

Type in Motion  
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Handout 03  
[Caprette.41@osu.edu](mailto:Caprette.41@osu.edu)

Topics:  
Shape Tweening  
Shape Hints

### Shape Tweening

Shape tweening is changing a shape into another shape over the span of some frames. Shape tweening is meant to work on editable graphics whereas motion tweening is made to work on symbols or grouped objects. To shape tween text within Flash 5, remember to select it and go to the <Modify> menu, select <Break Apart>. With shape tweening, you can still change a graphic's color, size, and location. However, the rotate feature you had available in the Frames panel with motion tweening will not be available with shape tweening. Keep in mind that if you change the location of the shape on the stage, Flash will shape tween it in a straight line.

It is a good idea to place shape tweened objects on separate layers. For example, if you want to change the shape of two objects on your stage into two separate and different shapes, put those objects on different layers. Otherwise, if they remain on the same layer, Flash won't know which ending shape is the target for a particular beginning shape. You may get unpredicted results.

The options available under shape tweening in the Frames panel are "easing" and "blend." Easing, just as in motion tweening, controls the speed of the shape change either at the beginning or end. An "ease in" or negative value in easing will make the object start slow and then speed up. An "ease out" or positive value in easing will make the object start out faster and then slow down at the end. Set the "blend" option to "angular" if you'd like to preserve sharp corners and straight lines within a shape. Set the "blend" option to "distributive" if you'd like to smooth out the shape during the tween.

Note: Flash 5 will not warn you, or prevent you from shape tweening a group or symbol unless you have "Flash 4 Frame Drawing" selected under the "General" tab of the "Preferences" dialogue box. To make sure "Flash 4 Frame Drawing" is on, go to <Edit> <Preferences>, <General>, make sure there's a check mark next to <Flash 4 Frame Drawing> under <Timeline options>. The warning shows up as a triangle with an exclamation point in it, at the bottom of the Frames panel.

Shape hints are tiny round markers, labeled a-z that you can place around the edges of the starting and ending shape to control the inbetween shapes. They are placed by going under the <Modify> menu, and choosing <Transform><Add shape hint>. In general, it is safest to stick with simple shapes for shape tweening. Using complex shapes and shape hints does not always work the way you expect. You can end up with some stringy, or spaghetti like shapes, which you may not like, or you may think are happy accidents.

Exercise: Turn the “o” in the word “flower” to a flower shape.

1. Type in the word “flower” on the stage-note I used Arial Black font.
2. Go under the <Modify> menu, and choose <Break apart>.
3. Create a new layer, and <Edit> <Cut>, <Edit> <Paste in place> the “o” onto the new layer in frame 1. Name this new layer “o.”
4. Select one frame 36, and then “shift select” the other frame 36. <Insert> a <Keyframe>. You should see keyframes placed at frame 36 in both layers now. Click on each frame one individually now, and in the Frames panel, set both frames 1 to “shape tween.”
5. In frame 36 of the first layer, select individual letters and move them horizontally to space the letters of the word apart. This is to create room for the “o” to grow flower petals.
6. Click on frame 36 of layer 2, select the “o.”
7. You may want to zoom in on the letter “o” a little bit at this point. Go to the tool palette and click on your “subselection” tool (the open arrow). Now click back on the outline of the “o” in order to get the anchor points and path around it to show up.
8. If you click on the pen tool at this point, and click on an area of the path that has no anchor point, an anchor point will be added. The pen tool will have a little plus symbol next to it when it is going to add an anchor point on the path. Just add points in between the existing ones.
9. With the subselection tool, grab and drag every other point to create flower petals around the “o.” To select a point, just click on it with the subselection tool. If you want to change the bezier handles, or add them, “option” drag the point. Stop dragging when you think your petal is wide enough.  
Important: Make sure you don’t have any open loops between adjacent flower petals, i.e. don’t let the flower petals touch. Delete points if you have to, in order to keep adjacent petals contiguous and separated. Otherwise, the shape tween will not be able to maintain the open circle of the “o” which becomes the open circle of the flower.
10. Make any color changes to the shapes you want by selecting each shape, and selecting a different color beside the paint bucket in the tool palette.
11. Go under the <Control> menu and choose <Play> to test the movie.

## Exercise 2: Using shape hints to control a shape tweening.

1. We'll have the flower shape now grow a stem from its bottom. We'll have it grow out between two petals.
2. <Insert> <Keyframe> in frame 48 of the "o" layer. The stem will grow from frame 36 to frame 48. Select frame 36 and set it for shape tweening within the Frames panel.
3. On the other layer, you'll need to extend it to fit the rest of the movie. Select frame 48 here, and <Insert> <Keyframe>. Click on the frame 36 keyframe of this layer, and <Insert> <Clear Keyframe> to remove it. You should have one continuous shape tween arrow for this layer now.
4. On frame 48 of the "o" layer, change the shape of the flower to add the stem between the bottom petal and the one to the right. Use the subselection and pen tool. Just try clicking on one inbetween anchor point and dragging it out to create the stem bottom. If you <Control> <Play> the movie at this point, the stem may not transform itself the way you intended. We'll add shape hints to correct this.
5. Click back on frame 36 of the "o" layer with our flower on it. Zoom in on the flower. Go to <Modify> <Transform> <Add shape hint> to add the first shape hint. It will show up as a little round circle with a lower case "a" in it. Drag it onto the path of the flower where the stem will start to grow. We will place the shape hints in left to right or clockwise order. So, place this first shape hint on the right side of the bottom petal.
6. Place another shape hint, "b." Place it at a junction between the bottom petal and the one to its right. Create another shape hint, "c", and place it on the left side of the petal to the right of the bottom one.
7. Click on frame 48 of the o layer. The "c" shape hint will be stacked on top. Drag it to the upper right corner of the stem. Drag the "b" shape hint to the bottom of the stem. Drag the "a" shape hint to the upper left corner of the stem.
8. <Control> <Play> to see if it worked.
9. Don't be frustrated if it doesn't work quite right. Shape tweening, I've found, is not a perfect tool. You might try tweaking the location of the shape hints to see if you can get the shape tween that you had in mind. However, don't waste hours on it, or it will drive you mad.
10. To prevent the movie from looping, we'll add a "stop" action to an actions layer in the very last frame. Add a new layer and name it "actions." Drag it to the bottom of the stack of layers. This is a convention to place the actions layer at the bottom of the stack. During the publishing of a movie, Flash will load layers from the bottom up by default. Jump to frame 48 and <Insert> <Keyframe>. Make sure your "actions" panel is open. Go to <Window> <Actions>. Select it if it is not checked. A panel called "Frame Actions" will open up. Click on the plus symbol, drag down to "Basic Actions", drag to "stop" and release to select. The action will show up in the panel to the right. Now either Publish your movie to view it, or <Control><Test Movie>.

### Another shape tween exercise:

For the animation, we will create a drip, which becomes the dot of the “i” in the word “drip.”

1. Type in the word “drip” on the stage. Choose a large font. I’m using Georgia bold. Drag it roughly to the center of the stage. Increase the kerning between the letters a little.
2. <Modify><Break apart>. Select just the dot to the “i” and move it to a new layer. Name the layer “dot.”
3. Click in frame 36 of one layer, and shift click to select frame 36 of the second layer. <Insert> <Keyframe>.
4. Click back on frame 1 of the dot layer. Drag the dot to the top of the stage directly above the “i.”
5. Zoom in on the dot. Use the subselection and pen tool to change its shape to a tear drop.
6. Click in frame 1 of the dot layer. In the “Frames” panel set “tweening” to “shape.” <Control> <Play> to test the shape tween.
7. You can adjust the shape of the dot/drop by adding shape hints around the perimeter of the object. It is a good idea to keep the shape hints in a clockwise direction instead of randomly placing them.
8. I’m going to create a squash and bounce back effect to the drop when it hits the top of the “i.” Click in frame 48 of the dot layer, and <Insert> <Keyframe>. Select frame 42 and <Insert> <Keyframe>. Select frame 36 and set it to shape tweening within the Frames panel. Do the same for frame 42.
9. In frame 42, select just the drop and alter its shape to reflect a squash.
10. In the first layer, add a keyframe in frame 48. Go to frame 36 and <Insert> <Clear keyframe>.
11. <Control> <Play> to test. You should see your dot squash when it first hits the invisible barrier above the “i” and then bounce back.