

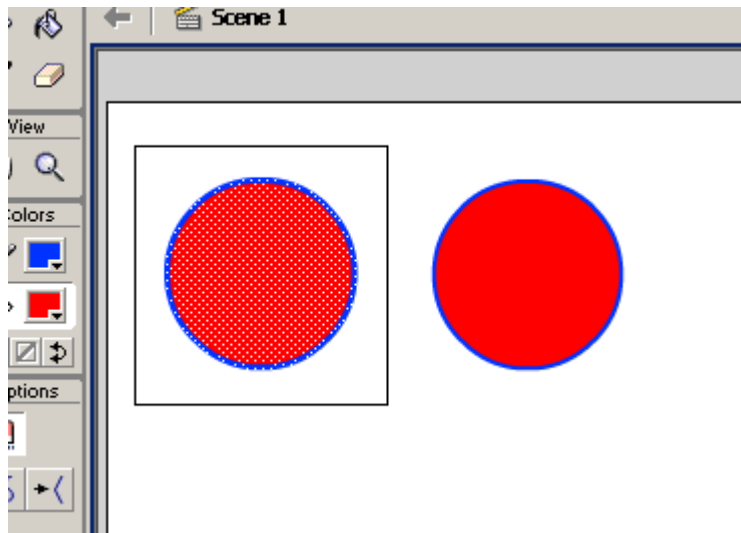
# 1. Basic Object Animation in Flash MX 2004

Flash Tutorial

Last Updated Sept 2005 by R. Berdan

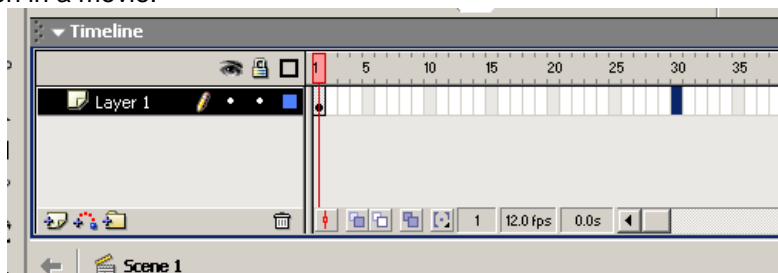
Before attempting this tutorial you should be familiar with the drawing tools and how to use them.

1. Select the circle drawing tool from the tool menu and draw a circle in the upper left part of the stage and the fill the circle with a solid color using the paint can
2. Select the black pointer from the tool bar, click and drag around the circle you drew on the stage. When you finish, the circle will appear to have small tiny dots – this indicates you have selected the object. (if you click off or outside of the object you will have to reselect it – look for the tiny dots to tell you the object is selected)

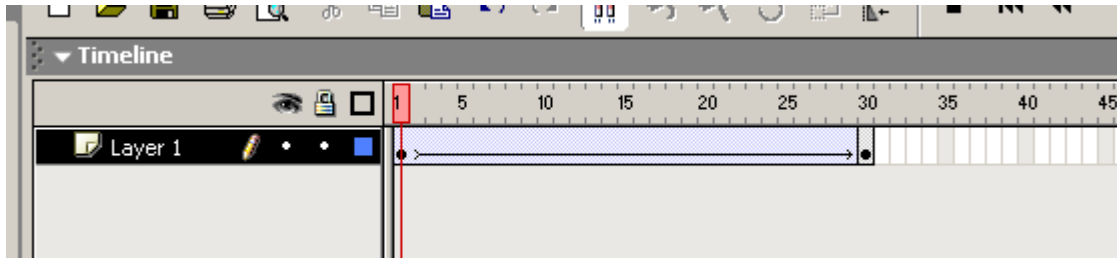


Circle on the left is selected the one on the right is not.

3. With the circle still selected Select>**Modify**>Convert to symbol>Graphic OK. It is optional whether or not you want to name the object. You just converted the object into a symbol. You must always do this before you can animate an object you draw across the stage. The object should now have a blue bounding box around it – this indicates it is a symbol.
4. Select the black pointer from the tool bar and click on the Layer 1 frame box 30 to select it – the frame will turn black. Right click on the frame with your mouse and select insert>Keyframe. Keyframes are places where an object starts, stops or changes direction in a movie.



- Next with the new keyframe you created still selected, click on the circular object and move it across the stage to a new location where you want it to stop in the animated movie. Then select the first keyframe in layer 1. Go to the properties box at the bottom, select Tween drop down menu and select>Motion. Layer should have a solid line with an arrow on the end and the layer should turn blue. If you see a dotted line you missed a step.



Note solid blue line in layer 1.

- To play your movie make sure your controller is displayed Select Window>Toolbars>controller – select the play button to start your movie. Your object should move across the screen and stop.
- To save your movie select File>save as provide a name e.g. firstmovie fla and direct it to folder or your desktop. This movie can be edited and modified at any time by selecting File>open. The .fla file is used for editing it does not go into your web site it is like a photoshop .psd file – it is for editing only.
- To create a movie that can be inserted into a web page you need to have your .fla file open in Flash Select>File>Publish settings>check Flash .swf checkbox and HTML .html check box>Then select Publish>OK - you just created an HTML page with Flash movie embedded. Embedded Flash movies have the extension .swf sometimes called shockwave files – these are compressed versions of the .fla files. To see your movie play click on or load the html file you created into a web browser that has the Flash plugin installed. You should see your movie embedded inside the page and the movie will loop continuously. In spite of years of development, Macromedia has never fixed a small bug – that is the movie you embedded will not be centered even though there are publishing options to do so – they have never worked. To center your movie select >View source when previewing it in Internet explorer and add the <center></center> tags manually as shown below. Alternatively you can open the page in Dreamweaver and use the center align commands, you can insert the movie into other pages using copy paste of the code or you can use Dreamweaver to insert the .swf files – the .swf files must be in the same place your web pages are!

**<center>**

```

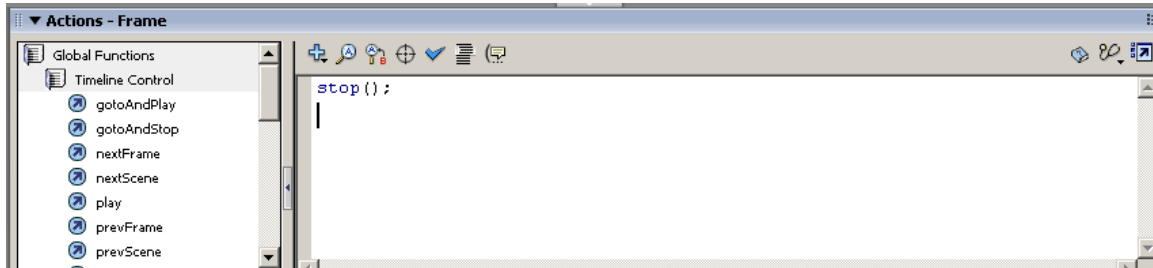
<OBJECT classid="clsid:D27CDB6E-AE6D-11cf-96B8-444553540000"
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WIDTH="550" HEIGHT="400" id="Untitled-2" ALIGN="">
<PARAM NAME=movie VALUE="Untitled-2.swf"> <PARAM NAME=quality VALUE=high>
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TYPE="application/x-shockwave-flash"
PLUGINSOURCE="http://www.macromedia.com/go/getflashplayer"></EMBED>
</OBJECT>

```

**</center>**

9. To have the animation play only once you must add an action to the last keyframe. Actions are small scripts that provide instructions such as stop, jump to frame, play, rewind etc. adding actionscript is one way to add interactivity to your flash movie.
10. To add a stop action to the movie we created you will need to select the black pointer>Select the last keyframe in the movie. Select and open the actions Frame (Window>Development Panels>actions or F9) – see below.

11.



10. To insert an action you can do it two way 1) In the main window type stop(); or 2) Click on the movie control folder on the left side of the window it will open to reveal different actions. I.e. Global Functions>Timeline Control>Stop(). Double click or drag the stop action into the main window - then close it. You will see a small “a” in the last keyframe – this tells the movie to stop when it reaches this point. Save your movie – then publish it again. If you unselect the HTML checkbox you will not overwrite the HTML page only the .swf file - if you do overwrite the HTML file you will simply need to add the <center></center> tags again. You are done!

12. One other option you might want to know about is that you can save .fla files as .exe files – movies that will play by themselves without embedding inside an HTML page. These type of movies are used in multimedia presentations, games, business card CDs. They are standalone programs that you can e-mail or take with you. To publish a standalone Flash movie make sure your previous movie is open select >File>Publish settings>format tab should be selected select>Windows projector or Macintosh projector if you want your movie to play standalone on a Mac computer. Select Publish>OK and you will see a new icon where you saved your files – click on the icon to start your stand alone movie program.



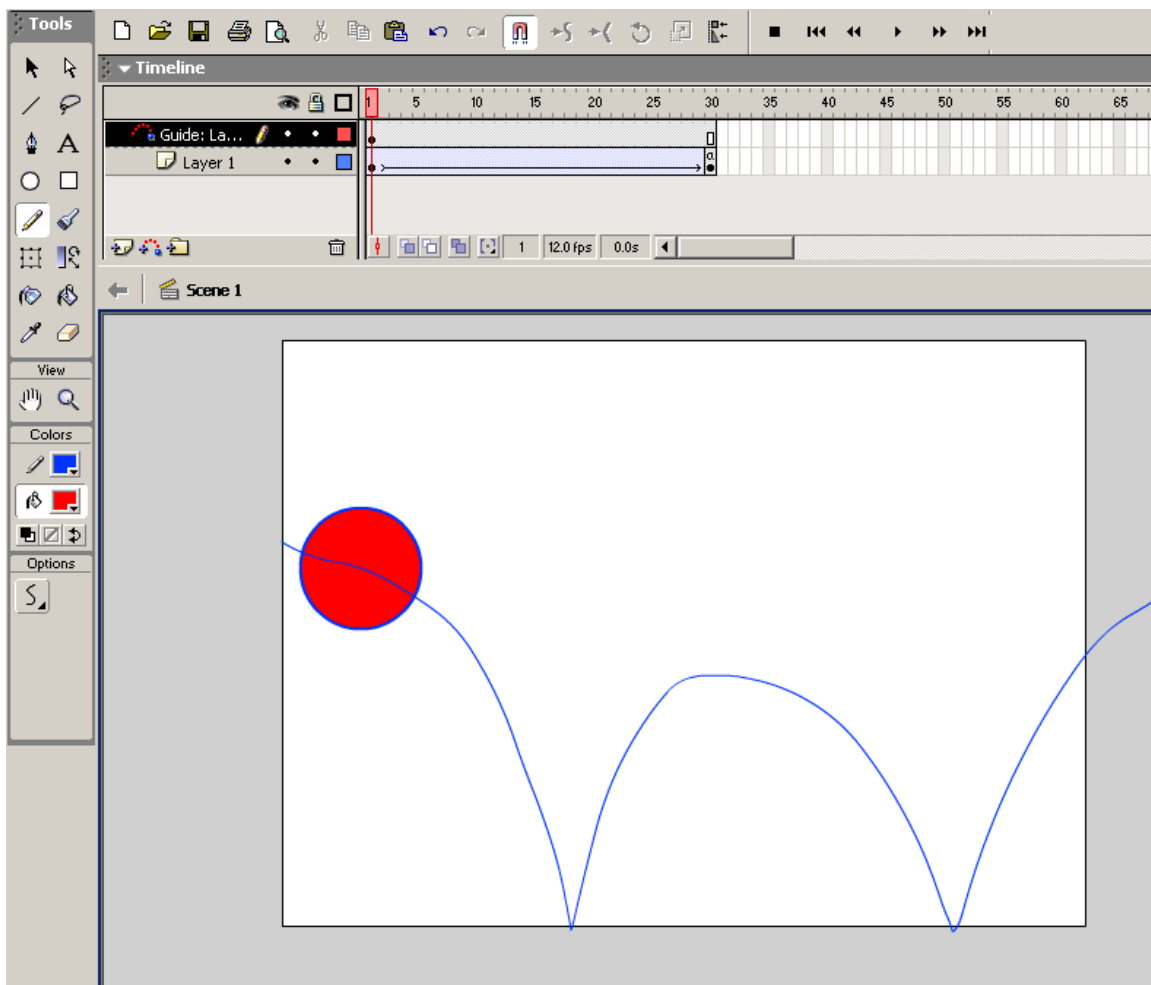
The top icon is a .swf file and the bottom icon shows a stand alone .exe file.

- A. **Exercise and practice.** Make your circle go completely around the stage so it goes to each corner. To do this you will need to add additional keyframes and motion tween between each one. The distance between keyframes determines how fast your object moves – keyframes close together will result in faster animation, further apart will result in slower animations. When finished add and animate another object on another layer.
- B. Modify the movie so that when it reaches the end it will jump to another web site or web page. Hint: you need to use action `getURL(http://www.site.com)`;

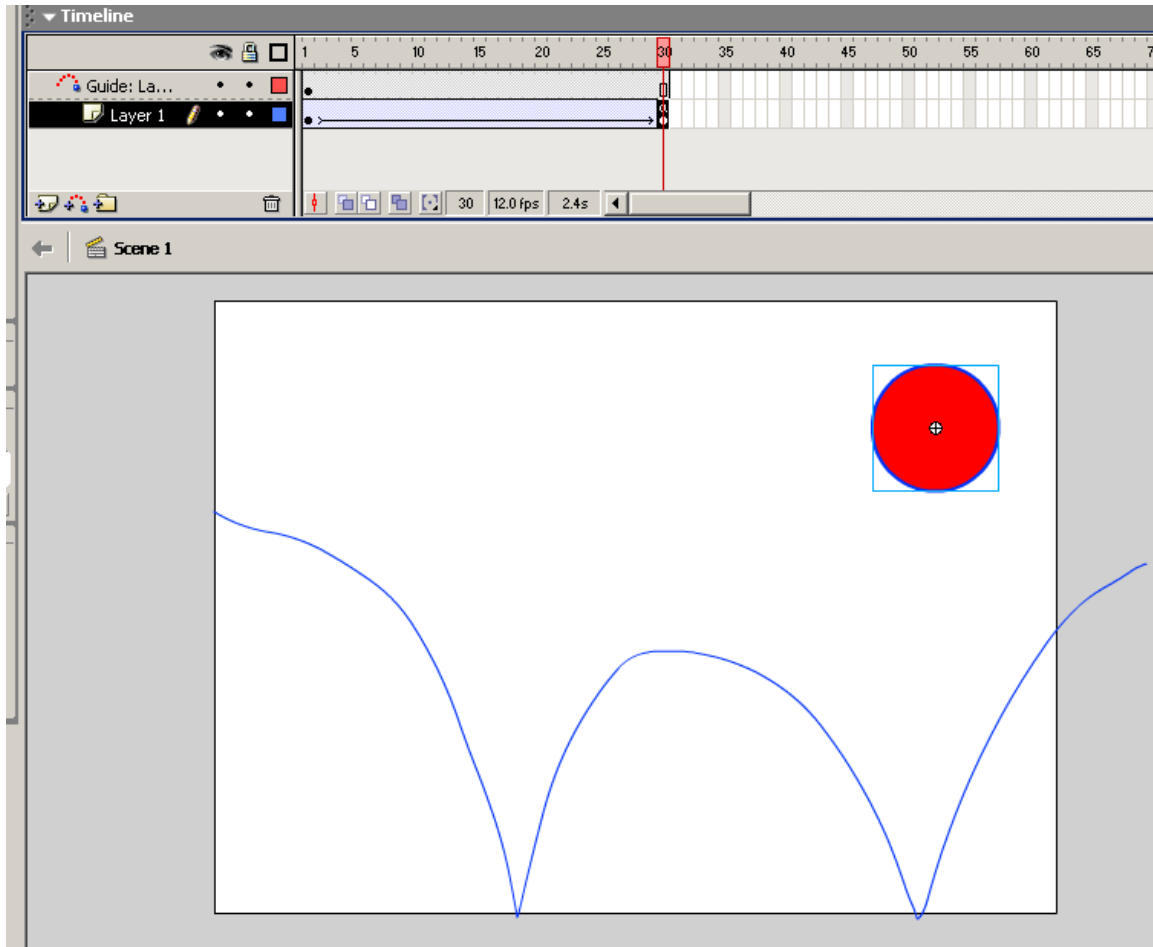
## 2. Motion along a specified Path

You can use the animation you created in the previous tutorial or you can start from scratch with a new object – either way you must have a moving object to start this tutorial. We are going to add a new layer called a motion layer, then we will draw a smooth line that does not overlap to simulate a bouncing ball. We will attach the ball or object to the line at the beginning and ending keyframe and play our movie – if you do this correctly the ball will bounce. It can be a bit tricky attaching the object to the line so persevere.

1. Right click your mouse pointer on Layer one> In the pop down menu select Motion Guide layer then click on this layer to select it. Only the motion guide layer should be selected.
2. Select the pencil tool and the bottom of the tool box select Option>smooth from the pop out menu. Draw a line resembling the bounce path of a ball – see picture below.



3. The object (circle) may jump and attach itself to the line – if it does great, if it does not drag the object by its center over the beginning of the line until it snaps in place. If it does not snap in place **make sure the magnet button at the top** (snap tool) is depressed. Then select the last key frame of the movie with the black arrow you should see something like the picture below.



4. Move the circle with your mouse (black arrowhead selected in the toolbar) until it snaps to the line near the end of your drawing. Go to the controller (below) and play your movie.



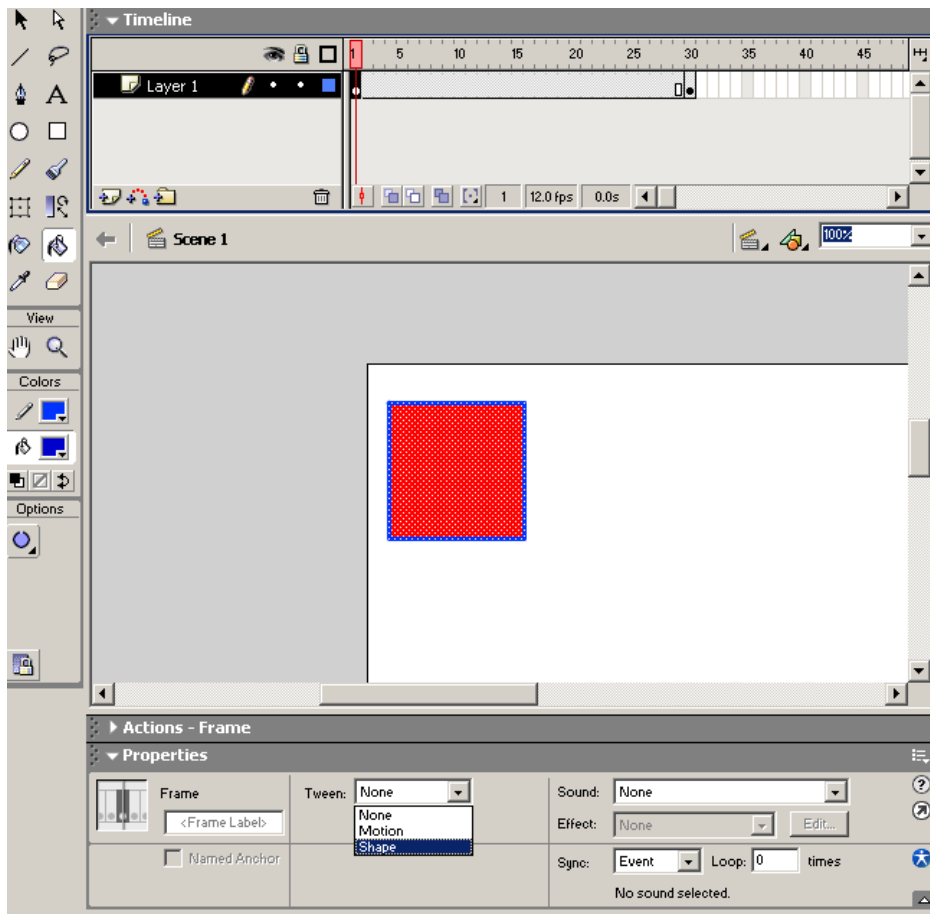
The ball should follow the line and appear to bounce. Make sure the lines you draw do not touch each other or cross over each other – it will not work. Save and publish your movie. The lines you drew will not appear in the final movie, however the object will appear to follow them.

**Exercise:** Import a small images e.g. .jpg and .gif files, convert it to a symbol just as you did with the object you created then animate in your window. Try this with a small picture of a plane, clock or some other image you have. Try to spin the object, make it shrink or grow as it is animated e.g. rotate a clock and zoom in.

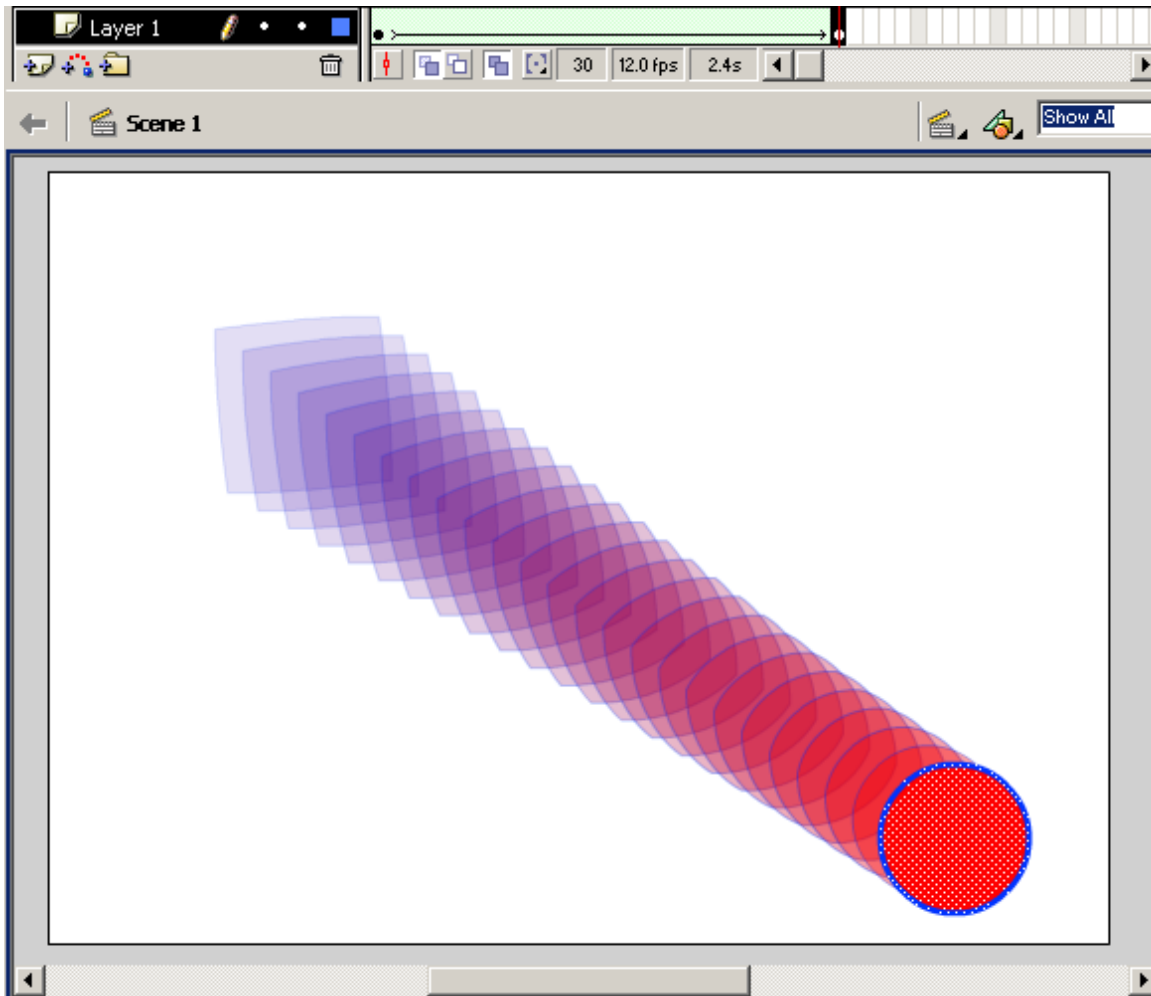
### 3. Shape Tweening also called Morphing

Using flash it is possible to create objects then animate them by morphing one object into another. Generally this works well only with simple objects because Flash has to do all the calculations on the fly, any attempt to use a complex graphic or a traced image will result in very slow animations that chug along and will not be acceptable. Text can also be morphed one word can dynamically change into another – here is how you do it.

1. With Flash open if you do not have a new blank movie select File>New Flash Document
2. Select the a drawing tool and create a box in the upper left corner of your movie it can be filled with any color your like.
3. Place your pointer on Frame 30, right click to activate the pop down menu and select>Insert Keyframe then hit the delete key on your keyboard to delete the object from frame 30.
4. Select the circle drawing tool and draw a circle in the lower left corner of your screen. I suggest you fill the circle using the paint can a different color from your box – but it is not necessary. You should now have a square or rectangle in our first keyframe and a circle in your last keyframe. Place your mouse pointer on the first keyframe to select it.



5. In the bottom of your window in the properties box you will see a Tween drop down menu> from the drop down menu select >Shape Tween. You will see a solid line in layer one with a green background. Use the controller to play the movie and you should see the square change gradually into the circle – Neat!



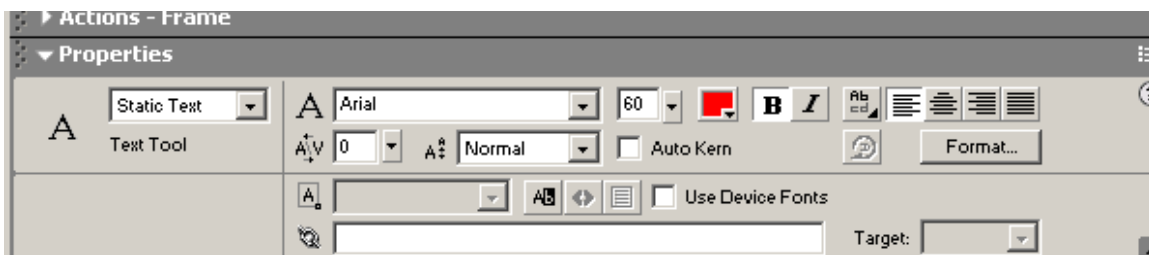
Square morphs into a circle. If you add additional object to the last keyframe the square will simultaneously morph into all of the objects – Try it. The main difference between motion tweens and shape tweens is that in the former you must convert the object you draw into symbols. With shape tweening you do not.

If you want to save the movie and embed it into an HTML page run through the steps to save and publish it – then center the movie manually by adding `<center></center>` tags.

## 4. Shape Tweening Text

Tweening text is similar but there are a couple of extra steps. By default adding text to a flash movie converts the text automatically to a symbol – therefore we have to break the symbol apart into an object before we can shape tween the text. In this exercise we will tween your name into other text.

1. Open Flash and start a new movie File>New
2. Select the Font tool in the menu “A” and select a font color from the colors options at the bottom of the tool palette.
3. Click your pointer (mouse) on the movie stage. When you do this you will see a text entry box or cursor. If you look at the properties box at the bottom of your movie you will see the various text attributes including font size, color, format etc. You will want to set your font size fairly big for this tutorial e.g. 60 pts – use the slider or type in 60 beside the font type box.

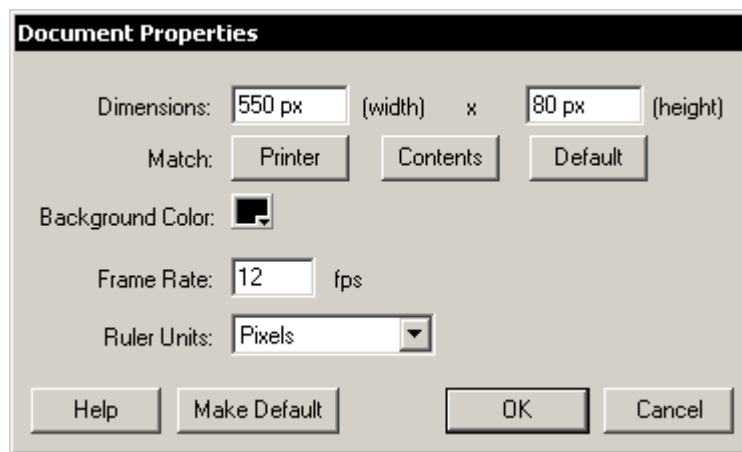


4. Type your name onto the movie stage e.g. Fred Flinstone. You will see a blue bounding box around the message which means it is a symbol. We can't shape tween symbols so we have to break it apart into an object. Click on the text so the blue bounding box is visible around it and then select Modify>breakapart, do it again – you need to do it twice you should see small poka dots on the text when you are finished – indicating the text is now an object,
5. Select Frame 30 in layer 1, right click and from the pop down menu select>insert keyframe then hit the delete key on your keyboard to erase the text from the last keyframe.
6. Use your type tool and type a new name or message onto the screen about the same font size, it can be a different color if you like. You may wish to move your text, select the black pointer from the toolbar then click and drag over the text to move it.
7. You then need to break the text apart again select Modify>breakapart>Modify>breakapart - you need to do it 2X. Then place your pointer on the first keyframe of layer one. From the properties box at the bottom select Tween>Shape – you should see a solid line with an arrow pointing to the right in layer one and the background should turn a lime green color. Use the controller to play your movie and watch your text morph!

## 5. Making an object Fade in and out and resize movie into a banner.

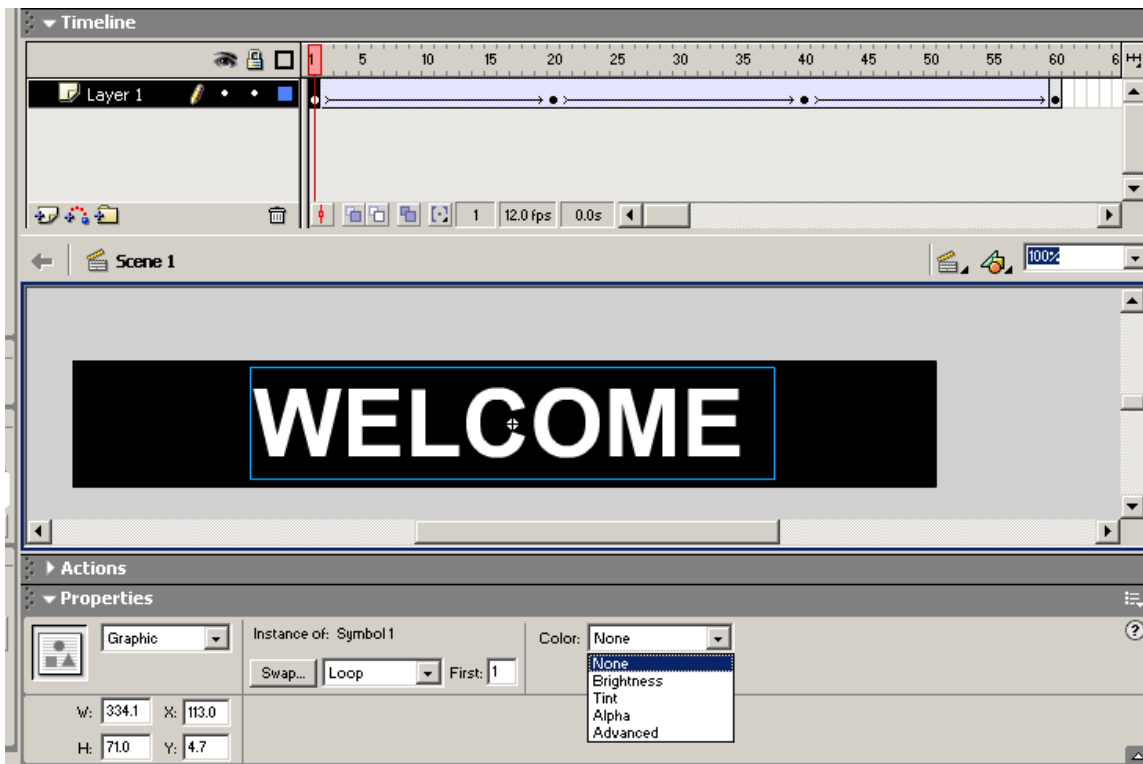
Flash is a popular tool used to make text or pictures fade in and out and is used for delivering text or pictures. We will create a banner 550 x 80 pixels in size with a black background color and we will make a message fade in and out. Some folks may decide to use only part of the movie and just have the image or text fade in and then stop. You will need to add a stop action to the end of the movie otherwise your movie will loop continuously.

1. File >New>Modify>Document – this will bring up a new window from which you can resize your movies and modify the background color. Note you should always decide on our movie size first – it can be difficult to change the size afterwards as some of your components may no longer be in the movie. Always leave the movie frame rate at 12 fps for animation used on the web – it can be increased to 30 for CD based animations only.



2. Set the background color to black and the movie dimensions to 550 px x 80 px to create a banner. Select>OK You should see a narrow banner in your window use the scroll bars if the movie is not readily visible.
3. Select the Text tool and set the color of your text to white, choose a large font size approx. 60 pts. And type the word "WELCOME". Click on the text so it shows a blue bounding box. Select>Insert>Convert to symbol>Graphic
4. In layer one Select Frame 20 >right click>insert keyframe, select frame 40 right click>insert keyframe and select frame 60 >right click insert keyframe. You need multiple keyframes because you are going to make the text fade in from frame 1-20, hold between 20 and 40, then fade out from 40 to 60. To do this you will need to motion tween the frames from 1-20, 20-40 and 40-60.
5. Place your pointer on frame one in layer one. Select>Insert>Create Motion Tween, place your pointer on frame 20 and repeat, then frame 40 and repeat until all sections of your movie are tweened see picture below.
6. If you play your movie now nothing happens – you need to make the text transparent at the beginning and end of the movie – transparency is referred to alpha – alpha 0 is completely transparent and alpha of 100 is completely visible. You will need to set alpha property to 0 in the first keyframe and the last keyframe. Select the first keyframe and in the properties box select the Color drop down menu select alpha and set it by moving the

slider to 0. Then select the last keyframe and do the same thing. Now play your movie and you should see the text fade in, hold, then fade out. You can do the same thing with photos you import into flash. To add additional text you will need to add more layers.



Movie has been tweened – use the Color drop down menu to select alpha and set value to 0 or transparent in the first and last keyframe of your banner movie.

7. Save your movie, publish the movie then view your banner by loading the HTML page. Note that the movie loops continuously – add a stop action to the last keyframe and resave. You will also have to center the banner using <center></center> tags. Notice that Flash will automatically set your web page to the same background color you chose in your flash movie.
8. Unless you want your movie to loop continuously, you will need to go back add a stop action or a getURL action.

**Exercise:** Repeat this but import a small graphic file, convert it to a symbol, then make it fade in and out. If you wish to have multiple text messages or photographs you will need to add a layer for each additional text message or photo you import and you will have to stagger the movies so one starts after the other finishes – you can have only one animation per layer, but there is not limit as to how many layers you can add!

## Creating & Using Simple Buttons in Flash MX 2004

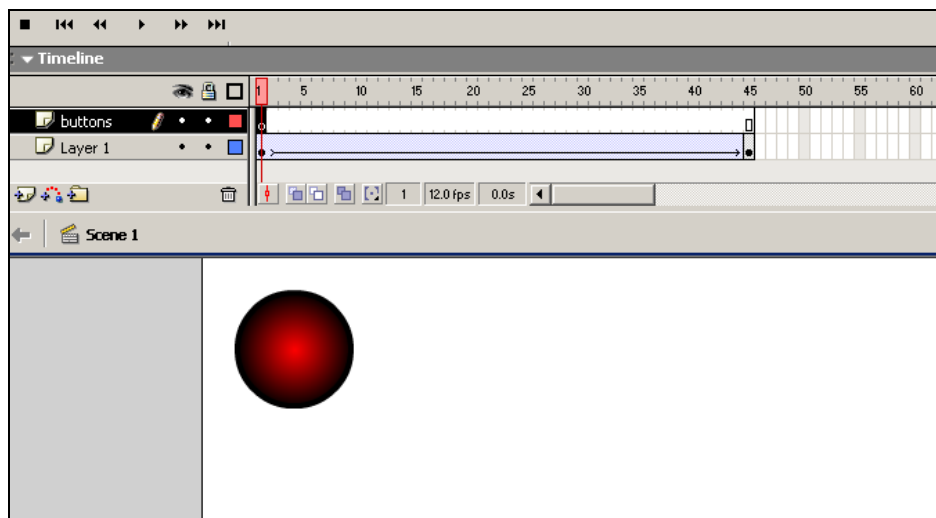
You can add built in buttons to any movie to control the timeline such as PLAY, STOP and REWIND by adding buttons from the common library and attaching actions to them. When ever you add buttons you should always create a new layer first and put the buttons on this layer. Drag several buttons onto the stage then add actions to them – in order to add play(), stop() etc you will first need to add Global Functions>Movie clip control>On then an event handler like press() or release() – then add play() stop() actions. E.g.

```
on (press) {  
    play();  
}
```

Flash also allows users to create any shape of button and can even create animated buttons. Buttons can be used to play, stop, start, goto a specific frame, scene in a movie or jump to another web page. Buttons can also be used to submit forms, load images or activate action script programs for example to calculate numbers.

In order to do this tutorial you will need to have a simple movie with some animation first. For example you could use a ball moving across the stage or some other animation you made. We will create and add a simple PLAY, STOP and REWIND BUTTONS with rollover effects.

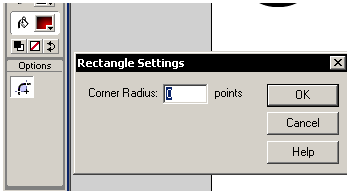
1. Start Flash and open an existing animation or make a simple movie (see previous tutorials). Make a ball move across the screen if you do not have a movie.
2. Select the top most layer with the black arrow head from the tool box and right click – select insert layer. Label this layer buttons. Buttons should be placed on their own separate layer.



3. Select the Buttons layer, then select the rectangle drawing tool in the tool palette



In the options at the bottom of the tool palette click on the “curve button”.



Enter a value of 5 for the curve radius. This permits you to add corners to the button. You can experiment with the values of the curve radius. Select a color you want your button to be (paint can color selector in the tool box).

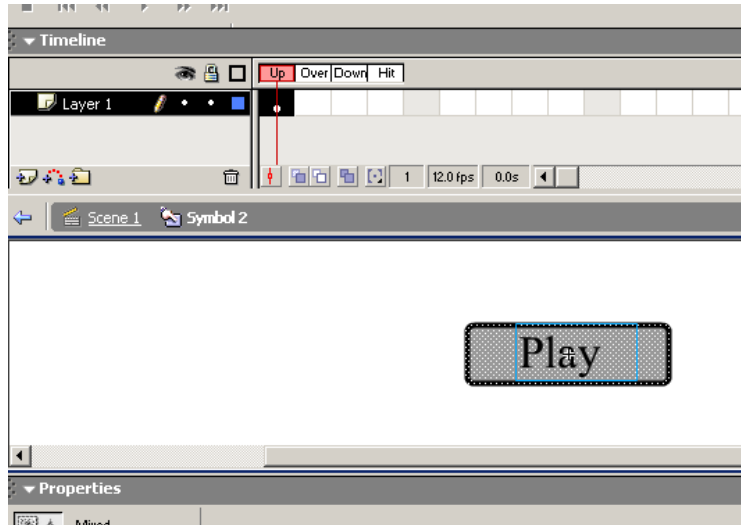
I am going to select gray with a black pencil stroke of 4 pixels.

4. Select the Type tool and a text color – then type the word PLAY on top of the button you made. Use the black arrow head to position the text on the button .

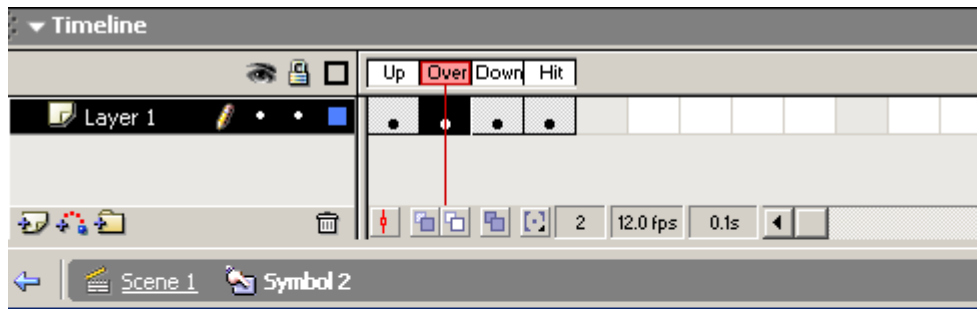


Here is my button – black text on a gray background with a black stroke of 4.

5. Next – select the black arrow head and drag a selection around the entire button so that the button is selected so we can convert it to a symbol. Select >Insert>Convert to Symbol>button in the top menu. Next we need to change the colors in the button in the different rollover states.
6. Place the black arrow head on the button and right click, from the pop up menu select >Edit - see screen shot below. You are now in button editing mode.

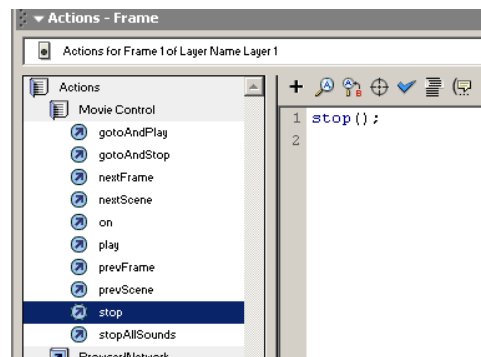


7. First you need to add a keyframe in layer 1 to all 4 button states. Place your black arrow head in layer on in the frame Over – right click>add Keyframe, Repeat this in the Down and Hit frames. Up is the appearance of the button when the page loads, Over is the state of the button when a user places their cursor over the button, down is the state of the button when the user presses their mouse down and hit defines the area of the button that responds to the users mouse click.
8. Once you have added all the keyframes, select the OVER keyframe, then click on the background color of your button. Select a new color from in the tool palette (paint can) and you will see the background color of the button change. Be careful not to include the text in your selection or it will also change color.



9. Repeat this for the Down State – add keyframe, change the background color. If you move the red playhead the button should change color when move it from one frame to the other.

10. Return to the main movie stage – to do this – click on the left pointing blue arrow under the layers. (or you can select Edit>Edit document from the menus). You should be returned to the main movie. Now you are ready to test the rollover effect. Select> Control>Enable simple buttons - move your cursor over the button and it should display the rollover effect. Then select>Control>Enable buttons again to unselect the button test mode. To make this button do something we need to add some action script.
11. First we need to add a stop action to the first keyframe of the movie – this is so the movie does not start playing by itself which is the default. Place your cursor (black arrow head) in the first keyframe of layer one of your movie. Right click, from the drop down menu select>actions>Movie control and drag the stop action into the main window then collapse the action script window. You should see an “a” in the first keyframe.

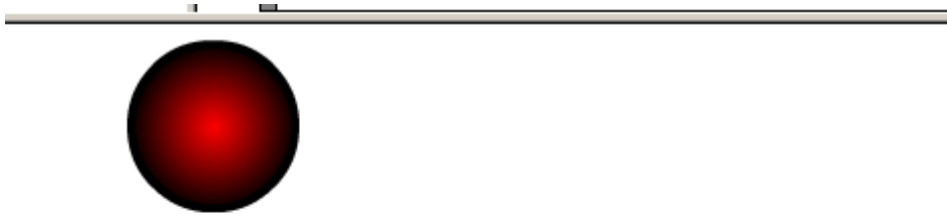


12. Now we need to add an action to the Button we created. Right click on the button, select actions from the pop up menu. Then select from the movie control folder> on (press) { }, then select play() so you see the code

```
on (press) {
    play();
}
```

collapse the action script window.

13. Select Control>Test Movie – click on the button and if you did everything right the ball will move across the screen and then return to its starting position.



13. To add 2 more buttons one to STOP and another to rewind the movie – repeat the steps you did to make the PLAY button but add the actions

```
on (press) {  
stop();  
}
```

and to the last button to rewind

```
on (press) {  
gotoAndStop(1);  
}
```

These are the basic steps to creating custom buttons. If you want to animate you buttons you can add an animation to the OVER or DOWN states. The animation can be a separate movie clip. You can also add sound effects to the buttons, but to do this you must either import the sound or use a built in sound from the library. The sounds are inserted into one of the keyframes of the button in edit mode.

In conclusion these tutorials are aimed at getting anyone started in Flash and although they may seem simple these basic actions can permit you to make some sophisticated animations. Creating animation can be time consuming so it is strongly advised that before you attempt to make a complex animation that you create a series of sketches or a plan which we call a storyboard. This will help you plan your movie, save you time and if preparing movies for a client it can save you both time and money. For more tutorials check out Flashkit.com on the web or many other web sites e.g. [www.scienceandart.org](http://www.scienceandart.org).