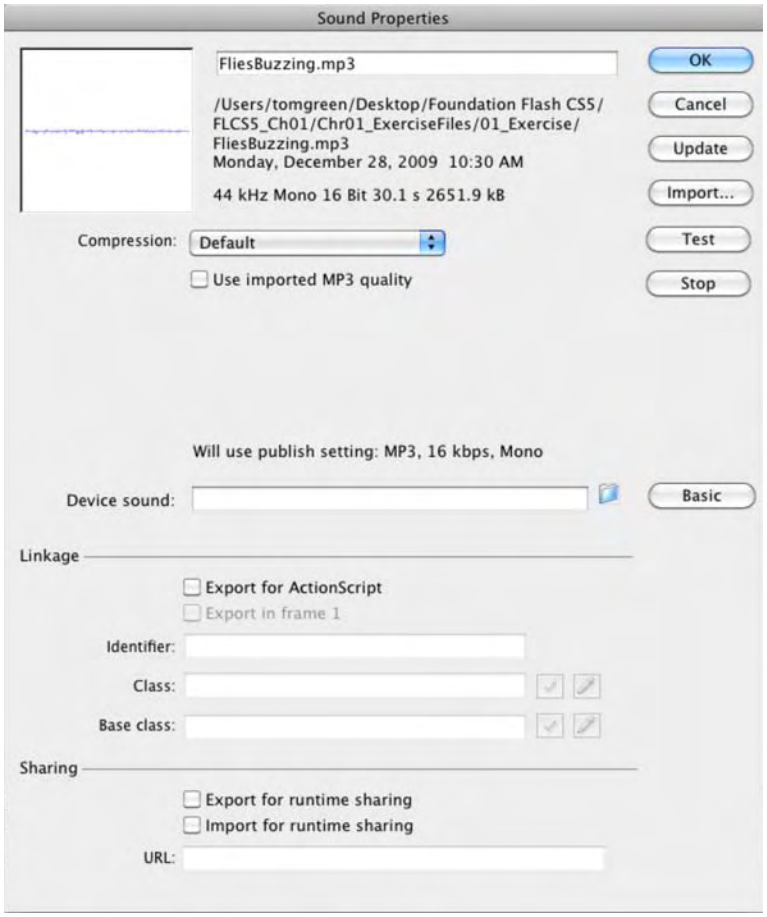


Figure 1-59. Audio can be previewed by clicking the **`Test`** button.

4. With the **`Audio`** layer selected, drag the audio file from the **`Library`** to the stage. When you release the mouse, the audio waveform appears in the layer.

> *Dragging audio from the library and sticking it on the stage is not a good habit to develop. Audio files can be rather large, and when they are in the **`Library`**, they increase the size of the SWF, which increases the download time, and it gets ugly from there. We have a whole chapter on audio, Chapter 5, devoted to best practices, so for now let's just content ourselves with simply being able to get sound into a presentation and getting it to play.*

5. Click anywhere on the waveform, and you will see the **Properties** panel change to show you the sound properties. If you don't see them, click the **Sound** twirlie.

6. Click the **Sync** drop-down menu, and select **Stream**, as shown in Figure 1-60.

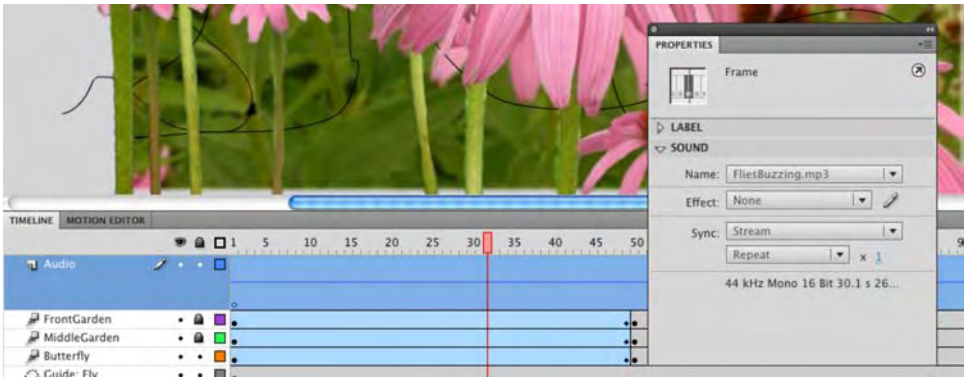


Figure 1-60. Audio waveform on the timeline and the **Sound** properties in the **Properties** panel

7. Scrub across the timeline, and you will hear the audio playing. This is possible because of the use of the **Stream** syncing in the **Sound** properties. Return the playhead to frame 1, and press the Return (Enter) key. The sound will start playing and stop only when the playhead reaches the end of the timeline.

8. Save the file.

> *Noticing a pattern here? Get into the habit of saving your work every time you do something major with your movie. Do this, and it isn't a big deal should your computer crash. Don't get into the habit, and prepare to reconstruct entire files from the point of your last save when the computer crashes.*

Testing and saving Flash files

The fly is merrily buzzing among the flowers. The audio are playing, and the birds are singing. Maybe.

Even though you have created this animation and scrubbed through bits and pieces of it, you still haven't seen the whole project play from start to finish much as it would on a Web page. Now would be a really good time to test the movie in Flash Player. We can't stress enough the importance of test, test, test, and test again! The procedure is, as one of us tells their students, rather simple: "Do a bit. Test it. Do a bit more. Test it." As you have seen, Flash movies can be complex. Each element or feature you add also increases the complexity of the movie. This is why it is so important that you develop the habit of regularly testing your work because, regardless of how simple it may appear to you, this is the place to identify and fix any errors, mistakes, or problems you may see. What it comes down to is this: do you really want to

examine the entrails of each frame of a completed movie along with hundreds of lines of code, or do you want to catch simple errors early in the process? Your call.

To test a Flash movie, all you need to do is to press Ctrl+Enter (Windows) or Cmd+Return (Mac), and the movie will start playing in Flash Player. If you prefer to use a menu, select **Control ➤ Test Movie**. You will see an alert box telling you the movie is being exported and, when that finishes, the movie, as shown in Figure 1-61, will open in Flash Player. What you should see is the flowers move into place, the fly buzzing around the garden, and you will hear the audio track.

If you open the folder where the file has been saved, you will see that a SWF has been added to the folder. A SWF (pronounced “swiff”) is the compact version of your animation that will be placed in a Web page.

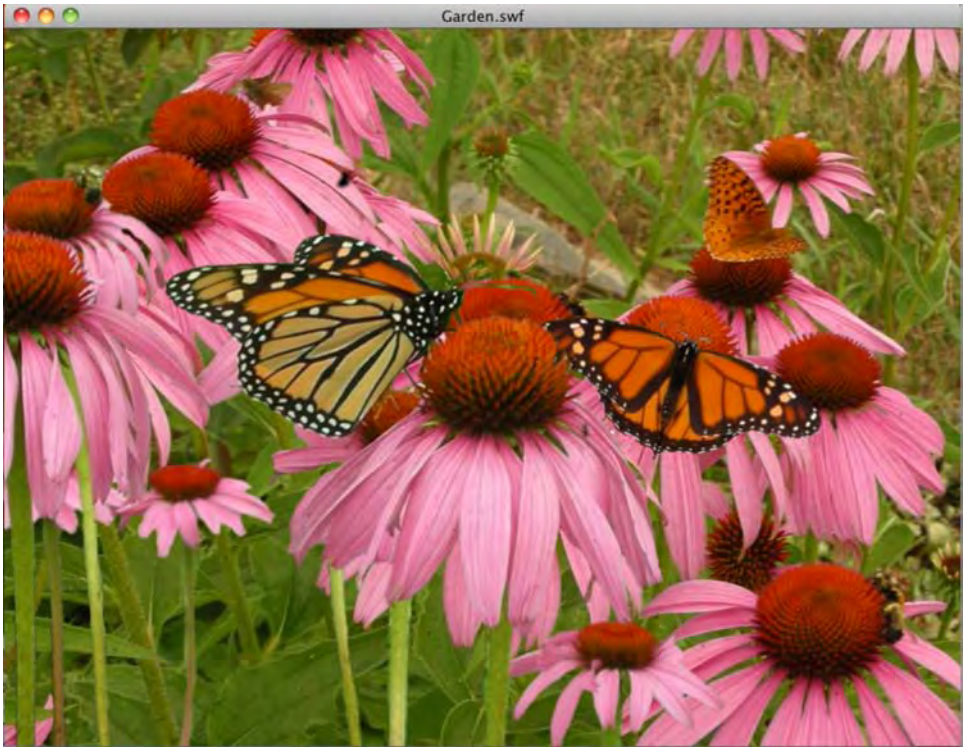


Figure 1-61. Testing the movie in Flash Player

The final part is a look at a feature that is new to Flash CS5: the end of the `.fla` format.

A couple of years ago, Richard Galvan, the Flash product manager, made it pretty clear to one of us over lunch that the FLA format was being placed on the “Threatened Species” list. This wasn’t too much of a shock because Adobe was starting to concentrate on the fact that data and presentation were two separate entities and data was pretty sexy.

The FLA format moved onto the "Endangered Species" list in the CS4 release of the product. A new output format—XFL—was introduced to After Effects, and Flash CS4 could read an XFL file but couldn't write one. The release of Flash CS5 marks the start of the old FLA format on its progress toward extinction as the new XFL format takes over. In Flash CS5, the default FLA file you'll save is now created in the XFL format, with the old style of FLA file being relegated to an option for backward compatibility—*¡Viva la revolución!*

XFL? We know it sounds like an American Football league, but think of the XFL container format as a folder that contains an XML file and all the assets referred to in the XML file. The assets and the XML are the files used to build the FLA. Until this release of Flash, that container has, essentially, been sealed. Not anymore.

1. With your **`Garden.fla`** file open, select **`File ➤ Save As`** to open the **`Save As`** dialog box. Navigate to the **`XFL_Example`** folder in your `Chapter 1 Exercise` folder.
2. Click the **`Format`** drop-down menu, as shown in Figure 1-62, to open it. You now have three choices:
   - **Flash CS5 Document (*.fla)**: Select this, and you create the usual document that can be opened only by Flash CS5.
   - **Flash CS4 Document (*.fla):** Select this, and the file will be saved in a format that can be read by Flash CS4. Just be aware that any features available only in Flash CS5 won't be available.
   - **Flash CS5 Uncompressed Document (*xfl):** Select this, and you create an "exploded" view of the file or what many are calling a **folder of files**.

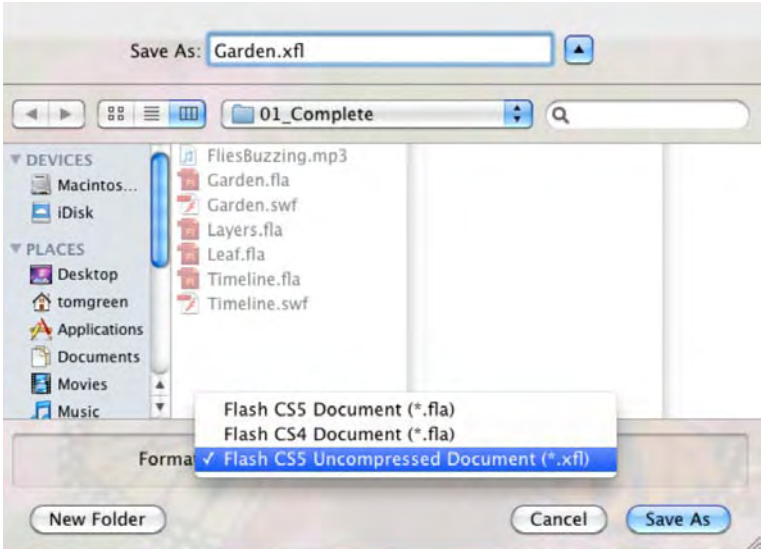
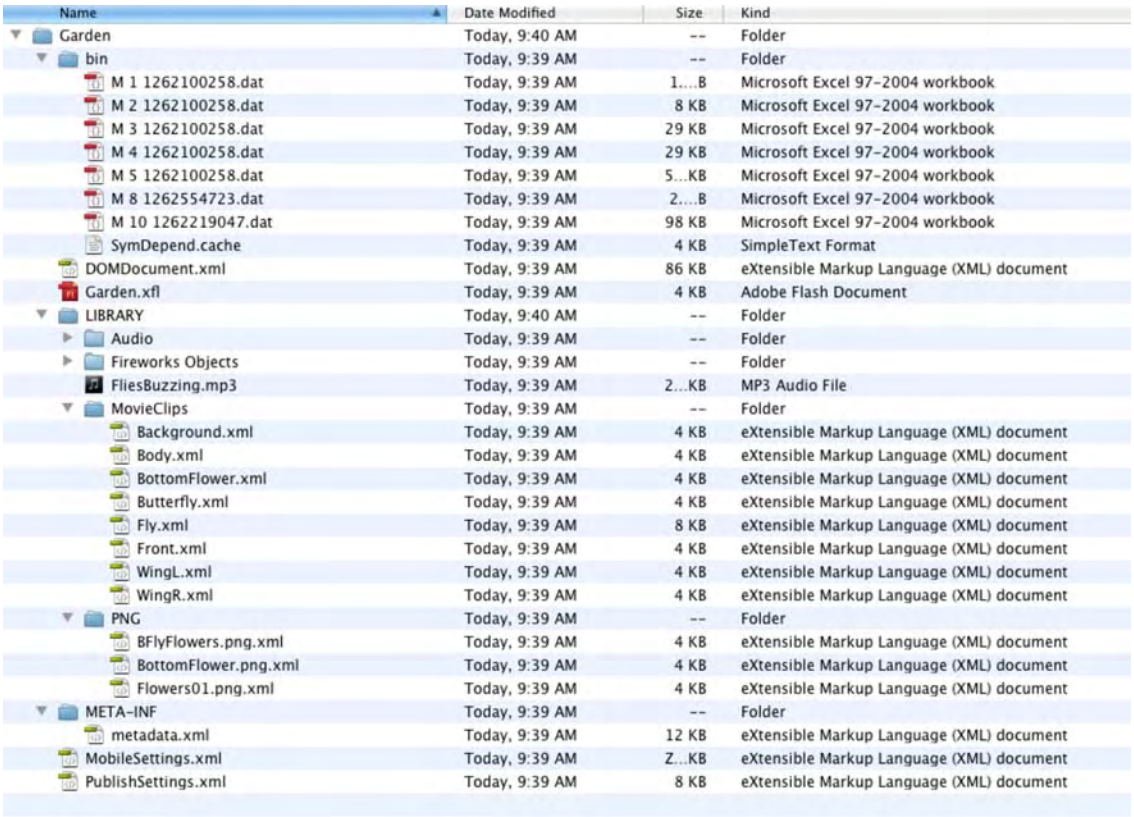


Figure 1-62. The XFL format is the new kid on the block.

3. Name the file **Garden**, and select the **.XFL** format. Click the **Save As** button. A progress bar will appear as the files are created, and when finished, the progress bar and the **Save As** dialog box will close. Minimize Flash, and open **the** XML_Example folder.

When the folder opens, you will see that your simple Flash project is now a folder named **Garden**. When you open that folder, you will see your simple file consists of a number of separate XML and Flash files, as shown in Figure 1-63. Now you understand what we meant by the terms *exploded* and *folder of files*.



Name	Date Modified	Size	Kind
Garden	Today, 9:40 AM	--	Folder
bin	Today, 9:39 AM	--	Folder
M 1 1262100258.dat	Today, 9:39 AM	1....B	Microsoft Excel 97-2004 workbook
M 2 1262100258.dat	Today, 9:39 AM	8 KB	Microsoft Excel 97-2004 workbook
M 3 1262100258.dat	Today, 9:39 AM	29 KB	Microsoft Excel 97-2004 workbook
M 4 1262100258.dat	Today, 9:39 AM	29 KB	Microsoft Excel 97-2004 workbook
M 5 1262100258.dat	Today, 9:39 AM	5...KB	Microsoft Excel 97-2004 workbook
M 8 1262554723.dat	Today, 9:39 AM	2....B	Microsoft Excel 97-2004 workbook
M 10 1262219047.dat	Today, 9:39 AM	98 KB	Microsoft Excel 97-2004 workbook
SymDepend.cache	Today, 9:39 AM	4 KB	SimpleText Format
DOMDocument.xml	Today, 9:39 AM	86 KB	eXtensible Markup Language (XML) document
Garden.xfl	Today, 9:39 AM	4 KB	Adobe Flash Document
LIBRARY	Today, 9:40 AM	--	Folder
Audio	Today, 9:39 AM	--	Folder
Fireworks Objects	Today, 9:39 AM	--	Folder
FliesBuzzing.mp3	Today, 9:39 AM	2...KB	MP3 Audio File
MovieClips	Today, 9:39 AM	--	Folder
Background.xml	Today, 9:39 AM	4 KB	eXtensible Markup Language (XML) document
Body.xml	Today, 9:39 AM	4 KB	eXtensible Markup Language (XML) document
BottomFlower.xml	Today, 9:39 AM	4 KB	eXtensible Markup Language (XML) document
Butterfly.xml	Today, 9:39 AM	4 KB	eXtensible Markup Language (XML) document
Fly.xml	Today, 9:39 AM	8 KB	eXtensible Markup Language (XML) document
Front.xml	Today, 9:39 AM	4 KB	eXtensible Markup Language (XML) document
WingL.xml	Today, 9:39 AM	4 KB	eXtensible Markup Language (XML) document
WingR.xml	Today, 9:39 AM	4 KB	eXtensible Markup Language (XML) document
PNG	Today, 9:39 AM	--	Folder
BFlyFlowers.png.xml	Today, 9:39 AM	4 KB	eXtensible Markup Language (XML) document
BottomFlower.png.xml	Today, 9:39 AM	4 KB	eXtensible Markup Language (XML) document
Flowers01.png.xml	Today, 9:39 AM	4 KB	eXtensible Markup Language (XML) document
META-INF	Today, 9:39 AM	--	Folder
metadata.xml	Today, 9:39 AM	12 KB	eXtensible Markup Language (XML) document
MobileSettings.xml	Today, 9:39 AM	Z...KB	eXtensible Markup Language (XML) document
PublishSettings.xml	Today, 9:39 AM	8 KB	eXtensible Markup Language (XML) document

Figure 1-63. The contents of an uncompressed XFL document folder

We are not going to get any deeper into this subject until Chapter 12. Having said that, you need to know the important files are `Garden.xfl` and the `DOMDocument.xml` files. If you double-click the `.xfl` file, the project will open in Flash, and the only difference will be the `.xfl`, not `.fla`, file extension in the document tab.

The XML document is where all the information about the project is kept. This includes pointers to embedded fonts, audio, images, and anything else pertaining to the project including the layering order and the contents of the layers.

> *If you create an uncompressed XFL file or are handed the XFL folder, make sure that you always work in that folder and that you don't, for obvious reasons, delete or remove any files used in the project from the folder.*

You have learned

- How to customize your Flash workspace
- A number of methods of manipulating objects on the Flash stage
- How to dock, undock, and minimize panels
- The importance of the **`Properties`** panel in your daily workflow
- The difference between a frame and a keyframe
- The process involved in using frames to arrange and animate content and the properties of content on the stage using the **`Motion Editor`**
- How to add, delete, nest, and rearrange layers
- How to test a Flash movie
- How to create an uncompressed XFL document

That's a lot of stuff you've learned by taking a casual stroll through Flash Professional CS5. In the next chapter, you'll learn how to use the tools to create content in your movies and how Fireworks CS5, Photoshop C4, and Illustrator CS5 are important elements in your workflow.