

Beginner Section

Layer Blend Modes



Note: (The majority of the following information can also be found in the program's Help files, and i take no personal credit for writing it. I have converted it to HTML and posted it here simply as a convenience for my visitors, and to supplement other content.)

Please give the image samples a few extra seconds to download, this is a long page. But the information needs to be all on one page so you can compare the Blend Modes against each other.

Read the following while you're waiting...

Layers:

You use layer blending modes to determine how the pixels in a layer are blended with underlying pixels on other layers. By applying specific blend modes to individual layers, you can create a wide variety of special effects.

Note: There is no 'Clear' blending mode for layers; as is found in the 'Stroke' filter for instance. In addition, the Color Dodge, Color Burn, Darken, Lighten, Difference, and Exclusion modes are unavailable for Lab images.

Painting & Editing Tools:

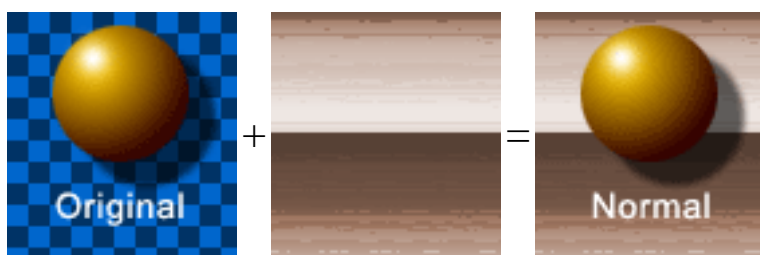
The blending mode specified in the Options palette for each tool controls how pixels in the image will be affected by tools. It's helpful to think in terms of the following colours when visualizing a blending mode's effect:

- The 'Base colour' is the original colour in the image.
- The 'Blend colour' is the colour being applied with the painting or editing tools.
- The 'Result colour' is the colour resulting from the blend mode used.

Blend Mode Descriptions:

(these mode types are based on the latest version of Photoshop, but their effects are universal in all versions)

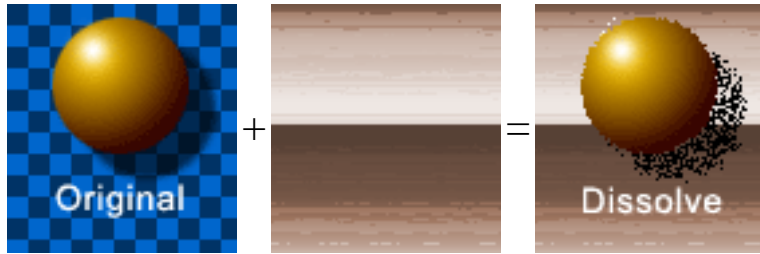
Normal



Edits or paints each pixel to make it the result colour. This is the default mode. (Normal mode is

called Threshold when you're working with a bitmapped or indexed-colour image.)

Dissolve



Edits or paints each pixel to make it the result colour. However, the result colour is a random replacement of the pixels with the base colour or the blend colour, depending on the opacity at any pixel location. This mode works best with the paintbrush or airbrush tool and a large brush.

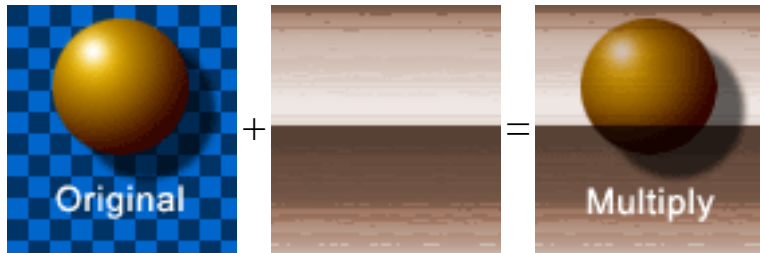
Behind (Painting & Editing Tools only)

Edits or paints only on the transparent part of a layer. This mode works only in layers with Preserve Transparency off and is analogous to painting on the back of transparent areas in a sheet of acetate.

Clear (Painting & Editing Tools only)

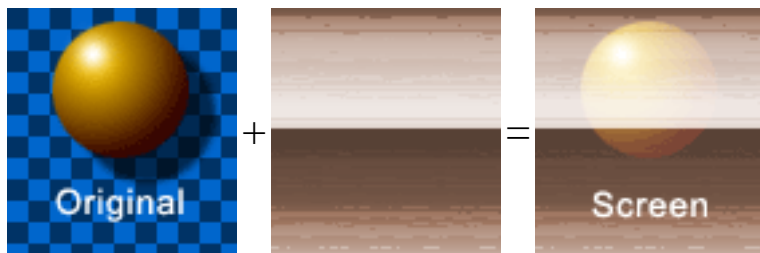
Edits or paints each pixel and makes it transparent. This mode is available for the line tool, the paint bucket tool, the Fill command, and the Stroke command. You must be in a layer with Preserve Transparency off to use this mode.

Multiply



Looks at the colour information in each channel and multiplies the base colour by the blend colour. The result colour is always a darker colour. Multiplying any colour with black produces black. Multiplying any colour with white leaves the colour unchanged. When you're painting with a colour other than black or white, successive strokes with a painting tool produce progressively darker colours. The effect is similar to drawing on the image with multiple magic markers.

Screen



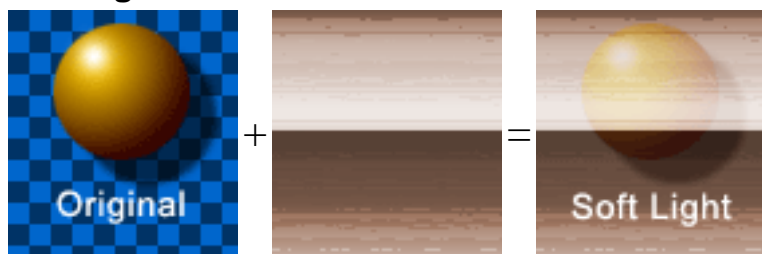
Looks at each channel's colour information and multiplies the inverse of the blend and base colours. The result colour is always a lighter colour. Screening with black leaves the colour unchanged. Screening with white produces white. The effect is similar to projecting multiple photographic slides on top of each other.

Overlay



Multiplies or screens the colours, depending on the base colour. Patterns or colours overlay the existing pixels while preserving the highlights and shadows of the base colour. The base colour is not replaced but is mixed with the blend colour to reflect the lightness or darkness of the original colour.

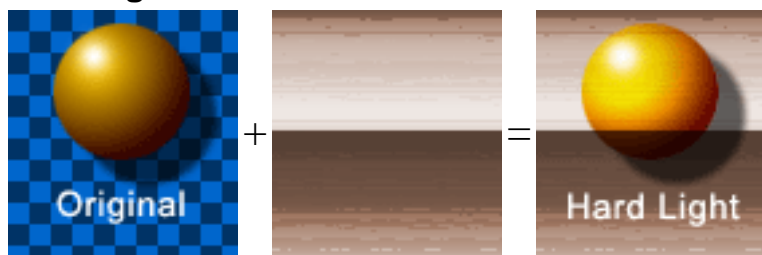
Soft Light



Darkens or lightens the colours, depending on the blend colour. The effect is similar to shining a diffused spotlight on the image.

If the blend colour (light source) is lighter than 50% gray, the image is lightened, as if it were dodged. If the blend colour is darker than 50% gray, the image is darkened, as if it were burned in. Painting with pure black or white produces a distinctly darker or lighter area but does not result in pure black or white.

Hard Light



Multiplies or screens the colours, depending on the blend colour. The effect is similar to shining a harsh spotlight on the image.

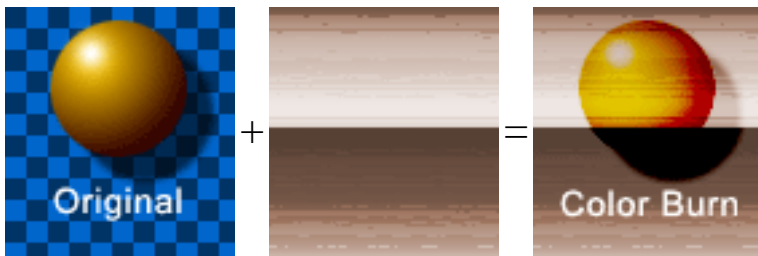
If the blend colour (light source) is lighter than 50% gray, the image is lightened, as if it were screened. This is useful for adding highlights to an image. If the blend colour is darker than 50% gray, the image is darkened, as if it were multiplied. This is useful for adding shadows to an image. Painting with pure black or white results in pure black or white.

Color Dodge



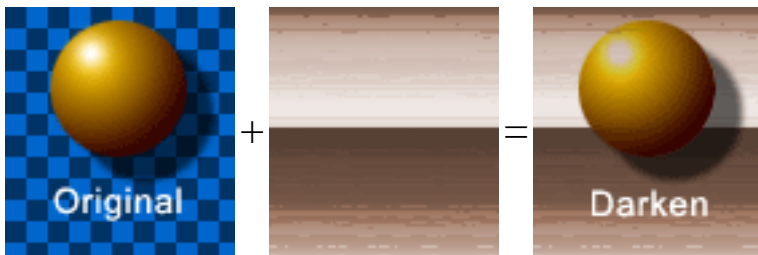
Looks at the colour information in each channel and brightens the base colour to reflect the blend colour. Blending with black produces no change.

Color Burn



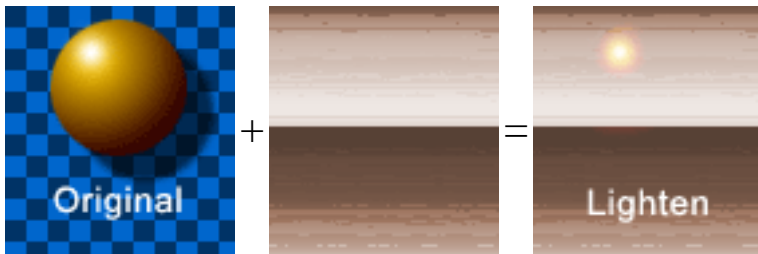
Looks at the colour information in each channel and darkens the base colour to reflect the blend colour. Blending with white produces no change.

Darken



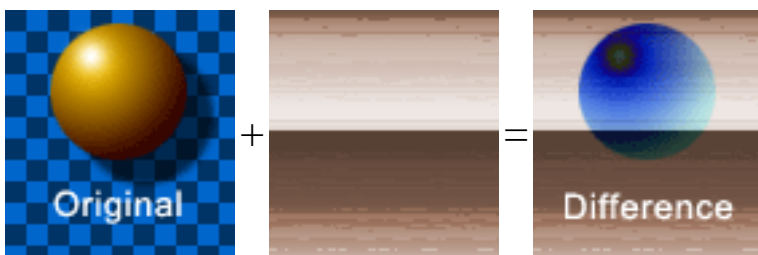
Looks at the colour information in each channel and selects the base or blend colour (whichever is darker) as the result colour. Pixels lighter than the blend colour are replaced, and pixels darker than the blend colour do not change.

Lighten



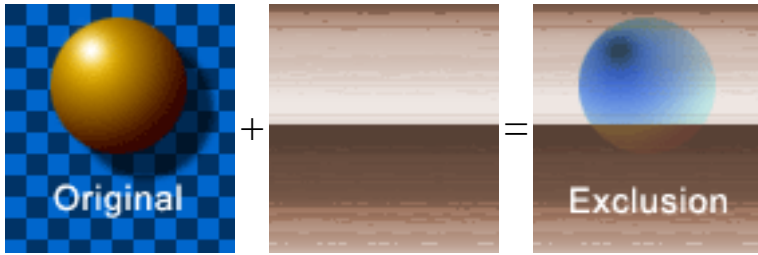
Looks at the colour information in each channel and selects the base or blend colour (whichever is lighter) as the result colour. Pixels darker than the blend colour are replaced, and pixels lighter than the blend colour do not change.

Difference



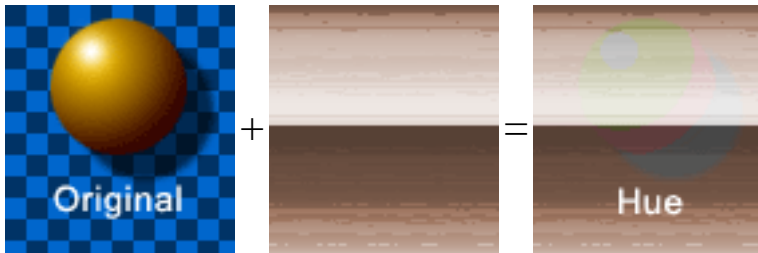
Looks at the colour information in each channel and subtracts either the blend colour from the base colour or the base colour from the blend colour, depending on which has the greater brightness value. Blending with white inverts the base colour values; blending with black produces no change.

Exclusion



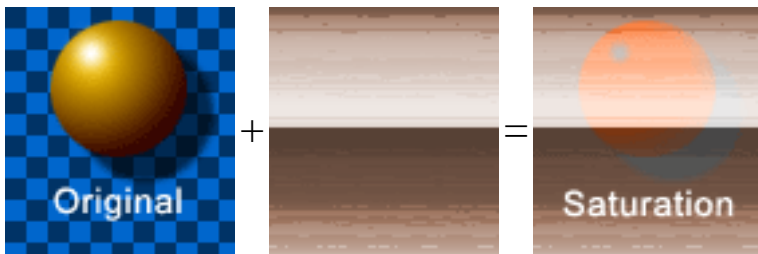
Creates an effect similar to but lower in contrast than the Difference mode. Blending with white inverts the base colour values. Blending with black produces no change.

Hue



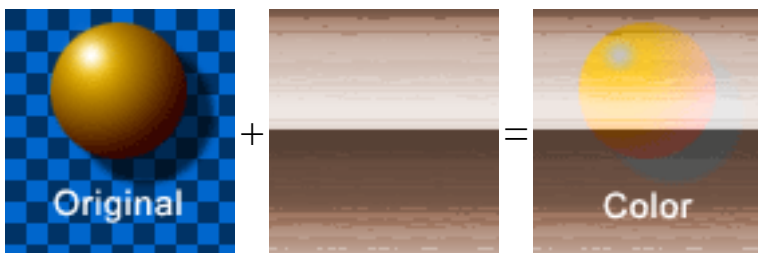
Creates a result colour with the luminance and saturation of the base colour and the hue of the blend colour.

Saturation



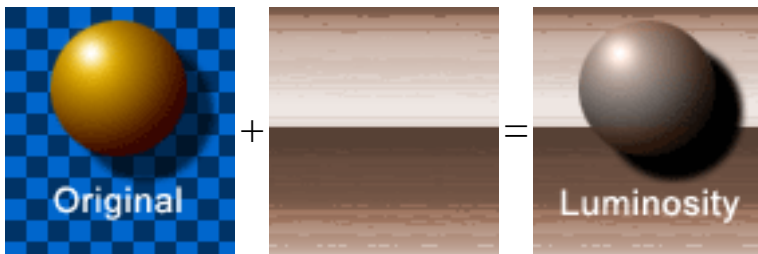
Creates a result colour with the luminance and hue of the base colour and the saturation of the blend colour. Painting with this mode in an area with no (0) saturation (gray) causes no change.

Color



Creates a result colour with the luminance of the base colour and the hue and saturation of the blend colour. This preserves the gray levels in the image and is useful for colouring monochrome images and for tinting colour images.

Luminosity



Creates a result colour with the hue and saturation of the base colour and the luminance of the blend colour. This mode creates an inverse effect from that of the Color mode.

Additional BLEND MODE information:

Note: as with all layer modes, the following is a 'non-destructive' editing feature. Which means it can be removed or edited further at any time.

The sliders in the Layer Options dialog box let you control which pixels from the active layer and which from the underlying visible layers blend and appear in the final image. For example, you can drop dark pixels out of the active layer or force bright pixels from the underlying layers to show through. You can also define a range of partially blended pixels to produce a smooth transition between blended and unblended areas.

To define a range for the blending operation:

1. In the Layer Options dialog box, select a Blend If option:
Gray to specify a blending range for all channels.
An individual color channel (for example, red, green, or blue in an RGB image) to specify blending in that channel. For more information, see [Color channels](#).
2. Use the This Layer and Underlying sliders to set the brightness range of the blended pixels—measured on a scale from 0 (black) to 255 (white). Drag the white slider to set the high value of the range. Drag the black slider to set the low value of the range.
3. To define a range of partially blended pixels, hold down Alt (Windows) or Option (Mac OS), and drag one half of a slider triangle. The two values that appear above the divided slider indicate the partial blending range.

Keep the following guidelines in mind when specifying blending ranges:

- Use the This Layer sliders to specify the range of pixels on the active layer that will blend and therefore appear in the final image. For example, if you drag the white slider to 235, pixels with brightness values higher than 235 will remain unblended and be excluded from the final image.
- Use the Underlying sliders to specify the range of pixels in the underlying visible layers that will blend in the final image. Blended pixels are combined with pixels in the active layer to produce composite pixels, while unblended pixels show through overlying areas of the active layer. For example, if you drag the black slider to 19, pixels with brightness values lower than 19 will remain unblended and show through the active layer in the final image.

GURU TIP:

Play around a lot with this feature of the Layer Options. You'll find that even greater control of your image effects can be achieved. And the effects you can get by setting a range for each, or a specific layer's Blend Mode can produce some very unique and interesting results. EXPERIMENT! ;O)>