

## Skills Covered

- About Layers
- Work with Layers
- Create Graphic Symbols
- Add a Symbol Instance
- Using Tweening
- Understanding Tween Settings
- Motion Tweening
- Shape Tweening

**Software Skills** Now that you know how to create a basic animation in Flash, you can explore ways to save time and effort by creating layers, converting objects to symbols, and using tweening to animate objects along a path.

**Design Skills** As you've heard throughout this course, part of being a good designer means using your time efficiently and productively. You can use layers and symbols to organize and reuse items in your animations.

**Application Skills** This exercise shows you how to use layers, symbols, and tweening to create a simple animation for Tierra Verde.

### TERMS

**Instance** One occurrence of a symbol.

**Library** A folder in which symbols are stored.

**Media assets** The content you use to create an application.

**Movie clip** A symbol comprised of an animated sequence of frames.

**Registration point** A reference point used to position and transform a group, instance, text block, or bitmap.

**Symbol** A reusable object used to create content in an application.

**Tweening** The process of animating a symbol or text object in Flash.

### NOTES

#### About Layers

- You can use layers to organize the content of your Flash applications.
- Layers are like clear sheets of paper piled on top of each other—you can see through them, but you can draw, edit, and animate objects on one layer without affecting objects on another layer.
- Each new document contains a single layer, but you can add as many layers as you want. The number of layers you can create is limited only by the amount of memory installed on your computer.
- Layers do not affect the size of your published application.
- Planning your layers before you create an animation can help you keep your objects organized.
- For example, it's a good idea to have a background layer that contains static images that don't change throughout the application. Additional layers might contain one animated object each. Keeping animated objects on separate layers ensures that they don't overlap or segment each other.
- Using separate layers for objects such as sound files and actions makes it easier to find those objects when you need them.

## Work with Layers

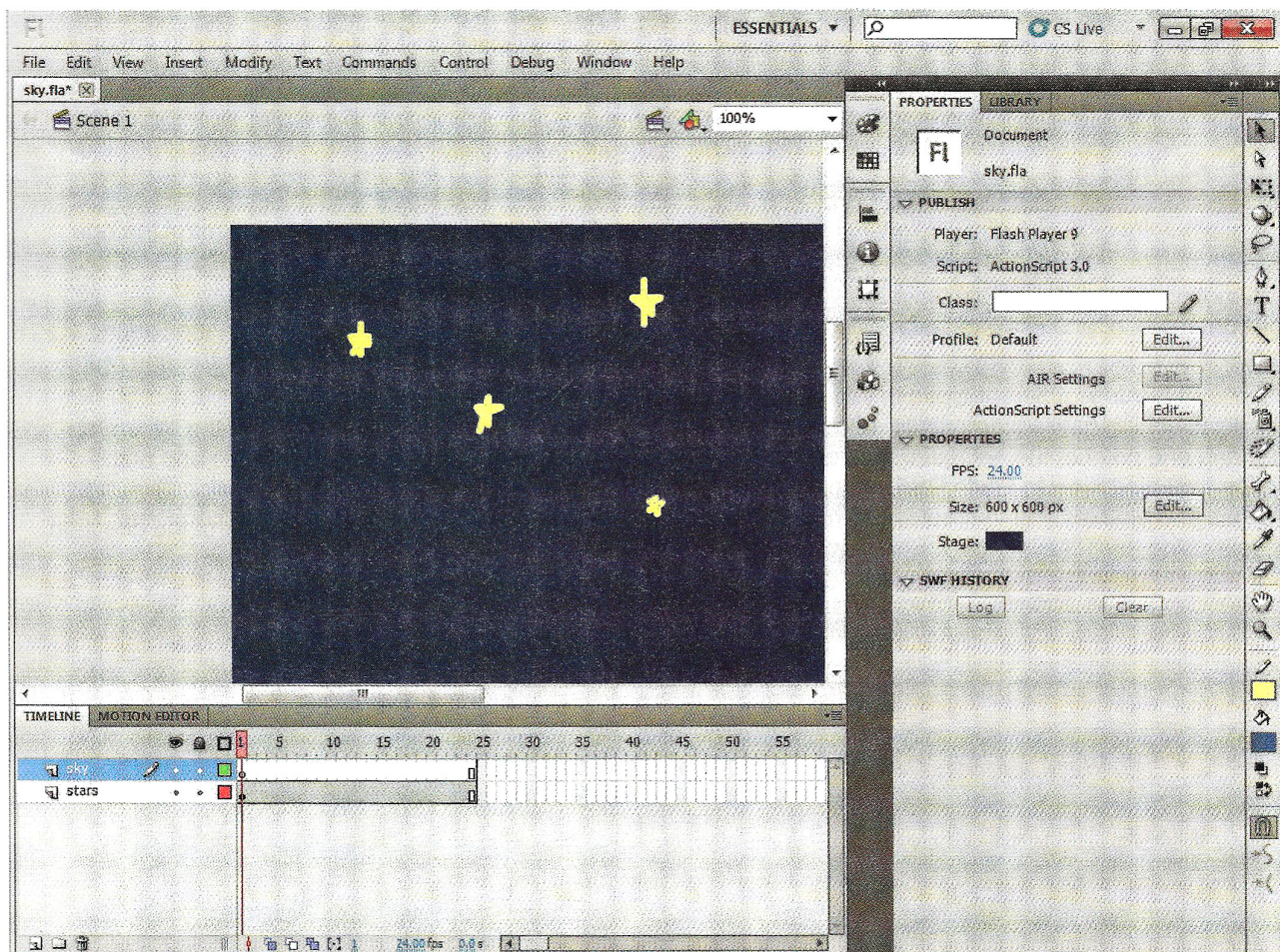
- The contents of the active layer display on the Stage.
- You can insert a new layer at any time. By default, the new layer becomes the active layer.
- Move layers in the Timeline list to rearrange their stacking order. For example, move a layer up in the list to move it toward the front of the frame.
- It is a good idea to rename layers to reflect their contents. For example, you might name the layer containing static background objects *Sky*, as the illustration at the bottom of the page shows.
- You can copy a layer to make an exact duplicate of it. All frames in the layer are copied.
- Delete a layer when you are certain you don't need it anymore.
- Hide layers when you want to work on one layer without being distracted by the content on other layers.

- Lock a layer when you do not want any changes made to it.
- You can also copy and move individual objects and frames from one layer to another.

## Create Graphic Symbols

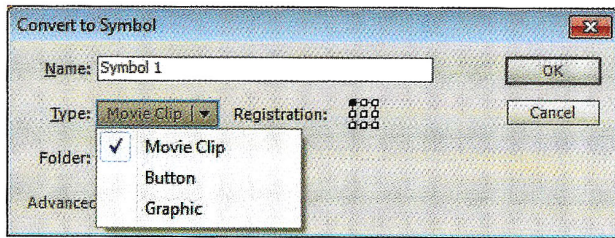
- A **symbol** is a graphic object, **movie clip**, or button that you create once and can use many times.
- You can create a symbol by converting objects already entered on the Stage, or you can create an empty symbol.
- Any symbol that you create becomes part of the **library** for the current document; you can share symbols among documents.
- When you create a symbol, it has its own Timeline and Stage, which you can manage just as you manage the document's main Timeline and Stage. For example, you can add layers or keyframes to the symbol's Timeline.

Figure 6-23. Layers in the Timeline



- You specify the symbol type in either the Convert to Symbol or the New Symbol dialog box, which are virtually the same (see the following illustration).

**Figure 6-24. Convert to Symbol Dialog Box**



## Add a Symbol Instance

- You can easily add instances of symbols to the currently selected frame. Simply drag the symbol you want to use to the Stage. Flash creates a copy, called an **instance**, of the symbol and places it in the frame.
- If you want to modify the original symbol that is saved in the Library, right-click the symbol and click Edit. The symbol opens on the Stage so that you can make changes.

✓ *Note: Working with the Library and instances in Flash is similar to the process you learned in Fireworks.*

## Using Tweening

- In a Flash animation, the easiest way to create movement over time is to use **tweening**.
- With motion tweening, you can animate the size, position, rotation, and skew of instances, groups, or type.
- Flash CS5 includes different types of tweening. Classic tweening uses keyframes to establish the start and end point of the animated sequence. Motion tweening, new in Flash CS5, simplifies the process and enables you to create the animation without using the Timeline at all. Shape tweening

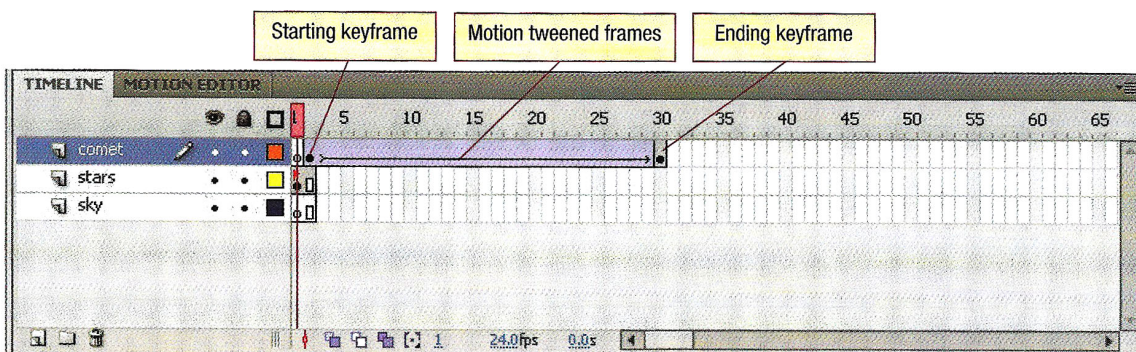
enables you to easily animate shapes you resize, recolor, and change throughout the animation.

- To create classic tweened animation, you specify the starting properties of an object on the first keyframe and the ending properties of the object on the last keyframe.
- Flash fills in the frames between the two by evenly adjusting the properties to create the appearance of movement.
- If you change the number of frames between the two keyframes, or move the object in either keyframe, Flash automatically updates the animation.
- The easiest way to create a classic tween is by specifying tween properties in the Property inspector.
- Alternatively, use the Create Motion Tween command.
- On the Timeline, intermediate frames in a motion tweened sequence are light blue, with a black arrow across them (see Figure 6-25).
- You can also tween color or transparency.
- If you want to tween drawing objects, you must use shape tweening.

## Understanding Tween Settings

- Set motion tween options in the Property inspector.
- Motion tween options include the following:
  - Ease. Enter an easing value to control the rate of change between tweened frames. By default, the rate is constant.
    - Enter a negative value to begin the tween slowly and accelerate it toward the end of the sequence.
    - Enter a positive value to begin the tween rapidly and decelerate it toward the end of the sequence.
  - Rotate. Choose an option to control the direction of spin if you are animating rotation.

**Figure 6-25. Motion tweened frames in the Timeline**



- Snap. Select this option to attach a tween object to a motion path by its **registration point**.
- Sync. Select this option to synchronize the animation of graphic symbol instances with the main Timeline.
- Orient to Path. Select this option to orient the baseline of the tweened object to a motion path.
- Scale. Select this check box if you are animating a change in size. There must be a change in size between the starting keyframe and the ending keyframe.

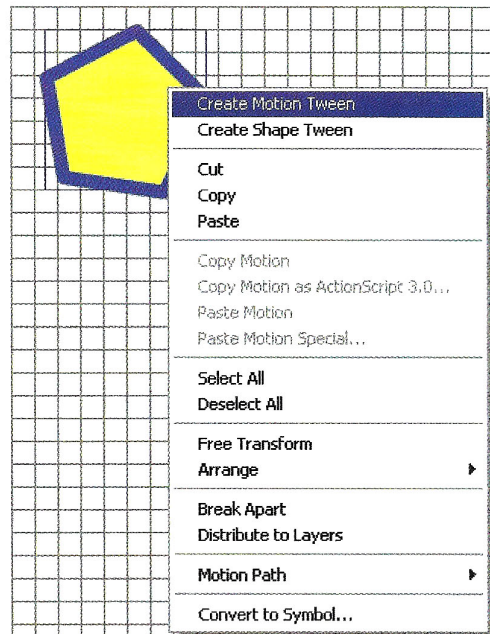
## Motion Tweening

- Use motion tweening to animate Flash objects easily and modify properties.
- Motion tweening is all object-based; that is, the animation properties are tied to the object itself and not based on keyframes. In fact, keyframes are created for you automatically when you create a motion tween.
- You create a symbol for the object you want to tween. Then add the object you want to animate to the Stage and create the motion tween by right-clicking the object and choosing Create Motion Tween, as the illustration in Figure 6-26 shows.
- A motion tween creates an editable path that you can modify to change the object's direction. You can also easily modify all other object properties by working with the object on the Stage.

## Shape Tweening

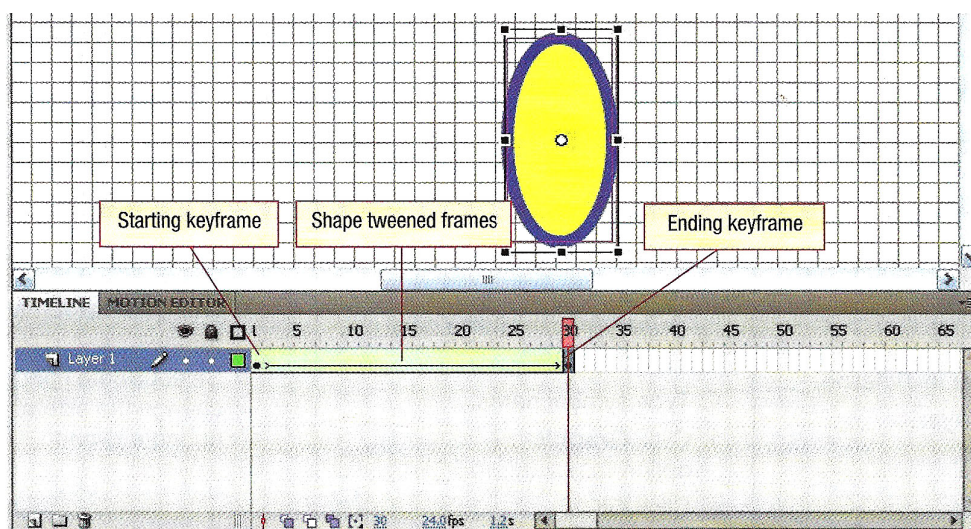
- Use shape tweening to animate a change in a shape over time. For example, you can make a square tween into an oval.

Figure 6-26. Create a motion tween



- Shape tweening only works on shapes. You cannot use shape tweening to animate groups, instances, type, or bitmap graphics.
- You can use shape tweening to animate a change in location, size, and color of a shape.
- On the Timeline, the frames between keyframes in a shape tweened sequence are light green, with a black arrow across them (Figure 6-27).
- You set properties for a shape tween in the Property inspector.

Figure 6-27. Shape tweened frames in the Timeline





- Shape tween properties include easing and blend:
  - Use Distributive blending when you are tweening shapes with curves and irregular lines.
  - Use Angular blending when you are tweening shapes with sharp corners and straight lines.





- To add elements to a shape during tweening you must insert the new elements on the last keyframe.
- Shape tweening creates a larger file than motion tweening. You should animate a sequence using a motion tween instead of a shape tween whenever possible.

## PROCEDURES


### Select a Layer

- Click the layer name in the Timeline.
- OR**
1. Click the first layer name to select.
  2. Press and hold **Shift** ..... 
  3. Click the last layer name to select.
- OR**
1. Click the first layer name to select.
  2. Press and hold **Ctrl** ..... 
  3. Click the next layer name to select.
  4. Repeat to select additional layers.

### Insert a Layer

- Click **New Layer** button  on Timeline.
- OR**
1. Click **I** nsert ..... 
  2. Click **T**imeline ..... 
  3. Click **L**ayer ..... 
- OR**
1. Right-click layer in Timeline.
  2. Click **Insert Layer**.
- ✓ *The new layer displays above the active layer.*

### Delete a Layer

- Click **Delete Layer** button  on Timeline.
- OR**
1. Right-click layer in Timeline.
  2. Click **Delete Layer**.





### Show/Hide a Layer

- Click in **Show/Hide Layers** column to right of layer's name.
- ✓ *An X displays in the column when the layer is hidden.*






### Show/Hide All Layers

- Click **Show/Hide All Layers** icon.

### Create a Graphic Symbol from Existing Objects (F8)

1. Select object(s) on Stage.
  2. Click **M**odify ..... 
  3. Click **C**onvert to Symbol ..... 
- ✓ *The Convert to Symbol dialog box displays.*
4. Type symbol name.
  5. Click **G**raphic option ..... 
  6. Click desired registration point location.
  7. Click **O**K ..... 

### Create a New Graphic Symbol (Ctrl + F8)

1. Deselect all objects on Stage.
  2. Click **I**nsert ..... 
  3. Click **N**ew Symbol ..... 
- OR**
- a. Open Library panel.
  - b. Click **New Symbol** button .
- ✓ *The Create New Symbol dialog box displays.*
4. Type symbol name.
  5. Click **G**raphic option ..... 
  6. Click **O**K ..... 

### Insert an Instance

1. Select layer.
2. Select keyframe.
3. Open Library panel.
4. Double-click the folder where the symbol is stored, if necessary.
5. Drag the symbol from the preview area or symbol list onto Stage.

### Create a Classic Tween

1. Select a layer in Timeline.
  2. Select the keyframe where you want the tween to begin.
  3. Insert or create an instance or group to tween.
  4. Select a frame where you want the tween to end.
  5. Insert a keyframe.
  6. In the ending keyframe, modify the object so it appears as you want it at end of the tween.
  7. Select any frame between keyframes.
  8. Right-click in the Timeline between the start and end keyframes.
  9. Click **Create Classic Tween**.
- ✓ *Tween options become available in the Property inspector.*
10. Set options as follows:
    - Enter a value in the **Ease** box to adjust the rate of change between tweened frames.
    - Select **Scale** check box to change the size of an object during a tween.

- Select **Rotation options** to animate rotation clockwise, counterclockwise, automatically, or none.
- If you choose a Rotation option, you can also enter the number of rotations to the right of the setting.

### Create a Motion Tween

1. Select or add a layer in Timeline.
2. Insert or create an instance or group to the Stage.
3. Right-click the instance or group and choose **Create Motion Tween**.

4. Move the object to the place you want it to complete.
  - ✓ *Flash CS5 automatically positions the closing keyframe at frame 24, the default value for a one-second animation.*
5. Change the properties as desired to get the desired effect. Drag the path as you'd like to alter the arc of the animation.

### Tween a Shape

1. Select the layer in the Timeline.
2. Select the keyframe where you want the tween to begin.
3. Draw or paste the starting shape.
4. Select the frame where you want the tween to end.
5. Insert a keyframe.
6. Modify the shape on the ending keyframe.

7. Select any frame between keyframes.
  - ✓ *Tween becomes available in the Property inspector.*
8. In Property inspector, click **Tween Type** drop-down arrow.
9. Click **Shape**.
  - ✓ *The Shape Tween options become available.*
10. Click **Ease** box.
11. Enter an easing value.
12. Click **Blend** drop-down arrow.
13. Select one of the following:
  - **Distributive** to create an animation in which the intermediate shapes are smooth and regular.
  - **Angular** to create an animation that preserves the apparent corners and straight lines of the original object in the intermediate shapes.

## EXERCISE DIRECTIONS




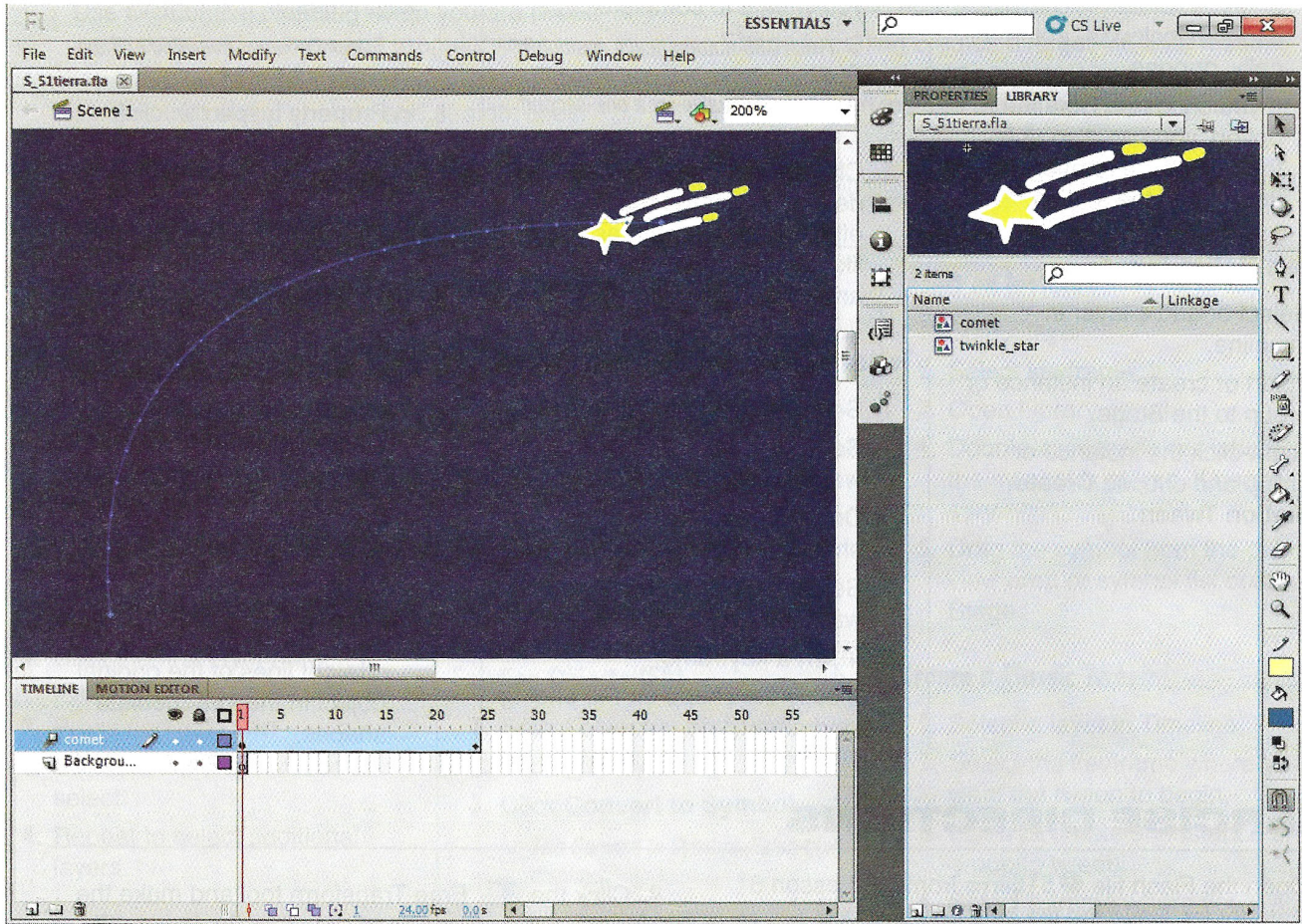
1. Open the Flash file  **51tierra**. Save the file as **Lastname,firstinitial\_51tierra**.
2. Change the dimensions to 300px by 300px.
3. Change the background color to #003366.
4. Set a frame rate of 24 fps.
5. Add a new layer and name it **comet**.
6. Zoom the display to 200%.
7. Drag the comet symbol from the Library and place it in the upper-right corner of the Stage. Use Illustration A as a guide.
8. Right-click the comet instance and choose **Create Motion Tween**.
9. Click the  Free Transform tool and make the instance very small and drag it to the lower left corner of the Stage.
10. Press Enter to view the tween in action.
11. With the Selection Tool, click the motion tween path close to the center of the Stage and drag it upward and slightly to the left to change the trajectory of the comet.
12. Press Enter again to view the animation.
13. Click the  Free Transform tool once more and rotate the small comet to align with the path.
14. Press Enter to check your work.
15. Close the file, saving all changes, and exit Flash.

Illustration A



## ON YOUR OWN

1. Create a new Flash file and save it with the name **SO\_51myshape\_xx**.
2. Set the Stage size and background color as you prefer.
3. Click the  PolyStar tool.
4. Click  Object Drawing.
5. In the Property inspector, choose the same color for the Stroke color and the Fill color.
6. Set the Stroke height to a high value, such as 15.
7. Insert a keyframe in frame 2 and click it in the Timeline.
8. In a corner of the Stage, draw a small polygonal shape.
9. Click a point on the Timeline where you want the end of the shape tween to occur and insert a keyframe at that point.
10. Modify the shape in size, color, and position so that it ends up where you want it.
11. Click the first keyframe, and then open the Insert menu and click Shape Tween.
12. Preview the animation.
13. Add a layer with objects that animate after the shape has finished tweening.
14. Copy and paste the keyframes for that animation so it repeats three times at the end of the segment.
15. Preview the animation.
16. Close the file, saving all changes, and exit Flash.