

Exercise | 50

Skills Covered

- About Animation
- About Frames and Keyframes
- Work with Frames and Keyframes
- View Frames with the Timeline
- Preview an Animation

Software Skills Getting familiar with the Flash tools takes a little practice, but once you have mastered the art of creating images with the Flash drawing tools, you are ready to start creating animated applications. Animations add movement and life to your Web pages, and Flash makes it easy to create them. You simply enter content on frames and keyframes, and then preview the animation right on the Flash Stage.

Design Skills Creating an animation is simply a matter of choosing objects you've already drawn in Flash and arranging and modifying them to create a moving story over time. Knowing how to design a simple animation gives you more to offer clients when you design pages for them (and it's also fun).

Application Skills For the GardenProject site you created earlier in this lesson, you are going to create a simple animation that plays when visitors arrive at the home page for the first time. In this exercise, you will open an existing file and use frame-by-frame animation to make the image move. You will preview the animation on the Stage, and use different frame rates to see how they affect the animation.

TERMS

Elapsed time The length of time it takes to reach the current frame when the animation plays.

Frame-by-frame animation Animation created by changing the content on each frame in a sequence.

Frame sequence A series of frames beginning with a keyframe and ending with the next keyframe.

Keyframe A frame in which you specify changes in an animation.

Scene An animation segment.

Tweened animation Animation in which you specify a starting point and an ending point and let Flash fill in the frames between.

NOTES

About Animation

- Flash provides the tools you need to animate the content you enter in a document so that it moves or changes on the computer screen.
- You create animation by changing the content of frames in a sequence. For example, you can make an object move across the Stage, change its size or color, or even its shape.
- There are two ways to create animation in a Flash document:
 - **Frame-by-frame animation**, in which you manually change content on each subsequent frame. This is best suited for complex animations in which an image changes in every frame instead of simply moving. Frame-by-frame animation increases file size more rapidly than tweened animation.
 - **Tweened animation**, in which you specify the action on the first **keyframe** and the action on the last keyframe and let Flash fill in the frames between the two. Flash varies the object's attributes evenly between the starting and ending frames to create the appearance of movement. Tweened animation is useful for creating movement and changes over time.

✓ *Tweened animation is covered in the next exercise.*

About Frames and Keyframes

- A frame is the basic unit used to create an animation in Flash.
- You add a frame by pressing F5 or choosing the Insert > Timeline > Frame menu command. Choose Insert > Timeline > Keyframe to add a keyframe.
- You enter content in each frame, and then display the frames in a sequence to play the animation.
- A frame in which you specify a change in animation, or in which you include frame actions, is called a *keyframe*.
- In frame-by-frame animation, every frame is a keyframe.
- When you add a new keyframe, Flash automatically copies the content from the previous keyframe into the new one.
- In tweened animation, only the first and last frames in a sequence are keyframes.

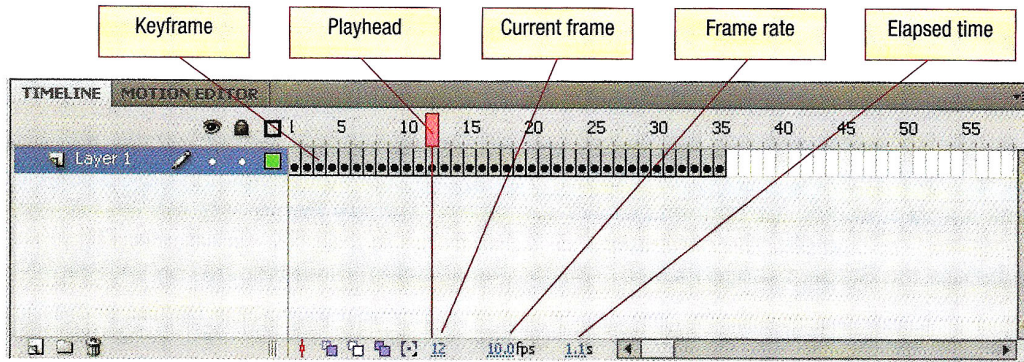
Work with Frames and Keyframes

- By default, Flash uses frame-based selection, in which you select individual frames in the Timeline.
- You can choose to use span-based selection, in which an entire **frame sequence**—from one keyframe to the next—is selected. The content of the selected frame displays on the Stage.
- You can select a series of frames in the Timeline, but only the first frame in the series displays on the Stage.
- You can insert a frame or keyframe at any location along the Timeline. Right-click a frame to display a context menu of choices for inserting, copying, and cutting frames.
- Since Flash redraws the shapes in each keyframe, you should create keyframes only at those points in the artwork where something changes. Creating extra keyframes may result in unnecessarily large files.
- You can convert a keyframe to a frame, if you decide that a change is not going to take place at that location in the Timeline.
- Delete a frame or series of frames when you no longer need them.
- Copy or move a frame or frame series to a new location on the Timeline to rearrange or reorganize your animation, or to duplicate content from one frame to another.

View Frames with the Timeline

- You can select any frame in the Timeline to display it on the Stage. The location of the playhead indicates the current frame.
- The current frame number, frame rate, and **elapsed time** display on the Timeline status bar.
 - ✓ *You can double-click the frame rate on the Timeline status bar to quickly open the Document Properties dialog box.*
- Flash uses visual codes to label frames and keyframes in the Timeline (see Figure 6-22):
 - A solid circle indicates a keyframe with content.
 - A clear circle indicates a blank keyframe.
 - By default, frames containing content are tinted gray.
 - Tinted frames following a keyframe contain the same content as the keyframe.
 - A clear rectangle marks the last frame in a sequence.

Figure 6-22. View frames in the Timeline



- Using the Timeline options menu, you can modify the Timeline display. For example, you can increase or decrease the height of the entire Timeline. You can also remove the tint, display previews of the contents of frames, or change the width of frames in the Timeline.

Preview an Animation

- To see how an animation looks, you can play it on the Stage.
- Use the commands on the Control menu or the Controller toolbar to play the animation.
- Display the Controller toolbar by choosing the Window > Toolbars > Controller menu command.

PROCEDURES

Select a Frame

- Click frame to select in Timeline.

Select a Frame Series

- Click first frame in series.
- Drag to last frame in series.

OR

- Click first frame in series.
- Press and hold **Shift** **[shift]**
- Click last frame in series.

Select All Frames (Ctrl + Alt + A)

- Click **E**dit **[Alt]+[E]**
- Click **T**imeline **[M]**
- Click **S**elect All Frames **[S]**

Insert a Frame in the Timeline (F5)

- Click **I**nsert **[Alt]+[I]**
- Click **T**imeline **[T]**
- Click **F**rame **[F]**

OR

- Right-click frame in Timeline.
- Click **I**nsert Frame.

✓ The new frame displays to the right of the right-clicked frame.

Create a Keyframe (F6)

- Select a frame in Timeline.
- Click **I**nsert **[Alt]+[I]**
- Click **T**imeline **[T]**
- Click **K**eyframe **[K]**

OR

- Right-click frame in Timeline.
- Click **I**nsert Keyframe.

Create a Blank Keyframe (F7)

- Select a frame in Timeline.
- Click **I**nsert **[Alt]+[I]**
- Click **T**imeline **[T]**
- Click **B**lank Keyframe **[B]**

OR

- Right-click frame in Timeline.
- Click **I**nsert Blank Keyframe.

Delete a Frame, Keyframe, or Frame Series (Shift + F5)

- Select frame, keyframe, or frame series.
- Click **E**dit **[Alt]+[E]**
- Click **T**imeline **[M]**
- Click **R**emove Frames **[R]**

OR

- Right-click frame, keyframe, or frame series.
- Click **R**emove Frames.

Clear the Contents of a Frame or Keyframe (Alt + Backspace)

- Select frame or keyframe.
- Click **E**dit **[Alt]+[E]**
- Click **T**imeline **[M]**
- Click **C**lear Frames **[L]**

OR

- Right-click frame.
- Click **C**lear Frames.

Convert a Keyframe to a Frame

- Right-click keyframe.
- Click **C**lear Keyframe.

Move a Frame or Frame Series

- Select frame or series to move.
- Drag to new location on Timeline.

OR

1. Right-click frame or selected series to move.
2. Click **Cut Frames**.
3. Right-click new location on Timeline.

4. Click **Paste Frames**.

OR

1. Select frame or series to move.
2. Click **Edit** (Alt)+(E)
3. Click **Timeline** (M)
4. Click **Cut Frames** (T)
5. Select new frame location in Timeline.
6. Click **Edit** (Alt)+(E)
7. Click **Timeline** (M)
8. Click **Paste Frames** (P)

✓ Pasted frames replace existing frames in the new location.

Copy a Frame or Frame Series

1. Select frame or series to copy.
2. Press and hold **Alt** (Alt)
3. Drag to new location on Timeline.

OR

1. Right-click frame or selected series to copy.
2. Click **Copy Frames**.
3. Right-click new location on Timeline.
4. Click **Paste Frames**.

OR

1. Select frame or series to copy.
2. Click **Edit** (Alt)+(E)
3. Click **Timeline** (M)
4. Click **Copy Frames** (C)
5. Select new frame location in Timeline.
6. Click **Edit** (Alt)+(E)
7. Click **Timeline** (M)
8. Click **Paste Frames** (P)

✓ Pasted frames replace existing frames in the new location.

Copy Content from a Frame

1. Select content to copy.
2. Click **Edit** (Alt)+(E)
3. Click **Copy** (C)

4. Select destination keyframe.

✓ The destination frame must be a keyframe.

5. Click **Edit** (Alt)+(E)

6. Click one of the following:

■ **Paste in Center** to paste copied contents in center of destination keyframe (A)

■ **Paste in Place** to paste copied contents in same position as on original frame (P)

✓ Copied content replaces existing content on the destination keyframe.

Move Content from a Frame

1. Select frame.

2. Click **Edit** (Alt)+(E)

3. Click **Cut** (T)

4. Select destination keyframe.

✓ The destination frame must be a keyframe.

5. Click **Edit** (Alt)+(E)

6. Click one of the following:

■ **Paste in Center** to paste copied contents in center of destination keyframe (A)

■ **Paste in Place** to paste copied contents in same position as on original frame (P)

✓ Cut content replaces existing content on the destination keyframe.

Modify the Timeline Display

1. Click **Timeline options** menu [≡].

2. Click desired option:

■ **Tiny** to display vary narrow frames.

■ **Small** to display narrow frames.

■ **Normal** (the default) to display normal frames.

■ **Medium** to display wider frames.

■ **Large** to display very wide frames.

■ **Preview** to display previews of frames sized to fit the Timeline frames.

■ **Preview in Context** to display previews including all white space.

■ **Short** to decrease the height of frames.

■ **Tinted Frames** to turn on or off the gray tint (on by default).

✓ A check mark indicates that the option is on.

Resize Timeline

- Drag the border between Timeline and Stage up or down.

Create Frame-by-Frame Animation

1. Select or create the starting keyframe.
2. Create content for the first frame in animation.
3. Select next frame in sequence.
4. Create a keyframe.
5. Modify contents on Stage to create the next increment of animation.
6. Repeat steps 3 through 5 to complete animation.

Preview an Animation on the Stage

1. Click first frame in the sequence.

OR

- a. Click **Control** (Alt)+(O)

- b. Click **Rewind** (R)

2. Click **Control** (Alt)+(O)

3. Click **Play** (P)

Use the Controller Toolbar

1. Click **Window** (Alt)+(W)

2. Click **Toolbars** (O)

3. Click **Controller** (O)

4. Click buttons as follows:

■ **Play** ▶ to play animation.

■ **Stop** ■ to stop animation.

■ **First Frame** ⏮ to rewind to first frame.

■ **Step Back** ⏪ to go to previous frame.

■ **Step Forward** ⏩ to go to next frame.

■ **Last Frame** ⏭ to go to last frame.

EXERCISE DIRECTIONS


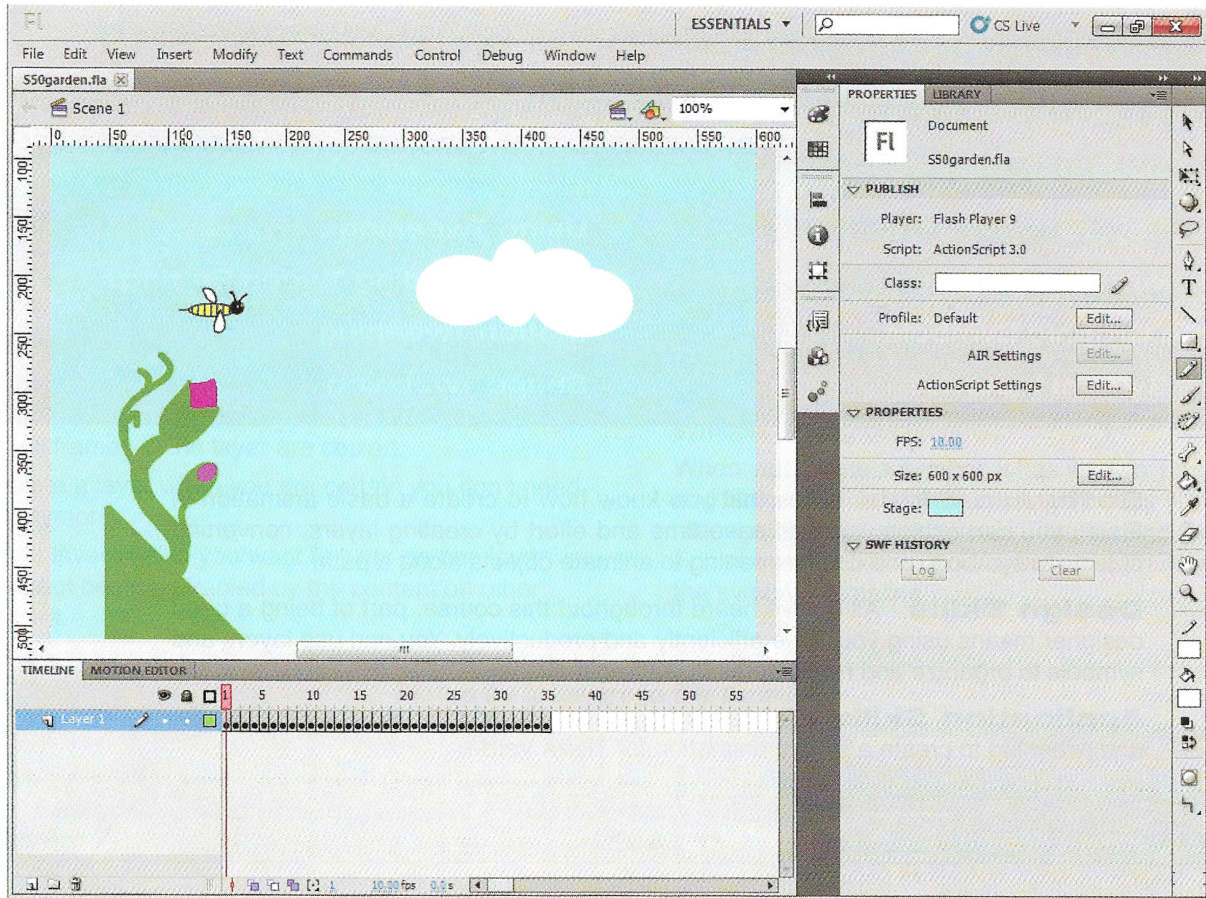
1. Start Flash and open  **50garden**
Save the file as **Lastname,firstinitial_50garden**
2. If necessary, display the Timeline and hide the rulers and the grid.
3. Decrease the height of the Timeline by dragging the border between the Timeline and the Stage down as far as possible.
4. Set the zoom to Show All.
5. Select frame 2.
6. Insert a keyframe on frame 2.
✓ Flash inserts the content displayed on frame 1 on the new keyframe.
7. Insert a keyframe on frame 3.
8. Insert a keyframe on frame 4.
9. Insert a keyframe on frame 5.
✓ All frames in the sequence display the same content.
10. Select frame 2.
11. Deselect all objects, and then select the bee by clicking and dragging around the outside of the bee. Be sure to include all elements of the bee. Move the bee slightly to the right (as though it's flying forward).
12. Select frame 3.
13. Deselect all objects, and then select the cloud and move it a few pixels to the right.
14. Select frame 4.
15. Deselect all objects, and then select the bee and move it to the right and up a little.
16. Continue moving the bee and the cloud for a series of keyframes.
17. Add more keyframes as you go along when you change the position of the bee or cloud. When you get to frame 9, copy and paste the cloud on the right so that it enters from the left edge of the Stage. From this point on, move both clouds in subsequent keyframes.
18. Create a flying pattern for the bee.
✓ Hint: Use the Free Transform tool to rotate the position of the bee in the individual frames so that he can dip and turn in his flight path.
19. Select frame 1.
20. Play the animation.
21. Double-click the pasteboard to display the Document properties in the Properties inspector dialog box. Change the frame rate from 12 fps to 10 fps.
22. Return the Timeline to normal height. Your screen should look similar to Illustration A on the next page.
23. Close the file, saving all changes, and exit Flash.

Illustration A



ON YOUR OWN

1. Start Flash and create a new document.
2. Save the document as **SO_50myfile_xx**.
3. Create an animation of a shape moving across the Stage, using at least 10 frames. For example, you might make an oval or star move from one side of the Stage to the other. Remember to use the Flash tools for positioning, such as the grid, ruler, and guides.
4. Modify the animation so that the shape also increases in size as it moves across the Stage.
5. Add any other enhancements or transformations that you want in the animation, such as a change in fill or stroke color, or rotation.
6. Try copying or moving frames from one location in the sequence to another.
7. When you are satisfied with the animation, save it and then exit Flash.