



# **PHOTOSHOP TUTORIAL**

The color mode determines how colors combine based on the number of channels in a color model. Different color modes result in different levels of color detail and file size.

### **RGB Color mode:**

Photoshop RGB Color mode uses the RGB model, assigning an intensity value to each pixel. In 8-bits-per-channel images, the intensity values range from 0 (black) to 255 (white) for each of the RGB (red, green, blue) components in a color image.

RGB images use three colors, or channels, to reproduce colors on screen. In 8-bits-per-channel images, the three channels translate to 24 (8 bits x 3 channels) bits of color information per pixel. With 24-bit images, the three channels can reproduce up to 16.7 million colors per pixel. With 48-bit (16-bits-per-channel) and 96-bit (32-bits-per-channel) images, even more colors can be reproduced per pixel.

### **CMYK Color mode:**

In the CMYK mode when preparing an image to be printed using process colors. Converting an RGB image into CMYK creates a color separation. If you start with an RGB image, it's best to edit first in RGB and then convert to CMYK at the end of your editing process. In RGB mode, you can use the Proof Setup commands to simulate the effects of a CMYK conversion without changing the actual image data. You can also use CMYK mode to work directly with CMYK images scanned or imported from high-end systems.

### **Lab Color mode:**

The Lab color model is based on the human perception of color. The numeric values in Lab describe all the colors that a person with normal vision sees. Because Lab describes how a color looks rather than how much of a particular colorant is needed for a device (such as a monitor, desktop printer, or digital camera) to produce colors, Lab is considered to be a device-independent color model. Color management systems use Lab as a color reference to predictably transform a color from one color space to another color space.

**Grayscale mode:**

Grayscale mode uses different shades of gray in an image. In 8-bit images, there can be up to 256 shades of gray. Every pixel of a grayscale image has a brightness value ranging from 0 (black) to 255 (white). In 16-and 32-bit images, the number of shades in an image is much greater than in 8-bit images.

Grayscale values can also be measured as percentages of black ink coverage (0% is equal to white, 100% to black).

**Bitmap mode:**

Bitmap mode uses one of two color values (black or white) to represent the pixels in an image. Images in Bitmap mode are called bitmapped 1-bit images because they have a bit depth of 1.

**Indexed Color mode:**

Indexed Color mode produces 8-bit image files with up to 256 colors. When converting to indexed color, Photoshop builds a color lookup table, which stores and indexes the colors in the image. If a color in the original image does not appear in the table, the program chooses the closest one or uses dithering to simulate the color using available colors.