

## COLOR THEORY

A color circle, based on red, yellow and blue, is traditional in the field of art. Sir Isaac Newton developed the first circular diagram of colors in 1666. Since then scientists and artists have studied and designed numerous variations of this concept. Differences of opinion about the validity of one format over another continue to provoke debate. In reality, any color circle or color wheel which presents a logically arranged sequence of pure hues has merit.

Hue- Is a pure color, one that does not have white or black added to it to shade it.

Chroma- The degree of "purity" of a color. A color with "High Chroma" means that there is no white, black, or gray mixed in to muddy it up. High Chroma colors will appear very vivid and pure.

Saturation - Saturation tells us how a color looks under certain lighting conditions. For instance, a room painted a solid color will appear different at night than in daylight. Over the course of the day, although the color is the same, the saturation changes. This property of color can also be called intensity. Be careful not to think about SATURATION in terms of light and dark but rather in terms of pale or weak and pure or strong

Value- When we describe a color as "light" or "dark", we are discussing its value or "brightness". This property of color tells us how light or dark a color is based on how close it is to white or black.

Tint- Taking a hue (pure color) and adding white, (making it lighter). The tint of a color is a specific color, only lighter. You are not changing the color in any way other than lightening it. Opposite of Shade.

Shade – Taking a hue (pure color ) and adding black (making it darker). Think: Shade = Shadow.

Primary Colors- *Red, yellow and blue*. These are the 3 pigment colors that can not be mixed or formed by any combination of other colors. All other colors are made from these 3 when blended correctly.

Neutral Colors- *Black, White, Brown, Gray*. The Neutral colors are colors that aren't pure hues. Similar to the primary colors, you cannot mix any set of colors to make Black and White. Gray is a combination of black and white mixed together, and brown is a combination of the three primary colors all mixed together.

Warm Colors- *Red, Orange, and Yellow*. When used in art, these colors often suggest warmth. Yellow mixed in with green on grass suggests sunlight. Orange mixed with brown on a tree makes the bark seem more summer like vs. winter like. Red is the color associated with passion, love, and fire (all warm things).

Cool Colors- *Blue, Purple, Green*- The cool colors suggest coldness. Look out the window in the winter, everything seems more "blue". Think of a song, feeling "blue" is like being sad. Purple blends nicely with blue to make a shadow. Green is the color of life and rebirth.

Secondary Colors - *Green, orange and purple*. These are the colors formed by mixing the primary colors.

Tertiary Colors - (Pronounced: TUR-shee-er-ee) The SIX main Tertiary Colors are: *Yellow-orange, red-orange, red-purple, blue-purple, blue-green and yellow-green*. These are the colors formed by mixing a primary and a secondary color. That's why the hue is a two word name.

Color Harmony- Harmony in visual art, is something that is pleasing to the eye. It engages the viewer's interest and it creates an inner sense of order and balance. When something is not harmonious, it's either boring or chaotic. At one extreme is a visual experience that is so bland that the viewer is not engaged. At the other extreme is a visual experience that is so overdone, so chaotic that the viewer can't stand to look at it.

### Formulas for Color Harmony

Color Scheme – A specifically planned set of rules for a group of colors within an art work.

Analogous colors are any three colors which are side by side on a 12 part color wheel. Many color wheels are only 6 parts (Blue, Green, Yellow, Orange, Red, Purple). You need to have a 12 part wheel in order to find analogous colors because a 12 part color wheel shows a wider range of colors.

Examples of a set of Analogous colors include:

Yellow-green, yellow, and yellow-orange.

Yellow Orange, Orange, Red Orange

Purple Blue, Blue, Blue Green

Complementary colors- Are any two colors which are directly opposite each other, such as red and green and red-purple and yellow-green. These opposing colors create maximum contrast and maximum stability.

Earth Tones- Is a color scheme made of browns, tans, greys, greens, oranges, whites, blues and some reds. The colors in an earth tone scheme are muted and flat like the natural colors found in soil, moss, trees and rocks.

Color Context - Red appears more brilliant against a black background and somewhat duller against the white background. In contrast with orange, the red appears lifeless; in contrast with blue-green, it exhibits brilliance.

Monotone- A color scheme in which only one color is used. This one color will be tinted and shaded (made brighter or darker) but cannot be mixed with other colors. For example, if the monotone is blue, you can mix white to show highlights and black for shadows. In normal situations, an artist might use purple to help make a good blue shadow, but that is against the rules during monotone.