





Use Selection Tools



Tool Group	Used To	Example
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Marquee Tools

-  Rectangular Marquee Tool M
-  Elliptical Marquee Tool M
-  Single Row Marquee Tool
-  Single Column Marquee Tool

Shortcut key: M

Toggle through group: Shift + M

Lasso Tools

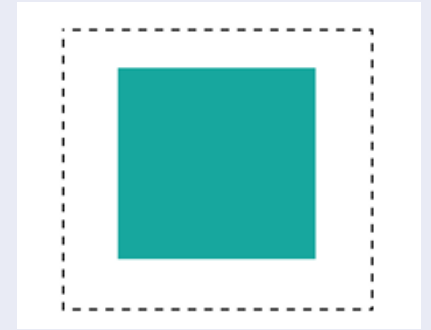
-  Lasso Tool L
-  Polygonal Lasso Tool L
-  Magnetic Lasso Tool L

Shortcut key: L

Toggle through group: Shift + L

- Make rectangular, elliptical, single row, and single column selections.
- Selections can be moved, transformed, and modified.

Rectangular Marquee:

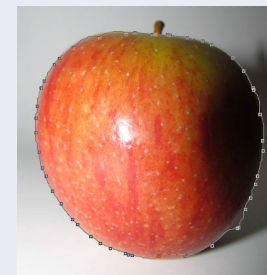


Lasso:



- Make freehand, polygonal (straight-edged), and magnetic (snap-to) selections.
- Use the **Magnetic Lasso** tool to select areas of an image that have complex edges that are set against a high-contrast background, or that contain several colors.

Magnetic Lasso:



Tool Group

Used To

Example

Quick Selection Tools

- Object Selection Tool W
- Quick Selection Tool W
- Magic Wand Tool W

Shortcut key: W

Toggle through group: Shift+W

The **Object Selection** tool allows you to select one or more objects, or parts of an object, by outlining a rectangular or lasso region around the object. The tool then automatically selects the object (or objects) within the region. This tool is also available from the **Select and Mask** workspace **Tools** panel.

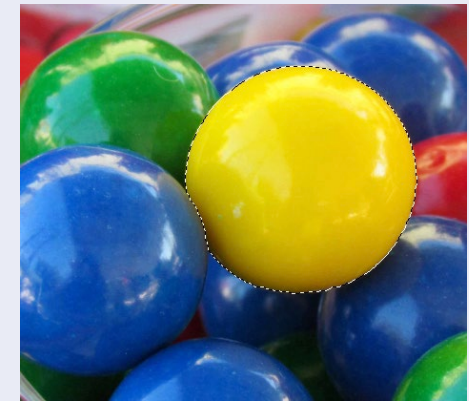
Depending on the image, if **Object Finder** is checked on the **Options** bar, you can also hover over an object in the image and **Object Selection** tool automatically selects the object if the object is detected. In other cases, you might need to click after the image is detected in order to select it.

- Make accurate selections of complex shapes by using an adjustable brush tip (**Quick Selection**).
- Select pixels of an image that are similar in color or brightness (**Magic Wand**).
- You can select contiguous or noncontiguous pixels by checking the **Contiguous** check box on the **Options** bar.

Object Selection:



Quick Selection:

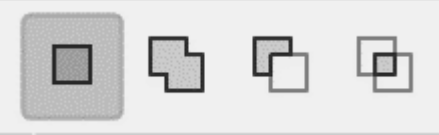
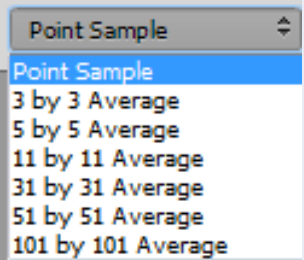



Magic Wand:



Magic Wand Options

The **Magic Wand** tool allows you to select image pixels that are similar in color and brightness. When you select the **Magic Wand** tool, the **Options** bar displays settings that you can customize for the area and tolerance of your selections. You'll want to be aware of at least these three settings.

Option	Used To	Option Bar Display
Selection options	Select the action you want to perform: New selection Add to selection Subtract from selection Intersect with selection	
Point sample size	Set the number of pixels sampled by the tool: Point sample reads the exact value of the pixel selected. Point average reads the average value of the number of pixels selected.	
Tolerance	Set the color range of selected pixels. A low tolerance will select a smaller area of color. A high tolerance will allow for more color differences and will select a larger area of color.	


Quick Selection Brush Tip Options

The **Quick Selection** tool uses an adjustable brush tip to paint a selection. The size of the brush tip determines how wide the swatch grows as you drag across the selected area. Adjust the brush and brush action by setting tool options on the **Quick Selection Options** bar. As with the other selection tools, you can set a new selection, add to a selection, and subtract from a selection. You can also set the brush tip size and options.



Selection Actions

Once you make a selection, you'll want to do something with it. Common actions you can take include move, copy, and delete.

Selection Action	How to Use
Add to selection	On the Options bar, select Add to selection and then drag outside the selected area to expand it, or to add another selection.
Subtract from selection	On the Options bar, select Subtract from selection and drag across the area from which you want to subtract.
Move a selection	To move a selection: Select the Move tool.  Select inside the selection and drag the selection to a new location.
Copy a selection	To copy a selection, press Ctrl+C (or select Edit→Copy). To paste the copy, press Ctrl+V (or select Edit→Paste) and drag the copy to a new location.
Delete a selection	To delete a selection, select Edit→Clear . To cut a selection to the clipboard, select Edit→Cut .

- You can also save a selection by selecting **Select → Save Selection**.
- Load a selection by selecting **Select → Load Selection**.

Channels

Channels are grayscale images that store unique information about an image. In Photoshop, channels divide color images into their components, as in RGB images that are divided in red, green, and blue channels. Channels with color, such as grayscale, black, and white, use one channel, as there are no colors to divide.

The Alpha Channel

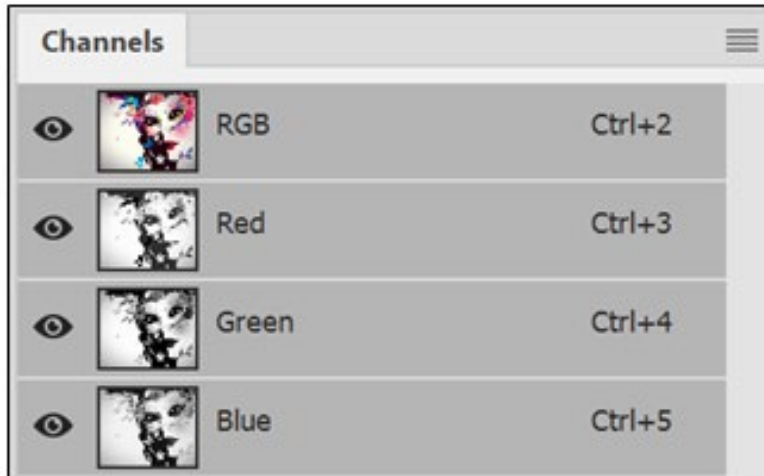
The Alpha channel stores the transparency information of an image without affecting its color channels. Alpha channels store image selections in grayscale mode. Alpha channels can be used to protect the selected area of an image, or to manipulate it.

Alpha channels are preserved only when an image is saved in the Photoshop, PDF, TIFF, PSB, or raw formats.

Channels

The Channels Panel

The **Channels** panel lists the channels in the current image. A thumbnail of the channel's contents appears to the left of the channel name. When you edit a channel, the thumbnail is updated automatically. You can duplicate, delete, split, or merge channels.



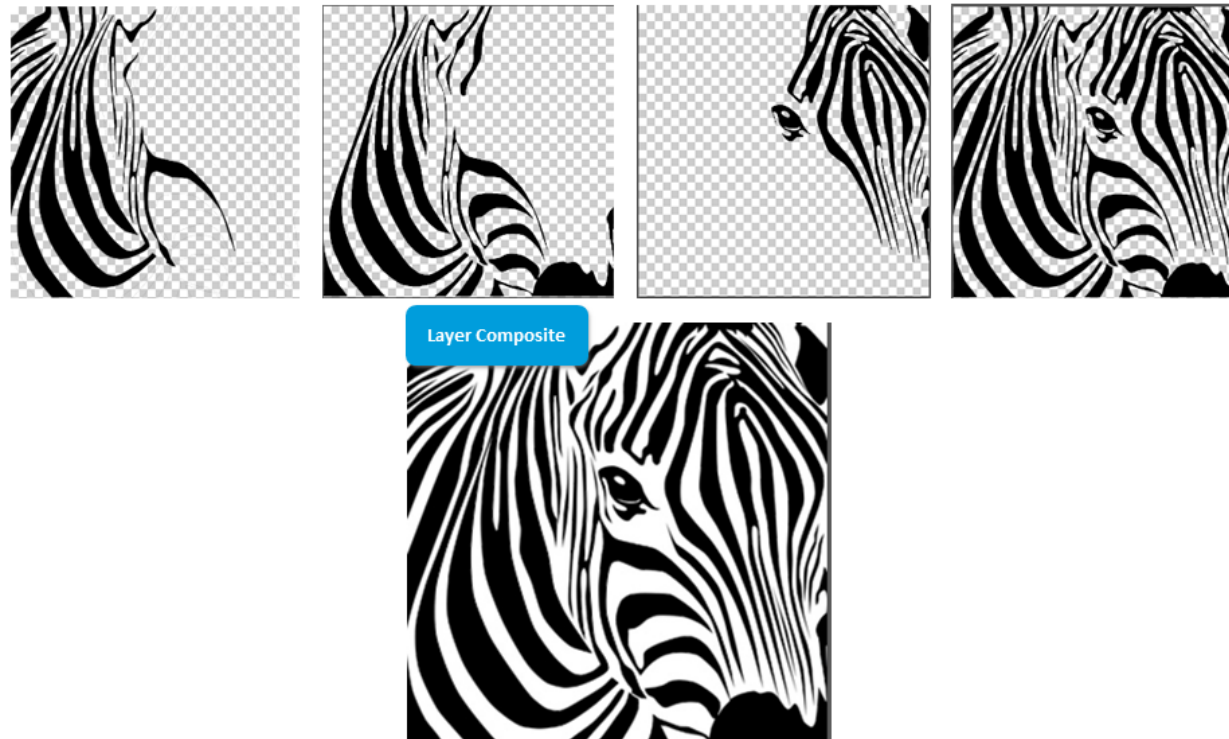
Manage Layers



Layers

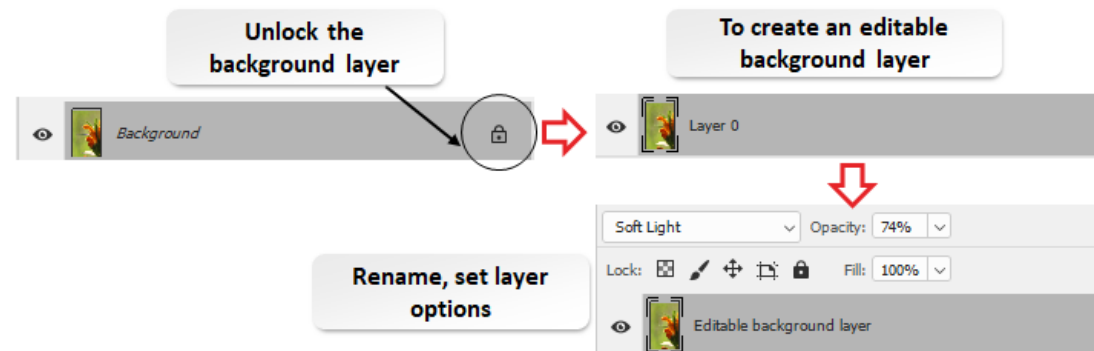
Layers are like separate sheets of transparencies, each with a unique design, that when overlapped create a composite picture. What you add and store in each layer can be individually manipulated without changing anything on another layer. This is especially useful when you don't want to alter the original image.

You can rename, duplicate, rearrange, group, merge, and delete layers. You can also hide them temporarily.



Layer Types

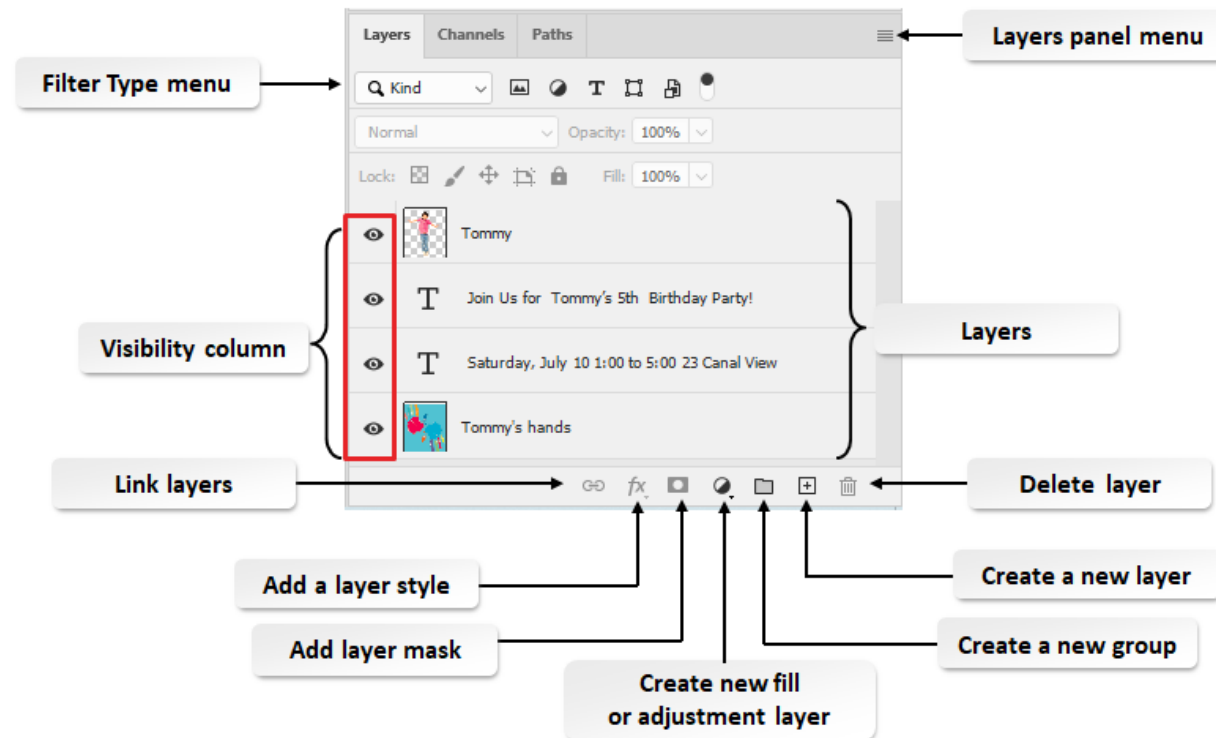
Layer Type	Description
Background	Automatically created whenever a document is created in Photoshop or saved as a Photoshop file. When you open a photographic image in Photoshop, its background layer is locked and needs to be unlocked in order to work with many of the adjustment tools. To unlock the background layer and convert the background to a new background layer, double-click the layer to rename the layer. You can set any layer options.
Image	Contains image data.
Type	Automatically created when using the Type tool to add text to a document.
Fill	Has a solid color, gradient, or pattern fill.
Adjustment	Used to apply tonal or color changes to an image. Adjustments made to one layer are applied to all layers below it.
3D	Contains 3D objects.
Smart Objects	Retains the original information about an image independent of edits that are applied. For example, you can rotate an image in a smart object layer, and it doesn't affect the original image or image quality. This is referred to as non-destructive editing. After creating a Smart Object, if you need to, you can easily convert the object back to layers. The layers that made up the Smart Object will be included in a layer group.



The Layers Panel

The **Layers** panel displays each layer as a thumbnail along with each layer's name. To the left of each thumbnail is an icon that looks like an eye, indicating layer visibility. It can be toggled on and off by clicking it.

At the top of the **Layers** panel is the **Filter Type** menu, which includes **Kind**, **Name**, **Effect**, **Mode**, **Attribute**, **Color**, **Smart Object**, **Selected**, and **Artboard** categories, each with options for modifying layer properties. Along the bottom of the panel are icons used to link layers, add a layer style or mask, create a new fill or adjustment layer, create a new layer, create a new group, and delete a layer.



The Layers Panel

Layer Opacity

The opacity of a layer is the degree of saturation versus transparency that it has. A layer with 100 percent opacity has no transparency, which means that a 100 percent opacity layer will hide all the components of any underlying layers. Conversely, a layer with 0 percent opacity is completely transparent, allowing the components of underlying layers to be visible.

Flatten Layers

Layers can add to the size of your file. One measure to take to reduce file size is to flatten an image that has layers. Flattening merges all layers into the background, discards hidden layers, and fills transparent areas with white.

The Layers Panel

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- You cannot edit layers once they are flattened, so ensure that all modifications to layers are complete. Better yet, save a copy with its layers before flattening layers.

Keyboard Shortcuts for Working with Layers

Adobe Photoshop provides many helpful keyboard shortcuts that relate to the **Layers** panel. There are several keyboard shortcuts specifically for creating, moving, and grouping layers.

Result	Key Combination
Create new empty layer with dialog box	Alt+New Layer button
Create new layer below target layer	Ctrl+New Layer button
Move target layer down/up	Ctrl+] /Ctrl+[
Move layer to bottom or top	Ctrl+Shift+] or Ctrl+Shift+[
Group layers	Ctrl+G

Layer Nesting

Layer groups can be created to organize layers based on content and nesting layers improves the level of content-based organization. Once layer groups are formed, any layer group can be dragged and dropped into another layer group folder, organizing the information in a way that best suits the design process.

Blend Modes

The blend mode determines how the layer style of the active layer blends with the underlying layers, which may or may not include the active layer. For example, an inner shadow blends with the active layer because the effect is drawn on top of that layer, but a drop shadow blends only with the layers beneath the active layer. The blend modes are presets that offer a variety of special effects by determining how pixels blend with underlying pixels in the image.

- You can select a blend mode by choosing **Layer → Layer Style → Blending Options** and selecting a style from the **Blend Mode** pop-up menu.
- Photoshop has a range of preset blend modes.

Blend Modes

Blend Mode	Description
Normal	Edits or paints each pixel to make it the result color. This is the default mode. (Normal mode is called Threshold when you're working with a bitmapped or indexed-color image.)
Dissolve	Edits or paints each pixel to make it the result color. However, the result color is a random replacement of the pixels with the base color or the blend color, depending on the opacity at any pixel location.
Darken	Looks at the color information in each channel and selects the base or blend color—whichever is darker—as the result color. Pixels lighter than the blend color are replaced, and pixels darker than the blend color don't change.
Multiply	Looks at the color information in each channel and multiplies the base color by the blend color. The result color is always a darker color. Multiplying any color with black produces black. Multiplying any color with white leaves the color unchanged. When you're painting with a color other than black or white, successive strokes with a painting tool produce progressively darker colors. The effect is similar to drawing on the image with multiple marking pens.
Color Burn	Looks at the color information in each channel and darkens the base color to reflect the blend color by increasing the contrast between the two. Blending with white produces no change.
Linear Burn	Looks at the color information in each channel and darkens the base color to reflect the blend color by decreasing the brightness. Blending with white produces no change.

Blend Modes

Blend Mode	Description
Darker Color	Compares the total of all channel values for the blend and base color and displays the lower value color. Darker Color does not produce a third color, which can result from the Darken blend, because it chooses the lowest channel values from both the base and the blend color to create the result color.
Lighten	Looks at the color information in each channel and selects the base or blend color—whichever is lighter—as the result color. Pixels darker than the blend color are replaced, and pixels lighter than the blend color do not change.
Screen	Looks at each channel's color information and multiplies the inverse of the blend and base colors. The result color is always a lighter color. Screening with black leaves the color unchanged. Screening with white produces white. The effect is similar to projecting multiple photographic slides on top of each other.
Color Dodge	Looks at the color information in each channel and brightens the base color to reflect the blend color by decreasing contrast between the two. Blending with black produces no change.
Linear Dodge (Add)	Looks at the color information in each channel and brightens the base color to reflect the blend color by increasing the brightness. Blending with black produces no change.

Blend Modes

Blend Mode	Description
Lighter Color	Compares the total of all channel values for the blend and base color and displays the higher value color. Lighter Color does not produce a third color, which can result from the Lighten blend, because it chooses the highest channel values from both the base and blend color to create the result color.
Overlay	Multiplies or screens the colors, depending on the base color. Patterns or colors overlay the existing pixels while preserving the highlights and shadows of the base color. The base color is not replaced, but mixed with the blend color to reflect the lightness or darkness of the original color.
Soft Light	Darkens or lightens the colors, depending on the blend color. The effect is similar to shining a diffused spotlight on the image. If the blend color (light source) is lighter than 50 percent gray, the image is lightened as if it were dodged. If the blend color is darker than 50 percent gray, the image is darkened as if it were burned in.
Hard Light	Multiplies or screens the colors, depending on the blend color. The effect is similar to shining a harsh spotlight on the image. If the blend color (light source) is lighter than 50 percent gray, the image is lightened, as if it were screened. This is useful for adding highlights to an image. If the blend color is darker than 50 percent gray, the image is darkened, as if it were multiplied. This is useful for adding shadows to an image. Painting with pure black or white results in pure black or white.

Blend Modes

Blend Mode	Description
Vivid Light	Burns or dodges the colors by increasing or decreasing the contrast, depending on the blend color. If the blend color (light source) is lighter than 50 percent gray, the image is lightened by decreasing the contrast. If the blend color is darker than 50 percent gray, the image is darkened by increasing the contrast.
Linear Light	Burns or dodges the colors by decreasing or increasing the brightness, depending on the blend color. If the blend color (light source) is lighter than 50 percent gray, the image is lightened by increasing the brightness. If the blend color is darker than 50 percent gray, the image is darkened by decreasing the brightness.
Pin Light	Replaces the colors, depending on the blend color. If the blend color (light source) is lighter than 50 percent gray, pixels darker than the blend color are replaced, and pixels lighter than the blend color do not change. If the blend color is darker than 50 percent gray, pixels lighter than the blend color are replaced, and pixels darker than the blend color do not change. This is useful for adding special effects to an image.
Hard Mix	Adds the red, green, and blue channel values of the blend color to the RGB values of the base color. If the resulting sum for a channel is 255 or greater, it receives a value of 255; if it is less than 255, it receives a value of 0. Therefore, all blended pixels have red, green, and blue channel values of either 0 or 255. This changes all pixels to primary additive colors (red, green, or blue), white, or black.

Blend Modes

Blend Mode	Description
Difference	Looks at the color information in each channel and subtracts either the blend color from the base color or the base color from the blend color, depending on which has the greater brightness value. Blending with white inverts the base color values; blending with black produces no change.
Exclusion	Creates an effect similar to but lower in contrast than the Difference mode. Blending with white inverts the base color values. Blending with black produces no change.
Subtract	Looks at the color information in each channel and subtracts the blend color from the base color. In 8- and 16-bit images, any resulting negative values are clipped to zero.
Divide	Looks at the color information in each channel and divides the blend color from the base color.
Hue	Creates a result color with the luminance and saturation of the base color and the hue of the blend color.
Saturation	Creates a result color with the luminance and hue of the base color and the saturation of the blend color. Painting with this mode in an area with no (0) saturation (gray) causes no change.
Color	Creates a result color with the luminance of the base color and the hue and saturation of the blend color. This preserves the gray levels in the image and is useful for coloring monochrome images and for tinting color images.
Luminosity	Creates a result color with the hue and saturation of the base color and the luminance of the blend color. This mode creates the inverse effect of Color mode.

Type Tool

When you select and use the **Type** tool, a new **Type** layer is added to the **Layers** panel. There is a **Horizontal Type** tool and a **Vertical Type** tool—the one you use depends on how you want to orient your text. Text selections in the **Options** panel include text orientation, text font family, font style, font size, text anti-alias, text color, alignment, and more.



Rulers and Guides

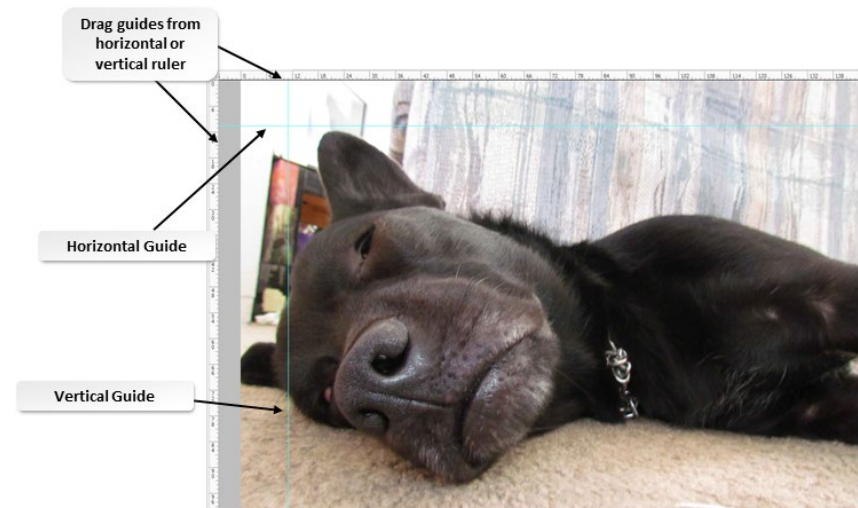
When working with Photoshop images, rulers and guides can be used to align and place objects in a document. The horizontal ruler's zero point is aligned at the left edge of the **canvas** size (independent of image size), and the vertical ruler's zero point is aligned at the top-left edge. Guides can be dragged from both the horizontal and vertical rulers to the canvas. Rulers and guides are especially useful when objects need to be aligned precisely. To display rulers, from the **View** menu, select **Rulers**.

Guide Properties

The Guides feature of Photoshop is used when adjusting images. The guides show up as lines that are cyan in color, one horizontal and one vertical, that are superimposed over the image.

To create a guide, select **View → Rulers**. You will then see a set of rulers along the top and left side of your image. To create a guide, move the cursor over the ruler, left-click, and drag the cursor over the image. A guide will appear. You can do this as many times as necessary to ensure you have enough guides to adjust the image.

- These guides have a number of properties with which you need to be familiar:
- Guides are temporary and can be moved around as needed.
- Guides are saved when the file is saved and will be visible each time the file is opened.
- Guides are visible only on the screen and will not show when the image is printed.
- Guides can be hidden from view on the screen by deselecting **View → Extras**.



The History Panel

It's inevitable when working with complex selections and multiple layers that the results do not always end up looking as intended. Rather than start from scratch, Photoshop provides the **History** panel that keeps a list of all the actions you take. Each action is treated as a separate state, with the last action performed listed at the bottom, and the earliest action taken listed at the top.

- To restore your document to an earlier state, just select the previous state in the **History** panel.

