

# How to create an animated face

This activity walks you step by step through the process of creating a simple animation by using Adobe Flash Professional CS5. You use drawing tools and implement motion and shape tweens. After you test your movie, you publish it for playback by others, either through a browser or directly with Flash Player.

## Drawing facial features

You begin by drawing the right eye. You will then save the right eye as a symbol and make a copy of it to create the left eye.

To draw the right eye:

1. Start Flash and choose File > New.
2. In the New Document dialog box, choose ActionScript 3.0 (Figure 1).

**Note:** ActionScript 3.0 refers to the publish settings for the Flash file. This setting works with most recent version of the Flash player. You can change these settings using the Publish Settings dialogbox (choose File > Publish Settings).

The new document contains one layer and one empty keyframe.

3. Choose Modify > Document.

The Document Settings dialog box opens.

4. Change the frame rate to 12 and click Make Default.

The animation will now play at 12 frames per second. This frame rate is easier to work with for beginning animators.

5. Select Classic from the workspace switcher (Figure 2).

The Timeline appears at the top of the workspace.

6. Select the Oval tool and draw a small circle to represent the right eye on a face (Figure 3).

To draw a perfect circle, hold down Shift as you drag the Oval tool on the Stage.

**Note:** Make sure Stroke is set to at least 1.0 in the Fill And Stroke section of the Property inspector.

7. Select the Selection tool and double-click the circle's center to select it. You should see both its outline (stroke) and center (fill) selected.

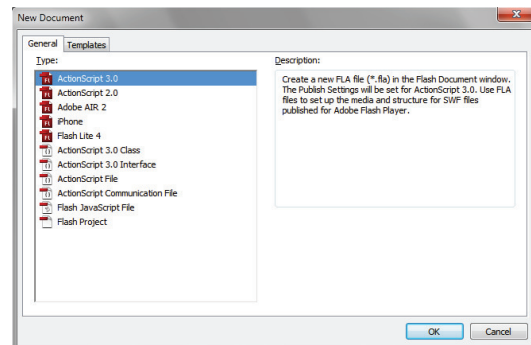


Figure 1 New Document dialog box

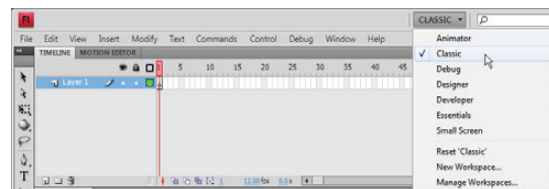


Figure 2 Flash workspace switcher

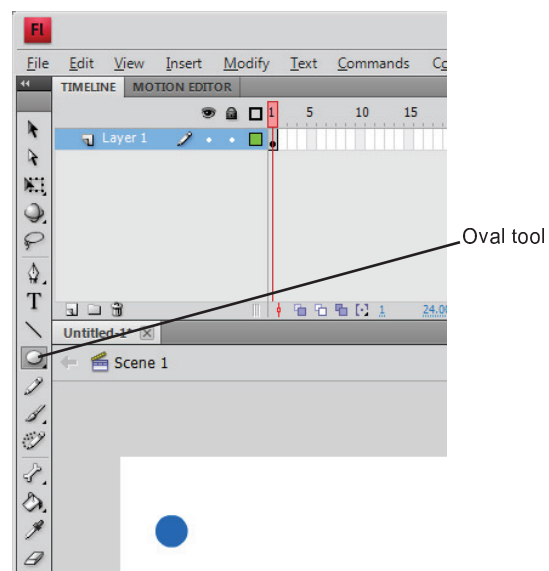
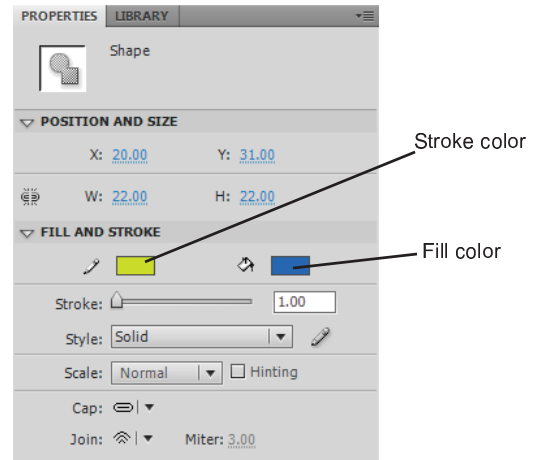
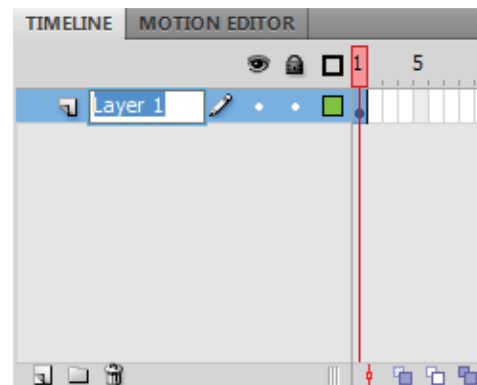


Figure 3 Right eye drawn with Oval tool

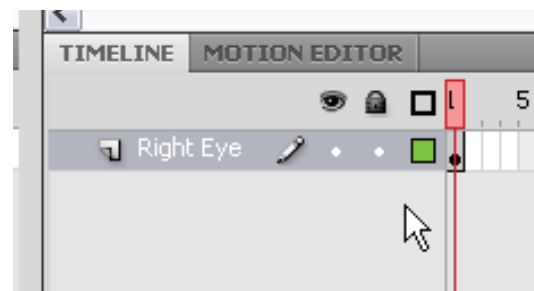
8. To change the outline color of the eye, click the Stroke Color box in the Property inspector and select a new color (**Figure 4**). To change the fill color, use the Fill Color box.
9. On the Timeline, double-click the layer name, Layer 1 (**Figure 5**).  
This selects the layer name so you can rename it.
10. Rename the layer **Right Eye** and press Enter (Windows) or Return (Mac OS) (**Figure 6**).



**Figure 4** Image Property inspector



**Figure 5** Layer name selected



**Figure 6** New layer name

**Converting the eye to a symbol**

Instead of creating two eyes separately, you will convert the right eye from a shape to a graphic symbol. This adds the eye to the library so you can use it over and over. This will also reduce the size of your finished movie because the symbol is only stored once.

*To save the eye graphic as a symbol:*

1. Continue from the previous steps.
2. On the Right Eye layer, click frame 1 to select it (Figure 7).

This automatically selects the contents of frame 1.

**Note:** If the right eye is not completely selected, double-click the eye on the Stage with the Selection tool to select it.

3. Select Modify > Convert To Symbol.

The Convert To Symbol dialog box opens (Figure 8).

4. In the dialog box, name the symbol **eye**, select Graphic as the behavior, and click OK.

The eye on the Stage is now just an instance (copy) of the master eye symbol, which is stored in the library. The eye now has a single blue selection border (Figure 9) and can be selected with a single click.

5. Select Window > Library to see that your symbol has been added to the Library panel (Figure 10).

**Note:** You must select the eye symbol in the library to see the graphic in the preview window.

You can now reuse the eye symbol as many times as you want without redrawing it.

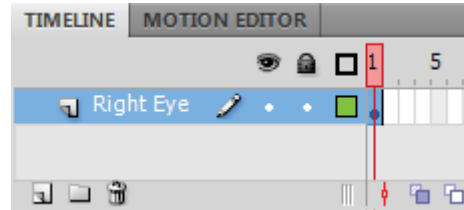


Figure 7 Frame 1 selected

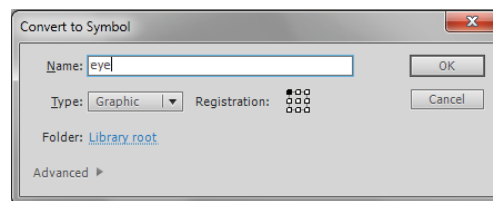


Figure 8 Convert To Symbol dialog box

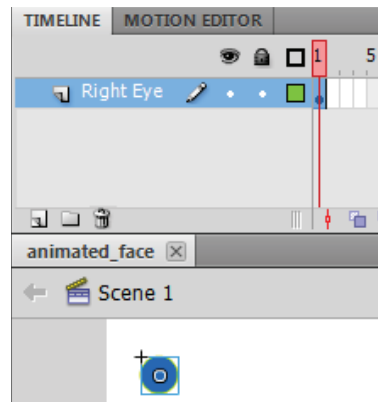


Figure 9 Graphic symbol selected

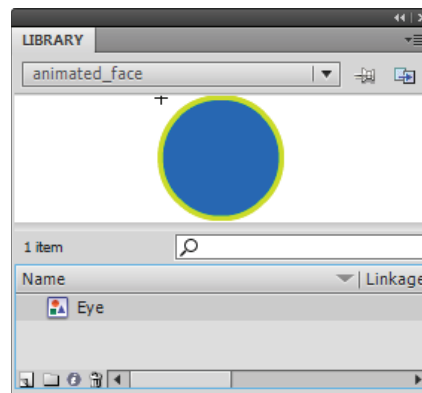


Figure 10 Symbol in Library panel

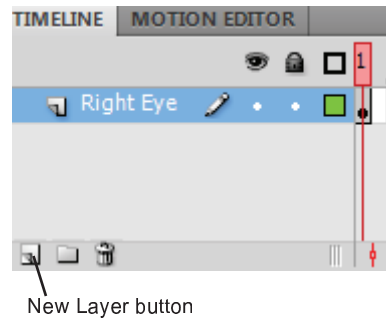
To reuse the eye symbol to create the left eye:

1. Continue from the previous steps.
2. Click the New Layer button in the lower left corner of the Timeline to insert a new layer (**Figure 11**).
3. Double-click the layer name and change the name to Left Eye.
4. On the Left Eye layer, select frame 1.
5. Select the eye symbol in the Library panel and drag the symbol onto the Stage.

You now have a second instance of the eye on the Stage. Using instances from the library keeps the file size of your movie smaller than copying and pasting. Smaller movies load faster in a browser.

To draw the nose:

1. Continue from the previous steps.
2. Insert a new layer and name it Nose.
3. Select frame 1 on the Nose layer.
4. Select the Line tool and draw two lines that form an angle to represent a nose (**Figure 12**).
5. To adjust the angle after you've drawn it, use the Subselection tool (white arrow) to drag the corner or one end of the line. (You might try dragging one end of a line with the Arrow tool to see the difference between the two tools.)



**Figure 11** New Layer button



**Figure 12** Draw nose

**Adding frames to make a three-second movie**

A Flash movie typically plays 12 frames per second. To keep the nose on the Stage for 3 seconds, for example, you need to insert 36 additional frames on the Nose layer after frame 1, the current frame. (Starting at frame 1, it will take the movie 3 seconds to reach frame 37, because  $1 + 36 = 37$ .)

To add frames:

1. Continue from the previous steps.
2. Select frame 37 on the Nose layer and select Insert > Timeline > Frame.

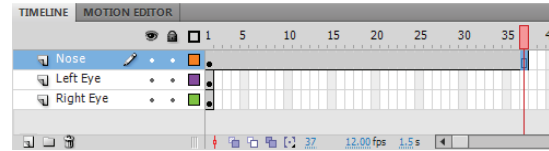
Flash inserts frames through frame 37 (**Figure 13**).

Observe that the playhead (the red rectangle at the top of the Timeline) is on frame 37 and that the nose is visible but the eyes have disappeared. At the bottom of the Timeline, you can see that this movie is currently 37 frames, is set to play at 12 frames per second, and will play for 3 seconds.

**Note:** The keyboard shortcut for inserting a frame is F5.

3. Drag the playhead to various frames.  
The nose remains visible in frames 1 through 37, but the eyes appear only in frame 1.
4. To see your movie, drag the playhead to frame 1 and then select Control > Play.

At this point, not much is happening beyond frame 1.



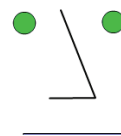
**Figure 13** Frame inserted in Timeline

**Drawing the mouth**

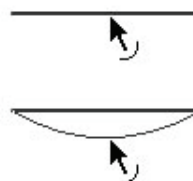
To draw the mouth, you first draw a line and then bend the line by using the Selection tool.

To draw the mouth:

1. Continue from the previous steps.
2. Insert a new layer and name it Mouth.
3. Select frame 1 of the Mouth layer.
4. Draw a mouth in frame 1.
  - Use the Line tool to draw a straight line (**Figure 14**).
  - Select the Selection tool and click on the Stage away from the line to deselect it.
  - Move the pointer toward the middle of the line. When a curve appears next to the pointer, drag the middle of the line downward to create a smile (**Figure 15**).
  - When you release the mouse button, only the smile remains (**Figure 16**).



**Figure 14** Mouth as straight line



**Figure 15** Drag line with Arrow tool



**Figure 16** Mouth complete

## Animating the facial features

To animate the facial features, you will use *tweens*. With tweens, you cause objects to change over time by using the Timeline.

### Animating the eyes

To use motion tweens to animate the eyes:

1. Continue from the previous steps.
2. On the Right Eye layer, select frame 37 and select Insert > Timeline > Frame (**Figure 17**).
3. With the Right Eye layer selected, choose Insert > Motion Tween.
4. Select frame 37 on the Right Eye layer and drag the right eye a short distance.

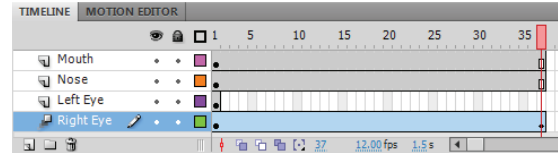
A *motion path* appears on the Stage showing the path from the position in the first frame of the tween span to the new position (**Figure 18**). Because you explicitly defined the X and Y properties of the object, *property keyframes* are added for X and Y in the frame containing the playhead. Property keyframes appear as small diamonds in the tween span on the timeline.

5. Position the playhead on frame 1 and select Control > Play to play your movie and see the effect of the motion tween.

The right eye gradually moves from its original position in frame 1 to the new position in frame 37. Notice that only the right eye moves.

**Note:** If you want to change the motion, move only the symbol in keyframe 37.

6. Choose frame 37 on the Left Eye layer and select Insert > Timeline > Frame.
7. With the Right Eye layer selected, choose Insert > Motion Tween. In frame 37 move the left eye the same distance as the right eye.



**Figure 17** Tween span in the Timeline panel



**Figure 18** Tweened object with a motion path

### Animating the mouth

Because you created the mouth by using one of the drawing tools (the Line tool) and have not converted the mouth to a symbol, it is still a shape. You can use a shape tween to animate the mouth.

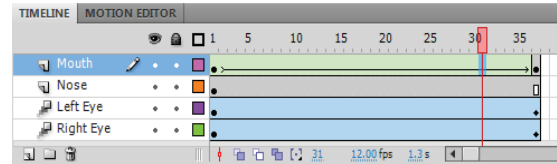
*To use a shape tween to animate the mouth:*

1. Continue from the previous steps.
2. Select frame 37 on the Mouth layer and insert a keyframe.
3. With the Selection tool, click on the Stage away from the mouth line to deselect it. Then drag the mouth line into a bigger smile.
4. To create a shape tween between the first and last frames on the Mouth layer, click a frame between frames 1 and 37, and select **Insert > Shape Tween**.

The frames containing the shape tween are now light green and contain a solid arrow running from the start frame to the end frame (**Figure 19**).

5. Select **File > Save**.
6. Select **Control > Test Movie > In Flash Professional** to see it play.  
Selecting **Control > Test Movie** exports a .swf file and plays it in a preview window. When the movie reaches the last frame, it loops back to frame 1 and plays again.
7. Select **File > Close** to close the preview window.

Create any additional animated facial features as you choose.



**Figure 19** Shape Tween on the Mouth layer

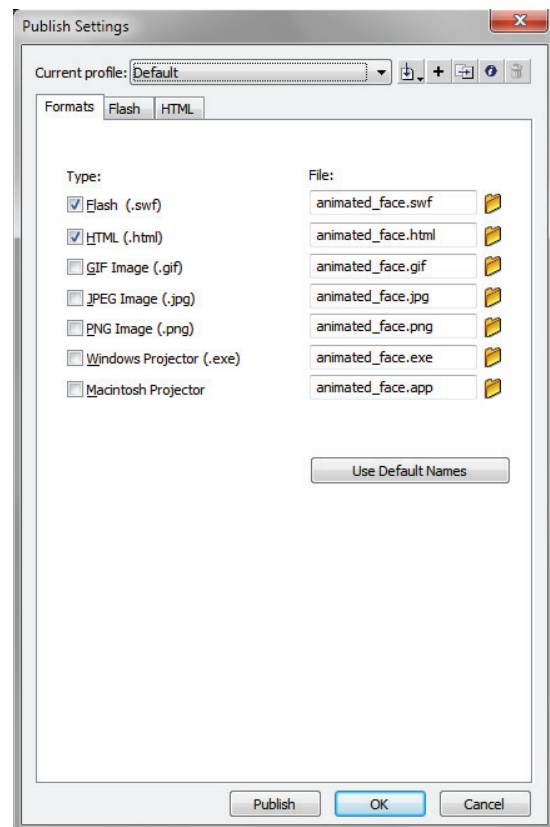
## Publishing your movie

When you're ready to deliver your movie to an audience, you can publish the Flash document (FLA file) for playback. The Publish command creates a Flash SWF file (playable with Flash Player) and an HTML document that inserts your Flash movie in a browser window. For viewers who do not have Flash Player installed, you can choose to publish the FLA file in alternative file formats—GIF, JPEG, PNG, or QuickTime—with the HTML needed to display them in a browser window.

When you publish HTML with your movie, Flash also creates a file called AC\_OETags.js. This JavaScript file lets your SWF file play automatically in certain browsers (called active content-compliant browsers) that would otherwise require a site visitor to click to play your movie. To avoid this problem, upload AC\_OETags.js to your site in the same location as the HTML file that hosts the movie. For more about this issue, visit [www.adobe.com/go/activecontent](http://www.adobe.com/go/activecontent).

*To publish your movie:*

1. Select File > Publish Settings to open the Publish Settings dialog box (**Figure 20**).
2. Use the Formats tab to determine which file formats to output when you publish.



**Figure 20** Publish Settings dialog box



3. Use the Flash tab to determine which Flash Player you are publishing to (**Figure 21**). If you think your audience might not have the latest player, you might want to select an older player from the Player menu.
4. Select Generate Size Report under Advanced to see a detailed report of size for each asset in your movie.
5. Select Protect From Import to prevent anyone from importing your SWF file into Flash and converting it back to a FLA file.
6. Select Compress Movie under SWF Settings to reduce the file size of the exported movie.
7. Use the HTML tab to control settings for the HTML file (**Figure 22**).
8. Deselect the Loop option if you want your movie to play through only one time and stop.
9. To publish your movie, click the Publish button. To save your settings without publishing, click OK.

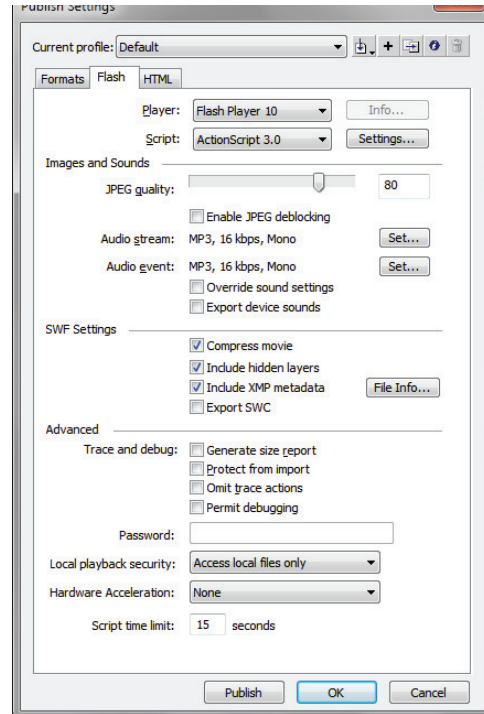


Figure 21 Flash tab of Publish Settings dialog box

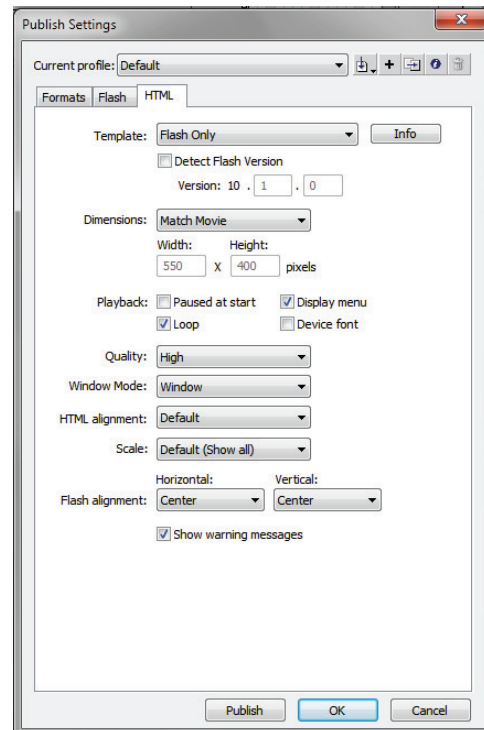


Figure 22 HTML tab of Publish Settings dialog box