COURSE          :  III BBA (CA)
SEMESTER        : VI
SUBJECT         : MULTIMEDIA AND ANIMATION
COURSE CODE     : 16UBC505

Creating keyframes – creating in-between frames – selecting frames in keyframe spans – manipulating frames in one layer – removing frames – making a simple frame-by-frame animation – adding keyframe to classic tweens – creating a bouncing ball with shape tweening and motion tweening – creating and deleting layers and folders – setting layer properties – working with graphics on different layers.

## 1. CREATING KEYFRAMES

Flash offers two commands for creating keyframes. Insert > Timeline > Blank Keyframe defines a keyframe that's empty, and Insert > Timeline > Keyframe defines a keyframe that duplicates the content of the preceding keyframe in that layer. Use the Insert > Timeline > Blank Keyframe command when you want to change the contents of the Stage completely. Use Insert > Timeline > Keyframe when you want to duplicate the content of the preceding keyframe.

**To add a blank keyframe to the end of your movie**

1. Create a new Flash document.
   The new document by default has one layer and one blank keyframe at frame 1.
2. In the Timeline, click the protoframe for frame 10 to select it.
3. Choose Insert > Timeline > Blank Keyframe (Figure 8.4).
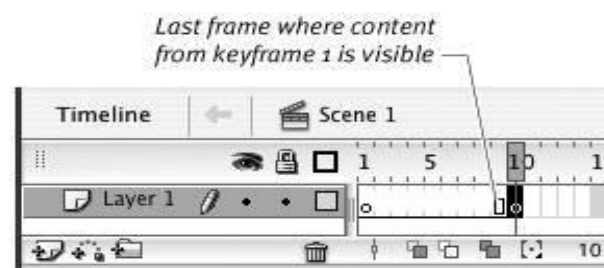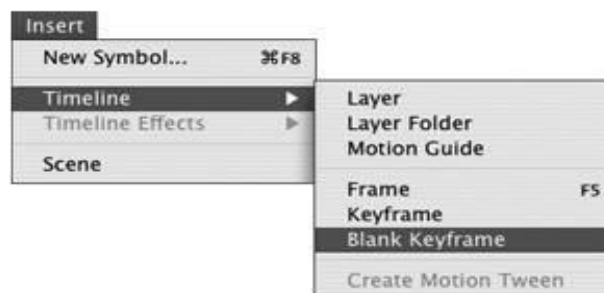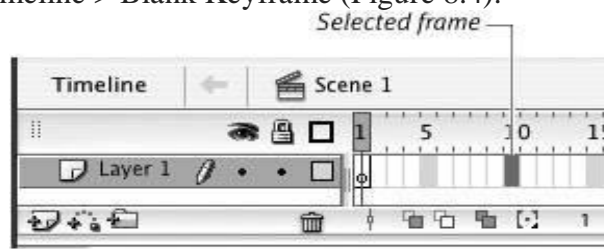
**Figure 8.4. Select a frame in the Timeline (top) and then choose Insert > Timeline > Blank Keyframe (middle) to add a new blank keyframe (bottom).**

Flash revises the Timeline to give you information about the frames you've defined. A hollow rectangle appears in frame 9, and a black line separates frame 9 from frame 10. This line indicates where the content for one keyframe span ends and the content for the next keyframe begins. Flash replaces the gray bars separating protoframes 29 with gray tick marks and removes the gray highlight that appeared in every fifth frame of the undefined frames.

**To create a blank keyframe in the middle of your movie**

**1.** Follow the steps in the preceding task to create a single-layer, 10-frame movie.

**2.** In the Timeline, click frame 1 to select it.

**3.** Draw a shape on the Stage.

Flash updates the Timeline, adding a solid bullet to frame 1 (Figure 8.5).

**Figure 8.5. When you place content in a keyframe, Flash displays that frame in the Timeline with a solid bullet. The gray tint on the frames between keyframes indicates that content from the preceding keyframe appears during these frames. The hollow square indicates the end of the span of in-between frames displaying the same content. The hollow circle indicates a blank keyframe.**
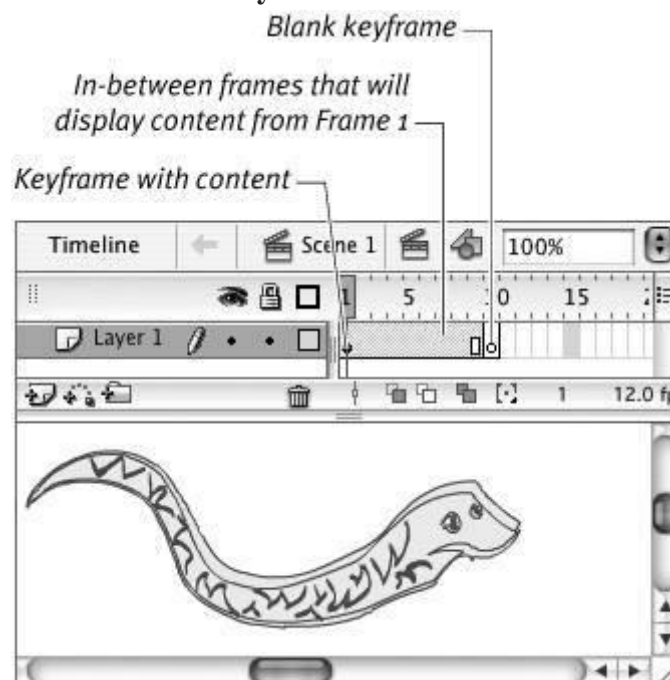


With Tinted Frames selected in the Frame View menu (Flash's default setting), Flash shades frames 19 with gray. The shading indicates that keyframe 1 has content that remains visible until frame 10 in this layer. A hollow rectangle appears in frame 9, indicating the end of the span of in-between frames that displays the content of keyframe 1.

Frame 10 still contains a hollow bullet, meaning that it has no content. (Try clicking frame 10 to see that the Stage is blank.)

**4.** In the Timeline, in the area above the layers, click the number 5 or drag the playhead to position it in frame 5.

Flash displays frame 5 on the Stage. Notice that this in-between frame continues to display the content of the preceding keyframe, frame 1.

5. Choose Insert > Timeline > Blank Keyframe.

   Flash converts the selected in-between frame to a keyframe and removes all content from the Stage in that frame (Figure 8.6).

**Figure 8.6. When you convert an in-between frame that displays content to a blank keyframe, Flash removes content from the Stage for that frame. Frames 69 are tinted when they display the content of frame 1 (top). When you insert a blank keyframe at frame 5 (bottom), the tint disappears, because these frames now display the content of the most recent keyframe, frame 5, which is empty.**
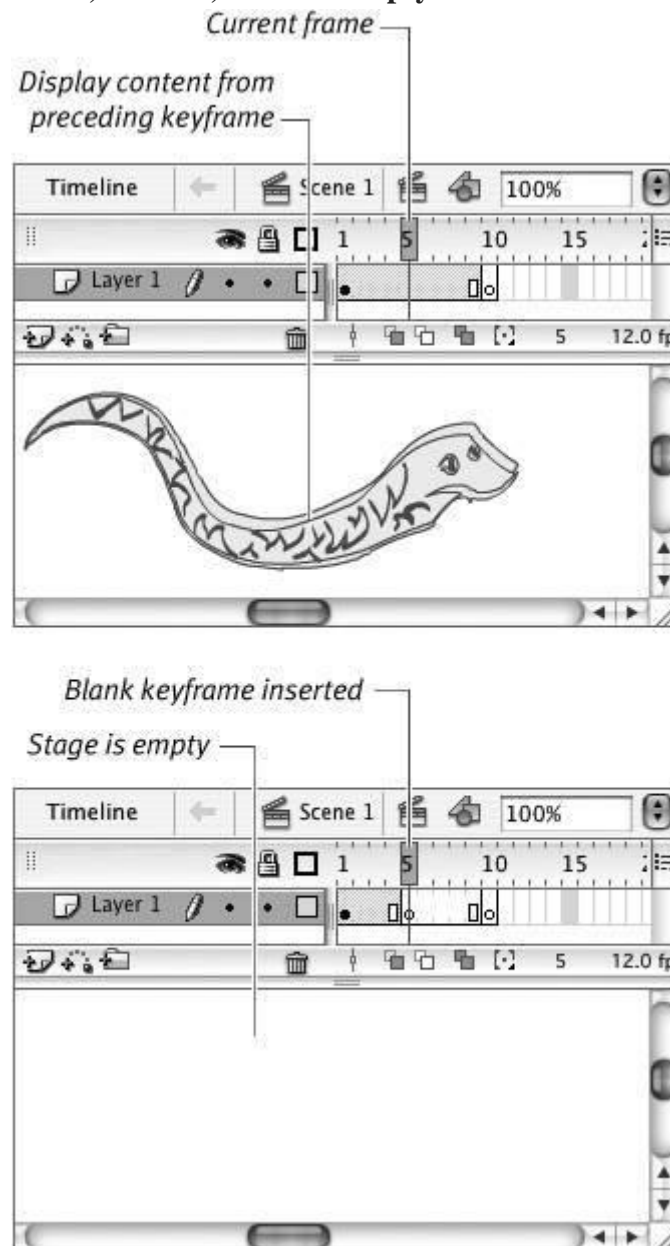


**To duplicate the contents of the preceding keyframe**

1. Follow steps 13 in the preceding task.
   You should have a document with content in keyframe 1.

2. In the Timeline, select frame 3.

The playhead doesn't move into the protoframe area, but frame 3 is highlighted as the current selected frame.

Choose Insert > Timeline > Keyframe.

Flash creates a new keyframe, duplicates the contents of frame 1 in frame 3, and places a solid bullet in the Timeline at frame 3 and a hollow rectangle in frame 2 (Figure 8.7). The content of frames 1 and 3 is totally separate. Try selecting frame 1 and making changesmove the graphic or delete it. Now select frame 3 again; it remains unchanged.

**Figure 8.7. The Insert > Timeline > Keyframe command creates a keyframe that duplicates the contents of the preceding keyframe in that layer.**
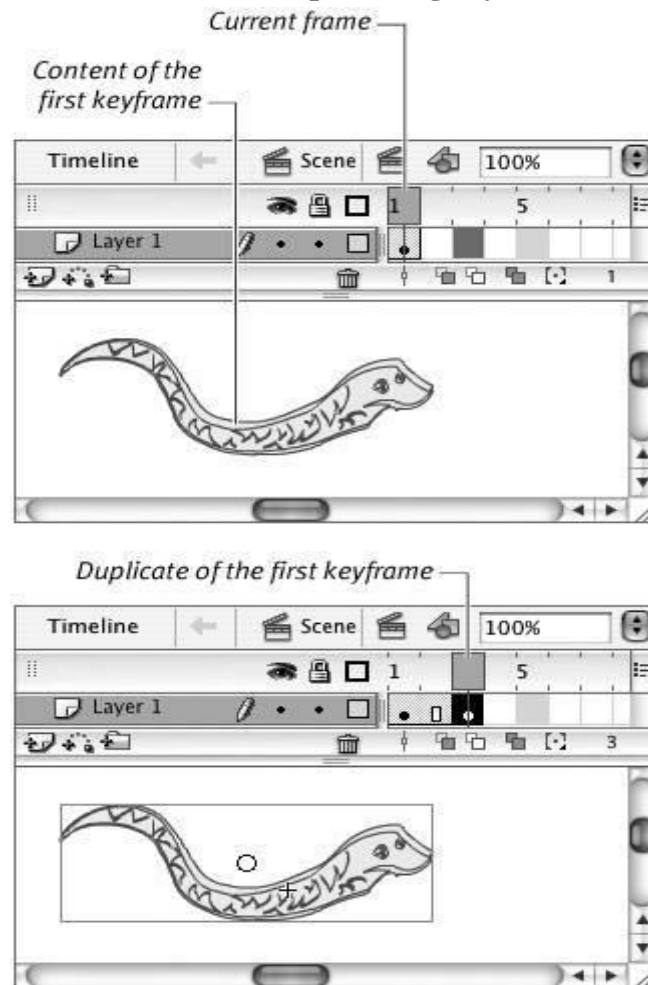


## 2. CREATING IN-BETWEEN FRAMES

The frames that appear between keyframes are in a sense tied to the keyframe that precedes them. They display its content and allow you a space in which to create tweened animation (see Chapters 9 and 10). Flash makes the connections between these frames clear by highlighting them and placing a hollow rectangle at the end of the keyframe span.
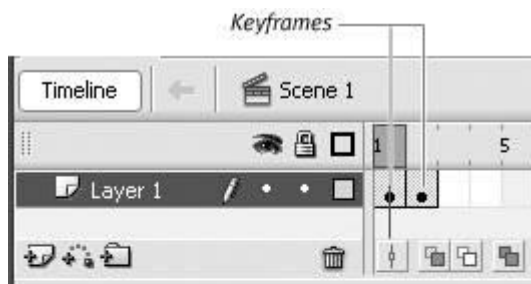
**To add in-between frames**

1. Open or create a Flash document with keyframes and content in frame 1 and frame 2.

2. In the Timeline, position the playhead in keyframe 1.

3. Choose Insert > Timeline > Frame, or press F5 on the keyboard (Figure 8.8).

**Figure 8.8. Choose Insert > Timeline > Frame to add in-between frames to the Timeline.**
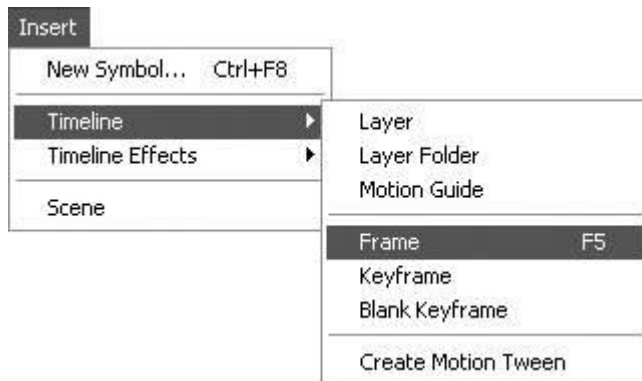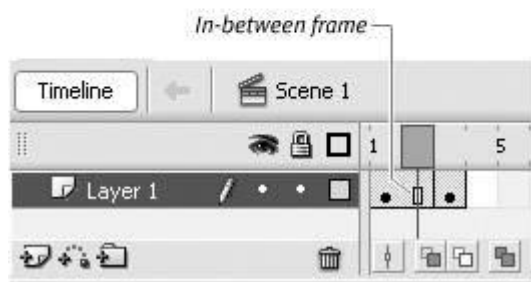


Flash adds an in-between frame (Figure 8.9). Your movie now contains a keyframe at frame 1, an in-between frame at frame 2, and another keyframe at frame 3.

**Figure 8.9. The Insert > Timeline > Frame command adds an in-between frame after the selected frame. Unlike Insert > Timeline > Keyframe and Insert > Timeline > Blank Keyframe, which convert a selected in-between frame or protoframe to a keyframe, the Insert > Timeline > Frame command adds a new frame to your movie.**



In Flash, you must use keyframes to define any change in the content or image, no matter how large or small the change. Flash doesn't use the term in-between frames; it uses the term frame for any frames that aren't defined as keyframes. For clarity, the tasks in this book use the term in-between frames to refer to any defined frames that aren't keyframes.

# 3. SELECTING FRAMES IN KEYFRAME SPANS

Flash offers two styles for selecting frames in the Timeline. The default selection style, frame-based selection, treats every frame as an individual. The span-based style treats frames as members of a keyframe spanthe keyframe plus any in-between frames that follow it and display its content. In the span-based selection style, clicking one frame in the middle of a span selects the entire span.

Except where noted, the examples in this book use Flash's default selection style, frame-based selection.
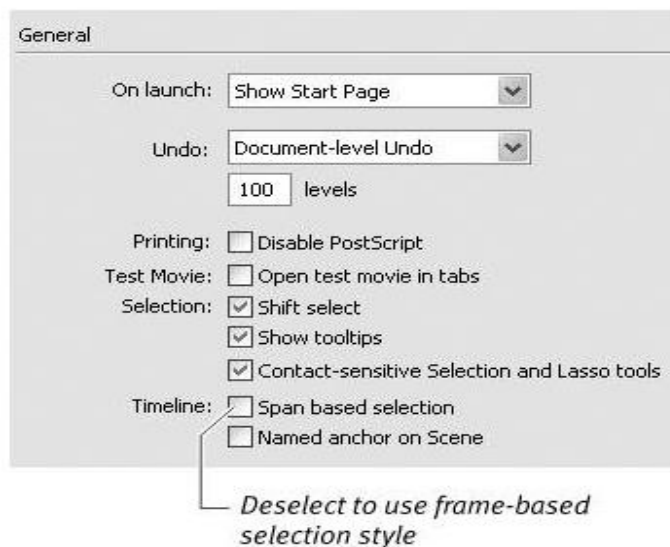
**To choose a selection style**

1. From the Edit menu (Windows) or from the Flash application menu (Mac), choose Preferences.

   The Preferences dialog appears.

2. From the Category list, select General.The General settings appear in the right-hand pane of the dialog (Figure 8.10).

   **Figure 8.10. Choose the way frame selection works in the Timeline from the General category of the Preferences dialog.**



3. In the Timeline section, choose either of the following frame-selection styles:

   o To manipulate keyframe spans in the Timeline, select the Span Based Selection check box.

   o To manipulate individual frames in the Timeline, deselect the Span Based Selection check box.

**To make frame-based selections**

In the Timeline, do one of the following:

- o To select one protoframe, click it.
- o To select two protoframes and all the frames between them, Shift-click the two protoframes.
- o To select a keyframe, click it.
- o To select the last frame in a keyframe span, click it.
- o To select just a middle frame in a keyframe span, click that frame.
- o To select an entire keyframe span, double-click a middle frame in the keyframe span.
- o To add frames to your selection, Shift-click the frames. Flash selects all the frames between the playhead and the frame you Shift-click.
- o To select a range of frames, click and drag through the frames.

**To make span-based selections**

In the Timeline, do one of the following:

- o To select one protoframe, click it.
- o To select two protoframes and all the frames between them, Shift-click the two protoframes.
- o To select a keyframe, click it.
- o To select the last frame in keyframe span, click it.
- o To select one in-between frame,    -click (Mac) or Ctrl-click (Windows) that frame.
- o To select an entire keyframe span, click a middle frame in the keyframe span.
- o To select an entire keyframe span, Shift-click the first or last frame in the span.
- o To add other spans to your selection, Shift-click the spans. The selection can include noncontiguous spans (Figure 8.11).

**Figure 8.11. With Flash's span-based frame-selection style, you can Shift-click to select keyframe spans that aren't contiguous.**
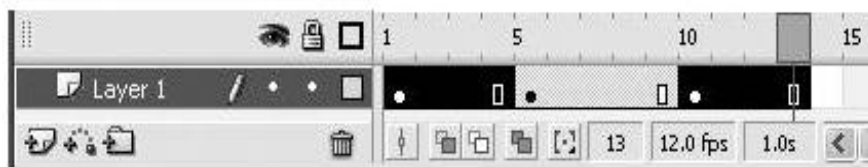


- o To select a range of frames in the Windows operating system, Ctrl-drag through the frames.

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### 4. MANIPULATING FRAMES IN ONE LAYER

</div>

You can't copy or paste frames by using the standard Copy and Paste commands that you use for graphic elements. Flash's Edit menu provides special commands for copying and pasting frames. Flash also lets you drag selected frames to new locations in the Timeline.

For the following tasks, open a new Flash document. Create a 10-frame movie with keyframes at frames 1, 3, 5, and 9. Using the text tool, place a text box in each keyframe, and enter the number of the frame in the text box; this technique makes it easy to tell what frame winds up where as you practice. Your document should look like Figure 8.13.

**Figure 8.13. To practice moving frames around, create a document with keyframes at frames 1, 3, 5, and 9. Each keyframe contains a text box with the number of the frame.**



**To copy and paste a single frame**

1. In the Timeline, select keyframe 3.

2. Choose Edit > Timeline > Copy Frames, or press Option-⌘-C (Mac) or Ctrl-Alt-C (Windows) (Figure 8.14).

**Figure 8.14. Flash's Edit menu provides special commands for copying and pasting frames in the Timeline.**
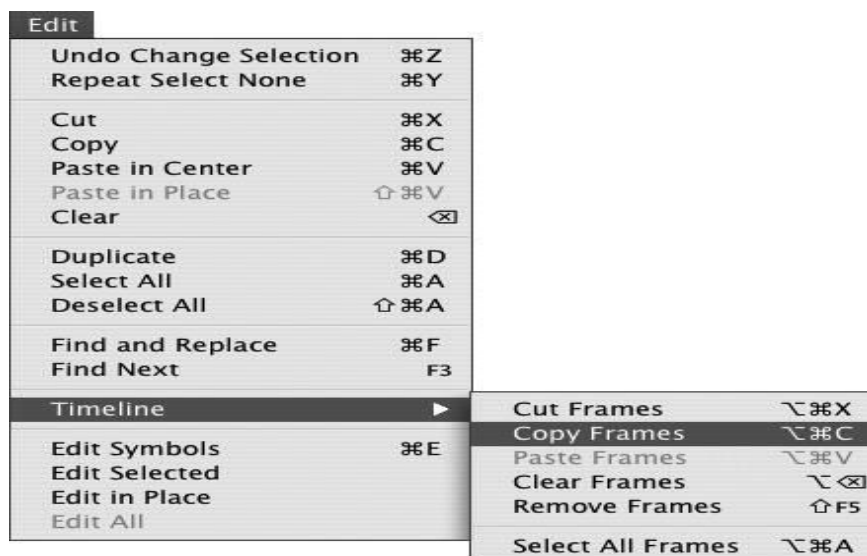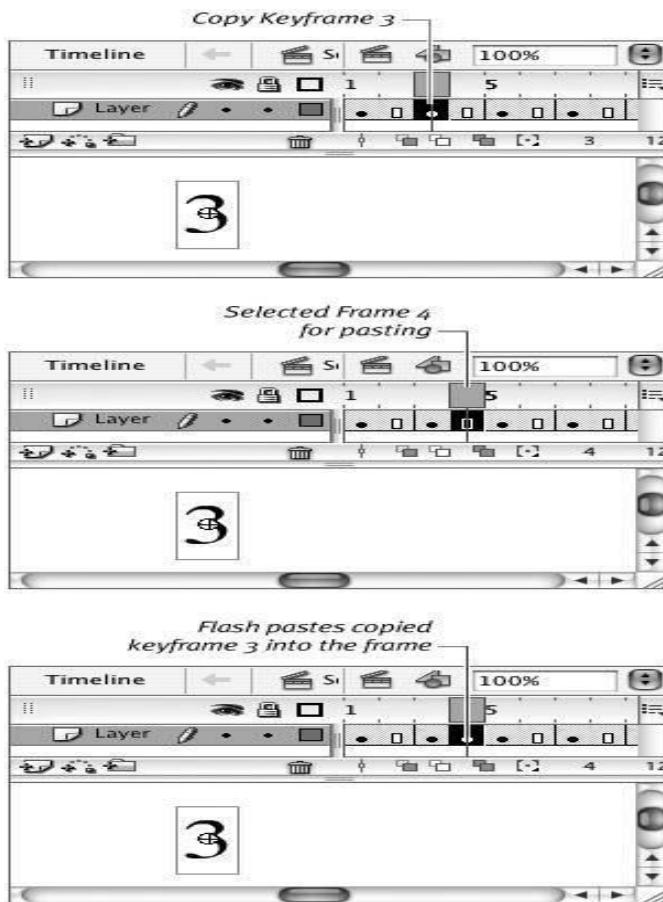


Flash copies the selected frame to the clipboard.

3. In the Timeline, click frame 4 to select it as the location for pasting the copied frame.

4. Choose Edit > Timeline > Paste Frames, or press Option-⌘-V (Mac) or Ctrl-Alt-V (Windows).
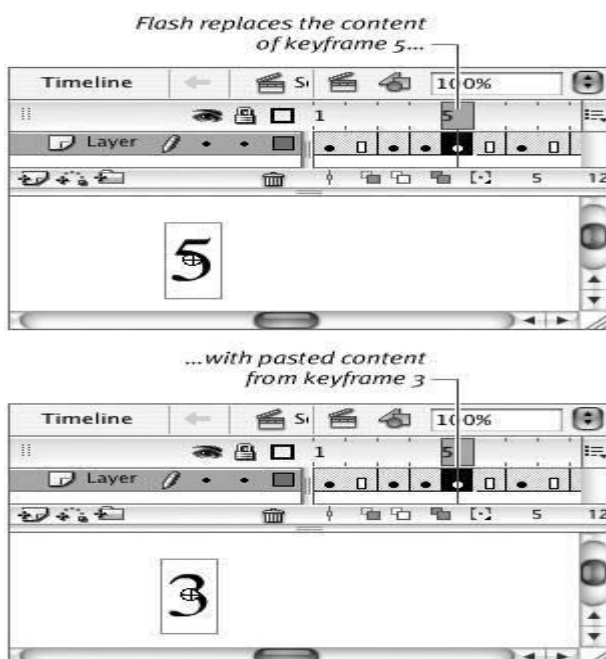
**Figure 8.15. When you paste a frame with new content into an in-between frame, Flash converts the frame to a keyframe.**



5. Paste another copy into frame 5 (Figure 8.16).

**Figure 8.16. When you paste a frame with new content into a keyframe, Flash replaces the keyframe's content.**



Flash replaces the contents of keyframe 5 with the content of keyframe 3.

**6. Paste another copy into protoframe 12**.

Flash extends the movie to accommodate the pasted frame. Note that the playhead won't move to protoframe 12 until after you've pasted the copy to create a defined frame.

## 5. REMOVING FRAMES

Flash has two commands for removing frames: Clear Keyframe and Remove Frames. To choose the correct command, ask yourself whether you want to eliminate the frame and reduce the length of the movie or just remove the frame's status as a keyframe, keeping the same total number of frames.

Flash's Clear Keyframe command removes keyframe status from a selected frame or range of frames. Clear Keyframe changes keyframes into in-between frames and deletes the keyframes' content from the movie. Clear Keyframe has no effect on the number of frames in the movie.

Remove Frames removes frames (and their content, if they're keyframes) from the movie. Remove Frames reduces the number of frames in the movie.
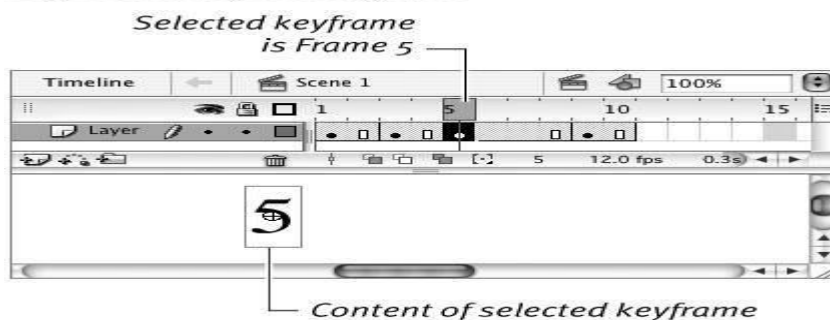
For the following tasks, use the same practice document you created for working with the tasks in "Manipulating Frames in One Layer."

**To remove keyframe status from a frame**

1. In the Timeline, select keyframe 5.
2. Choose Modify > Timeline > Clear Keyframe, or press Shift-F6 on the keyboard.

Flash removes the bullet from frame 5 in the Timeline (indicating that the frame is no longer a keyframe) and removes the graphic element it contained. Frame 5 becomes an in-between frame, displaying the contents of the keyframe at frame 3 (Figure 8.18). The total number of frames in the movie remains the same.
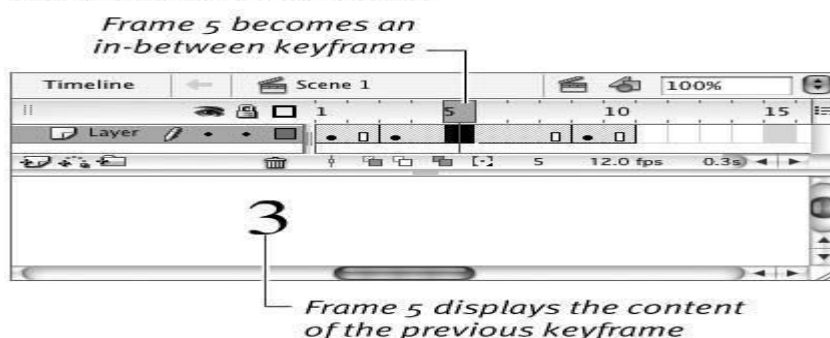
**Figure 8.18. The Modify > Timeline > Clear Keyframe command removes the contents of the selected keyframe from the Stage and converts the keyframe to an in-between frame. The Clear Keyframe command doesn't change the overall length of the movie.**

**To delete a single frame from a movie**

1. With your practice file in its original state (keyframes at 1, 3, 5, and 9), select frame 4 in the Timeline.

   Frame 4 is an in-between frame associated with keyframe 3.

2. Choose Edit > Timeline > Remove Frames, or press Shift-F5 on the keyboard.

   Flash deletes frame 4, reducing the overall length of the movie by one frame (Figure 8.20).

**Figure 8.20. The Edit > Timeline > Remove Frames command removes frames from the movie and reduces its length.**



Selected in-between frame

After deleting

Content originally in keyframe 5 is now in keyframe 4
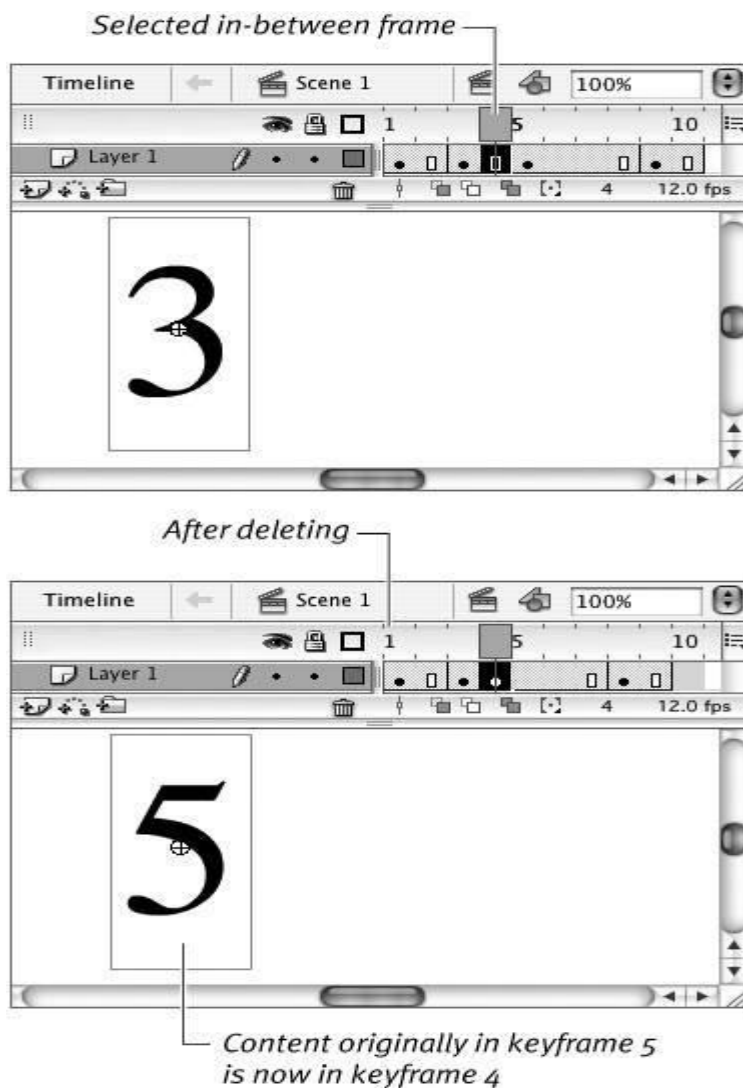
3. Select keyframe 3 and choose Edit > Timeline > Remove Frames again.

   Flash deletes the selected keyframe and its content, and reduces the length of the movie by one frame.

**To delete a range of frames**

1. Using your practice file, in the Timeline, select frames 36.
2. Choose Edit > Timeline > Remove Frames.
   Flash removes all the selected frames (Figure 8.21).

**Figure 8.21. The Edit > Timeline > Remove Frames command can delete a selected range of frames. Because an entire keyframe span (frames 3 and 4) is included in the selection (top), Flash not only reduces the number of frames but also removes the content of that keyframe span (middle). Where only part of a span was selected (frames 5 and 6), the span gets shorter, but the content remains the same (bottom).**
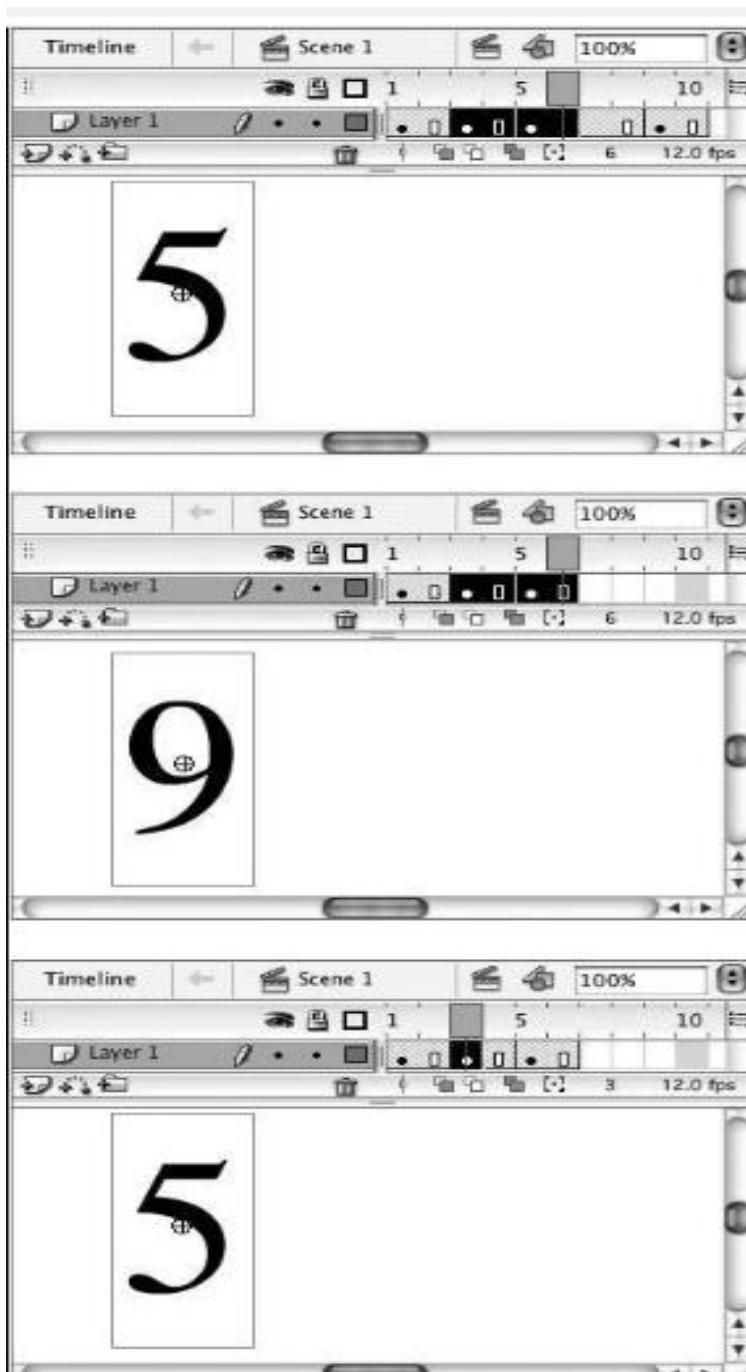
## 6. MAKING A SIMPLE FRAME-BY-FRAME ANIMATION

In traditional cel animation or flip-book animation, you create the illusion of movement by showing a series of images, each slightly different from the rest, simulating snapshots of the movement. When you create each of these drawings and place them in a series of keyframes, that process is called frame-by-frame animation. When you create only the most crucial snapshots and allow Flash to interpolate the minor changes that take place between those snapshots, you're creating tweened animation.

A classic example of frame-by-frame animation is a bouncing ball. You can create a crude bouncing ball in just three frames.

**To set up the initial keyframe**

1. Create a new Flash document, and name it something like Frame-by-Frame Bounce. By default, Flash creates a document with one layer and a keyframe at frame 1. Choose View > Grid > Show Grid to help you reposition your graphics in this task.

2. IntheTimeline,selectkeyframe1.
   Use the Frame View pop-up menu to set the Timeline to Preview in Context mode. This setting makes it easy to keep track of what you do in the example.

3. In the Tools panel, select the oval tool.

4. Set the stroke color to No Color.

5. Near the top of the Stage, draw a circle (Figure 8.22).

**Figure 8.22. In keyframe 1, draw a circle near the top of the Stage. This circle will become a bouncing ball.**
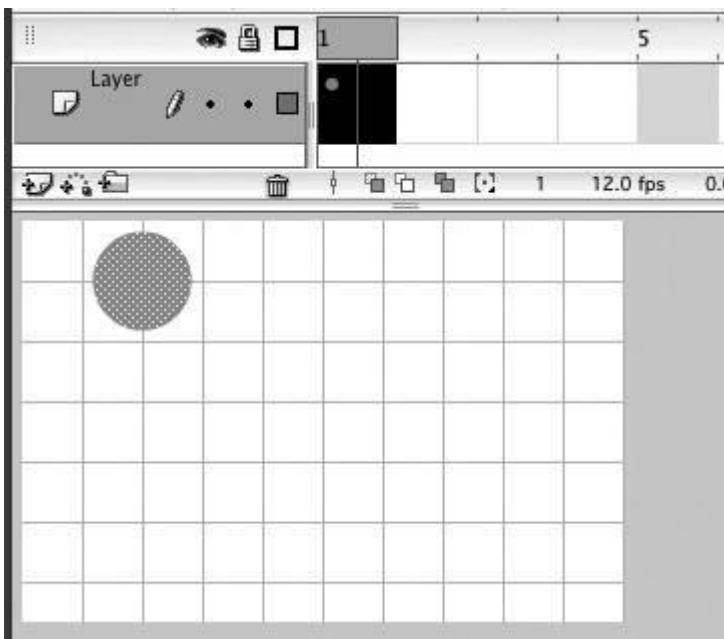


**To create the second keyframe**

1. In the Timeline, select frame 2.

**2.** Choose Insert > Timeline > Keyframe.

Flash creates a keyframe in frame 2 that duplicates your ball from keyframe 1.

**3.** In keyframe 2, select the ball and reposition it at the bottom of the Stage (Figure 8.23).
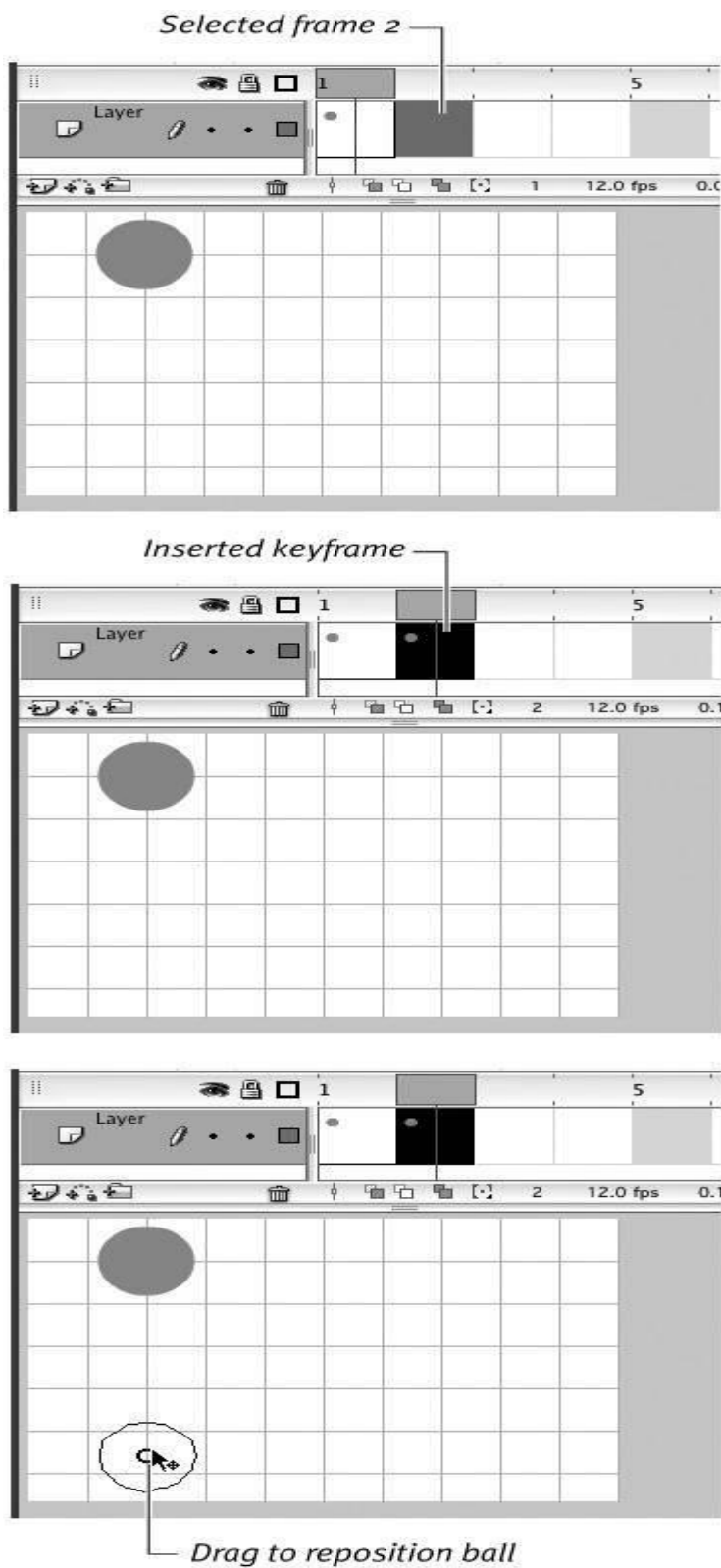


Figure 8.23. Use the Insert > Timeline > Keyframe command to duplicate the ball from keyframe 1 in keyframe 2. Then drag the ball to reposition it.

**To create the third keyframe**

1. In the Timeline, select frame 3.

2. Choose Insert > Timeline > Keyframe.

   Flash creates a keyframe in frame 3 that duplicates your ball from keyframe 2.

3. In keyframe 3, select the ball and reposition it in the middle of the Stage (Figure 8.24).

**Figure 8.24. Use the Insert > Timeline > Keyframe command to duplicate the ball from keyframe 2 in keyframe 3. Drag the ball to reposition it again.**



Selected Frame 3



Inserted keyframe

Drag to reposition ball
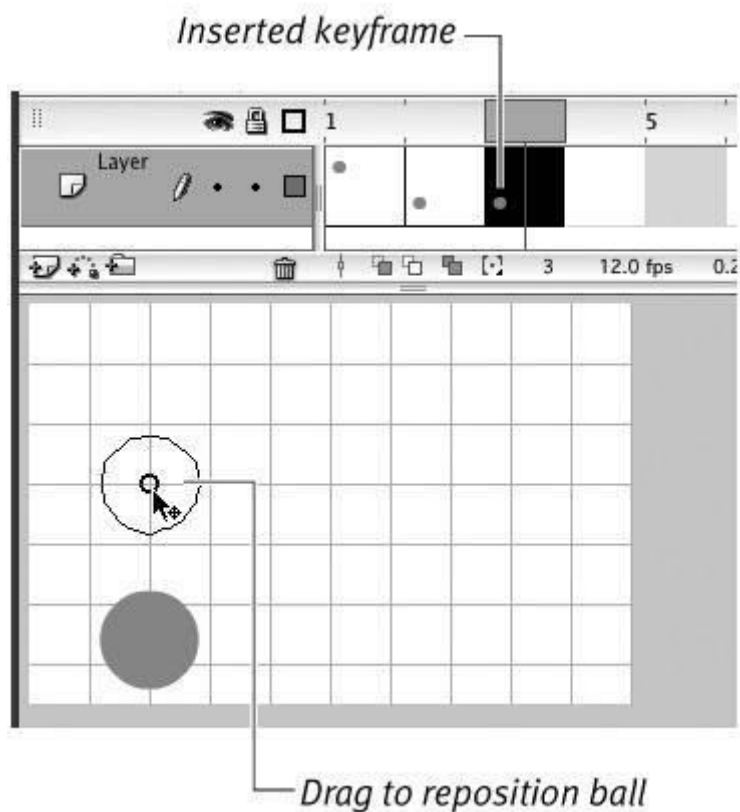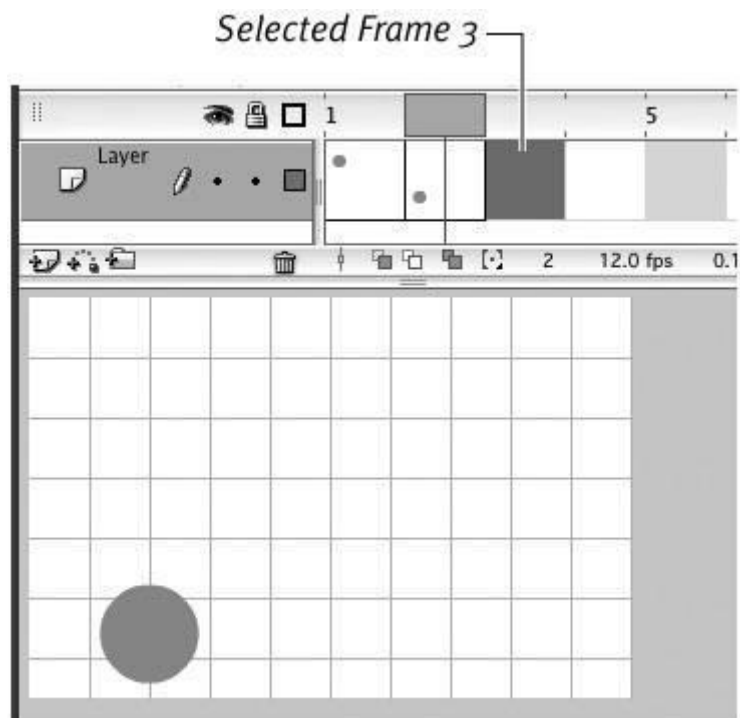
# 7. ADDING KEYFRAME TO CLASSIC TWEENS

How to Add Classic Tween to Flash Timeline
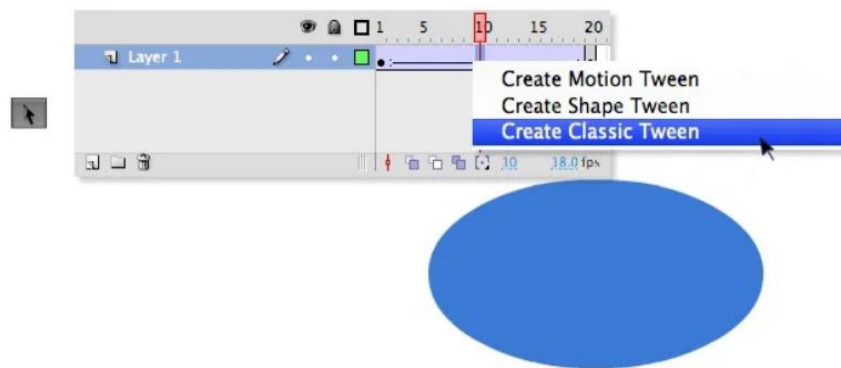


Classic Tweens are used to transition between two symbol states. In other words, you may have a symbol at stage left, at frame one, and the same symbol at stage right at frame 20. Once you apply a Classic Tween, the object gradually moves from left to right over 20 frames.

In addition to Position, you can also tween Tint, Rotation, Alpha, Brightness, and Scale. It is best to convert your object to a symbol before applying a tween.

Classic Tweens require that you have one symbol at the start keyframe and that same symbol in a end keyframe. There must be some change made to the symbol state (i.e., Position or Alpha), in the end keyframe.

For information on Alpha, Brightness or Tint tweening, see topics Transparency (Alpha) Tween, Brightness Tween, and Tint Tween.

**Step One**

Add an oval shape to the stage using the Oval tool (o key).

**Step Two**

With the oval shape selected, convert it to a Movie Symbol (F8)(Modify > Convert to Symbol).

**Step Three**

Click frame 20 of and press F6 (Insert > Timeline > Keyframe). The contents of frame one is copy-pasted into the newly created keyframe at frame 20.

**Step Four**

Click the keyframe at frame 1. Using the Selection tool (v key), then click and drag the oval to a new position.

**Step Five**

Right-click the timeline between your keyframes and choose Create Classic Tween from the pull-down menu.

**Step Six**

To render your swf file, press Cmd/Return (PC-Ctrl/Enter).

**Motion Tweens and Shape Tweens**

Classic Tweens work with Symbols. If you wish to transition between Drawing Objects or Merge Shapes you would use a Shape Tween.

**Dashed Tweens are a Bad Thing**

Dashed tweens tell you that something is wrong. For instance, if you assigned a motion tween between two keyframes, one with a symbol and the second one empty, the tween would appear as a dashed line.

## 8. CREATING A BOUNCING BALL WITH SHAPE TWEENING

Although shape tweens can animate changes in many properties of graphicscolor, size, locationthe distinguishing function of shape tweening is to transform one shape into another. You could use a shape tween to replicate the simple bouncing-ball animation you created in Chapters 8 and 9, but the beauty of shape tweening is that it lets you change the shape of the ball. A better use of shape tweening for a bouncing ball is to flatten the ball as it strikes the ground.

**To define shape tweens via the Frame Properties tab of the Property inspector**

1. In a new Flash document, or in a new layer of an existing document, position the playhead in frame 1.
2. In the Tools panel, choose the oval tool.
3. Set the stroke to No Color.
4. Near the top of the Stage, draw a circle.
   This circle will be the ball. Make it fairly large.
5. In the Timeline, select frame 5, and choose Insert > Timeline > Keyframe. The Insert > Timeline > Keyframe command makes a new keyframe that duplicates the contents of the preceding keyframe.
6. Select frame 10, and choose Insert > Timeline > Keyframe.
7. In frame 5, select the ball, and drag it to the bottom of the Stage. Now you have the keyframes necessary to make a simple bouncing ball like the one in the motion-tween task. In frame 1, the ball is at the top of its bounce; in frame 5, the ball is at the bottom of its bounce; and in frame 10, the ball is back up at the top.
8. Use the drawing tools to reshape the oval in frame 5, flattening the bottom and elongating it a bit sideways (Figure 10.1).
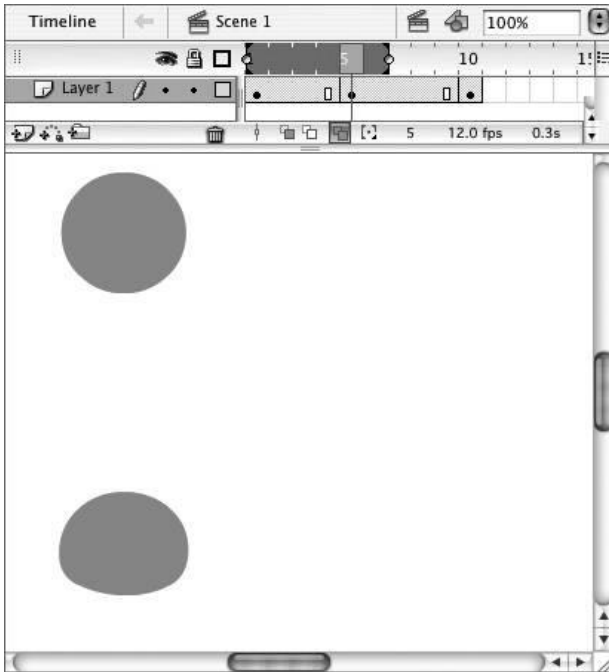
By changing the shape at the bottom of the bounce, you make it look like the ball really contacts something solid, such as a floor.

9. To define the shape tween for the first half of the ball's bounce, in the Timeline, select any of the frames in the first keyframe span (1, 2, 3, or 4). Note that the ball is selected automatically. When you define a shape tween, the element to be tweened must be selected.

10. In the Frame Properties tab of the Property inspector, from the Tween pop-up menu, choose Shape.

The settings for the shape tween appear (Figure 10.2).
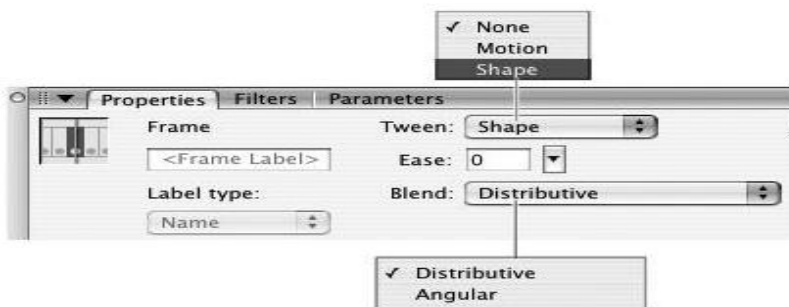


Flash creates a shape tween in frames 14 and color-codes those frames in the Timeline. With Tinted Frames active (choose it from the Frame View pop-up menu at the end of the Edit Bar), Flash applies a light green shade to the frames containing a shape tween. If Tinted Frames is inactive, the frames are white (Mac) or patterned (Windows), but Flash changes the arrow that indicates the presence of a tween from black to green.

11. In the Ease field, do one of the following:
    o To make the bounce start slowly and speed up, enter a negative value.

- o   To make the bounce start quickly and slow down, enter a positive value.

- o   To keep the bounce constant, enter 0.

**12.** From the Blend menu, choose either of the following options:

- o   To preserve sharp corners and straight lines as one shape transforms into another, choose Angular.

- o   To smooth out the in-between shapes, choose Distributive.

**13.** To define the shape tween for the second half of the ball's bounce, in the Timeline, select any of the frames in the second keyframe span (5, 6, 7, 8, or 9).

**14.** Repeat                                          steps                                          1012.

Flash creates the second half of the ball's bounce with another shape tween (Figure 10.3).



Tween sequence for downward bounce



Tween sequence for upward bounce
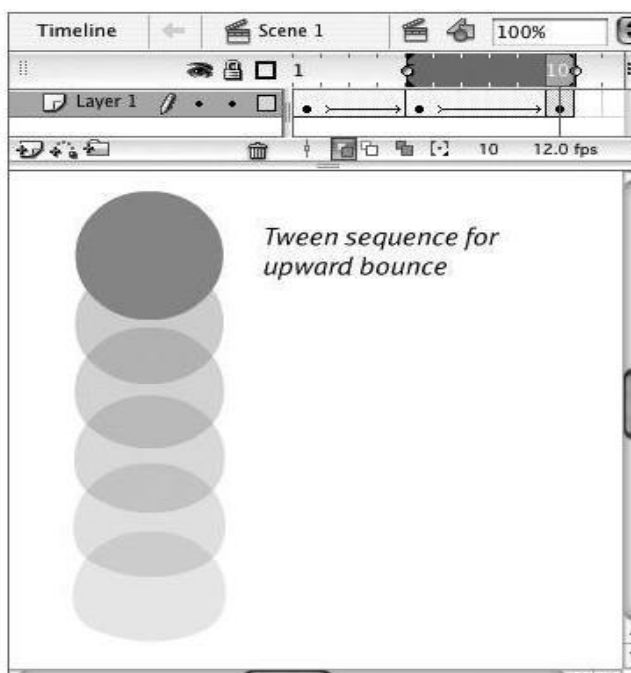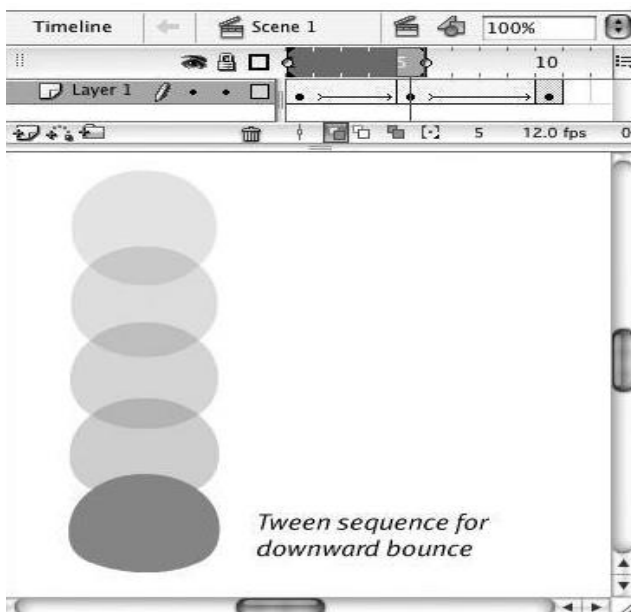
# 9. CREATING A BOUNCING BALL WITH MOTION TWEENING

Flash provides a special command, Create Motion Tween, that helps you through the steps of making a motion tween. The Create Motion Tween command makes sure that you have symbols in your tweens and a keyframe at both the beginning and end of the tween sequence.

To use the Create Motion Tween command:

1. Create a new Flash document, and name it something like Motion Tween Bounce. By default, Flash creates a document with one layer and a keyframe at Frame 1.

2. In the Timeline, select Frame 1.

3. In the Toolbox, choose the oval tool, and set the stroke to No Color .

4. Near the top of the Stage, draw a circle. This circle will be the ball. Make it fairly large.

5. With Frame 1 still selected, from the Insert menu, choose Create Motion Tween (Figure 9.1).

**Figure 9.1. Choose Insert > Create Motion Tween to start the tweening process.**
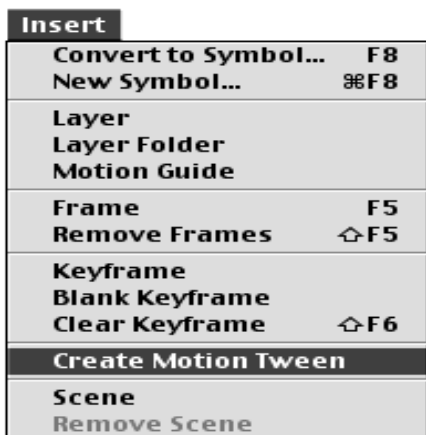


Flash creates a symbol from the graphics on the Stage. Flash gives the symbol a default name based on the number of tweening graphics already created in the movie. In this case, Flash turns the ball into a symbol named Tween 1 (Figure 9.2).
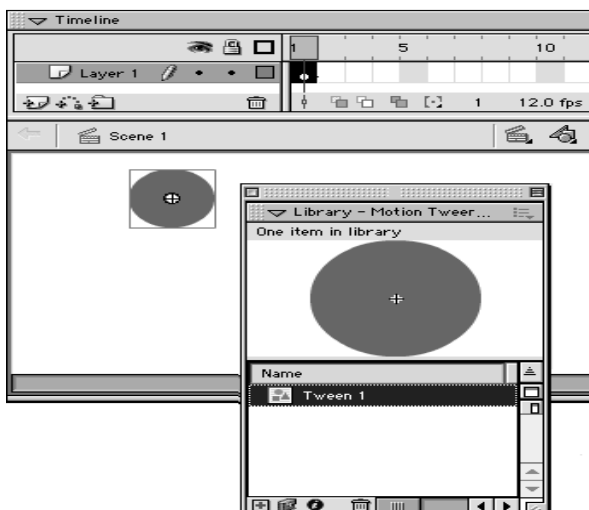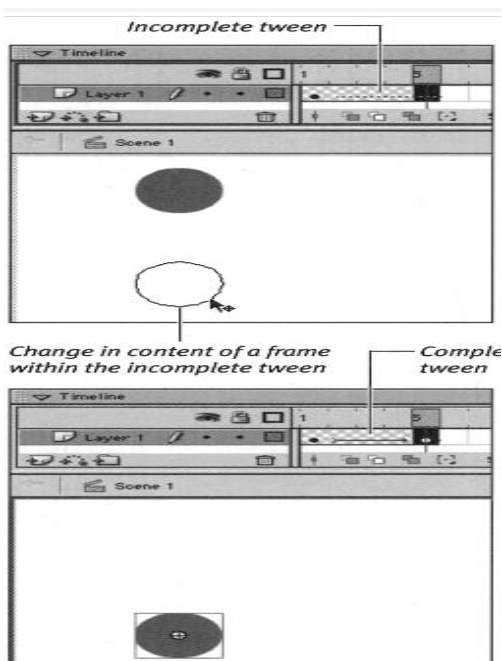
6. In the Timeline, select Frame 5.

7. Choose Insert > Frame.

Flash adds frames containing a dotted line (Figure 9.3). The dotted line indicates that these frames are set to contain a motion tween, but something is wrong, and Flash cannot complete the tween. In this case, the keyframe that describes where the ball should be at the end of this animation sequence is missing.
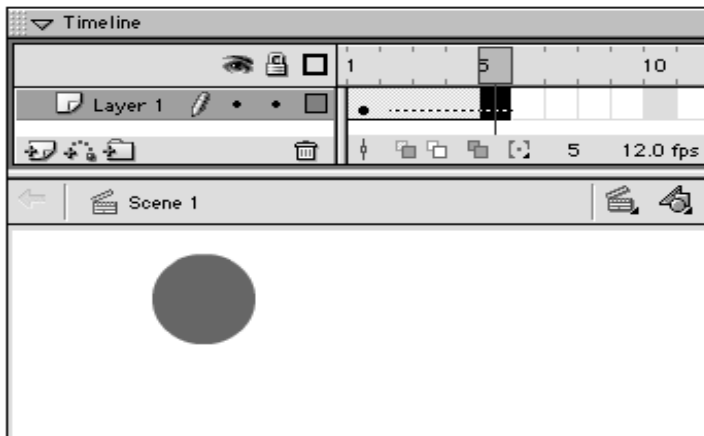


8. In Frame 5, move the circle to the bottom of the Stage to create the downward bounce of the ball.

Flash creates a keyframe in Frame 5 with the symbol located at the bottom of the Stage. Then Flash updates the Timeline to give you information about the tween. In the in-between frames that contain the motion tween, Flash replaces the dotted line with an arrow, indicating that tweening takes place in these frames (Figure 9.4). These in-between frames are still "empty," in the sense that they have no content on the Stage that you can edit. They no longer display the content of the preceding keyframe, but they display the incrementally changed content that Flash creates.
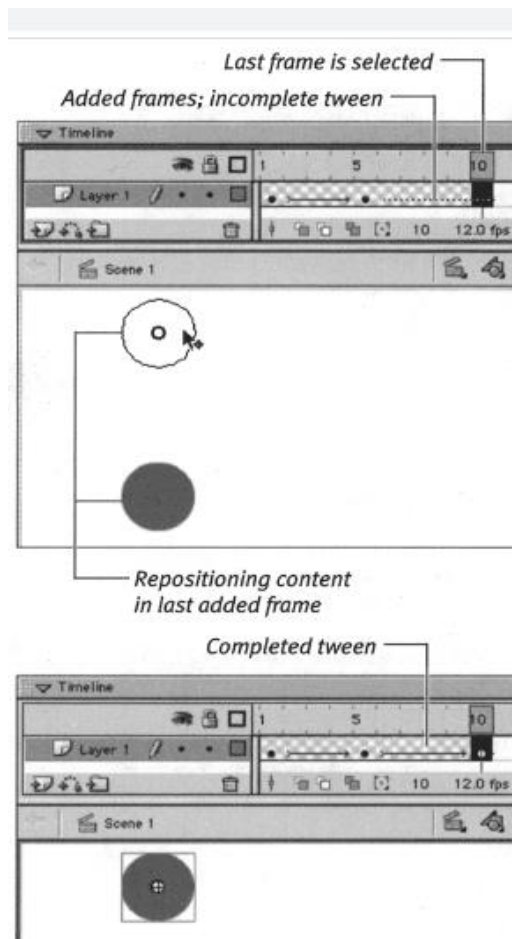
9. In the Timeline, select Frame 10.

10. Choose Insert > Frame.

Flash extends the motion-tween tinting to Frame 10. A dotted line indicating an incomplete tween appears in Frames 6 through 10.

11. In Frame 10, move the circle to the top of the Stage to create the upward bounce of the ball.

Flash creates a new keyframe to contain the changed content and puts the tweening arrow over the in-between frames (Figure 9.5).



12. From the Control menu, choose Play to preview the animation.

## 10. CREATING AND DELETING LAYERS AND FOLDERS

**To add layers and folders**

1. In the Timeline, select a layer or folder layer.
   Flash always adds the new layer or folder directly above the one you selected, so be sure to select the layer or folder that should wind up directly beneath the new one. To add a layer or folder beneath the current bottom layer, create the layer first, and then click and drag it to reposition it at the bottom of the stack.

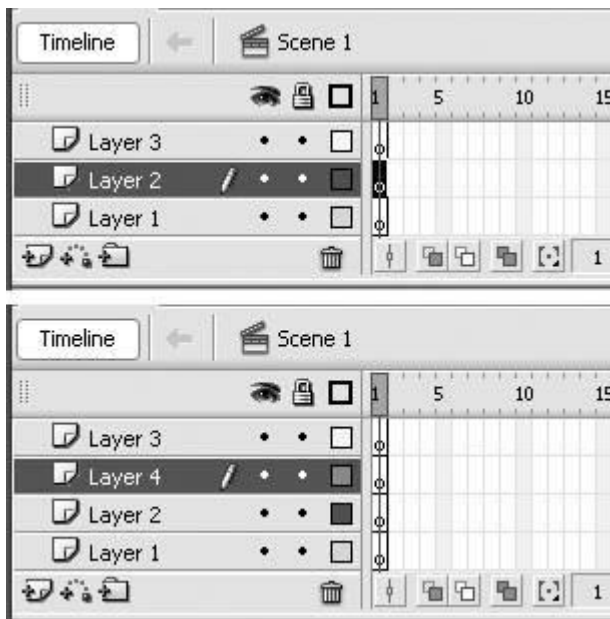2. To add a layer, do either of the following:

- Choose Insert > Timeline > Layer (Figure 6.2).
- **Figure 6.2. Choose Insert > Timeline > Layer to add a new layer to the Timeline.**
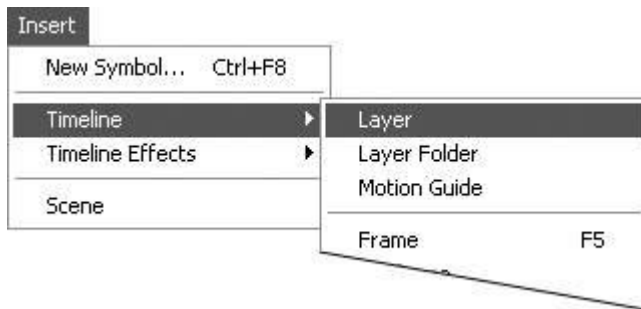


- In the Timeline, click the Insert Layer button.

Flash adds a new layer and gives it a default namefor example, Layer 4 (Figure 6.3).

**Figure 6.3. Select the layer that you want to wind up beneath the new layer (top); Flash inserts a new layer directly above the selected layer and gives the new layer a default name (bottom).**



You can add new layers and layer folders as you need them while creating the ingredients of a particular scene in your movie.

3. To add a folder, do either of the following:
   - Choose Insert > Timeline > Layer Folder.
   - In the Timeline, click the Insert Layer Folder button.

Flash adds a new layer folder and gives it a default namefor example, Folder 1 or Folder 2 (Figure 6.4).

**Figure 6.4. Select the layer that should be below the new folder (top). Flash creates a new folder above the layer you selected (bottom). Flash names new folders based on the number of folders that have been created in the current scene of the movie.**
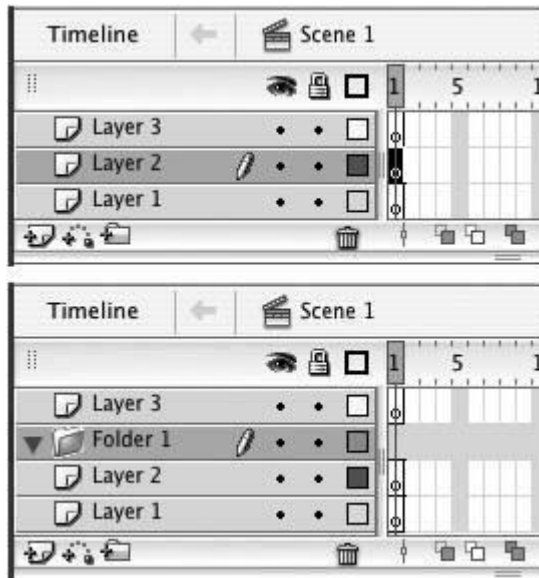
Flash bases the number in the default names on the number of layers or folders already created in the active scene of the movie, not on the number of layers and folders that currently exist. Flash tracks layer and folder numbers separately; the first folder you insert among numerous layers gets the name Folder 1.

**To delete layers or folders**

1. In the Timeline, select the layer or folder you want to delete.
2. Click the Trash icon (Figure 6.5).

   **Figure 6.5. Click the Trash icon to delete a selected layer or folder.**
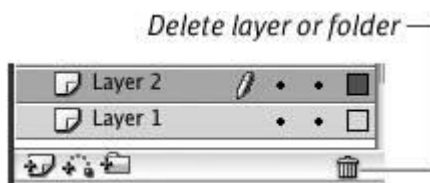
   

   Flash removes that layer (and all its frames) or that folder (and all the layers it contains) from the Timeline.

**To delete multiple layers and/or folders**

1. In the Timeline, select the first layer or folder you want to remove.

2. ⌘-click (Mac) or Ctrl-click (Windows) every layer or folder you want to remove.

   This method of selection allows you to choose multiple layers that aren't contiguous (Figure 6.7).

   **Figure 6.7. To delete noncontiguous layers, ⌘-click (Mac) or Ctrl-click (Windows) the layers you want to add to your selection; then click the Trash icon.**

Layer selected for deletion

After deletion
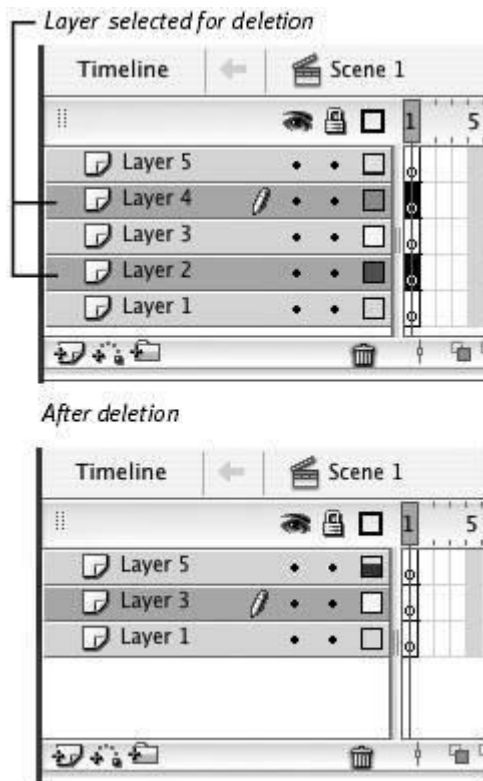
**3.** Click the Trash icon.

Flash removes the selected layers (and their frames) from the Timeline.

If your selection includes folders containing layers, a dialog appears, warning that deleting the layer folder will also delete all the layers it contains.

**4.** To delete the folder and its layers, click Yes.

or

To cancel the delete operation, click No.

## 11. SETTING LAYER PROPERTIES

- **General**—Used to record a layer description, set credits ,and specify scale-dependent drawing properties.

- **Source**—Allows you to view the extent of your data. You can view and change the source of your data from this tab.

- **Selection**—Allows you to set how features in a specific layer are highlighted when they are selected. Selection property changes in a specific layer override the default **Selection Options** settings.

- **Display**—Controls how your data is displayed as you move in the view. Options include making a layer transparent, adding MapTips and hyperlinks, and restoring excluded features.

- **Symbology**—Provides options for assigning map symbols and rendering your data. Options include drawing all features with one symbol; using proportional symbols; using categories based on attribute values; the use of quantities, color ramps, or charts based on attributes; or the use of representation rules and symbols.
- **Fields**—Used to set characteristics about attribute fields. You can also create aliases, format numbers, and make fields invisible. An important aspect is to set Alias names for visible fields that make it easier for your users to work with feature attributes.
- **Definition Query**—Allows you to specify that a subset of your features will be used in the layer. With the **Query Builder** dialog box, you can create an expression to select particular features of a dataset to be used in your layer.
- **Labels**—Allows you to turn on a layer's labels, build label expressions, manage label classes, and set up the labeling options for label placement and symbology. Alternatively, you can set labeling properties for all layers within the map using the Label Manager.
- **Joins and Relates**—Allows you to join or relate attribute tables to the layer's feature attribute table.
- **Time**—Used to specify the time properties of time-aware layers.
- **HTML Popup**—Used to specify how pop-up lists are generated when you click a feature to display information about it.

## 13. WORKING WITH GRAPHICS ON DIFFERENT LAYERS

Unless you lock shapes, or lock or hide layers, the graphics on all layers are available for editing, but you can add shapes only to the active layer (the one that's currently selected). You can use any of the techniques you learned in Chapter 4 to modify merge-shapes and drawing-objects.

**To activate a layer**
- To select the layer where you want to add a graphic-object, do either of the following:
    - In the Timeline, click the layer name.

        The area containing the layer name highlights and a pencil icon appears to the right of the layer name. Flash selects all the graphic-objects on that layer.

    - On the Stage, click a graphic-object.

        Flash selects that graphic-object and highlights the layer name as described above.

**To edit shape outlines on inactive layers**
1. In a document with shapes on two or more layers, using the selection tool, position the pointer over a shape on an inactive layer (one without the pencil icon).

The curve or corner-point icon appears.

**2.** Drag the outline of the shape on the inactive layer.

**3.** Release the mouse button.
Flash redraws the shape (Figure 6.20). The layer that was active originally remains active.

**Figure 6.20. Oval is the active layer, but you can still edit shapes on inactive layers. Modifying a shape's outline with the selection tool doesn't activate the shape's layer.**



Use selection tool to modify
shape on inactive layer



Flash redraws shape
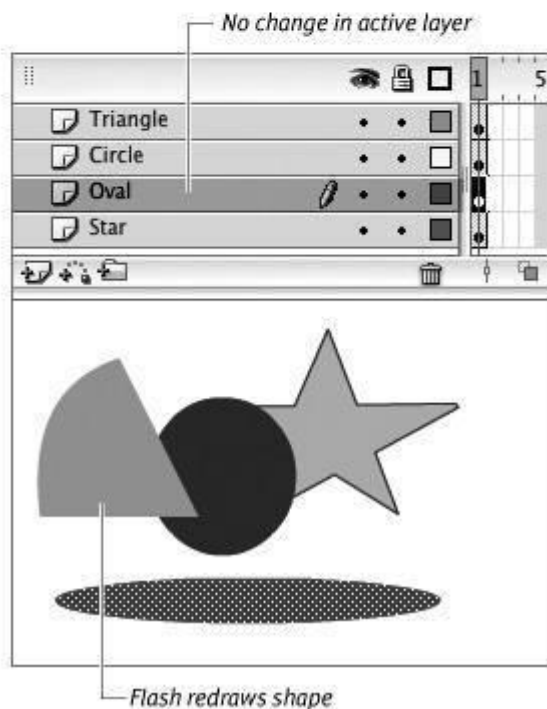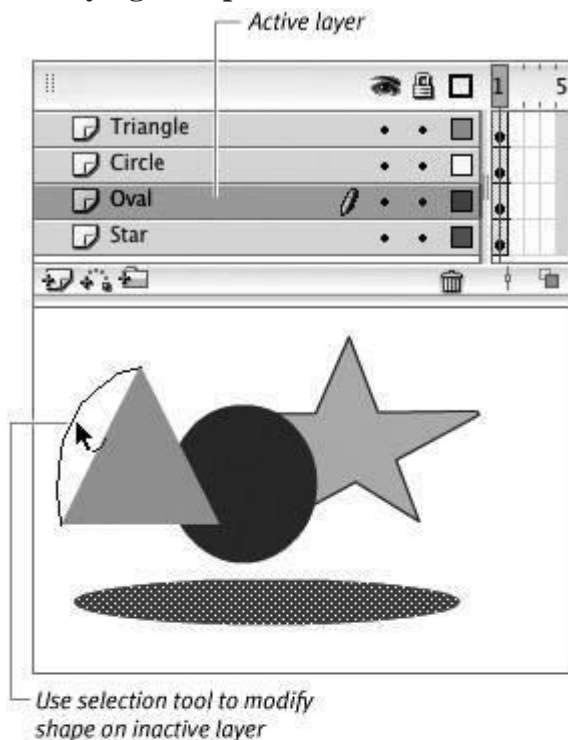
**To edit fills across layers**

**1.** In a document with shapes on two or more layers, select the paint-bucket tool from the Tools panel.

2. From the Color Mixer panel, choose a new color.

3. Position the paint-bucker over a shape on an inactive layer and click. Flash fills the shape with the new color, but the layer remains inactive (Figure 6.21).

**Figure 6.21. Using the paint-bucket tool to change a fill color on an inactive layer doesn't activate that layer.**



Active layer

Use paint bucket to modify
fill on inactive layer

No change in active layer

Flash fills shape with new color