

## BITMAP VERSUS VECTOR GRAPHICS

Vector graphics describe images using lines and curves, called vectors that also include color and position information. When you edit a vector graphic, you modify the properties of the lines and curves that describe its shape. You can move, resize, reshape, and change the color of a vector graphic without changing the quality of its appearance. You can overlap objects so that they are partly hidden and alter transparency. Vector graphics are resolution independent, meaning they can be displayed on output devices of varying resolutions without losing any quality.

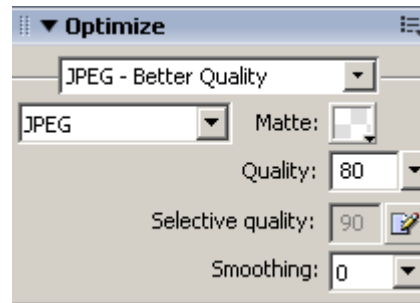
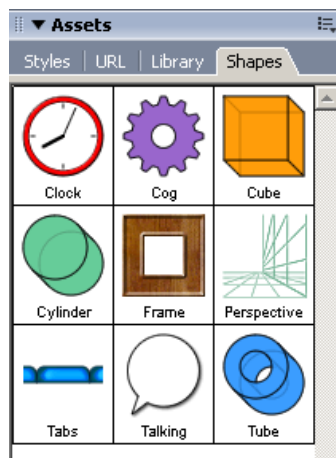
Bitmap graphics describe images using dots, called pixels, arranged in a grid. Your computer screen itself consists of a large grid of pixels. In a bitmap graphic, each dot is assigned a color, and when viewed at the correct resolution, the dots go together like tiles in a mosaic to form the image. When you edit a bitmap graphic, you modify pixels, rather than lines and curves. These bitmap graphics are resolution dependent, because the data describing the image is fixed to a grid of a particular size. Enlarging a bitmap graphic can make the image's edges ragged, as pixels are redistributed within the grid. Displaying a bitmap graphic on an output device with a lower resolution than the image itself also degrades the image's quality.

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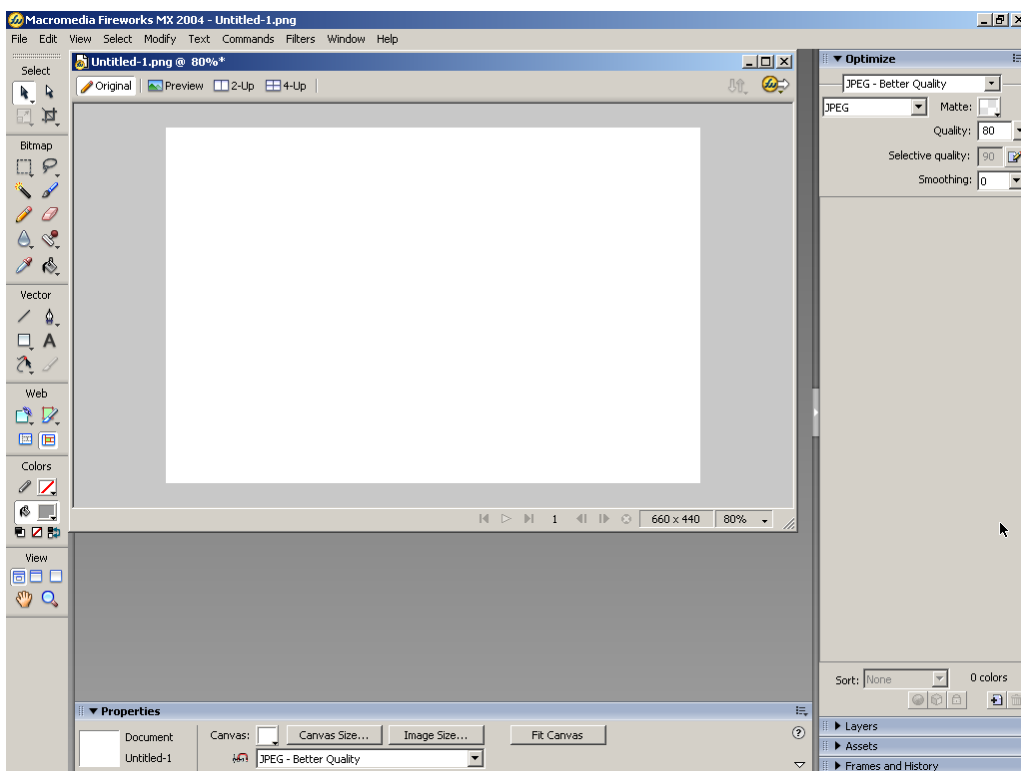
### Creating Web Graphics Using Fireworks MX

Fireworks is both a bitmap editor and a vector drawing program. By combining these drawing methods into the same application, Fireworks gives you a very powerful and versatile set of tools. Fireworks has two modes for editing images: *Vector* mode and *Bitmap* mode. *Vector* mode is for creating vector images and *Bitmap* mode is for editing bitmaps. Both modes share the same toolbox panel but tool options differ based on the type of image and editing mode within which you are working. For example, the eraser works to delete a part of an image in *Bitmap* mode but for *Vector* images to remove part of an image you would use the knife tool. The Rectangle tool in *Vector* mode creates a vector image that can be resized and edited; once this object is flattened and becomes a bitmap it can no longer be easily resized. However in *Bitmap* mode, tools are available to blur, sharpen, or smudge a bitmap image that are not available in *Vector* mode. The Fireworks environment is similar to Dreamweaver's in that it uses panels to display an object's properties. These panels also allow the user to make changes to an image object or entire image. Many of the panels can be combined or tabbed and are also grouped together by default.

## Sample Fireworks Panels



## THE FIREWORKS ENVIRONMENT



In the center of the screen is the document window. In the center of the document window is the canvas. This is where the Fireworks document and any graphics you create are displayed.

- At the top of the screen is a menu bar and most commands are accessible from this area.
- On the left side of the screen is the Tools panel. If the Tools panel isn't visible, choose Window »Tools. The Tools panel is where you'll find tools for selecting, creating, and editing a variety of graphics and objects.
- At the bottom of the screen is the Property inspector. If the Property inspector isn't visible, choose Window » Properties. The Property inspector displays properties for a selected object or tool. Once an object is selected, you can change the properties of that object easily. If no objects or tools are selected, the Property

inspector displays properties of the canvas or document. The Property inspector displays either two or four rows of properties. If the Property inspector only displays two rows, you can click the expander arrow in the lower right corner to see all properties.

Fireworks has a variety of tools you can use by choosing the icon in the toolbox. Some tools are only available for vector images while others are only for bitmaps. These tools are clustered by type in the toolbar (e.g. *Bitmap* and *Vector*).

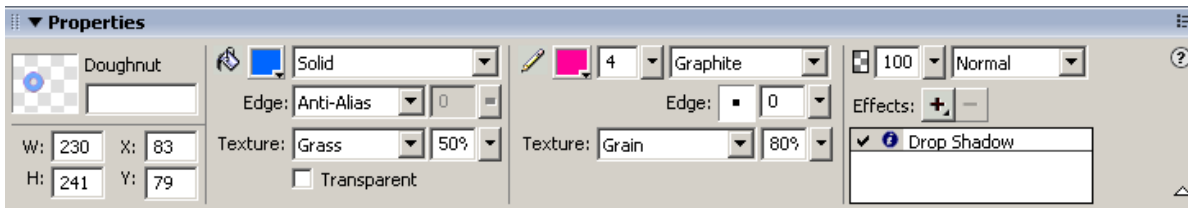


## CREATING VECTOR IMAGES AND APPLYING EFFECTS

Let's explore the options in the toolbar for creating original buttons and banners to use on the web.

First, select the shape tool in the *Vector* section of the toolbar and, using your mouse, draw a shape on the canvas. Notice that the object's properties are displayed in the properties inspector at the bottom of your screen. Use the options in the properties inspector to change the way that your object appears (e.g. fill and stroke, stroke is the outline or border around your object).

- Change the fill color and add a texture experimenting with low and high texture values
- Alter the options for the stroke or outline of the shape using a contrasting color and also explore the many options for how this stroke or outline appears
- Add a live effect to the shape such as bevel, drop shadow, or glow



## VECTOR AND BITMAP OPTIONS

### Vector



Multiple shapes in the Shape tool option



Knife tool to segment sections of a vector

graphic

### Bitmap



Altering edges and textures in the Smudge tool



Explore rubber stamp, replace color

When you are ready to export your image, delete all unused >>white>> space on your canvas by selecting *Modify >> Canvas >> Trim Canvas*. Saving your file creates a .png file that contains all your unflattened image objects that can be used for future web images (e.g. a button template for your website). To use the image on the web or optimally in a multimedia presentation you will want to export your image as a .jpg (photos) or .gif (graphic with less than 256 colors) *File >> Export (Images only)*.

## USING THE ASSETS PANELS: STYLES AND SHAPES

As you create your graphics for a site, you will want to keep the look of the images consistent on each page. Instead of having to remember the exact color or font for a button, you can use the *Styles* feature. Styles are saved in the *Styles* folder, located in the *Settings* folder of your Fireworks folder. After you create a style, it is available for future graphic files. Styles can be created and applied to objects or to text. Text styles appear as ABC in the panel. You use styles In Fireworks to apply effects to the currently selected object. Editing the style does not automatically update or change any of the-objects in your document that used the style. There are also preset styles that you may use in a pinch.


### STYLES

To apply a style:

1. Choose *Window >> Styles* to open the *Styles* panel
2. Select an object on the page or draw a new one. The object can be text or an object.
3. Click any one of the *Object Style* icons in the panel. The style is automatically applied to the object.
4. To apply a different style, click a different icon in the panel.

To create a new style:

1. Create text or an object and apply effects, fill, or stroke options.

2. With the object selected (it will appear outlined in blue), click the *New Style* icon at the bottom of the *Styles* panel . The Edit Style dialog box appears.
3. All style options except for text options are checked by default. For text objects, all options are checked by default. Deselect any of the options you don't want to use for this style.
4. Name the style and click OK. A new style with an icon is saved and placed in the panel.

## SHAPES

### To use the shapes option:

1. Choose *Window >> Auto Shapes* to open the *Auto Shapes* panel.
2. Using your mouse, drag the shape you wish to use from the shape panel onto your workspace or canvas.
3. Explore changing options in your Properties Inspector such as fill color and stroke.
4. The yellow handles (small squares) allow for additional customization and reshaping of your shape.

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## OPTIMIZING BITMAP IMAGES

When working with bitmap images such as digital photos, you will need to optimize them (alter them so that they are in an optimal format) so that they are the appropriate dimension and file size for use on the web or in your multimedia presentation. The first step in optimizing images for the web is to reduce their actual size or dimension. The second step is to experiment with the format and image quality.

### To set image dimension:

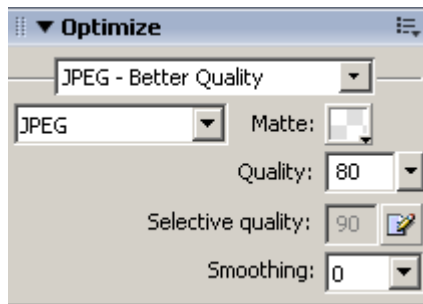
1. Open your image.
2. Drop and drag from the *View* menu to *Magnification* and choose 100%. You will see the actual size of the image as it would appear on a computer screen.
3. If it is too large, drop and drag from the *Modify* menu to *Canvas to Image Size*. Make certain the *Constrain Proportions* box is checked so your image will not be skewed. Note: You will need to experiment with varying numeric configurations to achieve your desired size. A good standard size is between 200 and 300 pixels.

### **Choosing the Image Format**

Exporting your image and picking the correct image format is crucial to the optimization process. The most popular file formats for Web graphics are GIF and JPEG. GIF images are generally used for line art and images with solid colors, GIF images can contain transparent areas and can be used for animation files. The disadvantage to GIF images is that they are restricted to 256 colors. JPEG is generally used for photographic images or images with gradients and more colors. JPEG files cannot be transparent or used in animations. The *Optimize* panel is where you pick the formatting options for exporting the file.

To use the *Optimize* panel:

1. Open your graphic or image file.
2. Choose *Window » Optimize* to access the *Optimize* panel.
3. Choose your settings basing your decisions on the nature of your image (e.g. photo or banner).



### Exporting as Gif

If you choose GIF as your export file format, you need to pick the color palette for the export.

1. Choose *Window » Optimize*.
2. Choose GIF from the Export file format drop down menu.
3. Choose a color palette from the Index palette drop down menu. The options are explained below.

### Color Palette Options for Gif Images

- **Adaptive:** Creates a custom palette containing the majority of colors in the image.
- **WebSnap Adaptive:** Creates a bridge between the Web 216 palette and the Adaptive palette. Colors within a certain tolerance are snapped to the closest Web-safe color,
- **Web 216:** A palette of the 216 colors that work on both Macintosh and Windows computers. This is sometimes referred to as a Web-safe or browser-safe palette because it generates the best results on different platforms and different browsers.
- **Exact:** Contains the exact colors in the image when the image contains 256 colors or less.
- **System (Macintosh or Windows):** - Contains 256 colors as defined by either the Macintosh or Windows system colors
- **Grayscale:** A palette of 256 (or fewer) shades of gray. Using this palette converts your image to grayscale.
- **Black & White:** A palette of only two colors: black and white.
- **Uniform:** A mathematical palette based on RGB pixel values.
- **Custom:** The user defines this palette.

### Exporting as Jpeg

Use JPEG to export photographs or any artwork with gradients or millions of colors in the image. Unlike GIF images, JPEG images don't need a color palette. JPEG is a lossy compression scheme that means that it looks at your image and removes information as part of its compression algorithm. This causes a loss in quality; you set

the level of quality for the compression in the Optimize panel.

#### To export as JPEG:

1. Open your image file.
2. Choose *Window >> Optimize* and use the Export File Format drop down menu to choose JPEG.
3. Use the JPEG pop up slider to determine the level of quality. The lower the number, the smaller the file and the lower the quality.

#### **Previewing in the Workspace**

Fireworks enables you to preview your images within the document window before exporting them. You can determine the export settings for each object on the page as you create it and preview the results. You can also split the document window into two or four preview windows to view different settings. Fireworks also displays the file size and the approximate download times within each preview window. While in preview mode, you cannot make any changes to the image. To switch to preview mode, click the *Preview* button at the top of the document window. The 2-Up button divides the document into two preview windows; the 4-Up button divides the document into four preview windows. In 2-Up and 4-Up modes, the first window displays the original image and can be edited. The other windows are previews only. Click anywhere within a window to select it. A black border appears around the selected window. Any changes you make in the Optimize panel are reflected in the selected window.

#### **ALTERING BITMAPS: FEATHERED IMAGES**

The edge of a selection is controlled in the *Properties Inspector* panel. The default edge is a hard edge.

Occasionally, you may wish to have a softer edge on an image for a different effect. You can use feathering to softly blur the edges of your image.

#### To blur the edges of your image:

1. Open the image for which you wish to blur the edges.
2. Use the *Ellipse Marquee* tool to draw an ellipse around your image to frame it as you wish.
3. Choose *Select >> Feather* and type in a value for the feather radius or use the feather option in the Properties Inspector.
4. Choose *Select >> Select Inverse* to select the inverse of your feathered elliptical selection and press the delete key to remove the background. You should now see your image >>framed>> with soft or blurred edges.

#### **ADDING TEXT ALONG A PATH**

Text along a path is a popular graphic effect, and it is easy to add in Fireworks. The text flows along the curve of a path (this must be drawn with a vector tool) and remains completely editable after it is attached to the path. The path can be a circle, a rectangle, or any freeform shape you create using the vector tools.

### To attach text to a path:

1. Draw a curved path using a *Vector Path* tool (line, brush, pen).
2. Use the *Text* tool and type some text. Change the font, color, and size as you wish.
3. Select both the path and the text with the *Pointer* tool by shift clicking (holding down the shift key and clicking with your mouse).
4. Choose *Text >> Attach to Path*.
5. To change the text after it is attached to the path, select the text and choose *Text >> Editor*.
6. To detach the text from the path, choose *Text >> Detach from Path*.

### **ADJUSTING TEXT FLOW ON THE PATH**

Several options control how the text flows on the path. The alignment of the text controls where the text is placed on the path. For a curved path the placement on the path logically follows the alignment: left-aligned text starts at the beginning of the path; right-aligned text ends at the end of the path. If your path is a circle, the text flow is a bit more complex. A circle consists of four anchor points: top, bottom, left and right. The path of the circle flows clockwise, with the beginning point located at 9 o'clock.



### To change text offset and orientation on a path:

1. Select the path with the *Pointer* tool.
  2. In the Properties Inspector type the offset value in the *Path Offset* field to shift text on the path the number of pixels you wish (you may need to experiment with this option).
  4. To alter the orientation of the text on the path, choose *Text >> Orientation* and pick *Rotate Around Path*, *Vertical*, *Skew Vertical*, or *Skew Horizontal*.
- **Rotate Around Path** is the default. Each letter is placed perpendicular to the path.
  - **Vertical** positions each letter vertical to the page.
  - **Skew Vertical** rotates the letters on the path, but skews them vertically.
  - **Skew Horizontal** slants the letters horizontally based on the curve of the path.