FI Using Flash

Contents

Animation Basics

Animation can be achieved a number of ways in Flash. One way is by using **Frame by Frame** animation. I.e. drawing a slightly different version of your image on each frame to create the illusion of movement when you play the animation. For certain types of animation, frame by frame is a good choice. In most cases, however, it is a better idea to let Flash handle the hard work by making use of **Tweens**. These exercises will focus on using tweens for animation.

There are two types of tweens in Flash. **Shape Tweens** are used for morphing from one shape in to another.

Motion Tweens are used for moving (and changing) objects. In Flash CS4 there were some significant changes made to the way motion tweens are done. Motion tweens have been made a lot easier to work with. The old way of doing tweens is still supported and is called **Classic Tweening**. In some instances, classic tweens are still necessary to get the effect you need.

Exercise 1.   Creating a Symbol

When you create pictures or shapes in Flash, you can then take the shape and turn it in to a **Symbol**. Symbols reside in the Flash **Library**. There are some good reasons for using symbols in your flash work.

- a. Symbols allow you to re-use components in your animation rather than having to re-create them.

- b. Using symbols mean your flash files take up less memory. This is because rather than saving the same image several times, Flash will simply save the image once, and then make it appear in more than one instance.

- c. Symbols are easier to animate and work with than regular shapes.

You can create a blank symbol and then add content to it, or you can take an existing component on your stage and convert it to a symbol. We will create a symbol by starting with some text and converting it to a symbol.

1. Make a new blank Flash file.

2. Select the Text Tool. T

3. Choose the options shown to the right from the **Properties** panel (including a fill colour for your text).

4. Click in the middle of the stage and type the text *Flash!*
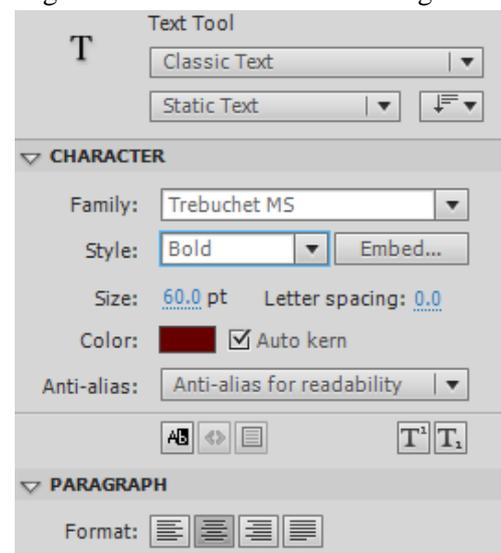
If you need to make changes to the text, such as formatting changes or correcting typing errors, make sure the text tool is still selected and edit the text as you would normally.

5. Choose the **Selection** tool and make sure your text is still selected on the stage.

Next we need to convert the text to a symbol. There are several ways to do this.

- a. Select **Convert to Symbol** from the **Modify** menu.

- b. Press **F8**.

- c. Right click on the text and select **Convert to Symbol**.

- d. Use the Select tool to drag the text in to the bottom half of the **Library Panel** (when it is visible).

6. Use one of the methods just described to convert the image to a symbol. The options below will appear.
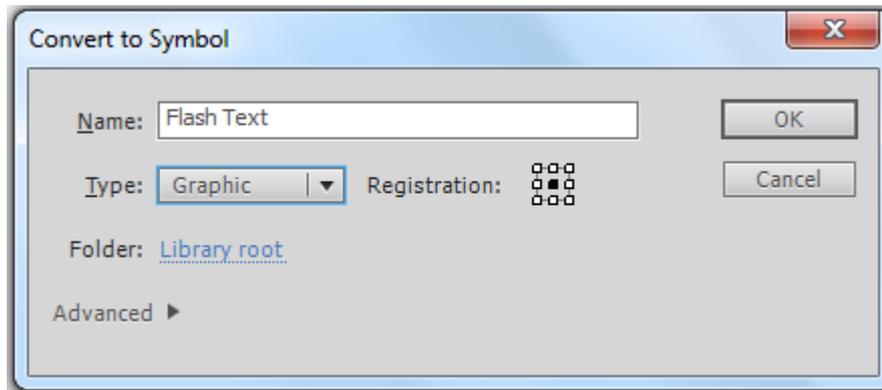
7. Enter *Flash Text* as the **Name** of the Symbol. Make sure the **Type** is set to *Graphic*. Don't worry about changing the **Registration** point for now. When you have specified the name and type, click **OK**.

The new symbol will now appear in the library. The bottom half of the library panel lists the library items in the current project. A preview of the selected item appears in the top half of the library panel.

Now that we've created the symbol we can add instances of the symbol. This simply means that Flash will make the text appear more than once without having to make more copies of it. Only one copy will be saved in your flash file and that one copy will appear each time you create an instance.

Before we add another instance of the object we will create a layer for the new instance.

Exercise 2. Working with Layers

Before creating a new layer, we'll name the layer that already exists in the file.

1. In the **Timeline** below the stage, double-click on the name of the layer (*Layer 1*).
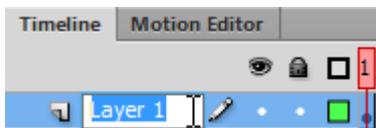
2. Type *Flash Text* for the layer name and press **Enter**.
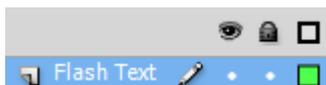
3. At the bottom of the **Layers Panel**, click the **Insert Layer** icon.

A new layer will appear above the original layer.

4. Repeat steps 1 to 2 to rename the new layer as *New Text*.
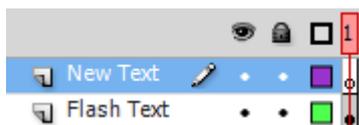
Since it's good to get in to the habit of saving regularly (instead of waiting until you finish and risk losing your work if there's a problem), we'll save the file now.

5. Save the file and call it *Animating Symbols*.

6. Make sure the *New Text* layer is still selected. You can tell it's the selected layer if it has a pencil icon next to it.

7. Drag your Flash Text object from the library on to the stage so that it overlaps the other text slightly (it should be lower and more to the right than the first one).

Each instance of an object can be modified to make it slightly different from the original. This allows you to have the same object appear a little different without your file having to store another copy of the object.

8. Make sure your new instance of the object is selected. It will have a thin blue rectangle around it if it is.

9. In the properties panel to the right, change the **Color Effect** option from *None* to *Tint*.
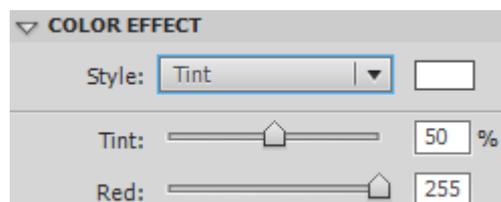
This option allows you to have the object tinted with a different colour so that it looks different from the original object.

10. Select a colour from the colour box next to the **Style** option and then use the **Tint** selection slider to the right to modify how much the tint will affect your object.
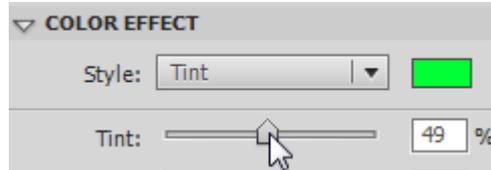
11. The new instance of your object should now appear a different colour from the original.

Now that both instances of the object look a little different, we'll look at some of the layer options. We'll start by changing the layer order. When objects overlap, the order of the layers determines what will appear in front.

12. In the **Timeline**, drag the *New Text* layer so that it is below the *Flash Text* layer. When you are done, the new instance of your object will be behind the first one.
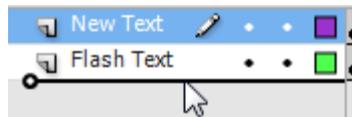
There are additional options in the layers panel which we will now try out.

Above the layers is an icon which looks like an eye. Each layer has a small dot below that icon. Turning this dot on and off allows you to hide or display layers.

13. Click the hide layer dot next to one of your layers to hide the layer. The dot will now turn in to a cross indicating that layer is currently hidden.

14. Click the cross icon to show the hidden layer again.

The next dot on the layer has a padlock icon above it. This one allows you to lock a layer so that its contents can't be changed. This can be useful if you want to avoid accidentally modifying the contents of a layer when you are working on other objects on the stage.

15. Click the lock layer dot next to the *Flash Text* layer.

16. Make sure the **Move** tool is selected and try moving the text that is on that layer (this should be your original text). You will still be able to move your other text but you won't be able to select or move the text that is on the locked layer.

The last icon on the Layers Panel allows you to highlight the layer's contents. When you have a lot of layers it can be difficult to tell which layer certain objects are on and this option makes it a lot easier.

17. Click the coloured square next to one of your layers. All objects on that layers will changes so that they are highlighted, using the colour of that layer's square.
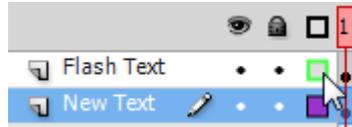
18. Click the layer's colour box again to turn off highlighting.

19. Try using the layer highlight option with your other layer.

20. Turn off all layer highlighting and save changes.

Exercise 3.   Using the Timeline
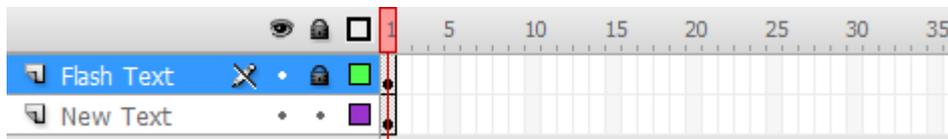
Animation in Flash is done using the **Timeline**. The Timeline is used to plan when events will occur in your animation. The numbers along the top of the timeline represent **Frames**. Most Flash projects will play animation at a speed of 24 **frames per second** (24fps), though that can be changed in your settings.

1.   Double-click the **fps** indicator at the bottom of the timeline.
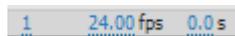
You can then edit the frames per second though we will leave it for now.

You can also change the FPS through the document properties. Press **[Esc]** to ensure nothing on your stage is selected. The Properties Panel will now show the document properties including the FPS. From here you can also edit other options such as the background colour, height and width of the stage.


We'll start with a basic animation that changes the colour of the text.

2.   Select the text object that is on the *Flash Text* layer (this should be the first one you placed on the stage). Unlock the layer if you haven't already by clicking the padlock on the layer.

Look on the timeline and you will see that both layers currently have a dot in frame 1. This lets us know that there is a frame in that part of the timeline on each layer. If you get a layer with a hollow dot, that means that there is a frame in that part of the timeline but that particular layer has nothing on it.

3. Click in frame 24 on the timeline, making sure that you are still clicking on the *Flash Text* layer. Since our project will be playing at 24 FPS, 24 frames will be the equivalent of one second.
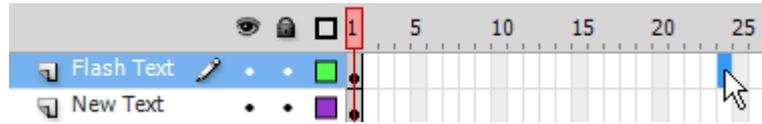
We will tell Flash to mark an event on the timeline by adding a **Key Frame**. Key Frames are points on the timeline where significant changes in our animation will take place. In this case, the Key Frame will mark a point on the timeline when the colour of the text will change.

There are a few ways you can insert a key frame on to the timeline:

- Select the **Insert** menu and then select **Timeline** and **Keyframe**.
- Right click on the frame where you want the Key Frame inserted and select the **Insert Keyframe** option from the right-click shortcut menu.
- Press **F6**.

Tip To clear a key frame, you can right click the frame in the timeline and select **Clear Keyframe**, or you can press **Shift F6**.

4. Use one of the above methods to add a key frame to frame *24* of your *Flash Text* layer.

The frame will now have a solid dot marker and all the frames in between will be filled in.
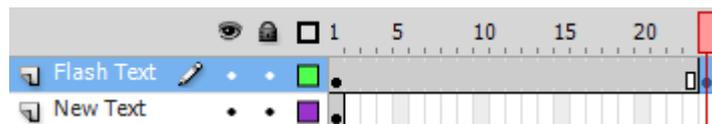
Currently, your other text object will not appear on the stage. This is because we have frame 24 selected on the timeline and the *New Text* layer has no frame at that point on the timeline.

5. Add a key frame to frame *24* of the *New Text* layer. Both layers should now have a key frame at frame *24* of the timeline.

6. Select one of your text objects, making sure you have the **Selection Tool** active.

7. Use the **Color** option from the properties panel at the side to tint this object with a different colour. If you can't see the Color option in the properties panel it may be showing properties for the frame in the timeline instead of properties for the object. If that is the case, click on another part of the stage and then click the object again to make sure it is selected.
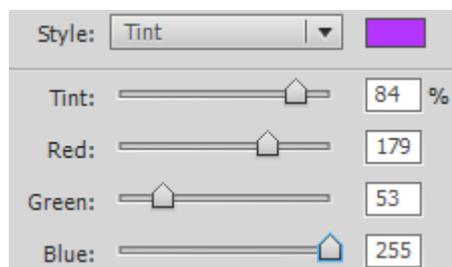

8. Use the tint options to change the colour of the other object. Both should now be different from their original colours.

9. Add a key frame for both layers at frame *48*.

10. Repeat steps 7 and 8 to change the colour of both objects.

11. Add a key frame for both layers at frame *72*.

12. Repeat steps 7 and 8 to change the colour of both objects.

13. Add a key frame for both layers at frame *96*.

This time instead of changing the colours for the new frame, we'll make a copy of the first frame. This will mean that the last frame will be the same as the first frame which will look better when the animation repeats.

14. Right click on the first frame of the Flash Text layer and select **Copy Frames**.

15. Right click on the last frame of the Text layer and select **Paste Frames**.

16. Repeat steps 14 and 15 for the other layer.

17. Save the changes.
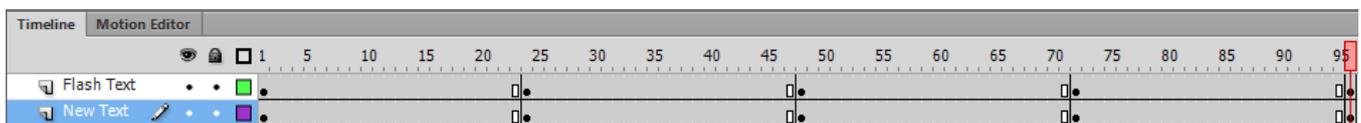
Exercise 4. Previewing an animation

We'll start by previewing the image on the stage.

1. Click on frame 1 (on either layer) to make sure you are at the beginning of the timeline. You can also press **Shift ,** (comma) to go to the beginning of the timeline and **Shift .** (full stop) to go to the end of the timeline.

2. Select the **Control** menu and then select **Play** (you can also press **Enter**). This command will play from the current position on the timeline to the end of the timeline. If you are already at the end of the timeline it will play from the beginning. Pressing **Enter** while it is already playing will pause playback.

The animation will now play on the stage. You will see the timeline marker moving from left to right along the timeline. The objects on the stage should change colour each time we reach one of the key frames on the timeline.

To view the animation in its own window you can use the test movie option. Not only will this option sometimes show elements of the animation that won't show on the stage, it will also make create a flash file with the same filename as your flash project.

3. From the **Control** menu select **Test Movie** (or press **Control Enter**). Unlike the play option, the test movie window will keep on repeating until you close it. The test movie window also provides a control menu which allows you to control playback.

4. Close the Test movie window.

5. Open My Computer or Windows Explorer and browse to the folder where your flash project is saved.

After using the test movie option you will have 2 copies of your project. One will be the project you are editing in flash and will have a **.fla** file extension after the filename. The other will be a Flash Movie file and will have a **.swf** extension. **SWF** is the format used for completed flash files. These files can be played in any program that accepts flash files. For instance, if you planned on inserting a flash animation in to a website, you would use the SWF file.

| Note | Depending on your windows settings, you might not see extensions on the end of filenames but the different icons would indicate which is the Flash Document file and which is the Flash Movie file . |

Exercise 5. Classic Tweens

The animation we have done so far has been little more than one frame abruptly changing to another frame. There has been no smooth transition from one stage of the animation to the next. Smoother transitions can be accomplished using tweens. Tweening involves placing **Key Frames** at the key positions in the animation and then using a **tween** to make Flash fill in the bits in be*tween*.

1. Ensure you are on Frame 1 in the timeline and create a new layer called *Star*.

2. Make sure you have the Star layer selected and use what you learned in the previous sections to create a star on the left side of the stage. Use any fill and stroke settings.

3. Select the star (remember you can double click with the selection tool to select both fill and stroke).

4. Create a new symbol called *Star*.
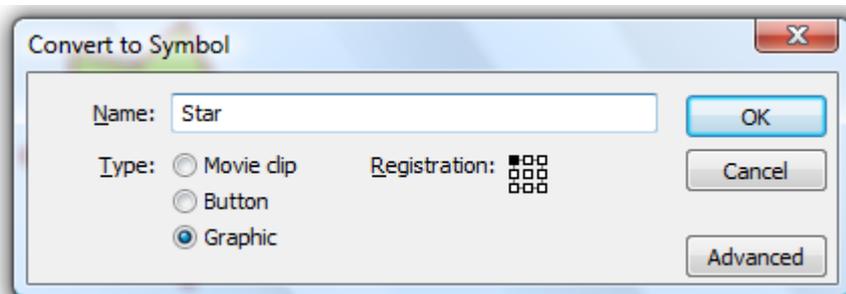
5. Insert a new key frame at frame *24* on the *Star* layer.
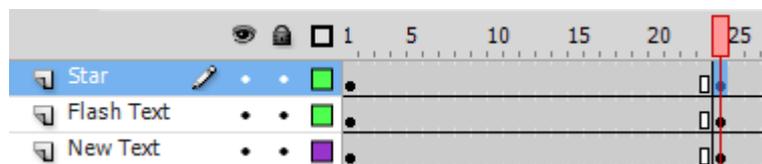
6. While you are still on that frame, move the star to a location near the top of the stage. Position it so that it slightly overlaps one or both of your text objects.

7. In the properties panel on the side, change the **Colour Effect** property to *Alpha* and set the amount to *60%*. The alpha setting controls transparency of objects on the stage.
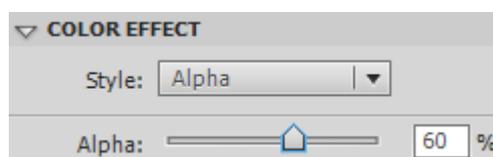
8. Insert a new key frame at frame *48*.

9. Move the star to the right of the stage (still overlapping the text objects).

10. Adjust the alpha setting to *40%*.

11. Insert a new key frame at frame *72* with the star positioned towards the bottom of the stage. Set the alpha setting to *75%*.

12. Right click on frame *1* and select **Copy Frames**.

13. Right click on frame *96* and select **Paste Frames**. The final frame should now be the same as the first frame.

If you preview the animation right now, the star will simply be jumping from one location to the next each time there is a new key frame. If we want it to move between those points we need to add tweens.

14. **Right-click** on the timeline between frame one and frame 24 (the first key frames).

15. From the shortcut menu select **Create Classic Tween** (this option is also available from the **Insert** menu).
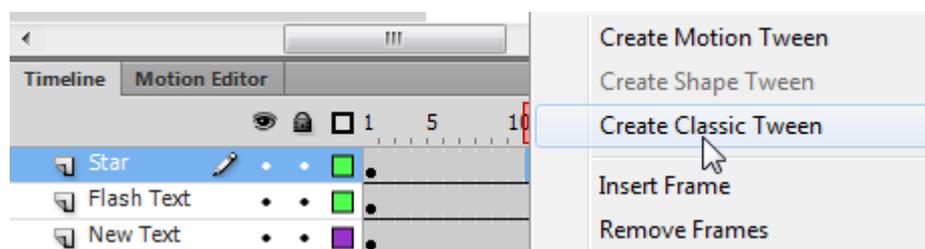
An arrow will now appear between the two key frames, indicating that there is now a **tween** between them.
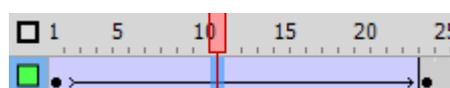
16. Press **Enter** to preview your animation and you will see the star move smoothly from the first key frame to the next key frame.

17. Repeat steps 15 and 16 to insert motion tweens between all of the other key frames on the Star layer.
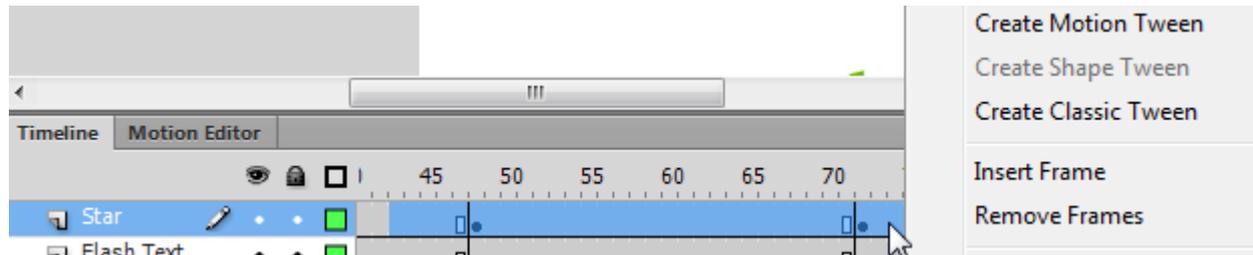
18. Preview the animation to see the effect of the motion tweens.

Lastly we'll change a few tween options.

19. Click on the first tween. I.e. click anywhere on the *Star* timeline between frame *1* and frame *24*.

The properties panel on the right will now show the tween properties instead of the object properties.

20. Change the **Ease** option to *-90* (with the minus sign). Changing this property to a negative number will mean that instead of moving at a constant speed, the object will start moving slowly and speed up. You can enter the number in to the space next to the **Ease** label or you can simply drag left or right on the number until you see the value you want.

21. Click on the second tween and change the Ease option to *90*. Setting this to a positive number will make the object start moving quickly and then slow down.

22. Click on the third tween and change the **Rotate** option to *CW*. This will make the object rotate in a clockwise direction as it moves (you can change the number next to it to determine how many times it will rotate in the course of its movement).

23. Change the Ease option for the last two tweens so that they are the same as the first two tweens.

24. Preview the animation to see the effect of the tween property changes.

25. Save the changes to your file (this should be becoming a regular habit by now).

Exercise 6.   Motion Tweens

The method we used for creating a motion tween in the previous exercise was the standard way of doing it in all older versions of Flash. Flash CS4 introduced a new way of doing motion tweens. The older method, now labelled as Classic Tweens, is still useful in many cases where the new method isn't suitable. In most cases, you'll probably use the newer method which is far simpler.

1. Create a new layer called **Bug**.

2. Click on the first frame in the **Bug** layer.

3. Using the drawing tools of your choice, draw a small flying insect to the right of your text.

4. Make sure the whole bug is selected and create a new Graphic symbol called **Bug**.

The last frame in the timeline will currently display a Frame symbol ▯. All of the frames in between will be grey indicating that this layer will currently be the same across all frames in the timeline.

5. Right click on the first frame and select **Create Motion Tween**. The Frame symbol in the last frame will be removed and all the frames on that layer will change colour to indicate that a motion tween has been added.

6. Click in the last frame on the **Bug** layer.

7. Move the bug to the left side of the stage. A row of dotted lines will appear between the bug's starting point and finishing point. These dots represent the position of the bug at different points in the timeline. If you preview the animation now, you will see the bug slowly move from the beginning to the end of that dotted line.

Motion tweens using this method can be controlled by making use of **Property Keyframes**.

8. Click on a frame in the middle of the Bug layer.

9. Move the bug to a point near the bottom of the stage. The dotted line will now move through the new position to show that the bug will move through that position on the way to the end point.
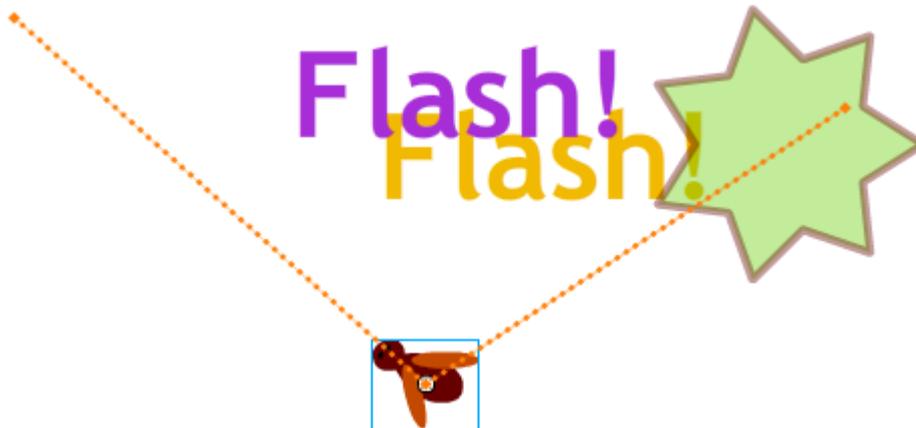
A small dot will appear on the timeline to indicate that there is a property keyframe at that point.

While you are on that property keyframe, you could adjust some of its properties such as colour and size like we did earlier.

With classic tweens, if you wanted to make an object travel along a certain path as it moved, you needed to add a motion guide. With regular tweens, motion guides are not necessary as you can simply modify the dotted line to change where the object goes.

With the Selection Tool active, move your mouse over the dotted line. A small curve will appear next to your mouse. Drag to change the shape of the line.
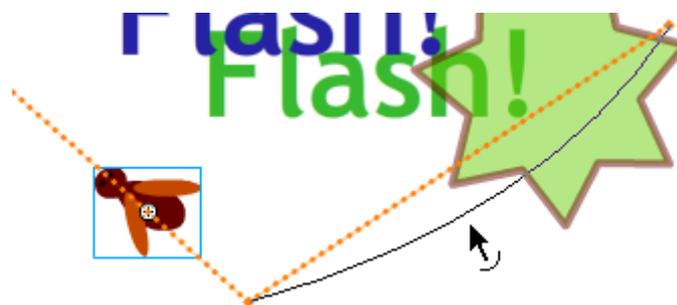
Continue shaping the line and preview the result. The bug will follow whatever shape your line takes.

Exercise 7. Shape Tweens

Shape tweens allow you to change the shape of an object over time. Unlike motion tweens, shape tweens must be done on objects that *haven't* been converted in to symbols.

1. Insert a new layer and call it *Shapes*.
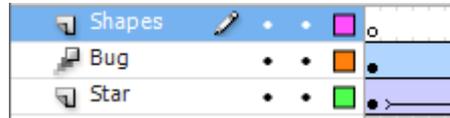
2. Make sure you have the first frame of the *Shapes* layer selected.

3. Draw a rectangle in the top right area of the stage. Choose your own fill and stroke settings.

4. With the Selection tool, **Double click** the rectangle to ensure the fill and stroke are both selected.

5. Select the **Free Transform** tool from the toolbar.

6. Move your mouse just outside one of the rectangle's corners until your mouse pointer appears in a circular arrow shape.

7. Drag to rotate the rectangle slightly (while the free transform tool is active, you can also resize and move the object). The object will rotate around the white dot in the middle. You can move that white dot to change the centre of rotation.

8. Select frame *24* from the timeline (on the Shapes layer) and insert a new key frame.

9. With frame *24* still selected, delete your rectangle (press the **Del** key). The keyframe will show a hollow dot to indicate that there is nothing on that layer at that frame.

10. Draw an oval near the bottom of the stage with different fill and stroke settings.

11. Add a new key frame at frame 48.

12. Delete the oval and draw a large polygon with your choice of sides and colour.

13. Add a key frame at frame 72.

14. Delete the polygon and add a shape of your choosing.

15. Copy frame 1 to frame 96.

16. Right click between the first two key frames on the shape layer.

17. Choose Create Shape Tween.

18. Add shape tweens for the rest of the timeline on the shape layer.

19. Preview your animation. You will see the shape on each key frame change in to the shape in the next key frame.

20. For a bit of added variety in the animation, use the **Free transform** tool to adjust the size of your star object on the star layer so that it is different for each key frame.

21. Save the changes.

Note   If you want to apply a shape tween to text, first you must select the text and then use the **Modify**, **Break Apart** option from the menu to break the text in to individual letters. Then use the **Break Apart** option again to turn them in to shapes that can be edited.

Exercise 8. Shape Hints

You can control your shape tween a bit better by using **Shape Hints**. These allow you to place points on the starting and finishing version of the shape to guide the change.

1. Start a new blank Flash project.

2. Create a shape of a person like the example below (of course you can make yours better than a stick figure if you're feeling creative).

3. Add a Keyframe on Frame 48

4. With Frame 48 still selected, delete the person and replace them with a picture of a dog (yes you can draw the dog better too).

5. Right click between the two Keyframes and add a shape tween.
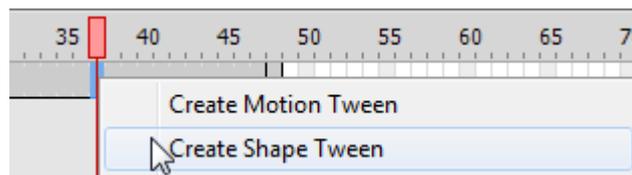
6. Test your animation and you will see that the shape tween doesn't look too good in the middle frames. We'll use some shape hints to add a little guidance.
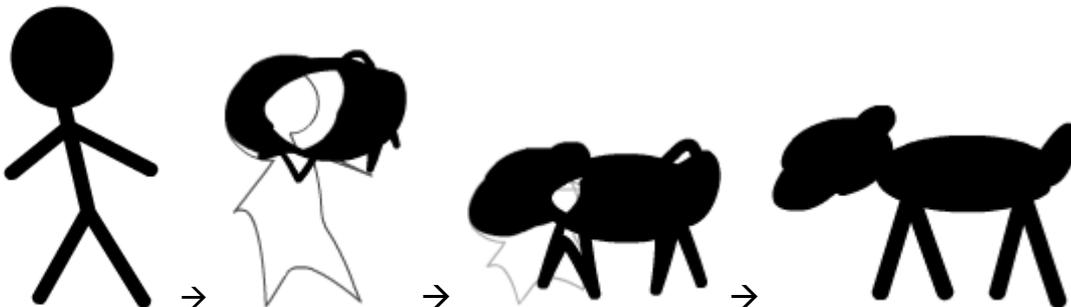
7. Select the first frame (the one with the person).

8. Go to the **Modify** menu, then select **Shape** and **Add Shape Hint**.

9. Reposition the shape hint so that it is about where the person's forward hand should be.
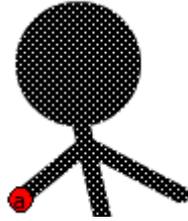
10. Go to the last frame and position the shape hint so that it is on the dog's forward foot.
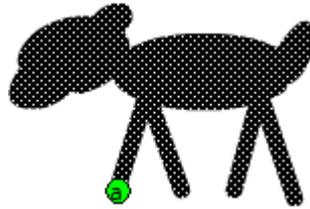
11. Return to Frame 1.

12. Go to the **Modify** menu, then select **Shape** and **Add Shape Hint**. You'll notice that the first shape hint had a small letter A inside it. This one has a small letter B instead. The letters make it easier to match hints on the first and last frame when you have more than one of them.

13. Position this new shape hint on the person's rear hand.
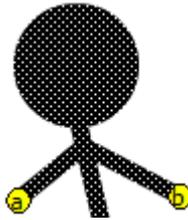
14. Go to the last frame and position this hint on the dog's other forward foot.
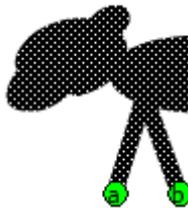
15. Add additional shape hints at the main parts of each frame so that feet are matched with feet, nose with nose etc.

| Tip | When you are going to the menu repeatedly for the same function, pay attention to the shortcut key. In this case it is **[Ctrl] [Shift] [H]** |