

# BLEND MODES

## PHOTOSHOP CC

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### Blending Modes

Blending Modes are one of the features of Photoshop that many people use and have little or no idea what **exactly** these modes can do.

Blending Modes can be applied to Layers, Layer Effects and also to any of the painting tools.

To understand the modes, these 3 terms are important:

- **Base color** - the original color in the image.
- **Blend color** - the color being applied.
- **Result color** - the color resulting from the blend.

### Blending Mode Definitions

Blending modes are split into 6 different sections. The Standard ones replace the base pixels, the Darken ones darken the base pixels, the Lighten ones lighten them, the Contrast ones increase or decrease overall contrast, the Comparative ones invert the base

color and the HSL modes apply a specific color component. Some blending modes need a bit of opacity tweaking in order to get the best effect. As with a lot of Photoshop's options, experimentation is the only real way to get a thorough understanding.

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- **Normal Mode** - What you create is what you get. Paint with red, you get red
  - **Dissolve** - Dissolve gives a random scattering of the **blend color**.
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- **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 do not change.
  - **Multiply** - Applies color in a way similar to color on glass or acetate, the colors add to each other much like a zip-loc bag add yellow and blue to make green. Multiply also makes anything white transparent.
  - **Color Burn** - Looks at the color information in each channel and darkens the **base color** to reflect the **blend color** by increasing the contrast. 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.
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- **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 resulting color is always a lighter color.** Screening with black leaves the color unchanged. Screening with white produces white.
  - **Color Dodge** - Looks at the color information in each channel and brightens the **base color** to reflect the **blend color** by decreasing the contrast. 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.

✓ Normal
Dissolve
Darken
Multiply
Color Burn
Linear Burn
Darker Color
Lighten
Screen
Color Dodge
Linear Dodge (Add)
Lighter Color
Overlay
Soft Light
Hard Light
Vivid Light
Linear Light
Pin Light
Hard Mix
Difference
Exclusion
Subtract
Divide
Hue
Saturation
Color
Luminosity

#### Standard Modes

#### Darken Modes

#### Lighten Modes

#### Contrast Modes

#### Comparative Modes

#### HSL Modes

- **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% gray, the image is lightened as if it were dodged. If the blend color is darker than 50% 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% 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% 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.
- **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% gray, the image is lightened by decreasing the contrast. If the blend color is darker than 50% 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% gray, the image is lightened by increasing the brightness. If the blend color is darker than 50% 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% 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% 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 less than 255, 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 colors: red, green, blue, cyan, yellow, magenta, white, or black.

- **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.

## Access to Blending Modes

Blending modes are available for use in several areas of Photoshop.

Shortcuts to scroll through the Blending Modes using the **SHIFT + +** or **SHIFT + -** with the Move Tool selected and the layer selected.

### Blending Options in Layers

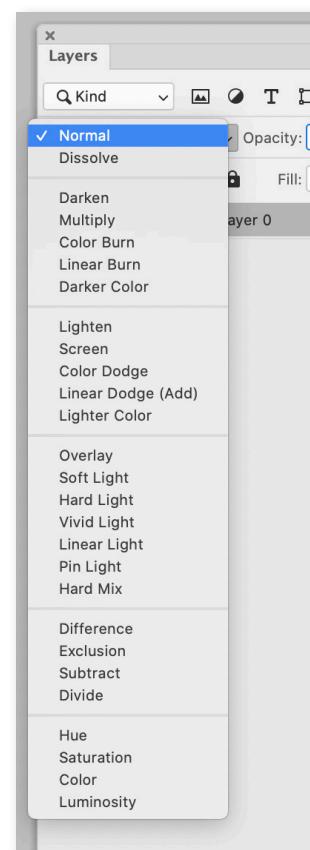
In Layers, setting the blending modes can be done from the Layers Blending Mode drop down menu.

Any blending mode that is applied to a layer is applied to the **entire layer** and all the elements on that layer.

Keyboard shortcuts for these are

### SHIFT + OPTION + the letter shortcut

Normal = **N**  
 Dissolve = **I**  
 Darken = **K**  
 Multiply = **M**  
 Color Burn = **B**  
 Linear Burn = **A**  
 Lighten = **G**  
 Screen = **S**  
 Color Dodge = **I**  
 Linear Dodge = **W**  
 Overlay = **O**  
 Soft Light = **F**  
 Hard Light = **H**  
 Vivid Light = **V**  
 Linear Light = **J**  
 Pin Light = **Z**  
 Hard Mix = **L**  
 Difference = **E**  
 Exclusion = **X**  
 Hue = **U**  
 Saturation = **T**  
 Color = **I**  
 Luminosity = **Y**



### Blending Modes in Layer Effects

In Layer effects, setting the blending modes can be done from for some of the layer effects, however, the Layer Blending mode over rides the Layer Effects Blending mode. Once the Layer Blending Mode is set to Normal, then the Layer Effect Blending Mode comes through they way it was set.

### Blending Options in the Brush Tool

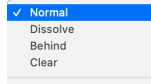
The Brush tool can also have Blending Modes applied to it when you paint.

The Brush tool adds 2 more blending modes, Behind (**Q**) and Clear (**R**).

You can paint using many different blend modes on a single layer and see their effect that one layer ONLY and these blending modes do not interact with other layers.

As with all Layer Blending Modes, the Layer Blending Mode overrides all other Blending modes.

The same shortcuts for the Layer Blending Modes are the same when using the Brush Tool.



### Special Blending Modes

Additional Blending Modes for Dodge and Burn tool are:

Midtones = **M**

Shadows = **S**

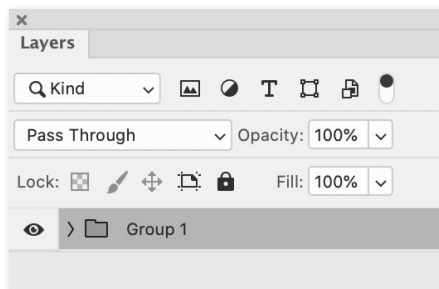
Highlights = **H**

The Protect Tones check box in the Dodge/Burn tool protects against Hue shifting

Blending Modes for Sponge tool are Desaturate and Saturate

### Pass Through Blending Mode

By default, the blending mode of a Layer Set is set to Pass Through, which means that the Layer set has no blending properties of its own. When you choose a different Blending Mode for a Layer Set, all the layers within the Set are composed together first. The result is treated as a single Layer with the specific Blending Mode applied.



If you apply any Blending Mode other than Pass Through to a Layer Set, the affects of Adjustment Layers and Layer Blending Modes within the Layer Set will only apply to the contents of the set. The Blending Mode of the Layer Set itself overrides those of its contents on all other layer.

So if you choose a blending mode other than Pass Through for the layer set, **none of the adjustment layers or layer blending modes inside the layer set will apply to layers outside the set.**

### Practical Applications of Blending Modes

#### Coloring Objects

Changing the color of Objects is easy when using the Brush Tool in Color Blending Mode. Paint on the image with the desired color OR paint on a new layer and set the layer to Color Blending Mode. Color keeps the tonal range but paints with the Hue you chose.



#### Making White Become Transparent

Taking the white out of layer may be tricky, sometimes impossible when you have a complex image. Using the **Multiply** Blending Mode, white becomes transparent in the entire layer.



Multiply makes all other colors translucent so the background color shows through in varying degrees.

#### Making Black Become Transparent

Taking the Black out of a layer may be just as tricky, so use the **Overlay** Blending Mode to knock out black and make it transparent.



### ***Sharpen an image without using Unsharp Mask or Smart Sharpen***

This method takes all the layers in the image; clone layers, color adjustment layers and raster layers and merges them together into a layer AND keeps the original layers intact.

- Turn on all the layers in the layers panel that you want to be visible.
- Select the top layer of your document in the layers panel, then SHIFT+ OPTION (ALT) + COMMAND (CTRL) + E. This will create a top layer that has all the visible layers in the image composed into one layer.
- Choose Filter>Other>High Pass to this composed layer. Use a setting between 3 for a lower res file, 8 for a higher res file. Set this depending on the resolution of the file, a higher number for higher resolution images.
- Set the blending mode on the new "High Pass" layer to **Soft Light**. Adjust the opacity down for less sharpening or duplicate the layer to increase the sharpening effect. You can also double the layer and adjust the opacity of that layer to make the sharpening effect look just right.

