

# The Essentials of **Drawing** in Photoshop



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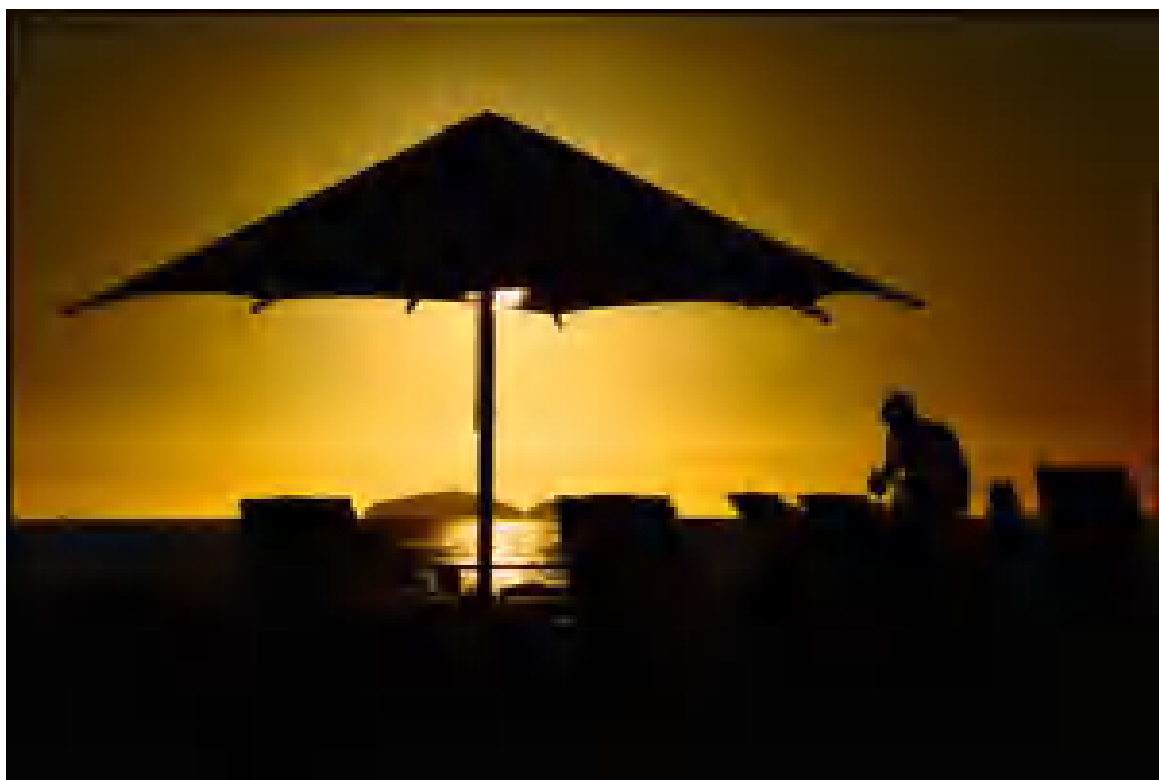


You are probably already familiar with the basics of Photoshop. In this book we will explore basic and intermediate drawing techniques, and get a better understanding of just how useful Photoshop can be. You will learn about the basic tools and their uses in Photoshop. You will also learn which tools to use and how to draw shapes, paths, and vector images. There is even a how-to guide to converting images from Photoshop to both Flash and Illustrator. This book will make it easier for you to get the most out of Photoshop's drawing capabilities.

## **The Essentials of Drawing in Photoshop**

|  |           |
|--|-----------|
| <b>Chapter 1: Tools and Their Uses</b>               | <b>6</b>  |
| <b>Chapter 2: Drawing Shapes and Paths</b>           | <b>31</b> |
| Working with the Pencil Tool                         | 31        |
| Working with the Pen Tool                            | 34        |
| The Freeform Pen Tool                                | 39        |
| The Magnetic Pen Tool                                | 41        |
| Working with the Brush Tool                          | 39        |
| The Brushes Palette                                  | 44        |
| Working with the Shape Tool                          | 45        |
| Drawing Shapes                                       | 53        |
| Shape on Shape Layers                                | 60        |
| Multiple Shapes in a Layer                           | 62        |
| Drawing Custom Shapes                                | 64        |
| Editing Shapes                                       | 64        |
| Saving Shapes  | 67        |
| <b>Chapter 3: Vector Drawing Techniques</b>          | <b>69</b> |
| Shape Tool Options                                   | 69        |
| More Shape Options                                   | 72        |
| Geometry Options for Shapes                          | 74        |
| Geometry Options for Polygons                        | 75        |
| Line Geometry Options                                | 77        |
| Custom Shape Geometry Options                        | 77        |
| Vector Masks   | 79        |
| Manipulating Shapes                                  | 81        |
| <b>Chapter 4: Converting From Photoshop to Flash</b> | <b>84</b> |
| The Conversion Process                               | 84        |
| Converting PSD Files                                 | 87        |
| Importing Do's and Don'ts                            | 87        |
| Importing PSD Files                                  | 90        |
| Importing Multiple Layers                            | 92        |

|  |           |
|--|-----------|
| <b>Chapter 5: Converting From Photoshop to Illustrator</b> | <b>95</b> |
| <b>File Options</b>  | <b>97</b> |
| <b>Converting Partial Images</b>                           | <b>98</b> |



# Chapter 1: Tools and Their Uses



This chapter will help you become familiar with Photoshop's basic and advanced tools, their locations, and their uses. When you open Photoshop, click windows at the top of the screen and drag down to tools and click. This will give you access to your basic set of tools. The tool bar will open up on the left side in a single column. Clicking on the double arrows at the top of the tools bar will bring the tool bar to a double column format. Not all of your tools will show up here. To access the hidden tools go to the top of your screen and select edit, then preferences, then general. You also can easily go to the tool you want to use, right click on it and press the letter that corresponds to the tool you want. Whenever you place your mouse over the icon of a tool, it will give you the name or keyboard shortcut. If you would like to turn this off, go to the preferences screen again. Then in the interface section you will be able to turn it off.

Now we will break down Photoshop's tools and their uses. Use this as a reference until you are familiar with all of the tools and the different things you can do with them. The options in Photoshop are almost limitless, and these tiny tools bring your visions to life.

### **Move Tool**



This tool does exactly what its name implies; it moves things. Moving layers is the most common use for this tool. Holding down the shift key will limit movement to only horizontal or vertical. The quick key for the move tool is the letter V.

### **Rectangular Marquee Tool**



You use this tool to make a rectangular selection on the image you are working on. Using this tool will limit the effects of other tools and actions to the selected part. To create a perfect square hold down the shift key and drag



your selection. To set the center of your rectangle to the spot where your mouse began, hold down the alt key. After your selection is set, if you need to move it press the space bar.

### **Elliptical Marquee Tool**



To find this tool click and hold down the mouse and a pop-up window will appear. Here you will be able to select the elliptical marquee tool. The elliptical marquee tool gives you an elliptical selection shape instead of a rectangular one. To make a perfect circle with the elliptical marquee just hold down the shift key. To set the center of your elliptical shape to the spot where your mouse began, hold down the alt key. After your selection is set, if you need to move it press the space bar and move it to where you want it.

### **Single Row and Column Marquee Tools**



To find this tool, click and hold down the mouse and a pop-up window will appear. Here you will be able to select the elliptical marquee tool. The single



row marquee tool lets you select an entire row of pixels while the single column marquee tool lets you select an entire column of pixels.

### **Lasso Tool**



The lasso tool gives you the freedom to make a selection in any shape you want. Just click your mouse and make the shape you desire. To close your selection, either click the start point or double-click and it will go away. Pressing the L button will automatically select this tool.

### **Polygonal Lasso Tool**



With the polygonal lasso tool, you can create selections with a series of straight edges. Instead of holding down your mouse like with the lasso tool, you click on various points to make your selections. Pressing shift + L will toggle your lasso tools. Press L repeatedly to scroll through lasso tools until this tool is selected.

## **Magnetic Lasso Tool**



For areas in your image that have very defined edges, the magnetic lasso tool is what you want to use. Click at the starting point of your selection and drag along the edges of your selection. Fastening points are automatically made, but can be made manually by just clicking where you want it.

Pressing shift + L will toggle your lasso tools. Press L repeatedly to scroll through lasso tools until this tool is selected.

## **Magic Wand Tool**



You will use this tool when you are selecting a color range. Depending upon where you click, it will select a section of color, or transparency. To make your selections more precise, go to the top and select the option bar and change the tolerance. To select this tool without using your mouse, press the W key.

## Quick Select Tool



When you want to make selections faster, the quick select tool is here to help. This tool allows you to make selections with brush options. The quick selection tool uses a rounded brush tip to paint a selection. While you are dragging, the selection will expand outward and find defined edges automatically. Select this tool without using your mouse by pressing shift + W.

## Crop Tool



Using the crop tool gives you the ability to select a specific section you want in a image. Use the crop tool and open the box over the area of the image that you want to keep. By either pressing enter or double-clicking, it will remove the rest of the image except for the part you have selected. If you do not like the part you have cropped, just simply go to edit at the top of your screen and choose undo, or press ctrl + Z. Select this tool without using your mouse by pressing the C key.

## **Slice Tool**



The slice tool splits an image into smaller sections with straight edges that go together similar to a jigsaw puzzle. This tool is used more when it comes to web design. To use the slice tool, click and drag over the area you want to make a slice on. Photoshop will automatically make the number of slices necessary once you release the mouse button. Your active slice will remain highlighted. Select this tool without using your mouse by pressing the K key.

## **Slice Select Tool**



The slice select tool is just the next step once you slice an image. This tool allows you to select and modify your slices that exist. To select this tool without using your mouse press shift + K

## Healing Brush Tool



This tool repairs any imperfections that you may have on your image. Select this tool without using your mouse by pressing the J key.

## Spot Healing Brush Tool



This tool will take any small, unwanted blemishes from an image and clean them up a little easier than the healing brush tool. This tool will take pixels from around the area you are cleaning and make its own sample to match the lighting, tone, and texture. Select this tool without using your mouse by pressing shift + J.

## Patch Tool



The patch tool fixes areas that need repair with pixels from other areas of the image. The patch tool acts just like the healing brush: matching the shading, texture, and lighting of sampled pixels for the area you first selected. Also,

you can clone isolated spots in the image. Select this tool without using your mouse by pressing shift + J.

### **Red Eye Tool**



Those hated red eyes you get from the flash of your camera. Photoshop gives you a better result when fixing the red eye. Select this tool without using your mouse by pressing shift + J.

### **Brush Tool**



This is the most familiar tool of them all. It takes the color that you have selected and paints it on your image. Select this tool without using your mouse by pressing the B key.

### **Pencil Tool**



The pencil acts just like the paint brush, but instead it uses hard edges. Select this tool without using your mouse by pressing shift + B.

## **Color Replacement Tool**



This tool will allow you to replace a color without losing any detail in your image. Once you finish something and you like the design, just not the color, you can use this tool to make that change. Select this tool without using your mouse by pressing shift + B.

## **Clone Stamp Tool**



This tool does the same job as the healing brush tool, but leaves out the blending. It takes the information from the first area and places it on the second. To select this tool without using your mouse press the letter S.

## **Pattern Stamp Tool**



The pattern stamp tool allows you to paint with a pattern from the Photoshop library, or an original pattern that you created. Select this tool without using your mouse by pressing shift + S.



## History Brush Tool



Your history brush tool paints with the original information of your image. Clicking on windows then history and it will show you which history state it will be painting from. Select this tool without using your mouse by pressing the letter Y.

## Art History Brush Tool



This tool lets you paint stylized strokes from sources of data from a snapshot or history state. The art history brush tool lets you paint like the history brush except you get to change the options to create your own look. Select this tool without using your mouse by pressing shift + S.

## Eraser Tool



This tool is simple. Once you create something and you do not like it, click the eraser tool and erase it. If you are using layers, it will erase whatever is

on the layer you have selected. Select this tool without using your mouse by pressing the letter E.

### **Background Eraser Tool**



This eraser uses the color from the brush and removes it and the soft edges from your image. By doing this, the main image you want can be copied and the background color will not show up. To Select this tool without using your mouse by pressing shift + E.

### **Magic Eraser Tool**



This tool removes all the pixels that fit in the tolerance range you set. This tool is best used for backgrounds with a solid color. Select this tool without using your mouse by pressing shift + E.

## Gradient Tool



Takes your foreground color and your background color and blends them together. Click and drag the tool to create a gradient image. Select this tool without using your mouse by pressing the letter G.

## Paint Bucket Tool



Also called a Flood Fill Tool, this tool simply fills in the areas where you click with the foreground color. Once you switch to this your mouse will turn into a paint bucket. Select this tool without using your mouse by pressing shift + G.

## Blur Tool



This tool makes your image blurry. By clicking and dragging on a image it makes the area you are working have a blurred effect. Then more dragging

you do, the blurrier the area becomes. Select this tool without using your mouse by pressing the letter R.

### **Sharpen Tool**



The sharpen tool does the opposite of the blur tool. The sharpen tool sharpens an image by sharpening the edges in portions. Select this tool without using your mouse by pressing shift + R.

### **Smudge Tool**



This tool does is similar to the blur tool. The smudge tool blends the colors together. Select this tool without using your mouse by pressing shift + R.

## **Dodge Tool**



This tool lightens areas you select. If the area is black, the dodge tool is of no use and will not lighten. Select this tool without using your mouse by pressing the O key.

## **Burn Tool**



The burn tool does the opposite of the dodge tool. The burn tool darkens an area on your image. Select this tool without using your mouse by pressing shift + O.

## **Sponge Tool**



This tool changes the level of saturation of colors on the area you selected. Select this tool without using your mouse by pressing shift + O.

## **Pen Tool**



This tool creates your paths. Paths can be used to create selections or clipping paths. You also make straight lines and smooth vector shapes.

Select this tool without using your mouse by pressing the letter P.

## **Freeform Pen Tool**



This tool gives you freedom to draw while anchor points are placed automatically. After you are done drawing you can adjust where the anchor points are placed. Select this tool without using your mouse by pressing shift + P.

## **Add and Delete Anchor Point Tool**



When you add anchor points you have more control over your path. Deleting unnecessary points will reduce the complexity of the paths that you have created. Select this tool without using your mouse by pressing shift + P.

### **Convert Point Tool**



This tool allows you to edit vector shape masks and paths that already exist.

It converts corner anchor points to smooth anchor points and vice versa.

Select this tool without using your mouse by pressing shift + P.

### **Horizontal Type Tool**



This tool places vector-based text horizontally in a new layer. Select this tool without using your mouse by pressing the T key.

### **Vertical Type Tool**



This tool makes in a new layer, vector-based text vertically. Select this tool without using your mouse by pressing shift + T.



### **Horizontal Type Mask Tool**



This tool makes selections of type-shapes horizontally. Select this tool without using your mouse by pressing shift + T.

### **Vertical Type Mask Tool**



This tool makes selections of type-shapes vertically. Select this tool without using your mouse by pressing shift + T.

### **Path Selection Tool**



When working with paths, this is the tool you will use. The path selection tool selects and moves pieces of anchor points, existing paths, and vector shape mask segments. Select this tool without using your mouse by pressing the A key.

### **Direct Selection Tool**



This tool selects and moves whole existing paths, anchor points, and vector shape mask segments. Select this tool without using your mouse by pressing shift + A.

### **Rectangle Tool**



This tool makes rectangle shapes and paths, and fills with the foreground color you have selected. Select this tool without using your mouse by pressing the letter U.

### **Rounded Rectangle Tool**



This tool makes rectangle shapes and paths with rounded corners, and fills with the foreground color. Select this tool without using your mouse by pressing shift + U.

## **Ellipse Tool**



This tool makes ellipse shapes which are filled with your foreground color.

Select this tool without using your mouse by pressing shift + U.

## **Polygon Tool**



This tool makes polygonal shapes and paths which are filled with your foreground color. Select this tool without using your mouse by pressing shift + U.

## **Line Tool**



This tool makes line shapes and paths. Select this tool without using your mouse by pressing shift + U.

### **Custom Shape Tool**



This tool lets you create custom shapes and paths that will be filled with your foreground color. Select this tool without using your mouse by pressing shift + U.

### **Notes Tool**



This tool allows you to attach notes to your image. Select this tool without using your mouse by pressing the letter N.

### **Audio Annotation Tool**



This tool allows you to attach voice notes to your images. Select this tool without using your mouse by pressing shift + N.

## **Eyedropper Tool**



This tool takes the background and foreground and makes them both more defined. Select this tool without using your mouse by pressing the letter I.

## **Color Sampler Tool**



This tool gives you the chance to see the values of the colors in defined spots. Select this tool without using your mouse by pressing shift + N.

## **Ruler Tool**



This tool takes the angles and distances and calculates them in your work area. Select this tool without using your mouse by pressing shift + N.

## Count Tool



This tool counts the number of objects you may have in your image. You can do this manually by just clicking on the objects and Photoshop will keep up with the number of clicks you make. Select this tool without using your mouse by pressing shift + N.

## Hand Tool



The hand tool can move your whole image inside the window you are working in. This tool is best used when you are zoomed in and want to see another part of the image, you can use the hand tool to move over to that spot. Select this tool without using your mouse by pressing the H key.

## Zoom Tool



This tool allows you to see your image more closely. Holding the alt key zooms back out. If you have multiple windows open, hold the shift key

while clicking your zoom button and all your windows will zoom in. To return back to 100% just double-click the zoom button in the tool palette. Select this tool without using your mouse by pressing V.

## Foreground and Background



The box in front is your foreground and the one in the back is your background. The two small boxes are your default colors, which are black and white.



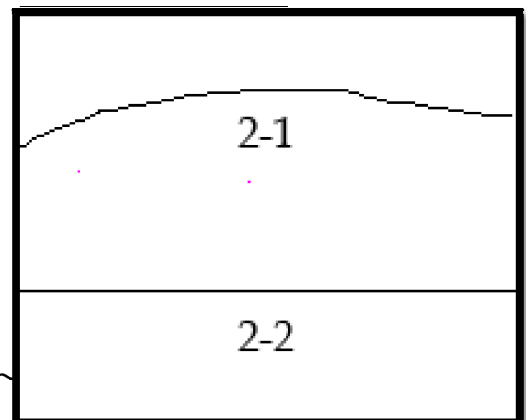


## Chapter 2: Drawing Shapes and Paths

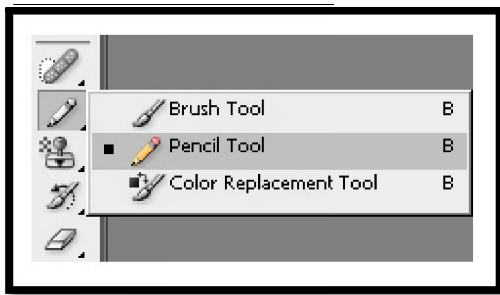
This chapter outlines everything you need to know about drawing shapes and paths in Photoshop. We will discuss the pencil and the brush, which are found not only in the tools palette, but within several other drawing and editing tools. You will learn how to make pencil and brush strokes, and create basic and more advanced shapes and paths. This chapter includes a more in-depth look at the tools used for drawing, as well as the options for these tools. Carefully peruse this chapter to get the most out of the tools used for drawing with Photoshop.

### Working With the Pencil Tool

There are many uses for the pencil tool. You can create freehand lines by simply clicking and dragging your mouse from one area of the canvas to another. This produces lines that are somewhat rigid and unrefined (figure 2-1). To make more concise lines you



can hold down the shift key and click various points on the canvas. Keeping the shift key depressed allows you to draw straight lines between each of the points that you click (figure 2-2). Enough talk, let's try it.



Choose the pencil from the tools palette. You will find it in the same menu as the brush. The default pencil tip will be 1 pixel. (If you wish to

choose a different tip, you can use the options bar and select the brush preset picker palette.) Now click and drag on the canvas to produce pencil strokes.

Try different line widths, opacities, and modes to produce different styles.

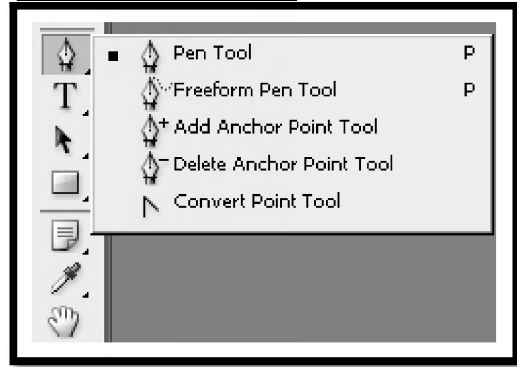
Now hold the shift key and click several different places on the palette. This draws straight lines between the points as we discussed previously.

Continue working with the pencil until you are familiar with the way it works and the things you can do with it.

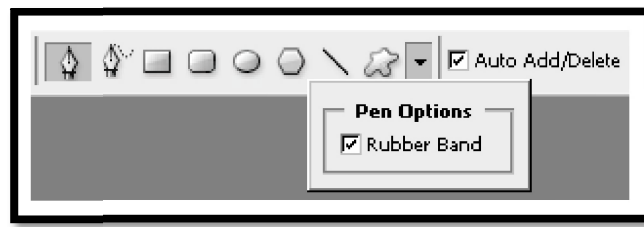


## Working With the Pen Tool

Photoshop has multiple pen tools. The standard pen tool draws with the greatest precision. The freeform pen tool draws paths as if you were drawing with pencil on paper, and the



magnetic pen option lets you draw a path that snaps to the edges of defined areas in your image. You can use the pen tools along with the shape tools to create complex shapes. When you use the standard pen tool, the following options are available in the options bar:



- Auto Add/Delete lets you add an anchor point when you click a line segment or delete an anchor point when you click it.
- Rubber Band lets you preview path segments as you drag between clicks.

Before drawing with the Pen tool, you can create a new path in the Paths palette to automatically save the work path as a named path.

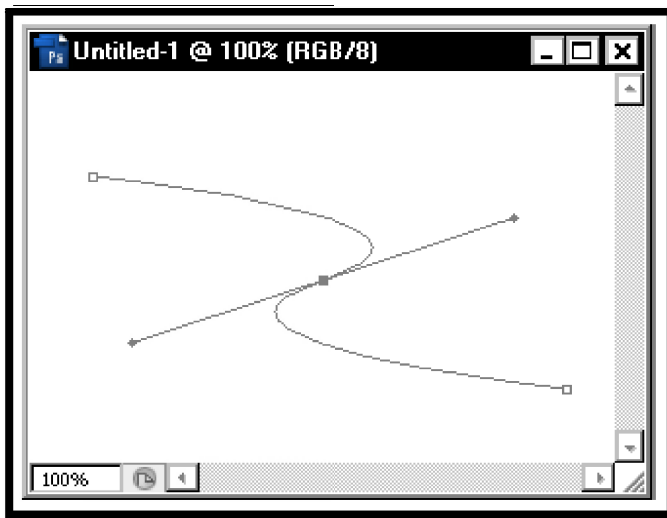
The easiest path you can draw with the pen tool is a straight line. Click the pen tool and create two anchor points. By continuing to click, you create a path made of straight line segments connected by corner points.

Let's try it. Select the pen tool. Position the pen tool where you want the path to begin, and click to define the first anchor point (do not drag). The first segment you draw will not be visible until you click a second anchor point. If you select the rubber band option to preview path segments and direction lines appear, you've accidentally dragged the pen tool. Choose Edit > Undo, and click again. When you are finished, click again where you want the segment to end (Shift-click to constrain the angle of the segment to a multiple of 45°). Continue clicking to set anchor points for additional straight segments. The last anchor point you add always appears as a solid square, indicating that it is selected. Previous anchor points become hollow, and deselected, as you add more anchor points. In order to complete the path, position the pen tool over the first anchor point. A small circle appears

next to the pen tool pointer when it is positioned correctly. Click or drag to close the path.







You can also create curved lines with the pen tool.

Create a curve by adding an anchor point where a curve changes direction, and dragging the direction lines that shape the curve. The

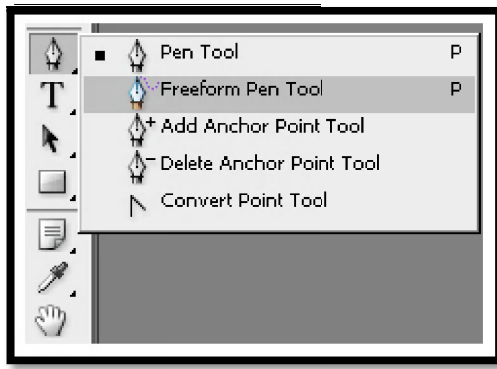
length and slope of the lines determine the shape of the curve. Drawing curves with as few anchor points as possible makes them easier to edit and your system can display and print them faster. Using too many points can also produce unwanted bumps in a curve. To prevent this, draw widely spaced anchor points, and practice shaping curves by adjusting the length and angles of the direction lines.

Let's practice. First, select the pen tool. Next, position the pen tool where you want the curve to begin and hold down the mouse button. The first anchor point appears, and the pen tool pointer changes to an arrowhead. The pointer changes after you start dragging. Drag to set the slope of the curved segment then release the mouse button. Extend the direction line about one third of the distance to the next anchor point you plan to draw. You can later

adjust one or both sides of the direction line. If you wish to constrain the tool to multiples of  $45^\circ$ , hold down the shift key.



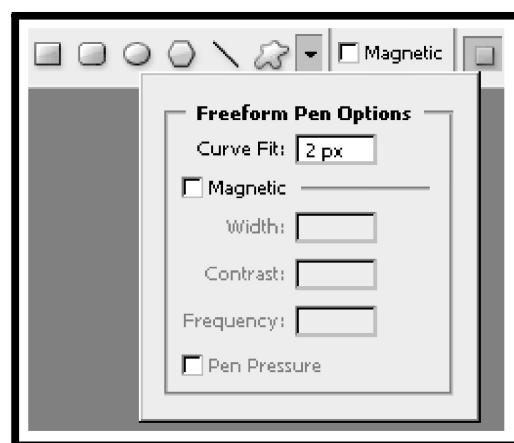
## The Freeform Pen Tool



This tool lets you draw just as you would with a pencil on paper. Anchor points are added automatically as you draw. You do not determine where the points are positioned, but you can

adjust them once the path is complete. The freeform pen tool is not for precision. If this is your goal, you should use the traditional pen tool.

To draw with the freeform pen tool, first select it. Curve fit allows you to control how sensitive the final path is to the movement of your mouse or stylus. Click the inverted arrow next to the shape buttons in the options bar, and enter a value between 0.5 and 10.0 pixels.

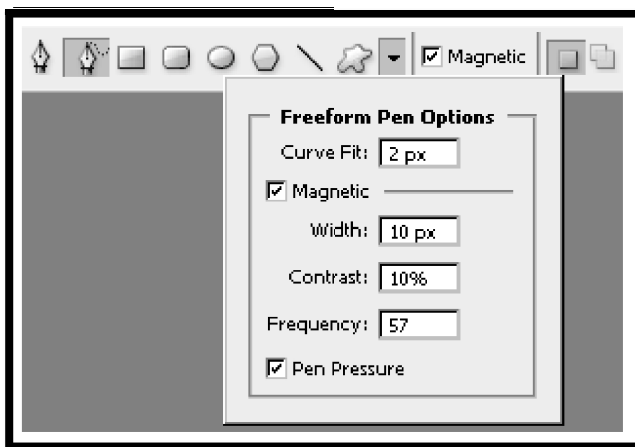


A higher value creates a simpler path with fewer anchor points. Now drag the pointer in the image. As you drag, a path trails behind the pointer. When you release the mouse, a work path is created. To continue drawing the existing freehand path, position the pen pointer on an end point of the path, and drag. To complete the path, release the mouse. To create a closed path, drag the line to the initial point of the path.



## The Magnetic Pen Tool

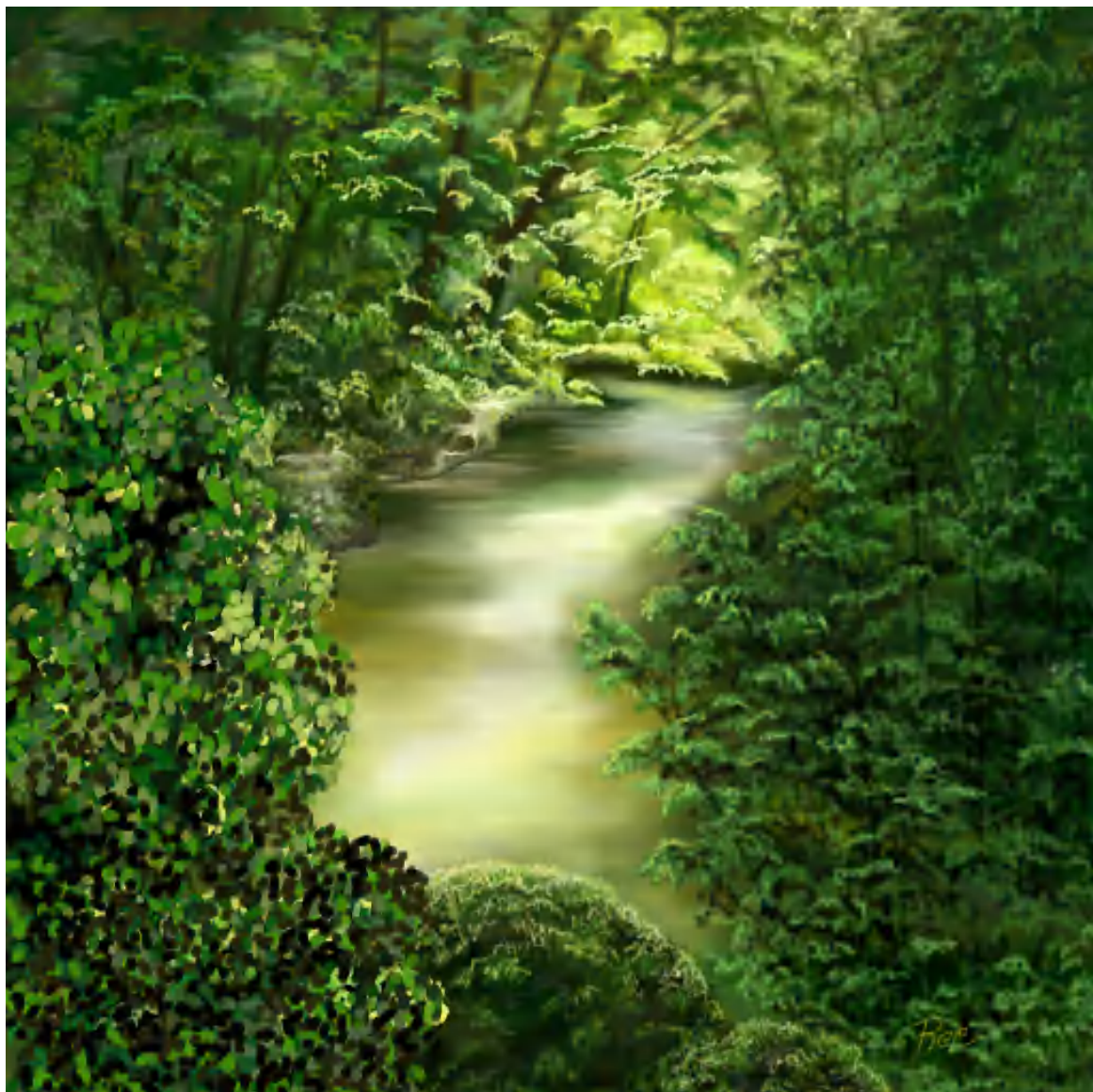
This tool is an option of the freeform pen tool that lets you draw a path that snaps to the edges of defined areas in your image. This tool allows you to define the snapping behavior using range and sensitivity. You can also control the complexity of the resulting path. The magnetic pen and magnetic lasso tools share many of the same options.



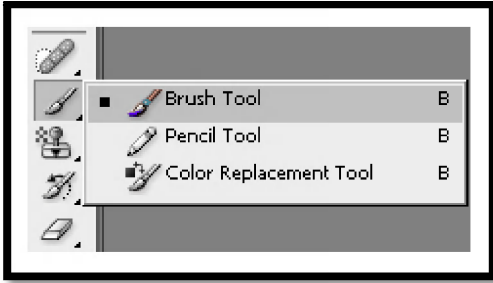
To convert the freeform pen tool to the magnetic pen tool, select magnetic in the options bar, or click the inverted arrow next to the shape buttons in the options bar and

select magnetic. You will then need to select some other options. To adjust the width, enter a pixel value between 1 and 256. The magnetic pen detects edges only within the specified distance from the pointer. To adjust the contrast, enter a percentage value between 1 and 100 to specify the contrast required between pixels for that area to be considered an edge. Use a higher value for low-contrast images. To adjust the frequency, enter a value

between 0 and 100 to specify the rate at which the pen sets anchor points. A higher value anchors the path in place more quickly. Users of a stylus tablet will need to select or deselect pen pressure. When this option is selected, an increase in pen pressure causes the width to decrease. Now click in the image to set the first fastening point. To draw a freehand segment, move the pointer or drag along the edge you want to trace. The most recent segment of the border will remain active. The active segment snaps to the strongest edge in the image and connects the pointer to the fastening point as you move the pointer. The magnetic pen will also periodically add fastening points to the border to anchor previous sections. Click once to add a fastening point manually if the border doesn't snap to the desired edge. This will keep the border from moving. Continue to trace the edge and add fastening points as needed. If you make a mistake, press delete to remove the last fastening point. Double-click to close the path with a magnetic segment.



## Working With the Brush Tool



The brush tool shares most of the basic features found in the Pencil tool, except the auto erase feature. The brush tool has many more options and available

uses than does the pencil tool. Possibilities are almost limitless when it comes to the brush tool. The brush is a basic tool used throughout Photoshop in many ways. You will need to master it as quickly as possible in order to get the most out of the program.

One big difference between the pencil and the brush is that the brush produces softer lines that are made smoother. This process is known as anti-aliasing. Anti-aliasing renders partially filled pixels along the edges of lines which produce the look of a more gradual fading. The human eye merges the transparent pixels making the line take on a smooth edge rather than looking jagged. Jagged edges are most visible in diagonal lines. Photoshop applies anti-aliasing to the edges of brush strokes, even in horizontal and vertical lines. The fuzzier the brush, the more semi-filled pixels are used to produce the effect.



## **The Brushes Palette:**

Before we get into using the brushes, you'll need to know how to locate them. Using the brushes palette, you'll be able to change the characteristics of preset brush tips and create your own brushes. You can also select brush presets, which will be outlined later in this chapter.

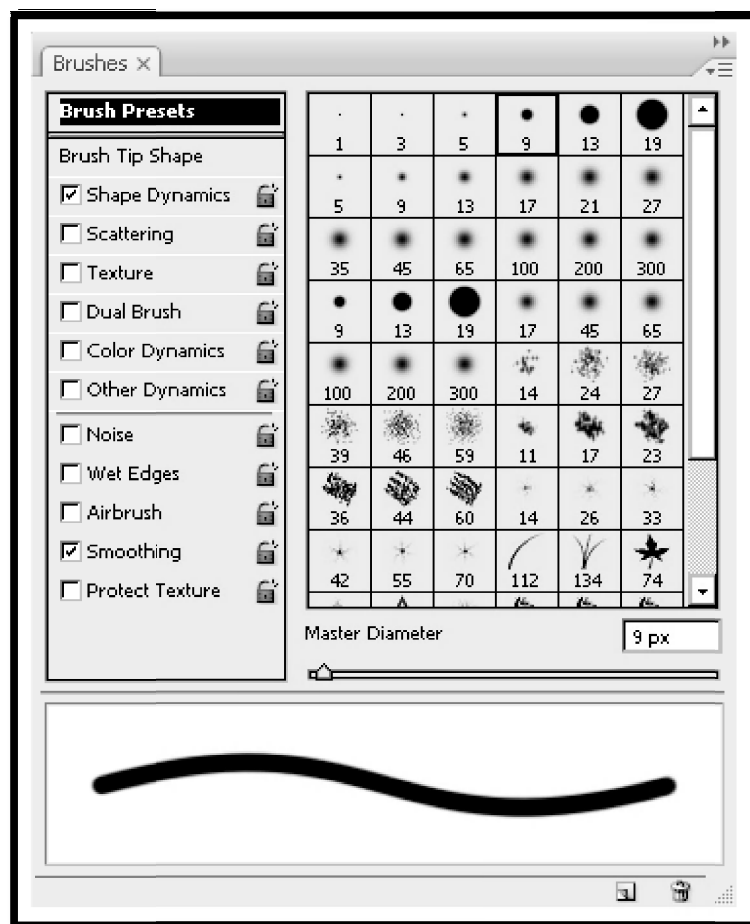
You can view the Brushes palette in several ways:

- ✓ In the options bar, toggle the brushes palette button
- ✓ Press F5 to open or close the brushes palette
- ✓ From the menu bar, choose window, then brushes
- ✓ Click and drag the brushes palette icon onto the Photoshop desktop to keep it visible while you work

The palette menu is user friendly and can be displayed as text only, thumbnail images, thumbnail lists, and stroke thumbnails. Once you have the brushes palette open, you will see several panes with lots of options.

- In the left pane is a list of brush properties and presets.

- In the right pane you will see brush tip sizes and types, with control options and properties you can set.
- In the bottom pane you can see a preview of the options you have selected.



When the brush tip shape tab is selected in the left column, a scroll box containing your brush tips is visible. The brush tip shape box has several different elements and we will discuss those now:



**Shape Dynamics:** Controls in this section include the amount of jitter produced when you draw a stroke, amount of fade, the size, the jitter angle, the roundness, among other options. Some of these options only apply when using a pressure-sensitive digital tablet. For more information on how to customize brushes for your tablet, check your tablet's manual. The Flip X and Flip Y jitter option flips the brush shape across the horizontal axis (X) or the vertical axis (Y). If your brush shape is an R shape and you select Flip X, your brush shape is a backwards R. Choose Flip Y and your brush shape is an upside down R shape. Choose both X and Y and it becomes an upside-down, backwards R shape.

**Scattering:** This controls the number and position of brush marks in a stroke. The higher the value, the higher the number of brush marks and the further apart they are. When you have both axes selected, Photoshop distributes the brush marks on a curve. Count controls the number of brush marks at each spacing point. The higher the value, the greater the number of marks.

**Texture:** This controls how you impart a texture pattern to a brush stroke, either one of Photoshop's preset textures or one of your own designs. If you

select invert you can reverse the light and dark pixels in the pattern. Scale sizes the pattern in each stroke.

Texture each tip shows each tip as it is stroked, rendering a more saturated effect. Depth controls how prominent the pattern appears within the brush stroke. Minimum depth specifies the minimum depth that the paint of each stroke shows through the pattern. Mode allows you to choose one of Photoshop's blending modes.

**Dual Brush:** With Photoshop, you may use two tips to draw with a single brush. This lets you select the characteristics of the second tip by using the same type of attributes, like diameter, spacing, and scatter, and applies them to the first tip. You can also modify the blending mode between the two tips.

**Color Dynamics:** This allows you to control your foreground and background colors and adjust how the color changes during a stroke. This allows you to create a multicolored brush. Changing this slightly gives the stroke a more natural, organic look. You can apply jitter to the hue, saturation, brightness, and purity of the colors, and even add randomness between the foreground and background colors as you draw a stroke.

Without color dynamics, the stroke color remains the same.

**Other Dynamics:** This option introduces randomness into the opacity and flow factors of a brush. This makes the brush stroke look more natural and less machine-generated. Experiment with all the dynamics to see how they can change your image. Remember that the flow and opacity settings in the brushes palette do not override those settings on the options bar.

The bottom sector of this pane has several options for brush tip characteristics:

**Noise:** Adds random pixels to brush tips, giving them texture and an organic quality. This option is more apparent in feathered brushes.

**Wet Edges:** The brush tip leaves a stroke that looks more like watercolor, with paint building up along the edges.

**Airbrush:** Gives the brush tip a soft, airbrushed look. The airbrush mode produces the spray effect you get with a normal airbrush. Holding the mouse down longer brings more paint from the tool, and produces wider airbrush strokes.

**Smoothing:** Evens out the curves when you are drawing arcs with the brush. This feature is more noticeable when you use a pressure sensitive tablet as we discussed previously.

**Protect Texture:** This option guarantees that all brush tips that use a texture use the same texture. This means that you can switch back and forth between brush tips while painting and still attain a constant texture.

**Toggling the Brushes Palette:** In the options bar in the far right is a palette icon that either hides or shows the brushes palette. This is the fastest way to access this palette no matter what tool or tip you are using.

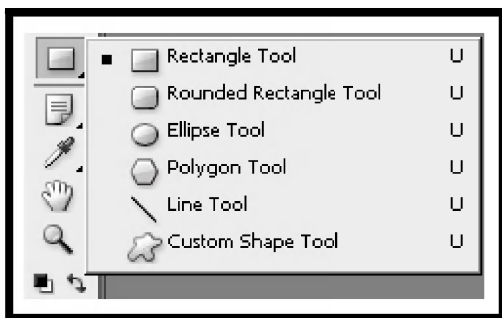
**Flow:** determines how quickly the tool applies the paint. You can set a flow rate from 1 to 100 percent by using the Flow slider or by typing a percentage directly into the text box. You might think of it as controlling how wet or liquid the paint is. At low flow rates, Photoshop applies the paint slowly so the color is not as intense; at higher flow rates, the paint quickly reaches its full strength as you drag.



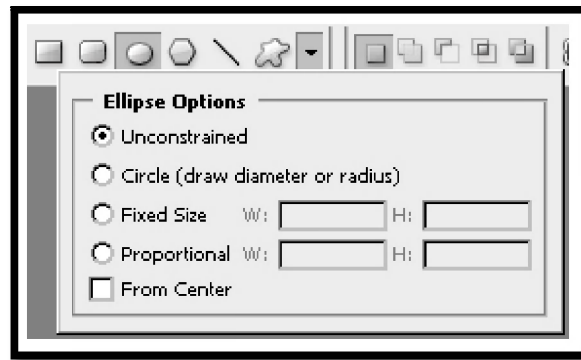


Now let's practice. Choose the brush tool from the tools palette or by pressing B (or shift + B if you used the pencil tool last). From the options bar, choose a brush tip from the brush preset picker, then select a mode and opacity just as you did with the pencil tool. Click and drag to paint, click and shift + click to paint straight lines, and press the shift key while dragging to limit the brush tool to vertical or horizontal lines. Press the Alt key (the Option key on the Mac) and click in any area of color to switch the foreground color to that color.

## Working With the Shape Tool



Before you begin, decide which shape you would like to use. Choose a shape from either the vertical toolbar or the options bar. Selecting a shape tool changes the available options in the options bar. To access shape tool options, click the inverted arrow next to the shape button in the options bar.



### Arrowheads:

- To add arrowheads to a line, select the line tool and then select start.

This will add an arrow to the beginning of the line. You may then select end to add an arrow to the end of the line. Select both options to add arrows to both ends. The shape options appear in the pop-up dialog box. Enter values for width and length to change the proportions of the arrowhead. Enter a value for the concavity of the arrowhead. The concavity defines the amount of curvature on the widest part of the arrowhead, where the arrowhead meets the line. You can also edit an arrowhead directly using the vector selection and drawing tools.

## **Circle**

- Restricts an ellipse to a perfect circle.

## **Defined Proportions**

- Renders a custom shape based on the proportions you set.

## **Defined Size**

- Renders a custom shape based on the size at which it was created.

## **Fixed Size**

- Renders a rectangle, rounded rectangle, ellipse, or custom shape as a fixed shape based on the values you enter in the Width and Height text boxes.

## **From Center**

- Renders a rectangle, rounded rectangle, ellipse, or custom shape from the center.

## **Indent Sides By**

- Renders a polygon as a star. Enter a percentage in the text box to specify the portion of the star's radius taken up by the points. A 50% setting creates points that are half the total radius of the star; a larger value creates sharper, thinner points; a smaller value creates fuller points.

## **Proportional**

- Renders a rectangle, rounded rectangle, or ellipse as a proportional shape based on the values you enter in the Width and Height text boxes.

## **Radius**

- For rounded rectangles, specifies the corner radius. For polygons, specifies the distance from the center of a polygon to the outer points.

## **Sides**

- Specifies the number of sides in a polygon.

## **Smooth Corners or Smooth Indents**

- Renders a polygon with smooth corners or indents.

## **Snap To Pixels**

- Snaps edges of a rectangle or rounded rectangle to the pixel boundaries.

## **Square**

- Constrains a rectangle or rounded rectangle to a square.

## **Unconstrained**

- Lets you set the width and height of a rectangle, rounded rectangle, ellipse, or custom shape by dragging.

## **Weight**

- Determines the width, in pixels, of a line.

Now that you are familiar with the tools used for drawing, let's delve deeper into drawing shapes. Refer back to the information we have covered here if you are unsure of how to carry out any of the tasks covered in the rest of this chapter.



## **Drawing Shapes**

A shape is a fill layer linked to a vector mask. This section will tell you more about how to draw, edit, and save shapes.

## Shape on Shape Layers

To create a shape on shape layer, first select a shape tool or a pen tool. Make sure that the shape layers button is selected in the options bar. To choose the color of the shape, click the color swatch in the options bar, and then choose a color from the color picker. Set tool options in the options bar. Click the inverted arrow next to the shape buttons to view additional options for each tool. To apply a style to the shape, select a preset style from the style pop-up menu in the options bar. Drag in your image to draw a shape. To constrain a rectangle or rounded rectangle to a square, to constrain an ellipse to a circle, or to constrain the line angle to a multiple of 45 degrees, hold down the shift key. To draw from the center out, position the pointer where you want the center of the shape to be, press the alt key (or the option key on a Mac), then drag diagonally to any corner or edge until the shape is the desired size.





## **Multiple Shapes in a Layer**

With Photoshop, you can draw separate shapes on a single layer. You can also use the add, subtract, intersect, or exclude options to modify the current shape on a layer.

Start by selecting the layer to which you want to add shapes. Next select a drawing tool and set tool-specific options. Then you will choose any of the following in the options bar:

### **Add To Shape Area**

- Adds the new area to the existing shapes or path.

### **Subtract From Shape Area**

- Removes the overlapping area from the existing shapes or path.

### **Intersect Shape Areas**

- Restricts the area to the intersection of the new area and the existing shapes or path.

## Exclude Overlapping Shape Areas

- Excludes the overlap area in the consolidated new and existing areas.

Now you can draw in the image. You can easily switch between drawing tools by clicking a tool button in the options bar.



## Drawing Custom Shapes

With Photoshop, you can draw custom shapes by using shapes from the custom shape pop-up palette, or save a shape or path to use as a custom shape. To do this, first you will select the custom shape tool. Next, select a shape from the custom shape pop-up palette in the options bar. There are many options for shapes, so if you don't find a shape you want in the palette, click the arrow in the upper right corner of the palette, and choose a different category of shapes. When asked to replace current shapes, either click replace to view only the shapes in the new category, or append to add to the shapes already displayed. Now just drag in your image to draw the shape.

## Editing Shapes

You can easily change the fill to a different color, a gradient, or a pattern by editing the shape's fill layer. You can also edit the shape's vector mask to modify the shape outline, and apply a style to the layer.

- ✓ To change the color of a shape, double-click the shape layer's thumbnail in the Layers palette, and choose a different color using the color picker.
- ✓ To fill a shape with a pattern or gradient, select a shape layer in the Layers palette and choose Layer > Change Layer Content > Gradient, and set gradient options.
- ✓ To fill a shape with a pattern or gradient, select a shape layer in the Layers palette and choose Layer > Change Layer Content > Pattern, and set pattern options.
- ✓ To modify the outline of a shape, click the shape layer's vector mask thumbnail in the Layers palette or Paths palette. Then change the shape using the shape and pen tools.
- ✓ To move a shape without changing its size or proportions, hold down the spacebar while you drag the shape.



## **Saving Shapes**

You can save the custom shape or path you created. To do this, look in the paths palette, and select a path. You can choose either a vector mask for a shape layer, a work path, or a saved path. Next choose edit, then define custom shape, and enter a name for the new custom shape in the shape name dialog box. The new shape appears in the shape pop-up palette. To save the new custom shape as part of a new library, select save shapes from the pop-up palette menu.





## Chapter 3: Vector Drawing Techniques

When drawing with vectors you must become familiar with using the pen tool. You must first understand what a vector is. Vectors are mathematical formulas that connect and locate geometric segments and objects, unlike normal images which use a pattern of pixels or just a specific number. An advantage of vectors is that no matter how you size it, it does not become choppy or look pixilated. When a vector is changed in any way, Photoshop automatically fills in the necessary pixels to keep the vector image looking perfect. Either curved or straight, vector images are created by segments and anchor points. Anchor points are the endpoints of your segments. At times vector images show up on your monitor as pixels, but don't think you did anything wrong. Your monitor works on a grid system that may seem to give them a jagged look.

### Shape Tool Options

Once you are ready to start, your first step is to select a preset shape from the tools palette. The easiest way to get there is simply pressing the letter U on your keyboard. The shape tools that are available for use are:

**Rounded Rectangle** - This tool is a rectangle that has rounded corners. You can select the radius of the rounded edges also by entering a desired number.

**Polygons** - You can select how many sides your polygon will have ranging from 3 to 100. There are geometry options that you can tweak if you would like.

**Rectangle/Ellipse** - In the options bar, you will find no parameters for these shapes. If you want to create a perfect square, or circle, just hold down the shift key while dragging the mouse. You can also draw the shape out from the center by holding the shift and alt key while dragging.

**Line** - You can set a fill color or assign a layer style with this tool. The line tool can be changed from 1 pixel to as much as 1000 pixels. By placing a parameter on the line, arrowheads will show up at the one of the ends or both of them.

**Custom** - Photoshop has a variety of preset shapes that you can choose from. Shapes vary from animals to musical notes. Like the rest of the shape

tools, holding down the shift key will create a perfectly even shape, and shift + alt will pull out from the middle.



## More Shape Options

Now that you have selected a shape, you can edit it with the following options:



**Shape Layers** - Allows you to create a shape in a new layer. This mode opens the options menu where you can choose a fill color or layer style. Also this option allows you to keep your shapes in different layers, giving you the ability to work on your shapes separately. Photoshop brings shapes together in a shape layer to a vector mask. Vector masks can either hide portions or show portions of an image.



**Paths** - This option creates the shape on the existing layer. The shape shows up as a path which can be edited using the pen tool, or from the paths palette.



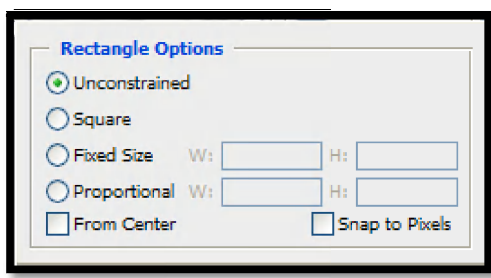
**Fill Pixels** - When using this option, make sure that your foreground color is the color you want to use. This option fills the shaped area with the foreground color. This mode's options include transparency of a filled area, anti-aliasing, and blend mode. One thing to be aware of is that you can't edit the shape created. You are only able to modify the pixels.

Select the options you would like to use, and drag your defined shape into the document. The shape will appear in the image window that is open. If you have selected shape layer mode, a rectangle filled with your foreground color will be in your image column. The shape will be in the mask column as a vector mask.



## Geometry Options for Shapes

To define the way the shape looks, you will need to adjust the geometry options. The geometry options are located in the options bar. Just click on the down pointing arrow. The geometry options are the following:



**Rectangular and Ellipse Shapes** - share the same geometry tools.

**Square** - Choose this option to make a perfect square or circle, depending on which shape you have selected.

**Proportional** - Choose this option to define the proportion or aspect ratio.

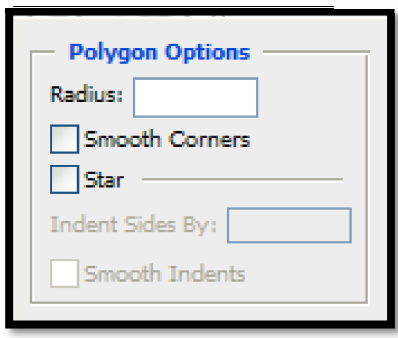
Enter a number into the W and H boxes to create your ratio. For example, if you place a 1 in the W box and 4 in the H box your ratio will be 1:4.

**Unconstrained** - Choose this option and Photoshop will define your size and proportion for you as you drag.

**From Center** - Choose this option and your shape will expand from the center of where you clicked.

**Snap to Pixels** - Choose this option and your pixels will be aligned on your shape.

### Geometry Options for Polygons



**Smooth Corners** - Choose this option and the corners of your polygon will become rounded.

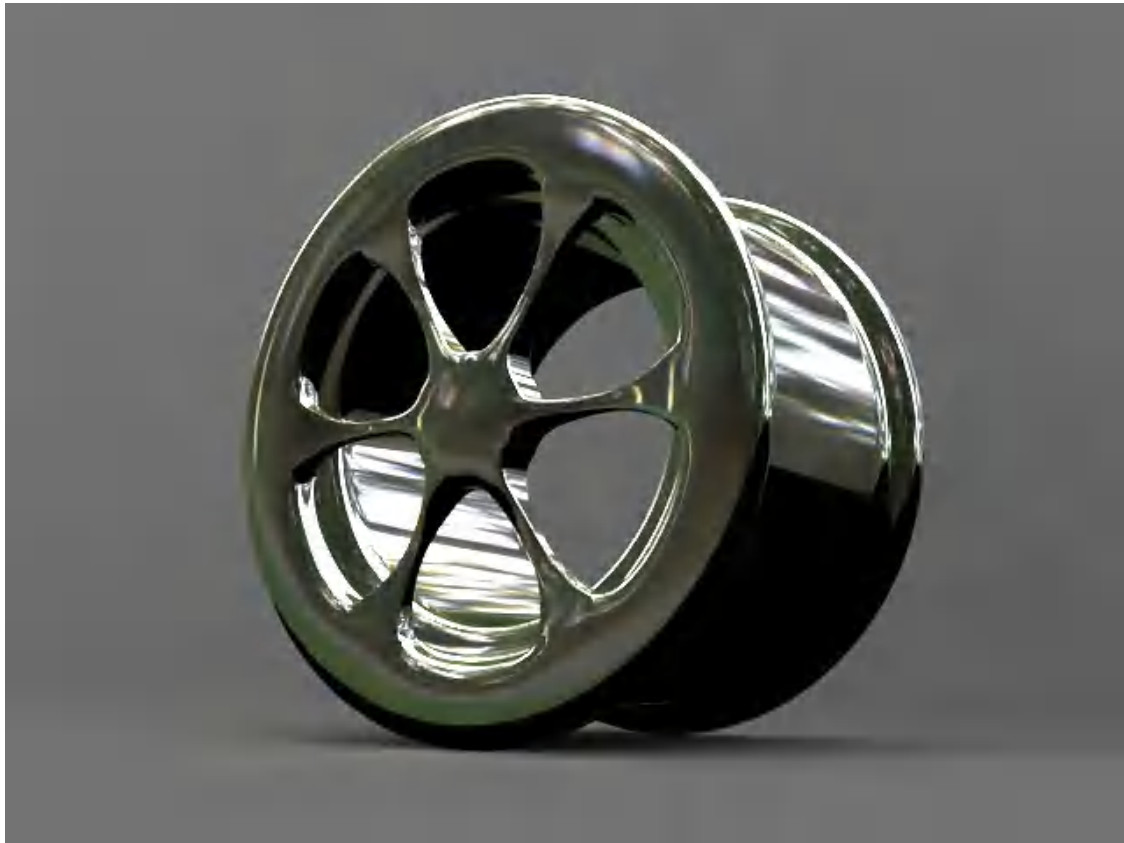
**Indent Sides By** - Choose this option to determine how far in your indents will go.

**Smooth Indents** - Choose this option to round off the corners of the polygon made by the indent sides.

**Radius** - Choose this option to set the radius of the rounded sides on your polygon. This option works only with the smooth corners option selected.

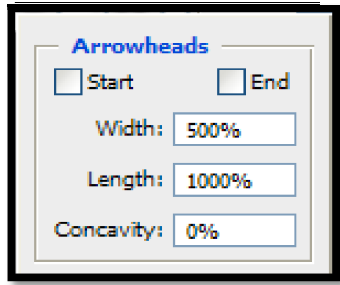
**Sides** - Choose this option to determine how many sides your polygon will have.

**Star** - Choose this option to make a shape like a star.



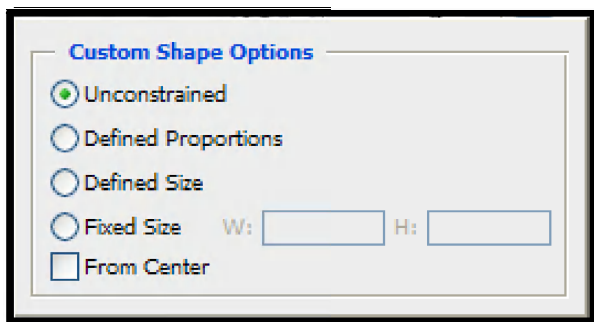


## Line Geometry Options



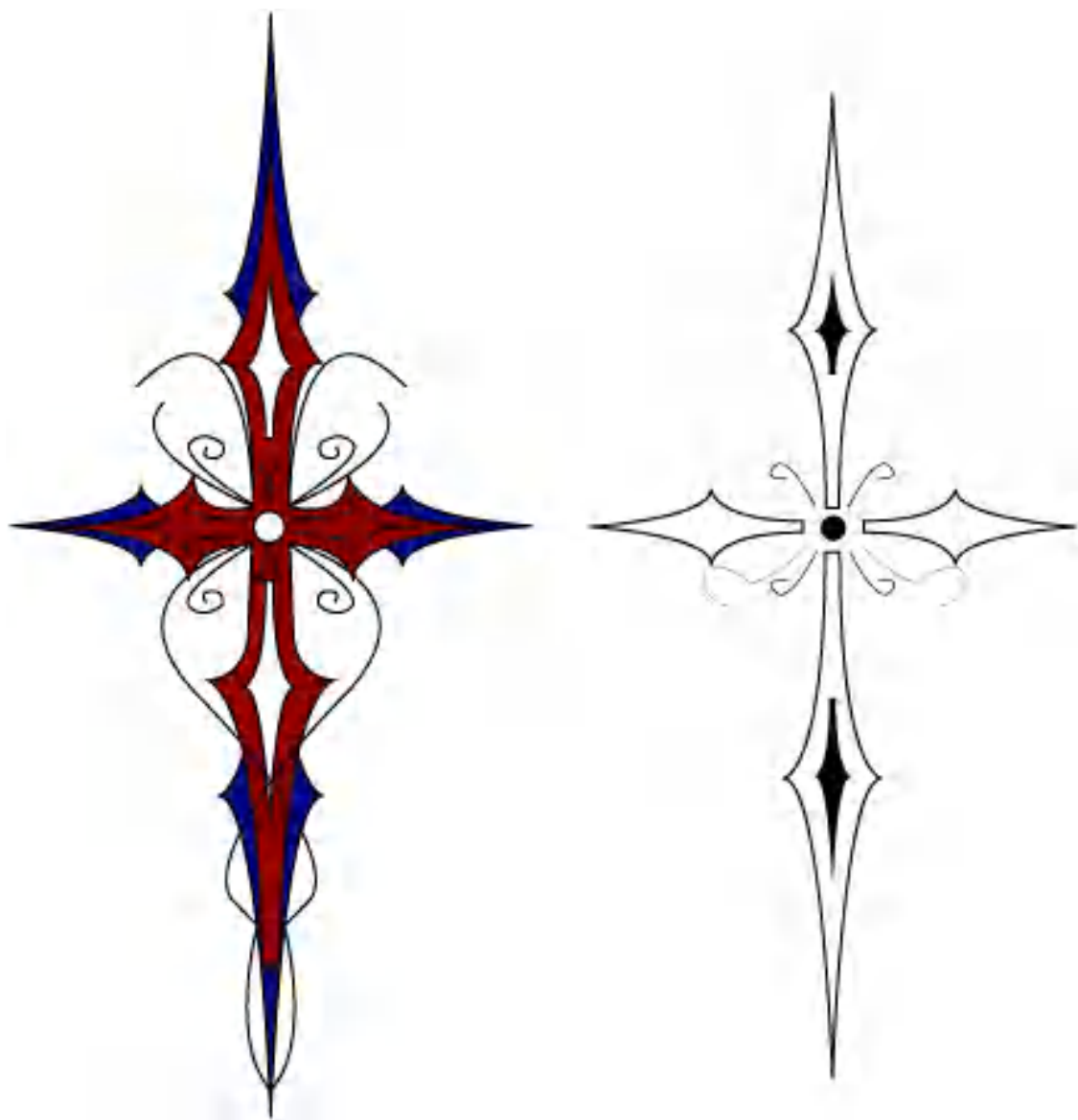
Line geometry options allow you to place arrow tips at end and start points of lines. There are options to change the way arrow tips look, as well as the width of the line.

## Custom Shape Geometry Options

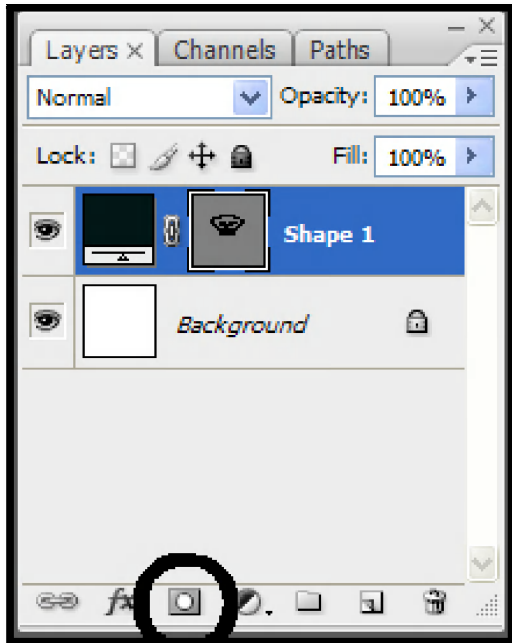


The custom shape options are the same as with other shapes, save this one exception:

**Defines Proportions** - Choose this option and Photoshop limits your new shape to the proportions of your pervious shapes. You can change the size but not the proportion of your original custom shape.



## Vector Masks



Vector masks are shapes that are hidden while working in Photoshop. Don't worry though; Photoshop automatically saves your shapes as vector masks. Photoshop fills a layer entirely with color, and then places the shape on top of the path. You can view this in the thumbnails in the layers palette. The color peeks through the

outline of the shape, and hides, or masks, the rest. If you delete a vector mask you will be left with just a solid color. You can edit vector masks at anytime. Select the thumbnail and you can edit with the shape and pen tool. An easy way to delete a vector mask is to just click and drag the thumbnail down to the trash can at the bottom of the layer palette. To disable or enable a vector mask, click layers, then vector masks, and then disable or enable. A faster way to disable and enable is to just hold down the shift button and click on the vector mask. You can convert a vector mask to a layer mask by clicking layer, then rasterizing, then vector mask.



## Manipulating Shapes

There are tools in Photoshop that give you the freedom to manipulate shapes you have made.

**Move** - The move tool allows you to move the shapes in the layer. Pressing V will select this tool automatically.

**Delete** - To delete a shape, select the shape and press delete.

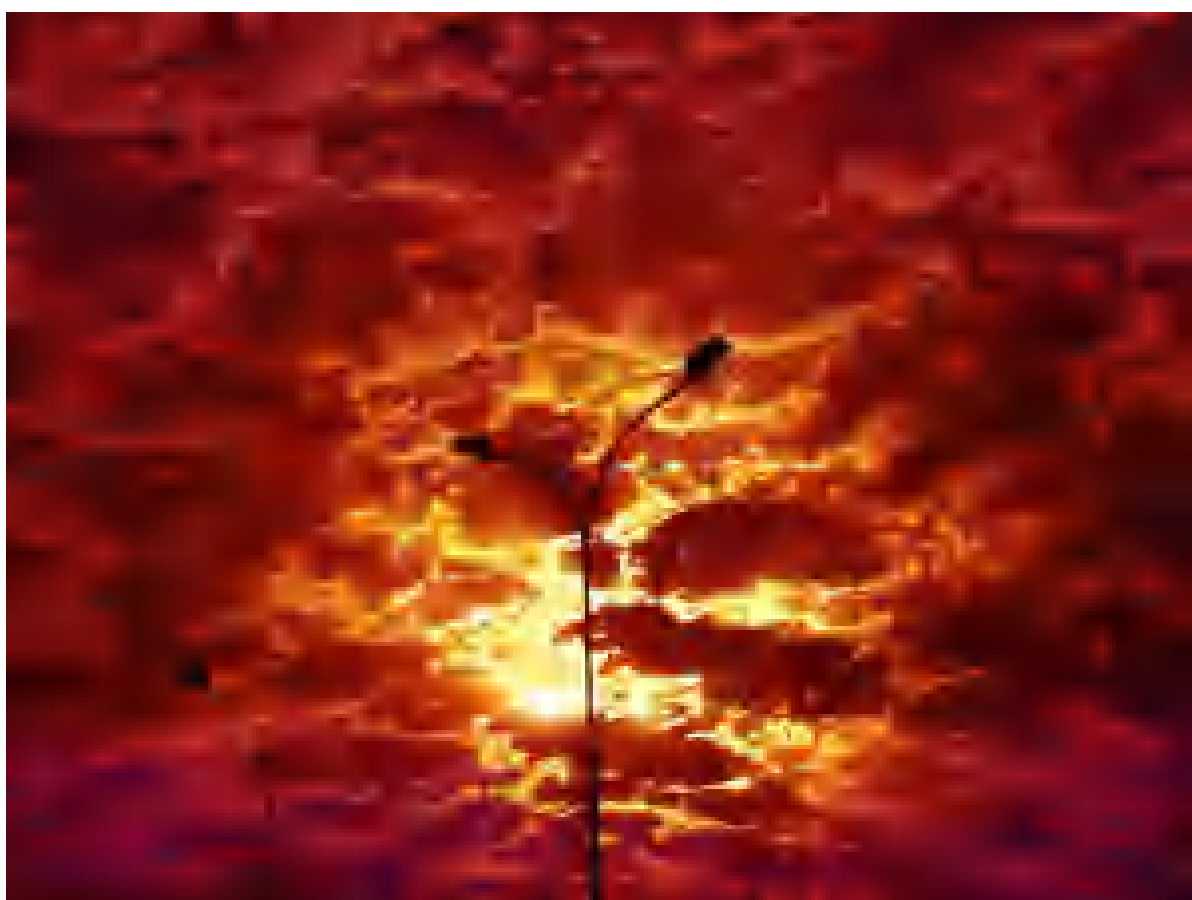
**Clone A Shape** - To clone, press alt and click and move the shape with the path selection tool.

**Adjust Anchor Points** - To adjust your anchor points, curves, directional handles, and lines with the direct selection.

**Align and Distribute Shapes** - When you have the move tool selected, use the active buttons on the option bar to change alignment and distribution.

**Transform Shapes** - To transform your shapes, you can select the show bounding box or select edit then transform paths.

These helpful tools will get you through manipulating shapes. Remember: If you select the fill pixels option you will not be able to edit it at all.



## Chapter 4: Converting from Photoshop to Flash

You can use Adobe Flash and Adobe Photoshop as a team to create internet-based animations, interactive messaging elements, and applications.

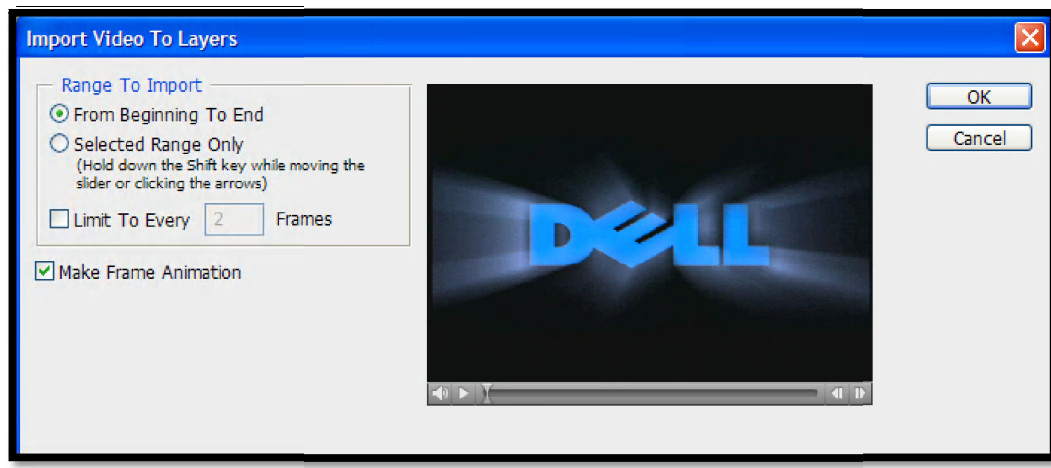
Photoshop will help you create images, and Flash will bring what you have created to life. The easier and more efficient way of creating images is to first use the tools provided to you in Photoshop, rather than using what is given to you in Flash. Once you've created your images in Photoshop, you'll need to convert them to Flash to bring them to life.

### The Conversion Process

After you have generated your finished still image, then you can transfer the image over to Flash. When importing images from Photoshop to Flash, there are many different types of formats to be used. The one you will use the most often is the Photoshop PSD format. Flash will keep many of the settings you applied in Photoshop during the import. Flash also contains options for further modifying the image and maintaining the visual fidelity.



During the import of your PSD file from Photoshop to Flash, you may choose if you want each Photoshop layer as a single flattened image, Flash layer, or individual keyframes. There is an option to convert the PSD file into a movie clip too.



You can edit a QuickTime movie in Photoshop and convert it to Flash video, or FLV file. This makes it possible to watch the QuickTime clip on a Flash player. When doing this, make sure you use the import video dialog box, because importing as a PSD will only import the first video file. When you edit a frame in Photoshop, you are causing no harm to the original frame itself. You are editing on a video layer and when you save you will not be

saving over the footage, but the video layer you created. You also have the option to export Flash files as QuickTime video. When the files are in Photoshop you can edit on top of the original frame and it will not cause any harm to the frame. When dealing with color, your best option is to artwork in Photoshop in the basic RGB format. When you have a piece of artwork that goes by the CMYK scheme, you must first convert it over to RGB in Photoshop before entering it into Flash.



## **Converting PSD Files**

PSD files give you more control over how your images are imported when converting them to Flash. You can specify whether you want the PSD file to be a Flash movie clip, and select which objects you want moved in the PSD file. PSD files keep their color from Photoshop when imported. You still have the ability to edit the blend modes since both Photoshop and Flash support this function. Object transparency is also kept as the PSD files are rasterized and imported as bitmaps. The file layers can individually be converted to keyframes, Flash layers, or single bitmap images. When imported as a single bitmap image Flash rasterizes the entire file. Finally, the drag-and-drop feature from Photoshop to Flash lets you choose how you want to import your images.

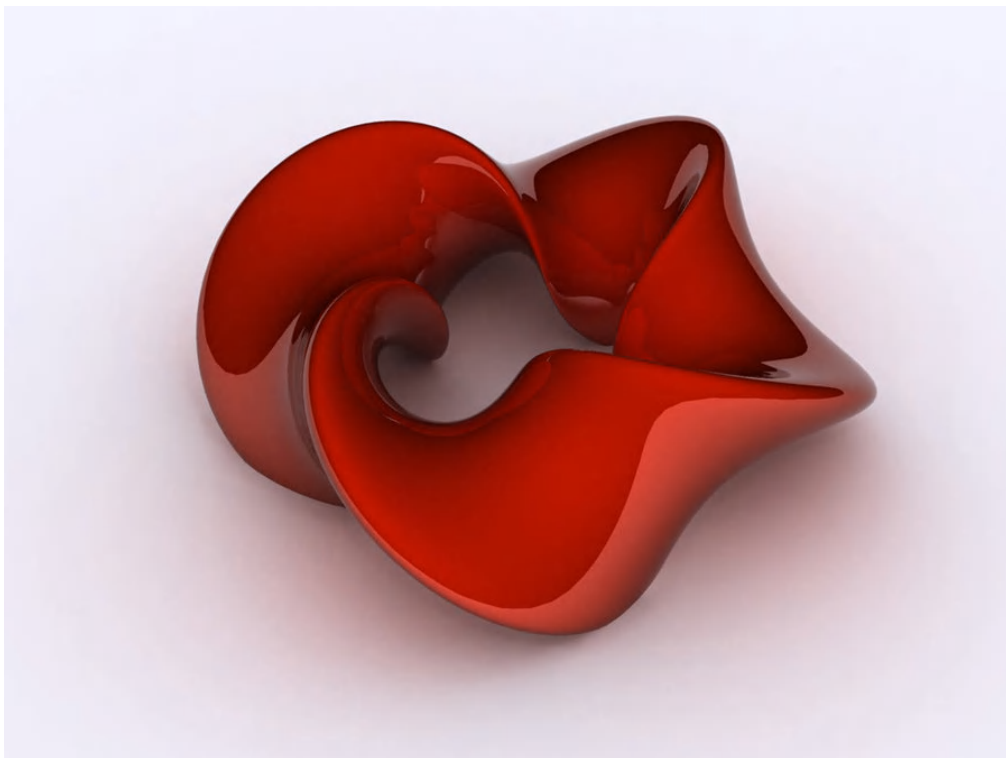
## **Importing Do's & Don'ts**

Some settings lose their ability to be edited any further or they are not imported fully. Other problems can occur if settings are not correct. There are many ways that the PSD importer can help you maintain the appearance

of the image, as well as the ability to edit it. Here are some simple ways that you can be sure that your image is of the best quality after being imported.

- Make sure that your color scheme is RGB in Photoshop before importing.
- Flash can maintain the ability to edit any of the following blend modes: darken, screen, overlay, difference, multiply, hard light, normal, and lighten. When you use a blend mode that cannot be edited in Flash, you can rasterize it to maintain its look.
- When using Smart objects, you must first rasterize them and then import them again as bitmaps.
- Only the first frame of Photoshop video layers can be imported into Flash.

- Layers that are image and fill layers must always be rasterized when importing them to Flash.
- To prevent objects that are behind transparent positions from becoming visible, it is best that you import the object as a flattened bitmap. When importing multiple layers with transparent objects that need not be visible, import the file with the bitmap image using the editable layer styles option. Once imported, it will use the movie clip's transparency instead of the original transparency.



## Importing PSD Files

Importing PSD files is a simple process. This section will help you choose options and settings.

- ✓ Select file > import to stage or library.
- ✓ Move to the Photoshop PSD file to import, check it, and select ok.
- ✓ Using the PSD dialog box, you may choose to either send the files as groups, individuals, or select layers.
- ✓ Select to convert the layers to either Flash layers or keyframes. In keyframes, the Photoshop layers are placed in individual keyframes on new layers. The Photoshop layers are then separated into individual objects in the keyframe.
- ✓ You may select options to place layers at original spots. Flash will use the same file position as Photoshop. If the options are not checked, Flash will simply center the Photoshop layers.

- ✓ Set the Flash stage size to the same size as the Photoshop canvas.

When the PSD file is imported the Flash stage is the same size as the Photoshop image size.

- ✓ Finally, the hardest part, click ok.



## Importing Multiple Layers

When importing multiple layers of PSD files there are several options. This section outlines those options and their meanings.

- Layer comps, select Photoshop layers, and merge layers all sound complicated, but they aren't. If a PSD file contains layer comps, you can choose exactly which version of the image you want imported. Layer comp has three options which all can be imported into Flash. Layer visibility determines whether the layer is going to be hidden or displayed. Layer position determines the position of the layer, and layer appearance determines whether the layer style will be applied to the layer's blending mode or the layer. Flash supports layer comp's visibility, layer style, and position. If layer comps are not present then the pop-up menu will not appear.
- Select Photoshop layers - displays a list of all groups, layer effects, and layers. When set to default, the invisible layers are not selected and the visible ones are. To the left of each thumbnail image you can select the option. Rasterized bitmap files are not compatible with the layer types in Flash.



- Merge layers - combines two or more layers to one bitmap file and then imports the merged layers instead of importing them as separate objects. Only images that are on the same level can be merged.



## Chapter 5: Converting from Photoshop to Illustrator

Photoshop is almost limitless in what it can do, and compatibility with Illustrator makes it an even more versatile tool. Using the Open command, Paste command, drag-and-drop, or Place command you can bring PSD files into Illustrator. Layers, layer comps, paths, and editable text are all supported by Illustrator, but not all data from Photoshop is supported.

With Illustrator, you can transfer images from Photoshop without losing the ability to edit them once transferred. Spot colors are placed over the process color image and imported as single Nchannel raster images. Once imported, the spot colors will be added to your swatches panel. Duotone PSD files are flat raster images that are imported with an Nchannel colorspace holding all the duotone links.



The blending mode in Photoshop may seem different from Illustrator. This is because Illustrator uses Nchannel. When data has to be converted, Illustrator will give you a warning to let you know what it is converting.

## **File Options**

After a file is moved from Photoshop to Illustrator, the options below become available. Here is a breakdown of what the options are and what they do:

**Layer comps** - when files contain layer comps, a certain version of the image is imported. Clicking show preview will give you a preview of the selected layer comp. Updating link handles visibility settings when updating Photoshop files with layer comps.

**Keep layer visibility** – overrides and updates the state of the layer visibility when the file is first placed.

**Photoshop's layer visibility** - updates the linked image considering the layer visibility.

**Converting Photoshop to layer objects** - This option makes text editable and maintains text editing and layer structure without affecting the appearance. If the file has features that aren't compatible with Illustrator, Illustrator will merge and rasterize layers to keep the appearance of the image. Illustrator will merge a single layer if the dissolve blending mode is used. Layers that are hidden and require merging are removed.

**Flattening layers** – This option allows you to flatten Photoshop layers to a single image and keeps the text appearance. The files are sent as a single bitmap and do not contain any individual objects. Import Slices are only available when opening or embedding when the files contain slices

### **Converting Partial Images**

When you do not want to move the entire image from Photoshop to Illustrator, you first select which pixels you want to move. Second, you can copy and paste into Illustrator from Photoshop. Be careful, because if you have an active mask and choose to copy, you will copy the mask instead of

the main layer. You can also pick the move tool and drag from Photoshop into Illustrator. Illustrator will fill in any missing pixels with white. When moving paths from Photoshop to Illustrator you can either use the path component selection tool or direct selection tool. Saved, vector masks, and work paths are all paths or path segments that can be selected. You can drag or copy and paste your paths into Illustrator from Photoshop. Once you paste into Illustrator you will have the option to paste the path as a compound path or shape. The fastest way is pasting as a compound path, but you lose the ability to edit your image.



The Essentials of Drawing in Photoshop is a comprehensive reference for intermediate Photoshop users. Please also look for The Essentials of Design with Photoshop and The Essentials of Web Layouts with Photoshop, the other books in the Photoshop: For The Intermediate User series.

**Thanks for reading!**

**If you have any questions, comments or feedback send me an email to**

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