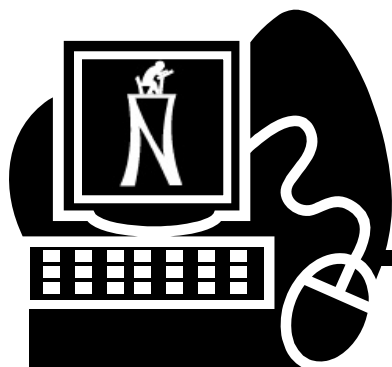


Advancing the Effective  
Use of Technology in Education

# NISD Technology Services



[www.nisd.net/technology](http://www.nisd.net/technology)

## Flash 100: Basic Techniques and Tools



**Auxiliary & Classified Staff  
Campus Administrators  
District Administrators  
Professional Staff  
Teachers**

## Introduction

Macromedia Flash is an industry-standard program for creating animated graphics for the Web and other uses. Flash movies can be found almost everywhere, and the player necessary for viewing Flash movies is now part of most browsers.

Flash uses “Action Scripting” and layers, so that very sophisticated animations can be created. Action Scripting can also be used with Flash to create entire websites, such as the website of the German advertising firm Eye4U, which uses Flash in their online marketing products.



A screenshot from the German company EYE4U's Flash website ([www.eye4u.com](http://www.eye4u.com)), in which a torrent of flowers spirals outward from the company logo.

## Flash and Flash Player

It is important to remember that Flash and Flash Player are two separate programs. Flash is a professional program which is used to produce graphics and animations. It requires a license agreement before it can be installed on a computer. Flash Player, on the other hand, is a free program that only plays Flash movies. It is a part of

many Web browsers, and it can be installed on a computer without a license agreement.

	<b>Flash</b>	<b>Flash Player</b>
<b>License needed?</b>	Yes	No
<b>Purpose</b>	Create Flash movies	Play Flash movies

Because Flash Player is so commonly used, a short, simple Flash movie can be created and put it into a Web page without fear that it will cause problems for visitors. In this class, Dreamweaver will be used to insert the movie into a Web page.

## Uses of Flash

Although it is used in sophisticated movies and websites, Flash can also be used in a classroom environment, where students can create simple animations and learn different ways of thinking creatively. In this course, Flash will be used to create an animated banner for a Web page.

## Terminology

The following terms are used in this manual:

**Timeline** – The timeline organizes the layers in a Flash movie. It is also where the flow of time is controlled. Just like in traditional movies, Flash movies divide time into frames. Every frame of each layer is shown in the Timeline.

**Stage** – The Stage is the rectangular area where graphics are placed as part of creating Flash movies and other documents.

**Frame** – A Frame is a unit of time in a Flash movie. All of the frames for each layer are shown in the Timeline. The default frame rate in Flash is 12 frames per second, so a 24-frame movie would last 2 seconds.

**Keyframe** – A Keyframe is used to define a change in an animation. In this course, keyframes are used to mark the starts and stops of

movement, and Flash is told to handle the frame-by-frame movements in between in a process called ***tweening***.

**Tween** – In Flash, an animator can define the starting and ending positions of an object, and Flash can control the movements of the object in between the two points. This is a ***motion tween***.

**Selection Tool** – Shown as a black arrow in the Tools Panel, the Selection Tool should be seen as the “default” tool in Flash. It is used to “click-and-drag” objects to move them around, to change the properties, of objects, and much more.

**F12** – The F12 key on the computer keyboard is pressed when a Flash user wants to see a preview of a Flash movie.

**Action Script** – Action Scripts can be used to control many aspects of Flash documents and are used by advanced Flash authors. In this course, a simple Action Script is used to keep an animation from repeating over and over.

## Flash Versions

This course was written using screenshots and instructions from Flash MX 2004, but these instructions will work with all recent versions of Flash. There may be some variations in menus and in the Tools Panel, but the essential features of Flash have not changed.

## Course Contents

This session will cover the following:

- Flash and Flash Player
- What can I do with Flash?
- Flash tools
- Vector and bitmap images
- Drawing in Flash
- Layers
- Creating a simple Flash movie
- Introduction to Action Script
- Export a Flash movie
- Insert a Flash movie into a Web page

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## When to Use Flash?

Sometimes Flash may not be the ideal program to use. Flash is at its best in creating movies with graphics that you created within Flash. Depending on the situation, another program – such as Javascript – may be a better choice for some projects.

### Use Flash

- Web animations using images created in Flash
- Animations for the Web with small, simple images imported into Flash

### Use Javascript

- Web image slideshows using large or numerous images that were not created in Flash
- Text animations – such as text “crawlers” – which have to be updated frequently.

Free Javascript code that can be downloaded from [www.dynamicdrive.com](http://www.dynamicdrive.com) and other Web sites. Javascript image slideshows are faster to create, run faster over the Web, and are easier to update.

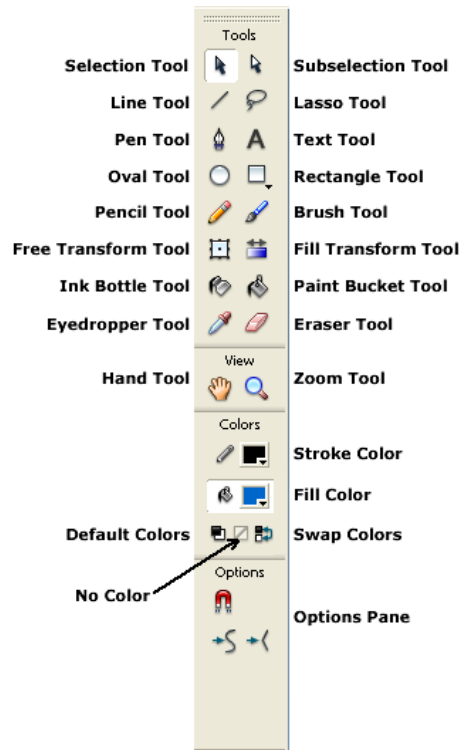
## Steps in Creating an Animated Flash Web Banner

This course will cover the following steps for making a simple Flash movie:

1. Setting up the Flash stage
2. Import an image (an image could also be drawn in Flash)
3. Add the school name and address
4. Add the school motto
5. Animate the mascot
6. Animate the motto
7. Animate the school name and address
8. Making the animation STOP!
9. Publish the movie!
10. Insert the movie into a Web page!

## Flash tools

The Flash tool panel will probably look familiar to anyone who has used Photoshop, Photoshop Elements, or Fireworks. We'll be using a few of the tools to draw with.



## Vector and Bitmap Images

Most image editing programs, such as Fireworks, produce bitmap images. In a bitmap image, each individual pixel must be remembered in order for the image to be displayed correctly. If you have a 550 by 400 pixel image (the default size of the Flash stage), that's 220,000 individual points that must be stored, or as much as 660,000 bytes of storage space for a single image. If a movie was made up of this type of image, that file size would be too large for it to be viewed online.

Vector graphics, on the other hand, store the image as a series of mathematical instructions. This can be more efficient, especially with a large image, as was described in the last paragraph. One of the greatest strengths of vector graphics is that they can be scaled up or down without affecting their appearance, and without affecting file size. Flash uses vector graphics.

## Vector Graphics

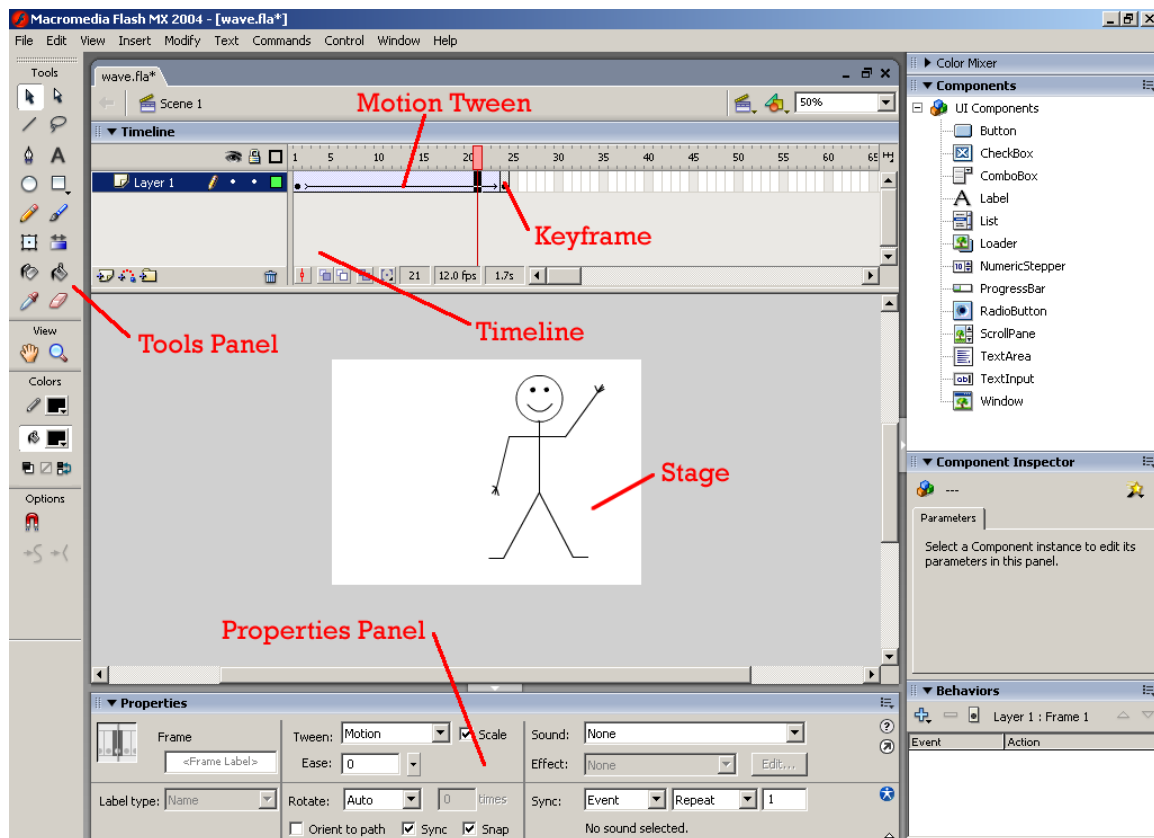
- Images created in Flash
- Very efficient (small file size, even for large images)
- The file tells the computer how to create the image, using a set of mathematical instructions
- Can be made larger or smaller without distortion

## Bitmap Graphics

- Images created with most image editing programs
- Large images have large file sizes
- The computer has to remember the color of every pixel in the image
- Can be made smaller, but not larger, or the image will "pixelate"

## The Flash Workspace

The Flash MX 2004 workspace is shown below. There may be some minor variations in other versions of Flash, but that should not pose a problem in this course.



## Drawing in Flash

The various drawing tools can be used to create simple images in Flash, which can then be animated. For this class, we'll draw out a rectangle to use as the background for a school banner, then animate some images on top of it.




### Hands-On Practice: Drawing Tools

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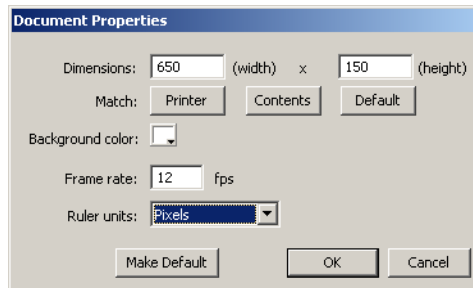
1. Start Macromedia Flash, if you have not already done so.
2. Select **File > New** and choose **Flash Document**.
3. Spend a few minutes playing with the various drawing tools. Imagine using them in a classroom with students. Try this:
  - Use the **Pencil Tool** to draw a stick figure, a house, or some other simple objects. Try using the **Straighten** and **Smooth** options with the **Pencil Tool**.
  - Use the **Oval Tool** to try to draw a perfect circle.
  - Use the **Brush Tool** to do some painting!
4. Use **File > Save As** to save the image as an **.fla** file, so that it can be edited later.
5. Use **File > Export > Export Image** if you want to save in a format that can be used in other programs -- either a **.gif** (bitmap image) or a **.swf** (pronounced "swiff," a Flash "movie" file).

## Creating an Animated Banner: Step 1 – Setting the Stage

We'll begin by changing the size of the Flash Stage (and the Document) to the approximate size of a Web page banner. We'll then draw a rectangle on the stage to serve as a background for our banner.

1. Select **File > New** and choose **Flash Document**.
2. Choose the **Selection Tool** (.
3. Click anywhere on the **Stage**.


4. In the Properties, click the button showing the Document Size (currently **550 x 400 pixels**), to open the Document Properties window.
5. Change the Document Properties to those in the image below, and click **[OK]**.



6. Use the sliders on the side and bottom of the stage to reposition it so that you can see it.
7. Choose **File > Save As** and **Save** the file as **MurrayBanner.fla**.

## Step 2 - Import an Image (Bring on the Mustelid!)

Let's add the school mascot to the banner. The school is Murray Elementary, and their mascot is the Mustelid. We're going to import the image.

1. Select **File > Import > Import to Stage**.
2. Browse for the file **mustelid.gif** (provided by your instructor) and click **[Open]**.
3. Click the **Selection Tool** (). Click the new image and drag it to about the position you see here. Fine movements can be made with the arrow keys.

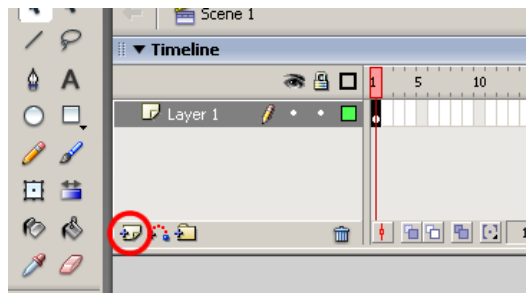


4. In the Timeline, right-click the words **Layer 1** (the layer for the mascot image) and choose **Properties** from the drop-down menu.
5. In the Layer Properties window that appears, rename the layer **Mascot**.

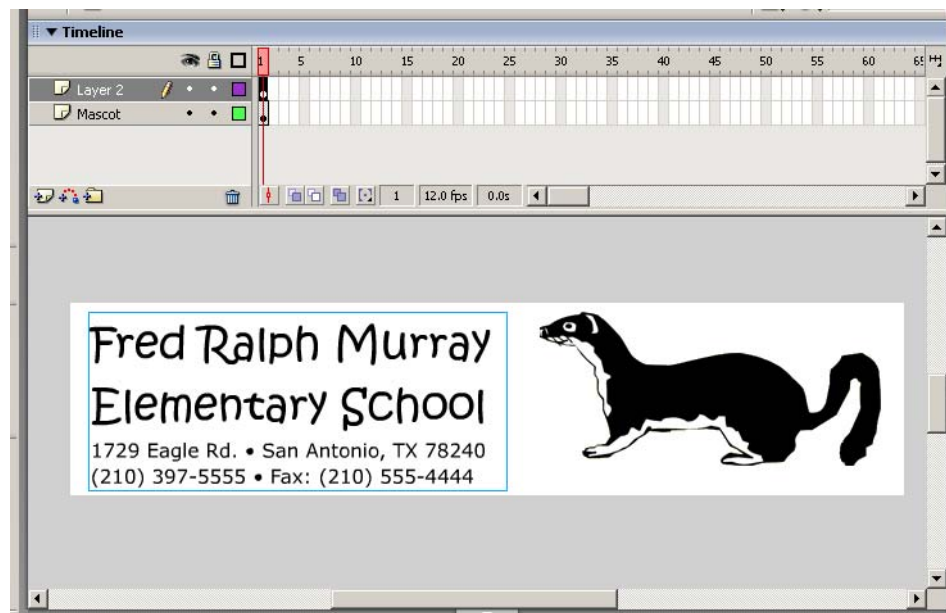
### Step 3 – Add the School Name and Address

We're going to add the school name and address as a new layer, so that it can be animated separately from Murray the Mighty Mustelid.


1. Look in the lower-left corner of the Timeline. The first icon there is the **Insert Layer** icon (📄). Click it to insert a layer for the school name.



2. Select the Text Tool (**A**) from the Tools. Click somewhere to the left of the mustelid and type the following:





To change font and size, just highlight the text and make the changes in the Properties. Any fonts and sizes can be used, but the following were used in this example:


- a. Font for the school name is Kristen ITC.
  - b. Size for the school name is 34 points.
  - c. Font for the address is Verdana.
  - d. Size of the address is 15 points.
3. Use the **Selection Tool** () to position the text where you want it. Click the mustelid and drag it to a new location if needed.
  4. Right-click on Layer 2 (the layer for the school name and address) and choose **Properties**.
  5. In the Layer Properties window, rename the layer **School Name**.
  6. Use **File>Save** to save your work.

#### Step 4 – Add the School Motto

The school motto will be added as a third layer. All three layers will be animated separately.

1. Click the **Insert Layer** icon () to add a new layer.
2. Choose the Text Tool () from the Tools. Click below the mustelid, and type the following:



3. Highlight the motto and format it by choose font, size and color from the Properties. The text shown above is Kristen ITC, size 16, Bold face, and the color is a dark blue (#003366).
4. Select the **Selection Tool** () and use it move the motto to the desired position.
5. Right-click on Layer 3 (the layer for the motto) and choose **Properties**.

6. In the Layer Properties window, rename the layer **Motto**.
7. **Save** your work.

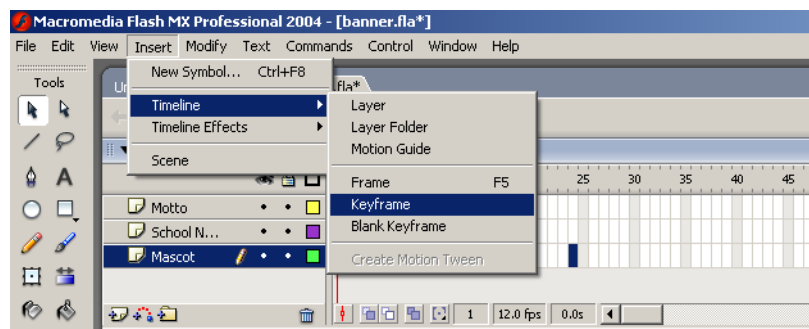
## Step 5 – Animate the Mascot

Now, it's time create an animation that allows the mascot to slide in from off-stage. The other two layers will be animated after Murray the Mustelid is finished. The banner should load quickly, to avoid annoying visitors to the website. At the standard rate of 12 frames per second, a 2-second animation requires 24 frames.

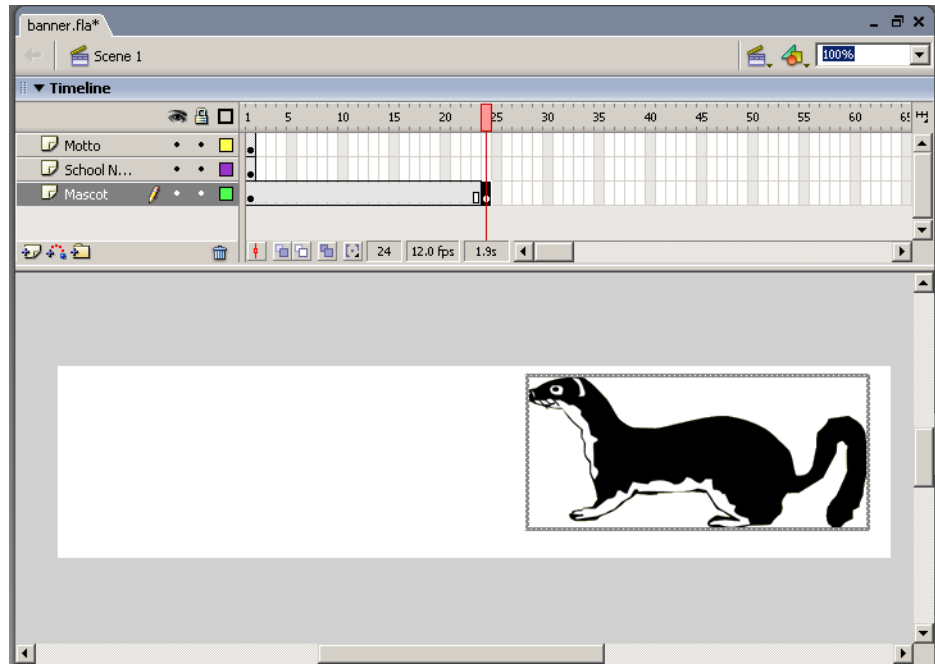
A frame rate of 12 frames per second is the default for Flash. If a different frame rate is desired, follow these steps:


1. Choose the Selection Tool (black arrow) and click off the stage.
2. In the Properties Panel, click the **Size** setting to open the Document Properties.
3. Type in the desired **Frame Rate** and click **[OK]**.

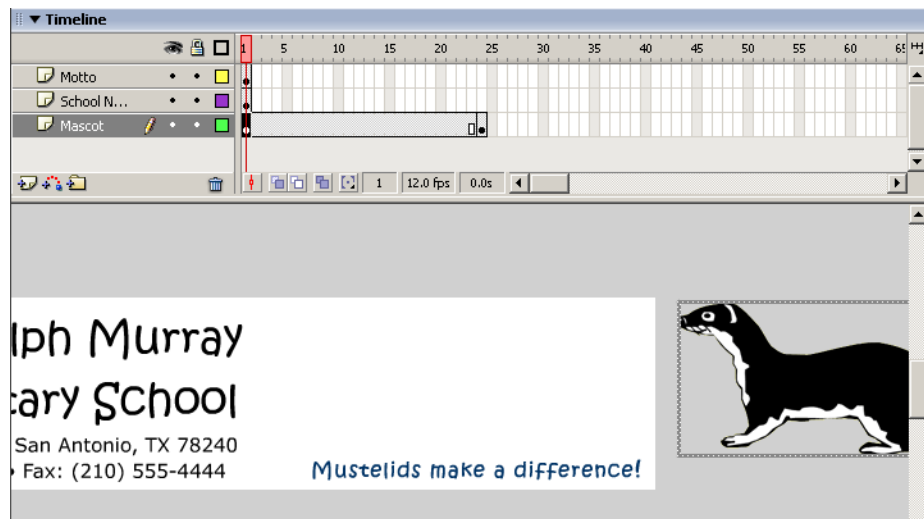
1. In the Timeline, make sure the Mascot layer is selected. Click in Frame 24 (a dark rectangle will appear in the frame).
2. Select **Insert>Timeline>Keyframe**. The school name and motto will disappear.



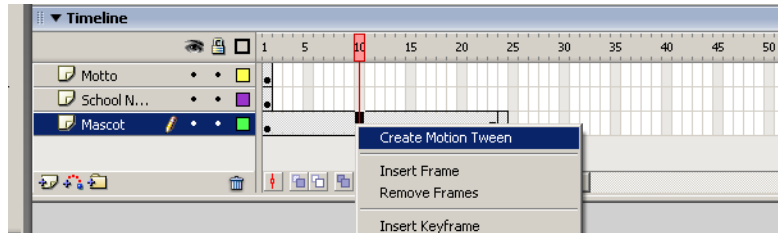
3. This keyframe corresponds to the finished position of the mascot, at the end of a 2-second animation. Your Timeline and Stage should look something like this:



4. Click the first frame in the Mascot layer. With that frame selected, use the **Selection Tool** (  ) to move the mascot off the Stage, to the right, as shown below. We don't need to add a keyframe, because there is already a keyframe in frame 1.



- Now, we'll add the animation. Right-click in the gray area between Frame 1 and Frame 24 in the Mascot layer. Choose **Create Motion Tween**. The area will change color, and an arrow will appear.

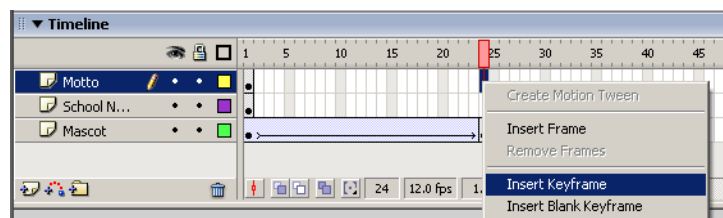


- Save** your work.
- You can see a preview of your new movie by pressing the **[F12]** key.

## Step 6 – Animate the Motto


We're going to do something different with the motto. The mascot begins animating right at the start of the movie, and the school name will do the same. We'll start the movement of the motto in the middle of the movie. It will move onto the Stage in the last half of the animation.

- Right-click in Frame 24 of the Motto layer in the Timeline. Choose **Insert Keyframe**. The motto should reappear on the Stage. This is the finishing position for the motto, at the end of the 2-second animation.



- Click in Frame 1 of the Motto layer. Use the **Selection Tool** (⬇️) to move the motto somewhere offstage.
- Right-click in **Frame 12** of the Motto layer. Choose **Insert Keyframe**.
- Right-click in the gray area between Frame 12 and Frame 24 in the Motto layer. Choose **Create Motion Tween**. The area will change color, and an arrow will appear.
- Save** your work. Preview by pressing the **[F12]** key.

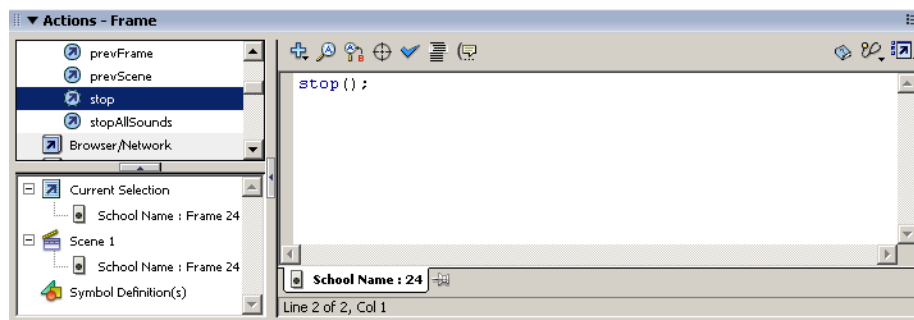
## Step 7 – Animate the School Name and Address

1. Right-click in Frame 24 of the School Name layer in the Timeline. Choose **Insert Keyframe**. The school name and address should reappear on the Stage. This is the final position for this layer.
2. Click in Frame 1 of the School Name layer. Use the **Selection Tool** () to move the school name somewhere offstage.
3. Right-click in the gray area between Frame 1 and Frame 24 in the School Name layer. Choose **Create Motion Tween**. The area will change color, and an arrow will appear.
4. **Save** your work. Preview by pressing the **[F12]** key.

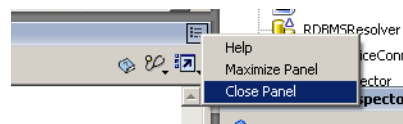
## Step 8 – Making the Animation **STOP!**

Up to this point, when we've previewed our movie, it ran endlessly until we closed the browser. We want to make our banner appear and run through its animation **just once**. We'll need to add an Flash Action Script to do this.

1. Click Frame 24 in any of the three layers in the Timeline.
2. Open the Actions Panel by selecting **Window>Development Panels>Action**.
3. In the window on the left side of the Action Panel, choose **Global Functions**, then click **Timeline Control**.
4. Double-click **Stop**. An Action Script will appear in the main window of the panel.



5. Close the Actions Panel by right-clicking the box in the upper-right corner of the panel and choosing **Close Panel**.
6. **Save** your work.



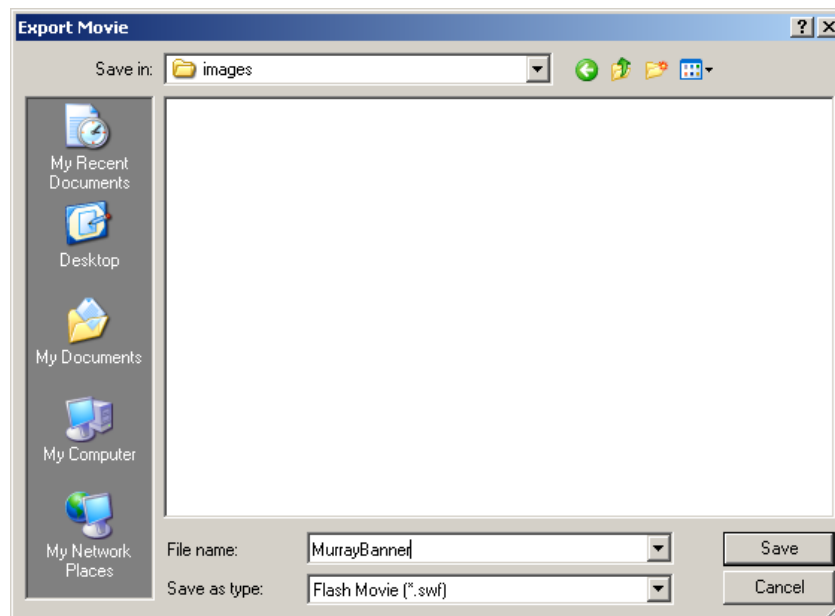
7. **Preview** your movie. It should now stop after one animation (two seconds).

## Step 9 – Publish the Movie!

There is more than one way to publish a Flash movie. If you're hand-coding HTML, or using a simple editor, you'll need to use the Publish feature to create both a "Swiff" (.swf) file and an HTML file with the code needed to activate your movie.

Dreamweaver, on the other hand, makes it quite easy to insert a Flash .swf file into a Web page. We'll export a .swf file and then use Dreamweaver to put it into a sample Web page.

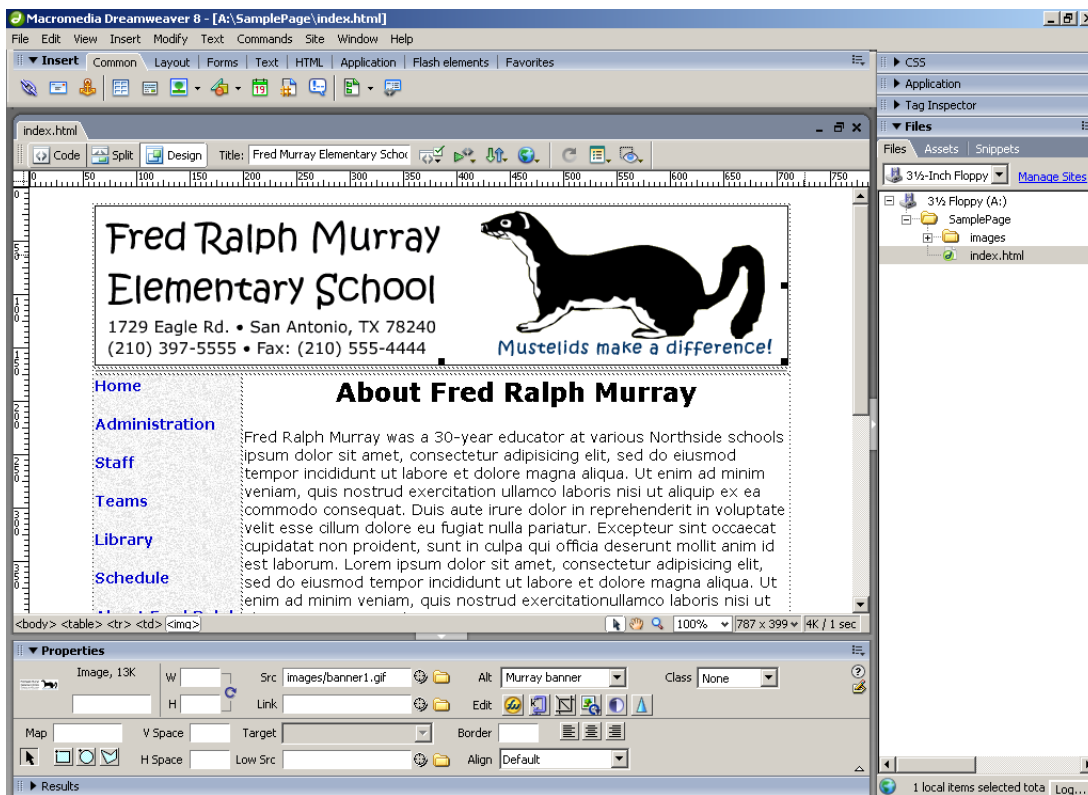
1. Select **File>Export>Export Movie**.
2. Browse to the place where you want to save your Flash movie.
3. Make sure that **Flash Movie (\*.swf)** is selected from the **Save as type** drop-down menu.
4. Name your movie **MurrayBanner**.
5. Click **[Save]** to export your movie.



## Step 10 – Insert the Movie into a Web Page!

The instructor will provide a sample Web page to use for this exercise. You will be replacing an older, “flat” banner with the new, animated banner.

1. Start Macromedia Dreamweaver.
2. Open the file **index.html** (provided by instructor).
3. Click the banner at the top of the page.
4. Press the **[Delete]** key to remove it from the page.
5. Select **Insert>Media>Flash** and browse to your new animated banner (**MurrayBanner.swf**). Press **[OK]**.



That's it! You've successfully taken the first step into the world of Flash.

**Notes:**

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