

Color begins with and is derived from light, natural or artificial.

As light passes through a prism, the rays are bent, or refracted, at different angles (according to their wavelengths), producing a rainbow of hues called the spectrum.

Principles of color perception – light, vision, and the brain.

Physical Properties of Color:

- Hue- common name of a color and indicates its position on the color wheel; determined by the specific wavelength of the color in a ray of light.
- Intensity- saturation, strength, purity of a hue. Vivid color- high intensity.
- Value, chromatic value- relative degree of lightness or darkness demonstrated by a given color.

Achromatic – without color, gray scale. Black, white, and gray are neutrals.

Tint – color mixed with white.

Shade - color mixed with black.

Tone – color mixed with gray.

Simultaneous Contrast- a color may appear entirely different when juxtaposed with another color.

Push & Pull- a phrase coined by the painter Hans Hoffman to describe how color temperature can create spatial illusion:

Warm Colors- red, orange, yellow; appear to advance in space.

Cool Colors- green, blue, violet, appear to recede in space.

Color Systems:

1. **Additive Color** (Light Primaries): Projected colors red, blue and green overlap to produce secondary colors and white. T.V., computer art, theater, video production, computer animation graphics, neon sign industry, slide and multimedia presentations, laser light shows, landscape and interior lighting.

2. **Subtractive Color** (Pigment Primaries): Reflected Color, the painter's palette! Color produced when wavelengths of light are reflected back to the viewer after all other wavelengths have been subtracted and/or absorbed. A green leaf appears green to the eye because the leaf reflects only the green waves in the ray of light. It absorbs all of the others.

Color Schemes:

Primary Color- hues that cannot be broken down or reduced into component colors. The basic hues of any color system that in theory may be used to mix all other colors.

Secondary Color- color produced by a mixture of two primary colors.

Intermediate Color – color produced by a mixture of a primary and a secondary.

Tertiary Color – color resulting from the mixture of all three primaries in differing amounts or two secondary colors. Tertiary colors are characterized by the neutralization of intensity and hue. They are found on the color wheel on the inner rings of color, as you mix across the color wheel, leading to complete neutralization.

Analogous Color – colors closely related in hue. They are usually adjacent to each other on the color wheel.

Complimentary Color – two colors directly opposite each other on the color wheel. A primary color is complementary to a secondary color, which is a mixture of the two remaining primaries.

Monochromatic color- a color that has only one hue but has the complete range of value of that color from white to black.

Split complementary: Using any color with the two colors on each side of its complement. Example: Green, with red-orange and red-violet.

Triad: Using three colors equally spaced from each other on the wheel. Example: orange, violet and green.

Tetrad: Using a combination of four colors on the wheel that are two sets of complements. Example: red and green with blue and orange.

Accented Analogic- Similar to the analogous color schemes, but with a complementary color added opposite the main color.