

About foreground and background colors

Photoshop uses the foreground color to paint, fill, and stroke selections and the background color to make gradient fills and fill in the erased areas of an image. The foreground and background colors are also used by some special effects filters.

You can designate a new foreground or background color using the Eyedropper tool, the Color panel, the Swatches panel, or the Adobe Color Picker.

The default foreground color is black, and the default background color is white. (In an alpha channel, the default foreground is white, and the background is black.)

Choose colors in the toolbox

The current foreground color appears in the upper color selection box in the toolbox; the current background color appears in the lower box.



Foreground and background color boxes in toolbox

A. Default Colors icon B. Switch Colors icon C. Foreground color box D. Background color box

- To change the foreground color, click the upper color selection box in the toolbox, and then choose a color in the Adobe Color Picker.
- To change the background color, click the lower color selection box in the toolbox, and then choose a color in the Adobe Color Picker.
- To reverse the foreground and background colors, click the Switch Colors icon in the toolbox.
- To restore the default foreground and background colors, click the Default Colors icon in the toolbox.

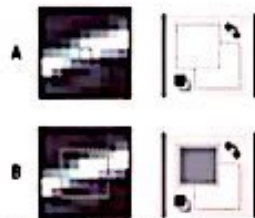
Choose colors with the Eyedropper tool

The Eyedropper tool samples color to designate a new foreground or background color. You can sample from the active image or from anywhere else on the screen.

1. Select the Eyedropper tool .
2. In the options bar, change the sample size of the eyedropper by choosing an option from the Sample Size menu:

Point Sample Reads the precise value of the pixel you click.

3 by 3 Average, 5 by 5 Average, 11 by 11 Average, 31 by 31 Average, 51 by 51 Average, 101 by 101 Average Reads the average value of the specified number of pixels within the area you click.



Selecting a foreground color with the Eyedropper tool

3. Choose one of the following from the Sample menu:

All Layers Samples color from all layers in the document.

Current Layer Samples color from the currently active layer.

4. To circle the Eyedropper tool with a ring that previews the sampled color above the current foreground color, select Show Sampling Ring. (This option requires OpenGL. See Enable OpenGL and optimize GPU settings.)

5. Do one of the following:



- To select a new foreground color, click in the image. Alternatively, position the pointer over the image, press the mouse button, and drag anywhere on the screen. The foreground color selection box changes dynamically as you drag. Release the mouse button to pick the new color.
- To select a new background color, Alt-dick (Windows) or Option-dick (Mac OS) in the image. Alternatively, position the pointer over the image, press Alt (Windows) or Options (Mac OS), press the mouse button, and drag anywhere on the screen. The background color selection box changes dynamically as you drag. Release the mouse button to pick the new color.

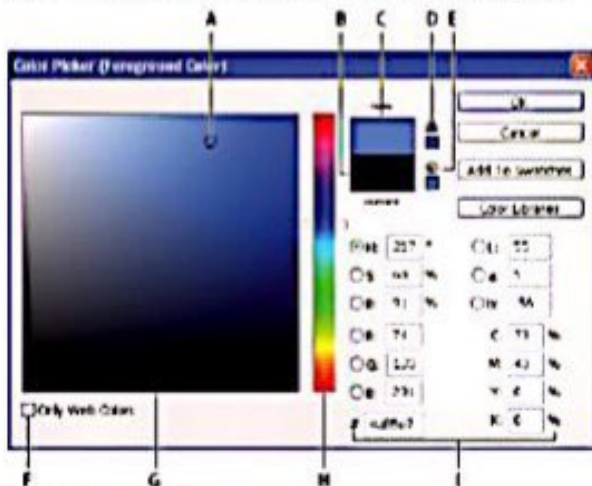
💡 To use the Eyedropper tool temporarily to select a foreground color while using any painting tool, hold down Alt (Windows) or Option (Mac OS).

Adobe Color Picker overview

In the Adobe Color Picker, you choose colors using four color models: HSB, RGB, Lab, and CMYK. Use the Adobe Color Picker to set the foreground color, background color, and text color. You can also set target colors for different tools, commands, and options.

You can configure the Adobe Color Picker to let you choose only colors that are part of the web-safe palette or choose from specific color systems. Photoshop Extended users can access an HDR (high dynamic range) picker to choose colors for use in HDR images.

The Color field in the Adobe Color Picker displays color components in HSB color mode, RGB color mode, and Lab color mode. If you know the numeric value of the color you want, you can enter it into the text fields. You can also use the color slider and the color field to preview a color to choose. As you adjust the color using the color field and color slider, the numeric values are adjusted accordingly. The color box to the right of the color slider displays the adjusted color in the top section and the original color in the bottom section. Alerts appear if the color is not a web-safe color  or is out of gamut for printing (non-printable) .



Adobe Color Picker

A. Picked color B. Original color C. Adjusted color D. Out-of-gamut alert icon E. Not a web-safe color alert icon F. Displays only web-safe colors G. Color field H. Color slider I. Color values

💡 When you select a color in the Adobe Color Picker, it simultaneously displays the numeric values for HSB, RGB, Lab, CMYK, and hexadecimal numbers. This is useful for viewing how the different color models describe a color.

Although Photoshop uses the Adobe Color Picker by default, you can use a different Color Picker than the Adobe Color Picker by setting a preference. For example, you can use the built-in color picker of your computer's operating system or a third-party plug-in Color Picker.

Display the Color Picker



- In the toolbox, click the foreground or background color selection box.
- In the Color panel, click the Set Foreground Color or Set Background Color selection box.


The Color Picker is also available when features let you choose a color. For example, by clicking the color swatch in the options bar for some tools, or the eyedroppers in some color adjustment dialog boxes.

Choose a color with the Adobe Color Picker

You can choose a color by entering color component values in HSB, RGB, and Lab text boxes, or by using the color slider and the color field.

To choose a color with the color slider and color field, click in the color slider or move the color slider triangle to set one color component. Then move the circular marker or click in the color field. This sets the other two color components.

As you adjust the color using the color field and color slider, the numeric values for the different color models adjust accordingly. The rectangle to the right of the color slider displays the new color in the top half and the original color in the bottom. Alerts appear if the color is not a web-safe color  or is out of gamut .

 You can choose a color outside the Adobe Color Picker window. Moving the pointer over the document window changes it to the Eyedropper tool. You can then select a color by clicking in the image. The selected color is displayed in the Adobe Color Picker. You can move the Eyedropper tool anywhere on your desktop by clicking in the image and then holding down the mouse button. You can select a color by releasing the mouse button.

Choose a color using the HSB model

Using the HSB color model, the hue is specified in the color field, as an angle from 0° to 360° that corresponds to a location on the color wheel. Saturation and brightness are specified as percentages. In the color field, the hue saturation increases from left to right and the brightness increases from the bottom to top.

1. In the Adobe Color Picker, select the H option and then enter a numeric value in the H text box or select a hue in the color slider.
2. Adjust the saturation and brightness by clicking in the color field, moving the circular marker, or entering numeric values in the S and B text boxes.
3. (Optional) Select either the S option or B option to display the color's saturation or brightness in the color field for making further adjustments.

Choose a color using the RGB model

Choose a color by specifying its red, green, and blue components.

1. In the Adobe Color Picker, enter numeric values in the R, G, and B text boxes. Specify component values from 0 to 255 (0 is no color, and 255 is the pure color).
2. To visually select a color using the color slider and color field, click either R, G, or B and then adjust the slider and color field.

The color you click appears in the color slider with 0 (none of that color) at the bottom and 255 (maximum amount of that color) at the top. The color field displays the range of the other two components, one on the horizontal axis and one on the vertical axis.

Choose a color using the Lab model

When choosing a color based on the Lab color model, the L value specifies the luminance of a color. The A value specifies how red or green a color is. The B value specifies how blue or yellow a color is.

1. In the Adobe Color Picker, enter values for L (from 0 to 100), and for A and B (from -128 to +127).
2. (Optional) Use the color slider or color field to adjust the color.

Choose a color using the CMYK model

You can choose a color by specifying each component value as a percentage of cyan, magenta, yellow, and black.

 In the Adobe Color Picker, enter percentage values for C, M, Y, and K, or use the color slider and color field to choose a color.

Choose a color by specifying a hexadecimal value

You can choose a color by specifying a hexadecimal value that defines the R, G, and B components in a color. The three pairs of numbers are expressed in values from 00 (minimum luminance) to ff (maximum luminance). For example, 000000 is black, ffffff is white, and ff0000 is red.

 In the Adobe Color Picker, enter a hexadecimal value in the # text box.

Choose a color while painting

The heads-up-display (HUD) color picker lets you quickly choose colors while painting in the document window, where image colors provide helpful context.

Note: The HUD color picker requires OpenGL. (See Enable OpenGL and optimize GPU settings.)

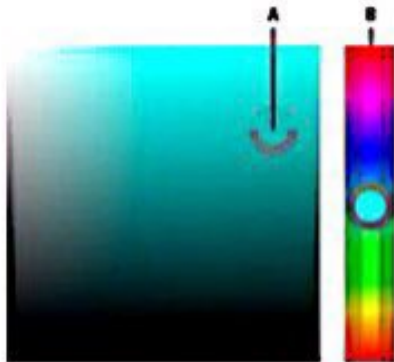
Choose the type of HUD color picker

1. Choose Edit > Preferences > General (Windows) or Photoshop > Preferences > General (Mac OS).

Choose a color from the HUD color picker

1. Select a painting tool.
2. Press Shift + Alt + right-click (Windows) or Control + Option + Command (Mac OS).
3. Click in the document window to display the picker. Then drag to select a color hue and shade.

💡 After clicking in the document window, you can release the pressed keys. Temporarily press the spacebar to maintain the selected shade while you select another hue, or vice versa.



Choosing color with HUD picker

A. Shade B. Hue

💡 To instead select a color from the image, hold down Alt (Windows) or Option (Mac OS) to access the Eyedropper tool.


Choose web-safe colors

The web-safe colors are the 216 colors used by browsers regardless of the platform. The browser changes all colors in the image to these colors when displaying the image on an 8-bit screen. The 216 colors are a subset of the Mac OS 8-bit color palettes. By working only with these colors, you can be sure that art you prepare for the web will not dither on a system set to display 256 colors.

Select web-safe colors in the Adobe Color Picker

◆ Select the Only Web Colors option in the lower left corner of the Adobe Color Picker. Any color you pick with this option selected is web-safe.


Change a non-web color to a web-safe color

If you select a non-web color, an alert cube  appears next to the color rectangle in the Adobe Color Picker.

◆ Click the alert cube to select the closest web color. (If no alert cube appears, the color you chose is web-safe.)

Select a web-safe color using the Color panel


1. Click the Color panel tab, or choose Window > Color to view the Color panel.
2. Choose an option for selecting a web-safe color:
 - Choose Make Ramp Web Safe from the Color panel menu. Any color you pick with this option selected is web-safe.
 - Choose Web Color Sliders from the Color panel menu. By default, web color sliders snap to web-safe colors (indicated by tick marks) when you drag them. To override web-safe color selection, Alt-drag (Windows) or Option-drag (Mac OS) the sliders.

If you choose a non-web color, an alert cube  appears above the color ramp on the left side of the Color panel. Click the alert cube to select the closest web color.

Choose a CMYK equivalent for a non-printable color

Some colors in the RGB, HSB, and Lab color models cannot be printed because they are out-of-gamut and have no equivalents in the CMYK model. When you choose a non-printable color in either the Adobe Color Picker or the Color panel, a warning alert triangle appears. A swatch below the triangle displays the closest CMYK equivalent.

Note: In the Color panel, the alert triangle is not available if you are using Web Color Sliders.

◆ To choose the closest CMYK equivalent, click the alert triangle  in the Color Picker dialog box or the Color panel.

Printable colors are determined by the current CMYK working space defined in the Color Settings dialog box.

Choose a spot color

To ensure that the final printed output is the color you want, consult your printer or service bureau and choose your color based on a printed color swatch. Manufacturers recommend that you get a new swatch book each year to compensate for fading inks and other damage.

Important: *Photoshop prints spot colors to CMYK (process color) plates in every image mode except Duotone. To print true spot color plates, create spot color channels.*

1. Open the Adobe Color Picker, and click Color Libraries.

The Custom Colors dialog box displays the color closest to the color currently selected in the Adobe Color Picker.

2. For Book, choose a color library. See below for descriptions of the color libraries.
3. Locate the color you want by entering the ink number or by dragging the triangles along the scroll bar.
4. Click the desired color patch in the list.

Spot color libraries

The Adobe Color Picker supports the following color systems:

ANPA-COLOR Commonly used for newspaper applications. The ANPA-COLOR ROP Newspaper Color Ink Book contains samples of the ANPA colors.

DIC Color Guide Commonly used for printing projects in Japan. For more information, contact Dainippon Ink & Chemicals, Inc., in Tokyo, Japan.

FOCOLTONE Consists of 763 CMYK colors. Focoltone colors help avoid prepress trapping and registration problems by showing the overprints that make up the colors. A swatch book with specifications for process and spot colors, overprint charts, and a chip book for marking up layouts are available from Focoltone. For more information, contact Focoltone International, Ltd., in Stafford, United Kingdom.

HKS swatches Used for printing projects in Europe. Each color has a specified CMYK equivalent. You can select from HKS E (for continuous stationery), HKS K (for gloss art paper), HKS N (for natural paper), and HKS Z (for newsprint). Color samplers for each scale are available. HKS Process books and swatches have been added to the color system menu.

PANTONE® Colors used for spot-color reproduction. The PANTONE MATCHING SYSTEM can render 1,114 colors. PANTONE color guides and chip books are printed on coated, uncoated, and matte paper stocks to ensure accurate visualization of the printed result and better on-press control. You can print a solid PANTONE color in CMYK. To compare a solid PANTONE color to its closest process color match, use the PANTONE solid to process guide. The CMYK screen tint percentages are printed under each color. For more information, contact Pantone, Inc., Carlstadt, NJ (www.pantone.com).

TOYO Color Finder 1050 Consists of more than 1000 colors based on the most common printing inks used in Japan. The TOYO Process Color Finder book and swatches have been added to the color system menu. The TOYO Color Finder 1050 Book contains printed samples of Toyo colors and is available from printers and graphic arts supply stores. For more information, contact Toyo Ink Manufacturing Co., Ltd., in Tokyo, Japan.

TRUMATCH Provides predictable CMYK color matching with more than 2000 achievable, computer-generated colors. Trumatch colors cover the visible spectrum of the CMYK gamut in even steps. The Trumatch Color displays up to 40 tints and shades of each hue, each originally created in four-color process and each reproducible in four colors on electronic imagesetters. In addition, four-color grays using different hues are included. For more information, contact Trumatch Inc., in New York City, New York.

More Help topics

About layers

Photoshop layers are like sheets of stacked acetate. You can see through transparent areas of a layer to the layers below. You move a layer to position the content on the layer, like sliding a sheet of acetate in a stack. You can also change the opacity of a layer to make content partially transparent.



Transparent areas on a layer let you see layers below.

You use layers to perform tasks such as compositing multiple images, adding text to an image, or adding vector graphic shapes. You can apply a layer style to add a special effect such as a drop shadow or a glow.

See a [Video tutorial: Understanding layers](#) for an overview on working with Layers.

Organizing layers

A new image has a single layer. The number of additional layers, layer effects, and layer sets you can add to an image is limited only by your computer's memory.

You work with layers in the Layers panel. Layer groups help you organize and manage layers. You can use groups to arrange your layers in a logical order and to reduce clutter in the Layers panel. You can nest groups within other groups. You can also use groups to apply attributes and masks to multiple layers simultaneously.

Layers for non-destructive editing

Sometimes layers don't contain any apparent content. For example, an adjustment layer holds color or tonal adjustments that affect the layers below it. Rather than edit image pixels directly, you can edit an adjustment layer and leave the underlying pixels unchanged.

A special type of layer, called a Smart Object, contains one or more layers of content. You can transform (scale, skew, or reshape) a Smart Object without directly editing image pixels. Or, you can edit the Smart Object as a separate image even after placing it in a Photoshop image. Smart Objects can also contain smart filter effects, which allow you to apply filters non-destructively to images so that you can later tweak or remove the filter effect. See [Nondestructive editing](#).

Video layers

You can use video layers to add video to an image. After importing a video clip into an image as a video layer, you can mask the layer, transform it, apply layer effects, paint on individual frames, or rasterize an individual frame and convert it to a standard layer. Use the Timeline panel to play the video within the image or to access individual frames. See Supported video and image sequence formats (Photoshop Extended).

Layers panel overview

The Layers panel lists all layers, layer groups, and layer effects in an image. You can use the Layers panel to show and hide layers, create new layers, and work with groups of layers. You can access additional commands and options in the Layers panel menu.



Photoshop Layers panel

A. Layers panel menu B. Layer Group C. Layer D. Expand/Collapse Layer effects E. Layer effect F. Layer thumbnail

Display the Layers panel

◆ Choose Window > Layers.

Choose a command from the Layers panel menu

◆ Click the triangle in the upper right corner of the panel.

Change the size of layer thumbnails

◆ Choose Panel Options from the Layers panel menu, and select a thumbnail size.

Change thumbnail contents

◆ Choose panel Options from the Layers panel menu, and select Entire Document to display the contents of the entire document. Select Layer Bounds to restrict the thumbnail to the object's pixels on the layer.

💡 Turn off thumbnails to improve performance and save monitor space.

Expand and collapse groups

◆ Click the triangle to the left of a group folder. See View layers and groups within a group.

Filter layers (CS6)

At the top of the Layers panel, the filtering options help you find key layers in complex documents quickly. You can display a subset of layers based on name, kind, effect, mode, attribute, or color label.



Filter layers options in the Layers panel

1. Choose a filter type from the popup menu.
2. Select or enter the filter criteria.
3. Click the toggle switch to switch layer filtering on or off.

Convert background and layers

When you create a new image with a white background or a colored background, the bottommost image in the Layers panel is called Background. An image can have only one background layer. You cannot change the stacking order of a background layer, its blending mode, or its opacity.

However, you can convert a background into a regular layer, and then change any of these attributes.

When you create a new image with transparent content, the image does not have a background layer. The bottommost layer is not constrained like the background layer: you can move it anywhere in the Layers panel and change its opacity and blending mode.

Convert a background into a layer

1. Double-click Background in the Layers panel, or choose Layer > New > Layer From Background.
2. Set layer options. (See Create layers and groups.)
3. Click OK.

Convert a layer into a background

1. Select a layer in the Layers panel.
2. Choose Layer > New > Background From Layer.


Any transparent pixels in the layer are converted to the background color, and the layer drops to the bottom of the layer stack.

Note: You cannot create a background by giving a regular layer the name, Background—you must use the Background From Layer command.


Duplicate layers

You can duplicate layers within an image or into another or a new image.

Duplicate a layer or group within an image

1. Select a layer or group in the Layers panel.
2. Do one of the following:
 - Drag the layer or group to the Create a New Layer button .
 - Choose Duplicate Layer or Duplicate Group from the Layers menu or the Layers panel menu. Enter a name for the layer or group, and click OK.

Duplicate a layer or group in another image

1. Open the source and destination images.
2. From the Layers panel of the source image, select one or more layers or a layer group.
3. Do one of the following:
 - Drag the layer or group from the Layers panel to the destination image.
 - Select the Move tool , and drag from the source image to the destination image. The duplicate layer or group appears above the active layer in the Layers panel of the destination image. Shift-drag to move the image content to the same location it occupied in the source image (if the source and destination images have the same pixel dimensions) or to the center of the document window (if the source and destination images have different pixel dimensions).
 - Choose Duplicate Layer or Duplicate Group from the Layers menu or the Layers panel menu. Choose the destination document from the Document pop-up menu, and click OK.
 - Choose Select > All to select all the pixels on the layer, and choose Edit > Copy. Then choose Edit > Paste in the destination image. (This method copies only pixels, excluding layer properties such as blending mode.)

Create a new document from a layer or group

1. Select a layer or group from the Layers panel.
2. Choose Duplicate Layer or Duplicate Group from the Layers menu or the Layers panel menu.
3. Choose New from the Document pop-up menu, and click OK.

Sample from all visible layers

The default behavior of the Mixer Brush, Magic Wand, Smudge, Blur, Sharpen, Paint Bucket, Clone Stamp, and Healing Brush tools is to sample color only from pixels on the active layer. This means you can smudge or sample in a single layer.

◆ To smudge or sample pixels from all visible layers with these tools, select Sample All Layers from the options bar.

Change transparency preferences

1. In Windows, choose Edit > Preferences > Transparency & Gamut; in Mac OS, choose Photoshop > Preferences > Transparency & Gamut.
2. Choose a size and color for the transparency checkerboard, or choose None for Grid Size to hide the transparency checkerboard.
3. Click OK.