Community **Education**
at Heartland Community College

Text: Adobe Flash Professional CS5
Classroom in a Book
ISBN: 0-321-70180-1

Adobe Flash CS5 **Introduction**

Instructor: Tom Corcoran

Course **Outline**

Day One

i. Introduction to Flash CS5
- a. history, current, future
- b. examples

ii. Get Acquainted (chapter one)
- a. new project
- b. the interface overview
- c. stage properties
- d. tools
- e. property inspector and library panel
- f . timeline, frames and layers
- g. save, preview, and publish a Flash file

iii. Break

iv. Graphics (chapter two)
- a. drawing tools, strokes and fills
- b. creating and editing shapes
- c. drawing modes
- d. gradient and bitmap fills
- e. patterns and the deco tool
- f . align, break apart, & group
- g. curves
- h. transparency
- i . text

History of Adobe **Flash**

2010: Flash CS5 (version 11)
2008: Flash CS4 (version 10)
2007: Flash CS3 (version 9)
2005: Adobe acquired Macromedia releases Flash 8
2003: Flash MX 2004 (version 7)
2002: Flash MX (version 6)
2000: Flash 5
1999: Flash 4
1998: Flash 3
1997: Flash 2
1996: Program sold to Macromedia (renamed Flash)
early 1996: FutureSplash Animator

Examples of Adobe **Flash**

Educational Uses/Rich Content:
NASA 50th Anniversary timeline
http://www.nasa.gov/externalflash/50th/

Web based Games:
Miniclip.com, Armor Games and more

Feature Length Film Web sites:
Ironman 2: http://ironmanmovie.marvel.com/

Video and/or Streaming Content:
YouTube http://www.youtube.com

Adobe Flash Max Award Winners
http://2009.max.adobe.com/awards/finalists/

Day Two

i. Symbols (chapter three)
- a. import artwork
- b. Create a symbol and symbol types
- c. editing symbols and sizing
- d. symbol properties
- e. 3D space

Day Three

i. Overview of previous classes

ii. Animation (chapter four)
- a. position, scale, rotation
- b. pacing & timing animation
- c. animate transparency
- d. path of motion
- e. symbol animation
- f . easing
- g. 3D space animation

Adobe Flash CS5 **30 Day Trial**

http://www.adobe.com/products/flash/

Adobe Flash CS5 **Introduction**

Welcome Screen

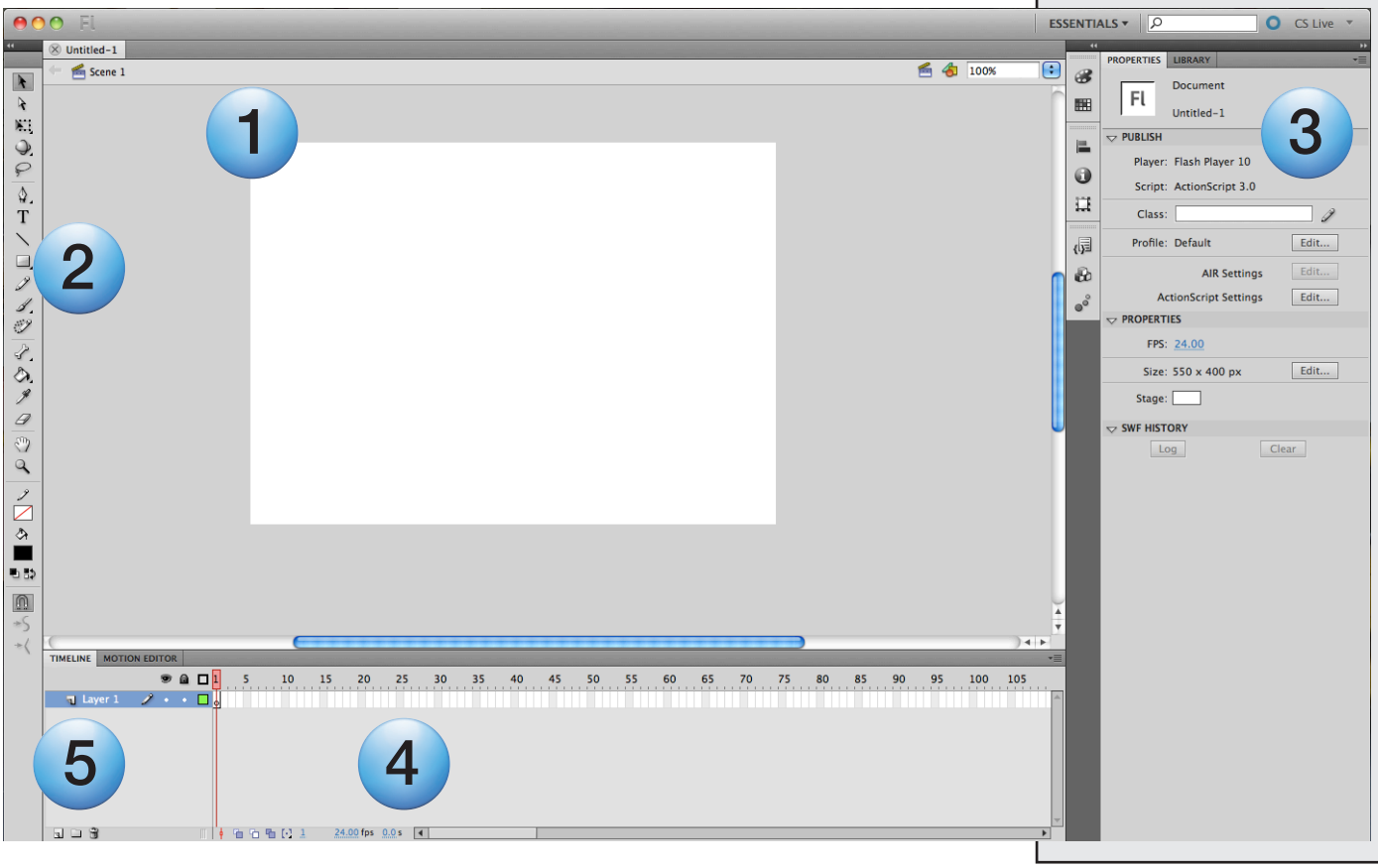
Create New

ActionScript 3.0

ActionScript: the programming language within Adobe Flash. ActionScript 3.0 is the most recent version of this language.

Flash CS5 Interface

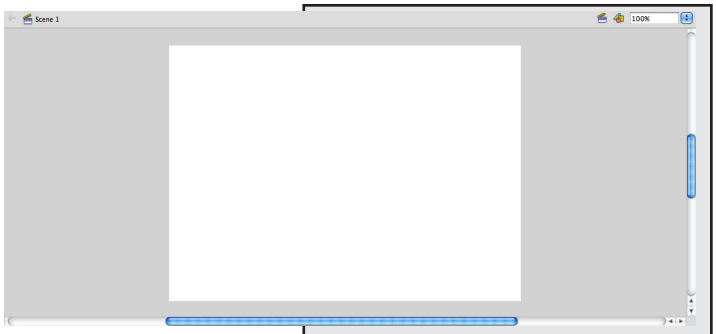
1. Stage
2. Tools
(see textbook p.32)
3. Property Inspector & Library Panels
4. Timeline & Frames
5. Layers



Adobe Flash CS5 **Introduction**

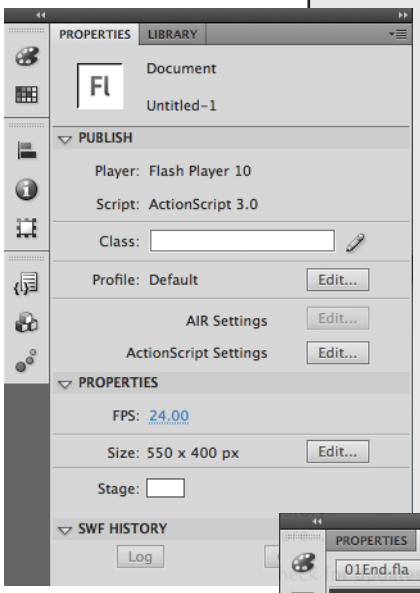
1. Stage

The area your audience will see when you export out your final project. The Stage size, color and other properties like Frames per Second can be set using the Property Inspector when the Stage is selected.



2. Tools

Allow you to select, resize, and do a wide variety of other manipulations to graphics on the Stage. Use tools to draw graphics, type text, select items, and fill areas in with color. See page 32 in the text for a description of all Tools in the toolbar.



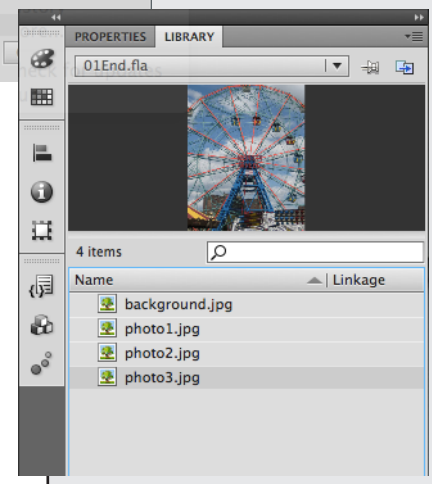
3 Important Stage Properties:

FPS: frames per second. Controls the animation speed.
Size: width and height.
Color: background color.

3. Property Inspector & Library Panel

Property Inspector shows you attributes of selected items on the Stage or the entire Stage (width, height, placement of items, etc.).

The Library Panel is where all of your graphics, symbols, imported pictures, sounds are stored and organized. An instance of these items can be dragged out of the library and onto the Stage.

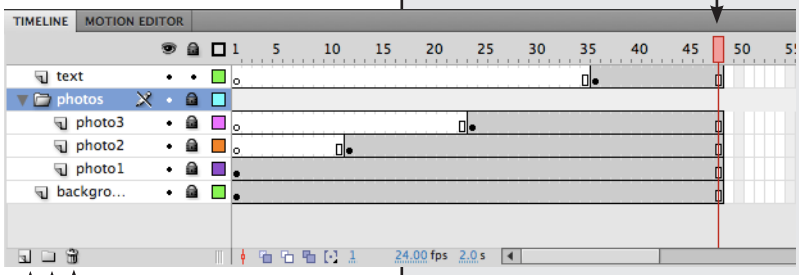


4. Timeline & Frames

The Timeline allows you to animate (moving, rotating, fading in and out, etc.) items over time based on the number of Frames per Second you've set your Stage to handle. The playhead will move across the timeline.

Frames are the "locations" on the Timeline you place your graphics, text, and symbols. Frames allow you to animate graphics, text, and sounds over time.

Playhead



5. Layers

Allow you to separate out individual components, symbols and graphics on the Stage. If you want a background image to be behind another graphic create two layers and put the background graphic onto a Frame on the lowest layer.

Delete Layer/Folder
New Folder
New Layer

Saving, Previewing, and Publishing a Flash file

Saving:

File menu -> Save As... name the file, a location, and click Save
Saving a file with a .FLA extension becomes your Flash project file. This file contains all of your layers, library graphics, symbols and other items, and animation/timeline effects you've created. You will use this file in Adobe Flash to make changes to the project. This file isn't necessary when uploading to a web site or distributing your project to an audience... it is only for your use as your original project file.

Saving a file with a .XFL extention will organize all of your library items (photos, graphics, sounds, video, etc.) into a Library folder on your computer. That way you can organize all of your Flash file material and share it with another Flash Developer so they can work on your file.

Preview (Test a Movie): *control + enter*

Control Key and Enter Key (Control menu -> Test Movie -> Test)
Testing a Movie will create a file with a .SWF extension in the same location as your .FLA file is saved. This file is the final project file which will playback and show your Stage/animation. Your .SWF file will playback in the Flash plug-in inside a web browser (if you have inserted/embedded it into a web page) or it will playback in the stand-alone Flash Player (which comes with Adobe Flash).

Publish:

File -> Publish Settings
Publish Settings will allow you to control which types of files and settings are published when you go to finally publish out your Flash project. Options include publishing to HTML (a web page), Image types, and/or Projector Files (Flash projects packaged with the Flash Player) which creates an executable file a user double clicks.

File -> Publish Preview
Publish Preview will give you a preview of how your file will look when it is published to the settings you set in Publish Settings.

File -> Publish
Publish will save out the file(s) with the setting you have chosen in the Publish Settings.

Adobe Flash **Player**

Check Flash Version: http://www.adobe.com/flash/about
Download Flash Plug-in: http://get.adobe.com/flashplayer/

2 Important Flash File Types:

1. .FLA

Project file you use in Adobe Flash with all of the layers, timeline animations, and library items. FLA icon is shown below:

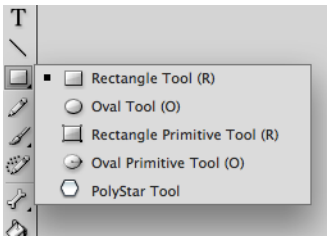
2. .SWF

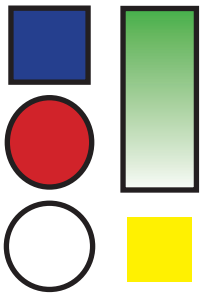
Final animation file that plays back in the Flash Player or Flash Plug-in (in a web browser). Adobe Flash comes with a stand-alone Flash Player but you must download the Flash Browser Plug-in at http://www.adobe.com. SWF icon shown below:

Graphics

Drawing tools, strokes and fills

Flash contains many tools used to draw basic shapes. In the tools panel you will find a pen tool, line tool, pencil tool, and brush tool. With these tools can you can move beyond the basic shapes and draw your own graphics.

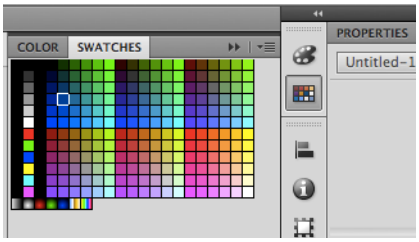




Creating and editing shapes

There are other drawing tools included as well. The Rectangle Tool (and other tools under that menu) allow you to draw basic shapes that can then be combined to form more complex drawings.

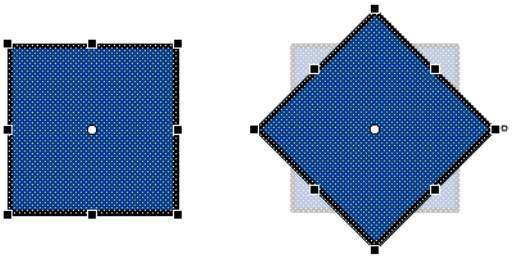
These shapes can contain a fill color (or gradient) and/or a stroke (line around the fill). The Swatches Panel (shown at right) shows many of the colors you can choose from for fills and strokes.



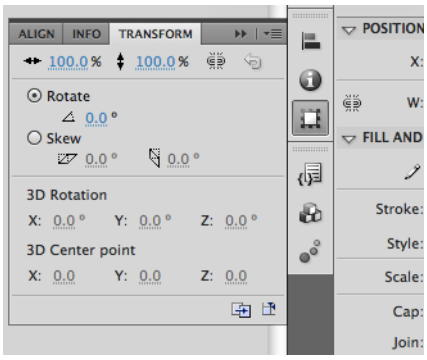
Shapes can be edited by using the Free Transform tool. This tool allows you to grab a handle and resize, reshape and rotate the object you have selected. First select the whole shape you want to transform by double clicking on the shape with the Selection tool (dark arrow). This will select both the stroke and fill of the shape. Then choose the Free Transform tool and resize or rotate your shape. While you resize or rotate in Flash CS5 you will see a "ghosted" version of the original shape so you can compare the original to the new resized/rotated shape.

selection tool

free transform tool

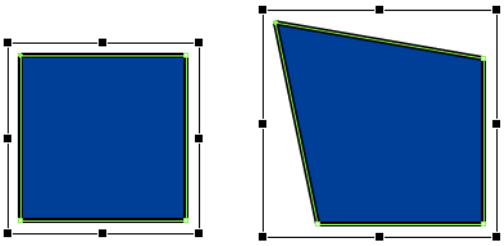


If you have a specific sizing or rotation you want to apply to your shape then you can use the Transform Panel (shown at right). With a shape selected you can type in a new value for width and height and/or rotation values to make exact changes to these values.



You can also use the Subselection Tool (white arrow) to grab single points on the stroke of a shape. Using this tool and selecting a stroke will show you a green thin line around a shape. The Subselection tool allows you to select a single point (or multiple points holding down the shift key while selecting your points) and dragging that point(s) to a new location.

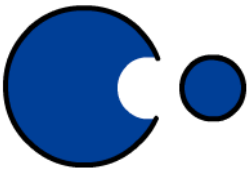
subselection tool



Graphics

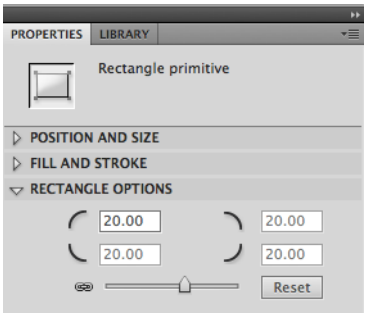
Drawing modes

In Flash there are 3 drawing modes to work in:
Merge Mode- use this mode to create unique shapes by combining and erasing into shapes. This Merge Mode is the default mode of drawing in Flash.



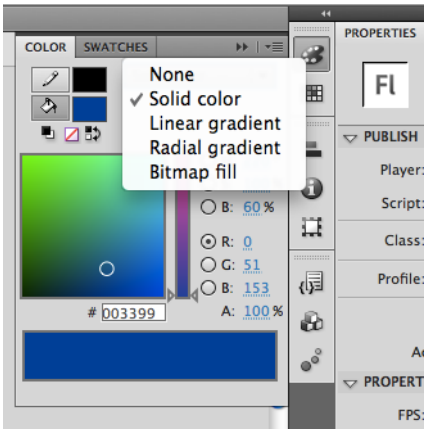
Object Mode- use this mode where you want the shape to be considered a single object which won't combine or erase using other shapes. To make an Object Drawing choose the drawing tool you wish to draw with and click on the Object Drawing Icon (box with a circle inside).

Primitive Mode- allows you to modify the corner radius of a rectangle or oval shape in the properties panel after the shape has been drawn using the rectangle or oval primitive drawing tool.



Gradient and bitmap fills

Gradient colors can be used to fill a shape. Near the Properties Panel you will see a small painters pallete icon. If you click that icon the Colors Panel will open (show at right). From here you can drop down the menu that says "Solid color" and instead choose a linear gradient, radial gradient, or bitmap fill.

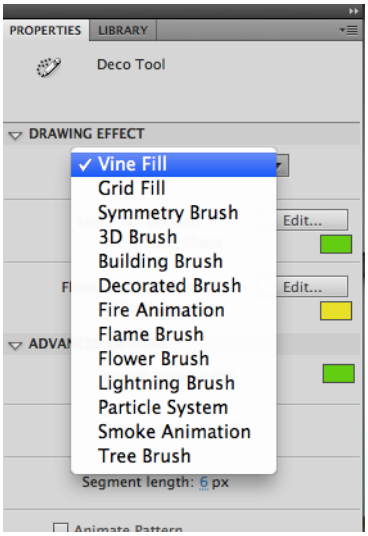


Linear Gradients are straight lines of color changes where as Radial Gradients look more like a circle or ball shape.

A Bitmap fill is a special type of fill where you choose a graphic/ image stored on your computer to serve as the fill item. For instance, if you have a photo of sky/clouds you could use that photo as a fill on a shape in Flash. Bitmap fills are usually used to add realism to a filled in shape.

Patterns and the deco tool

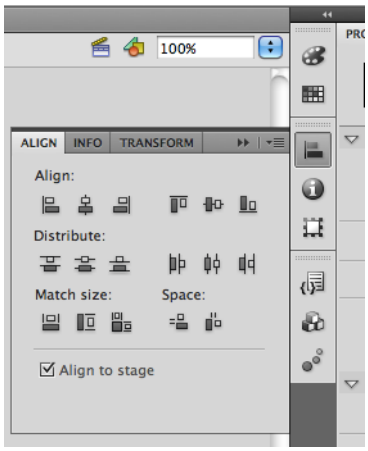
In Flash you can make custom Patterns to "paint" with. Flash also includes many brushes to draw with a tool called the Deco Tool. This deco tool will fill a shape (or the Stage) with a repeating decorative pattern or you can create some interesting animated effects using the Fire or Smoke Animations.



Graphics

Align, break apart, & group

Aligning objects on the stage can be done easily with the Align Panel. To align to objects select both with the Selection tool (dark arrow) by dragging the mouse in an area around both shapes. With both objects selected open the Align Panel and choose how you want to align the objects (top, middle, left, right, bottom alignment). You can also align an object (or multiple objects) to the Stage.



Break apart allows you to disconnect aspects of an object. Objects that typically broken apart are text you've entered and want to animate individual letters/characters or Object drawings that you drew and want to modify as merge mode shapes. To Break apart an item select the item and press Control and B (or go to the Modify menu and Break apart).

selection tool

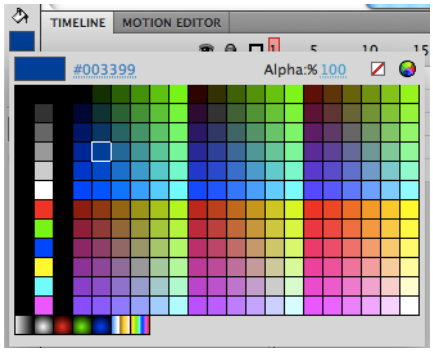
Group objects/items allow you to temporarily combine two or more items together and move them around on the screen as if they are one item. To Group items together select the items and press Control and G on the keyboard (or go to the Modify menu and Group). Ungroup items by selecting that group and pressing Shift, Control and G.

Curves

Curves can be drawn/edited in a few different ways. The Pen Tool allows you to draw very specific curves. After drawing an object you can also use the Selection Tool (dark arrow) and hover over a stroke around a shape. Clicking down on the stroke and dragging will create a curved shape (shown at right).

Transparency

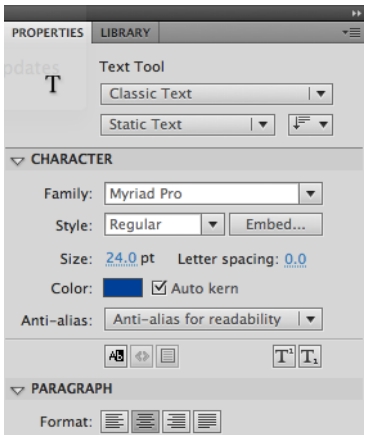
Colors of shapes you draw can take on a transparency allowing you to see through shapes and graphics. In Flash transparency is referred to as the Alpha level. 100% Alpha is completely opaque (filled in solid). Any level set under 100% will show a transparency through the object.



Text

Text can be added to the Stage in Flash just like typing text into any text editing program. Choose the Text Tool and determine the size, color, typeface, and other properties of the text using the Properties Panel. Then click the mouse on the Stage and type text. A new feature of Flash CS5 is a change to TLF text. TLF (text layout framework) text allows you to control more aspects of the text and create layouts similar to paragraph settings in Adobe InDesign. Or you can choose Classic text to control the traditional text functions in Flash.

text tool



Symbols

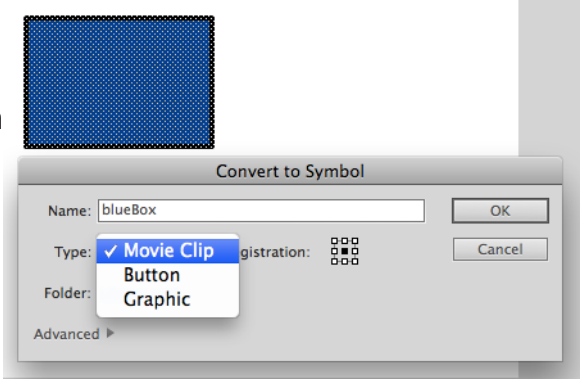
Import artwork

File menu -> Import -> Import to Stage (or Import to Library)

Flash allows you to import a wide variety of files into your Library or directly onto the Stage for use in your Flash projects. Examples include JPG photographs, MP3 sound files, drawings created in Adobe Illustrator and more. If you choose to import to library those assets can then be dragged and dropped onto the Stage. Depending on the type of file you choose you may be presented with a variety of importing options.

Create a symbol and symbol types

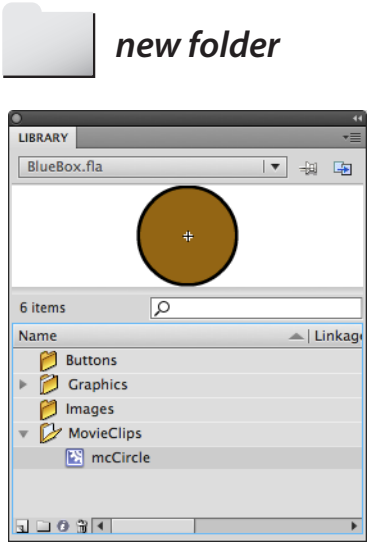
There are three types of symbols that can be created in Flash: Movie Clips, Buttons, and Graphics. To convert a shape to a symbol you select the shape with the Selection tool (dark arrow) and press F8 (Modify menu -> Convert to Symbol). You will see a Convert to Symbol box display with a drop down menu for the three symbol types. Choose the type you want and give that symbol a name. Then click OK. Your symbol will appear in the library and can be dragged to the stage to create an instance.



Movie Clip: these symbols have their own timeline and can contain their own separate animation.
Button: these symbols are used to create user interaction. Buttons can be scripted to control aspects of your Flash project at playback using ActionScript.
Graphic: these symbols are similar to Movie Clips but they cannot be referenced by ActionScript (making them much less useful) because they can't be given a name.

Managing symbols in the library

Managing your assets in the Library will make it easier to find and edit symbols. You can create folders to make it easier to find your different types of library assets.



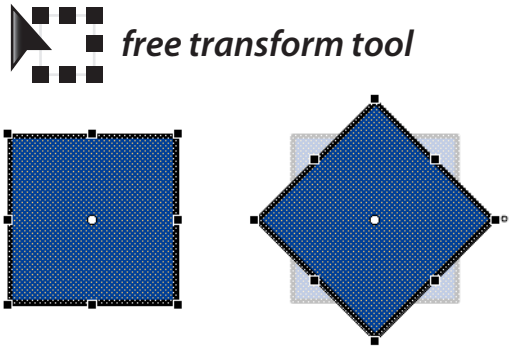
Symbol Type	Naming Convention	Example
MovieClip	mcSymbolName	mcAircraft
Button	btnButtonName	btnPlay

Instance Type	Naming Convention	Example
MovieClip	instanceName_mc	aircraft_mc
Button	instanceName_btn	play_btn

Symbols

Editing symbols and sizing

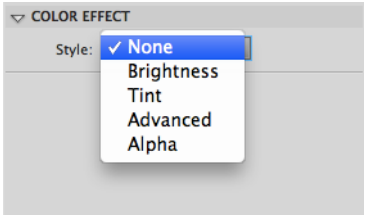
You can edit a symbol on the Stage or in the Library by double clicking on the image (either on Stage or Library). You'll be in the image editing mode where you can edit size, shape, color, thickness of the stroke and more. Any edits made to the symbol will be changed in the library and any instances of that symbol you have on the Stage.



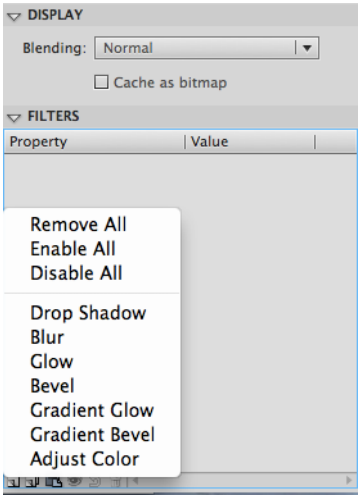
In the image editing mode changes can be made after selecting the symbol and making appropriate changes in the Properties Panel or by using the Free Transform tool.

Symbol properties

Symbols contain their own Color Effects in the properties panel. The effects include Brightness, Tint, Advanced and Alpha (transparency).



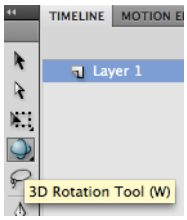
Symbols also can take on Blending Options and Filters. Blending options allow you to control how your symbol looks when positioned over other objects on the Stage. Options include adding Hard Light, Darkening, Inverting Colors and more.These Blending Options work in the same way as in Adobe Photoshop.

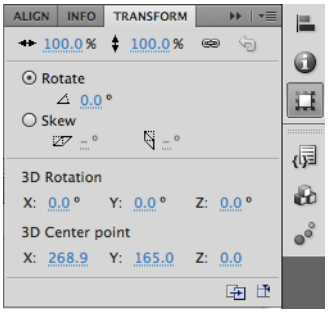


Filters are especially useful in creating a more professional look right within Flash for your graphics. Filters in Flash include Drop Shadows, Blurred edges, Beveling, Gradient Glows and more.

3D space

One of the last major developments in Adobe Flash is the addition of a 3D Rotation Tool and 3D Rotation properties in the Transform Panel (this was added in Flash CS4). This tool and panel attribute can be changed to allow for rotation of a symbol in 3D space. Objects in Flash are still 2D symbols but within Flash their appearance can be rotated in 3D space.

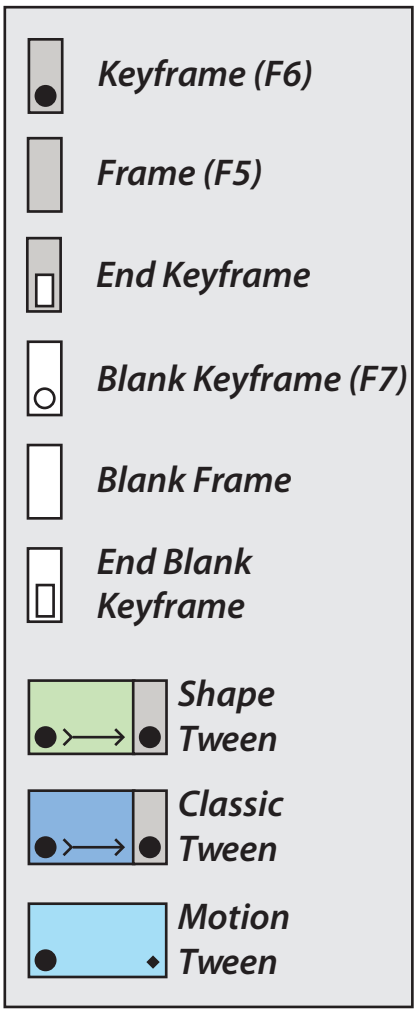




Animation

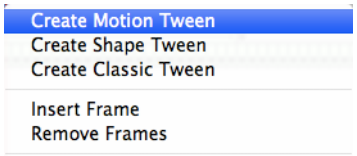
Position, scale, rotation

Shape Tweening can help you acheive a few basic styles of animations on your drawings in Flash. Setting a shape in an initial state on a beginning keyframe you can then copy that shape (or draw an entirely new shape) onto a new keyframe and change several properties of that shape. Changing the position on the stage, the scale of a shape (size), and the rotation of a shape are all shape properties that can be animated (either individually or you can change any or all of these aspects in one shape tween animation). Shapes can also have the transparency (alpha level) of the stroke and/or fill color tweened to produce fade in and fade out effects across the timeline.
Symbols can be animated using Class Tween or Motion Tween. Classic is the traditional symbol animation whereas Motion Tweening is a more recent addition to Flash adding more control over symbol animation with the addition of an automaticaly generated motion guide and the addition of the Motion Editor Panel.



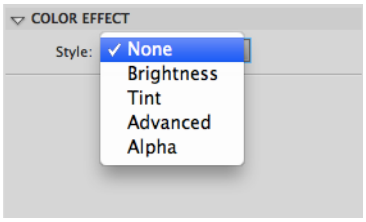
Pacing & timing animation

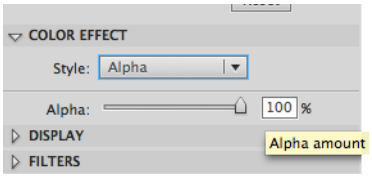
Frames per second can be used to control the speed of the animation. Typically the human eye sees about 24 - 30 frames per second as a smooth motion/animation (in video production you typically work at 29.97 frames per second). Also you can add more or fewer frames between keyframes and this will increase the time (slow your animation) or decrease the time (speeding up your animation). Simply click on the timeline in between keyframes on a layer you have a shape, classic or motion tween set up and click on the F5 key (add frames keystroke). The F5 key will add one additional frame lengthening the animation (slowing it down) each time you hit F5. To remove frames you press Shift F5 with a frame selected between two tweened keyframes and you can remove frames (speeding up an animation). You can also click the mouse down on a keyframe and move it along the timeline to increase or decrease the pacing.



Animate transparency (and other color effects)

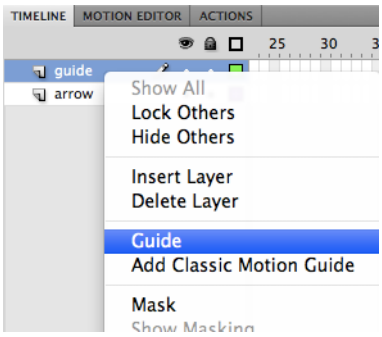
Transparency animation can be used to produce fade in/fade out effects on your shapes and symbols. If you are animating a symbol then choose the first keyframe and in the Properties Panel under Color Effect drop the Style menu down (shown at right) and select Alpha. If you are animating a fade in lower the initial alpha level down to 0%. The last keyframe can then be set to 100% alpha and your classic or motion tween will display a fade in effect from completely transparent to fully opaque. You can also animate the other color effects.

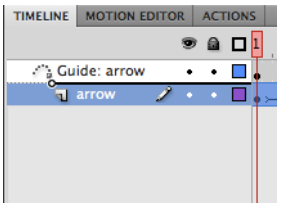




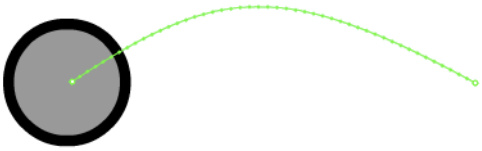
Animation

Path of motion





1. Guides: When you create a Classic Tween you can draw a guide path for that animation to follow along on a new Layer. Using any of the tools which draw a stroke (rectangle tool, oval tool, brush, pen tool, and the pencil tool) you can create a guide path (straight lines, curved arcs, zigzags, or any shape). Right click on that layer and convert it to a Guide. Then take the Classic Tween layer and using the mouse click and drag it up slightly to the Guide Layer to that the Classic Tween layer indents just under the Guide Layer. This will associate the Guide with the Classic Tween. Snap your beginning keyframe symbol to one end of your guide path and snap the ending keyframe to the other end of your guide path. Your Classic Tween will follow along the guide path when animating.



2. Motion Guides: When you create a Motion Tween you will automatically be given a Motion Guide on which you can animate your symbol. The Motion Guide can be shaped using the Selection Tool (dark arrow) and curving the guide to create an arc path along which the animation will occur. You can also use the Subselection tool (white arrow) to click on the end points of your motion guide path and adjust the amount of arc to the path. The entire Motion Tween can be easily moved to a new location on the Stage by using the Selection Tool (dark arrow) and drag and dropping the Motion Path to a new Stage location.

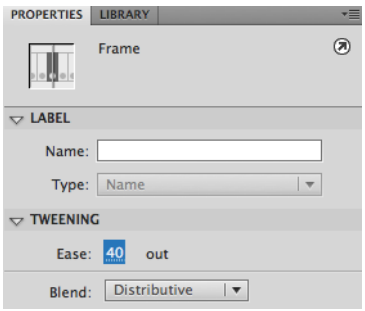
Symbol animation

Symbol animation is done using the Classic Tween or Motion Tween. Your Movie Clip or Graphic Symbol contains it's own timeline which functions independently of the main Flash timeline. Inside your Movie Clip or Graphic the shapes drawn can have a shape tween applied to it which runs independently of the main timeline. This is used to incorporate shape tweening and motion tweening at the same time. For instance if you have a rocket ship graphic symbol you want to animate in an arc across the screen from left to right but also want that rocket symbol to have a shape tween of fire coming out of the back of the rocket you can "nest" a shape tween animation of the fire inside of a graphic symbol which has a motion tween to make the rocket go across the stage. When nesting animations keep in mind how many frames the "child" animation occurs over compared to the "parent" animation. If these don't sync up you may end up with unusual results.

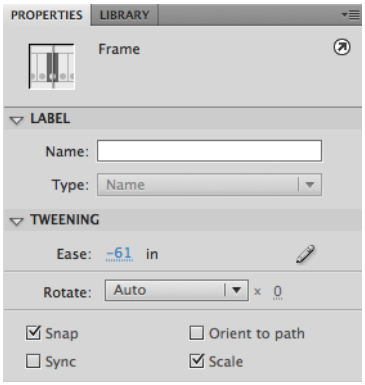
Animation

Easing

Using Easing you can control the speed at which the animation moves. Easing In an animation speeds up the animation as it approaches the end keyframe. Easing Out slows an animation down as it moves toward the end keyframe.
Easing In: Accelerates towards the end keyframe (think of a car accelerating away from a stop sign gradually building up speed).
Easing Out: Decelerates towards the end keyframe (think of a car slowing down approaching a stop sign. The car gradually slows to a complete stop).

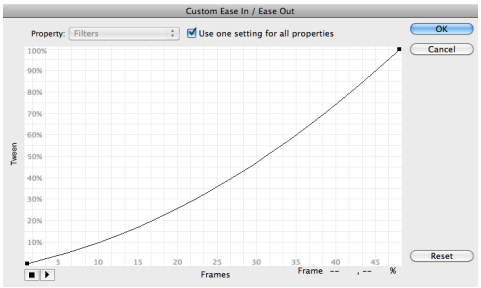


Shape Tween animation has a basic Easing applied to it by using the Properties Panel shown at upper right. Type in a number (-100 to 0 to 100) to assign a level of easing to the animation.

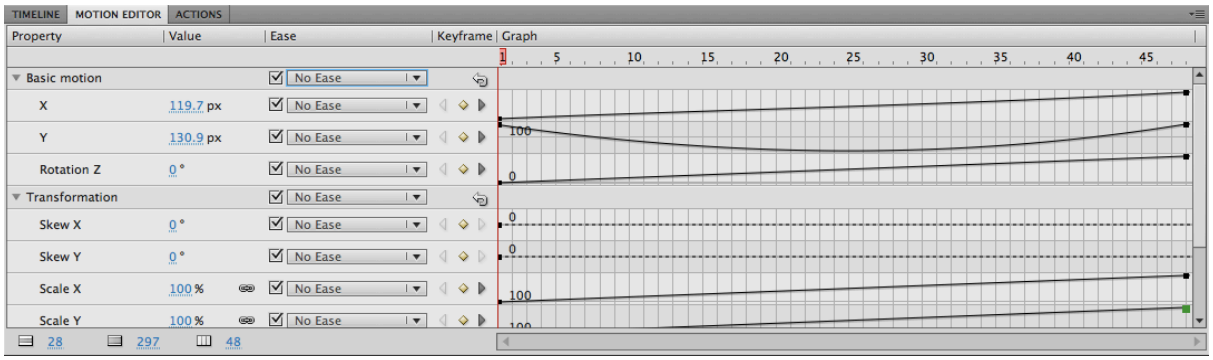


Classic Tween animation has the same basic Easing option in the Property Panel but gives you a bit more control over the exact Easing of the animation when you click on the Edit Easing button (looks like a pencil off to the right of the Ease value). This Custom Easing dialog box allows you to change the slope of this graph chart to modify the easing to your own personal choice.

edit easing



Motion Tween animation has even greater control using the Motion Editor Panel. This panel shows you exactly which property you are animating by how much value and even allows for easing to be added to that animation.



3D space animation

Another property you can animate in Flash CS5 is the 3D transformation property. Symbols can be animated by changing the ending or starting keyframes 3D Rotation allowing you to create 3 Dimensional looking animation.