Color Basics

Color is the perceptual characteristic of light described by a color name. Specifically, color is light, and light is composed of many colors—those we see are the colors of the visual spectrum: red, orange, yellow, green, blue, and violet. Objects absorb certain wavelengths and reflect others back to the viewer. We perceive these wavelengths as color.

A color is described in three ways: by its name, how pure or desaturated it is, and its value or lightness. Although pink, crimson, and brick are all variations of the color red, each hue is distinct and differentiated by its chroma, saturation, intensity, and value.

**Chroma, intensity, saturation and luminance/value** are inter-related terms and have to do with the description of a color.

![Chroma: How pure a hue is in relation to gray](image)

**Chroma:** How pure a hue is in relation to gray

**Saturation:** The degree of purity of a hue.

**Intensity:** The brightness or dullness of a hue. One may lower the intensity by adding white or black.

**Luminance / Value:** A measure of the amount of light reflected from a hue. Those hues with a high content of white have a higher luminance or value.

**Shade and tint** are terms that refer to a variation of a hue.

![Shade: A hue produced by the addition of black. Tint: A hue produced by the addition of white.](image)

**Shade:** A hue produced by the addition of black.

**Tint:** A hue produced by the addition of white.


**Color Wheel**

A color wheel (also referred to as a color circle) is a visual representation of colors arranged according to their chromatic relationship. Begin a color wheel by positioning primary hues equidistant from one another, then create a bridge between primaries using secondary and tertiary colors.
These terms refer to color groups or types:

**Primary Colors:** Colors at their basic essence; those colors that cannot be created by mixing others.

**Secondary Colors:** Those colors achieved by a mixture of two primaries.

**Tertiary Colors:** Those colors achieved by a mixture of primary and secondary hues.

**Complementary Colors:** Those colors located opposite each other on a color wheel.

**Analogous Colors:** Those colors located close together on a color wheel.

The color wheel can be divided into ranges that are visually active or passive. Active colors will appear to advance when placed against passive hues. Passive colors appear to recede when positioned against active hues.
Advancing hues are most often thought to have less visual weight than the receding hues. Most often warm, saturated, light value hues are "active" and visually advance. Cool, low saturated, dark value hues are "passive" and visually recede. Tints or hues with a low saturation appear lighter than shades or highly saturated colors. Some colors remain visually neutral or indifferent.

**Color relationships** may be displayed as a color wheel or a color triangle.

**The Painter's color triangle** consists of colors we would often use in art class—those colors we learn about as children. The primary hues are red, blue and yellow.

**The Printers' color triangle** is the set of colors used in the printing process. The primaries are magenta, cyan, and yellow.

**Nine-part harmonic triangle of Goethe** begins with the printer's primaries; the secondaries formed are the painter's primaries; and the resulting tertiaries formed are dark neutrals.