LAG Color Notes

Three types of color
1. Light, RGB, additive, all colors make white
2. Pigments, dyes and inks, subtractive, MYC (K) all colors make black
3. Optical (pointillism)

Light

Childhood 6 color then 12 color, color wheel

Book, "Blue and Yellow don't make Green" by Michael Wilcox, 2002 – 6 primary colors
- Undertone causes a temperature shift; blue tinted green has a yellow undertone while blue tinted with violet has a red undertone
- Blue tinted green mixed with yellow makes a lovely green
- Blue tinted with violet mixed with red makes a lovely purple

Evolution of color theory

Science, the refraction of white light: Newton's Experiment: Project a beam of sunlight through a glass prism. Take a bar of color and bend it. Use of 7 colors – 1704

1708, Boutet's 7-colour and 12-color color circles

1776, Harris, English engraver published first known example of a color circle

1810, Goethe changed Newton's wheel of 7 to a wheel of 6. Johann Wolfgang Goethe, introduced the idea of warm and cool colors.

Phillip Otto Runge, German painter, added tints and shades around the same time of Goethe. Leave science and do ART.

1839, Michael Eugene Chevreul was a chemist at Gobelin tapestries. 72 segment color wheel, Perceive colors, color will give a neighboring color a tint of its complimentary color. "The Principle of Harmony and Contrast Colors" Published theories of simultaneous contrast

1874, Wilhelm von Bezold's theory similar to color spatial mixing

1904 color wheel based on red/yellow/blue primaries, and orange/green/violet secondaries

1908 color wheel with red, green, and violet "plus colors" and magenta, yellow, and cyan blue "minus colors"

1914, Albert Munsell Chroma, how strong or weak a color was. No Orange? Scale of 10 (hues?) Chroma color is the measurement of how pure a Hue is in relationship to gray. Color Saturation is simply the degree of purity

1919, Itten, German Swiss Artist, Bauhaus, psychology of color RYB primaries and a 12 color, color wheel

Ogdon Nicholas Rod, 12 color color wheel, additive color wheel. Given credit for Attributes of color, hue and value

1991 Real Color wheel: Don A. Jusko, uses light pigments and crystals to create the wheel. "The original color wheel painting was painted by me for artists like me, painting on location. I found the colors in nature use perfect complements." How to use the real color wheel: These are transparent primaries to paint with. Transparent yellow, transparent magenta and transparent cyan. These colors mixed will make red, blue and green, adding white will make them tints and opaque. This color wheel shows where the colors are positioned and how they get dark to match. Primaries are Magenta, Yellow and Cyan. Red is YM, Blue is MC and Green is CY

http://www.realcolorwheel.com/colorwheel.htm

2008, Ive's wheel   Subtractive The Ives color wheel uses magenta, yellow and cyan/turquoise as its 3 primary colors. This system is the basis for dyeing textile and the CMYK system used in printing (K is for black).Oct 20, 2008

1) yellow   2) chartreuse   3) yellow green   4) spring green   5% green   6) blue green   7) aqua green   8) aqua blue   9) turquoise blue (cyan)   10) cerulean blue   11) blue   12) blue violet   13) violet   14) red violet   15) purple   16) fuchsia   17) magenta   18) blue red   19) red   20) orange red   21) orange   22) yellow orange   23) orange yellow   24) golden yellow

2002, Process color wheel: Subtractive MYC, Ive's wheel, wheel Color Play : Easy Steps to Imaginative Color in Quilts by Joen Wolfrom

Ultimate 3-in-1 Color Tool https://www.amazon.com/Ultimate-3-1-Color-Tool/dp/1607052350

16,777,216 Web colors

Warm & cool colors

- **Warm colors** are vivid and energetic, and tend to advance in space.
- **Cool colors** give an impression of calm, and create a soothing impression.
- White, black and gray are considered to be neutral.
- Undertones

Complimentary colors are opposite each other on the color wheel are considered to be complementary colors (example: red and green).

- Dynamic, vibrate
  - – Equal color value
  - – Equal amounts of each color
- Decrees vibration
  - – Change proportion, one dominant
  - – Decrease intensity of one or both
  - – Separate them with a neutral color

Analogous color schemes use colors that are next to each other on the color wheel. They usually match well and create serene and comfortable designs.

Monochromatic colors are all the colors (tints, tones and shades) of a single hue.

Value

Gray Scale and Value Finder https://www.dickblick.com/products/gray-scale-value-finder/

Color Evaluator II https://www.amazon.com/Color-Evaluator-II-contrast-evaluator/dp/B01C4NCV02

Value number for a color

- Yellow 3, orange 4, red 6, violet 9, blue 8, green 6
- Yellow to violet 1:3
- Orange to blue 1:2
- Red to green 1:1
- On the Theory of colors, 1810 Goethe gave colors number in the RYB system
- Yellow 9, orange 8, red 6, violet 3, blue 4, green 6 based on light reflectance
- Yellow to violet 3:1, yellow reflects light 3 times more than violet
- Relative values

Color Schemes

A triadic color scheme uses colors that are evenly spaced around the color wheel.

The split-complementary color scheme is a variation of the complementary color scheme. In addition to the base color, it uses the two colors adjacent to its complement.

The rectangle or tetradic color scheme uses four colors arranged into two complementary pairs. Also known as the double split complementary. (2 isosceles triangles overlapping, apex removed)

The square color scheme is similar to the rectangle, but with all four colors spaced evenly around the color circle.

Hexad: 6 colors, six hues equally spaced, harmony consists of 3 sets of complementary colors.

Color Palette Generator   https://www.generateit.net/color-palette-generator/

Color contrasts
- Simultaneous Contrast
- Contrast of Saturation
- Contrast with Neutrals
- Contrast of Proportions

Proximity – Relative Color

Colors are modified in appearance by their proximity to other colors.

All colors seem lighter and more dramatic against black.

All colors seem cooler and more subdued against white.

Dark colors look darker against light colors than against dark colors.

Light colors look lighter against dark colors than against light colors.

Colors are influenced in hue by adjacent colors, each coloring its neighbor with its own complement.

If two complementary colors lie side-by-side, the contrast makes each seem more intense than it looks by itself.

Dark hues on a dark background that is not complementary appear weaker, or less intense, than they do on a complementary background.

Light colors on light background that is not complementary appear weaker, or less intense, than they do on a complementary background.

A bright color set against a dull color of the same hue further deadens the dull color.

When a bright color is set against a dull color, the contrast is strongest when the latter is complementary.

Light colors on light backgrounds that are not complementary can be greatly strengthened if bounded by narrow bands of black or complementary colors.

Dark colors on dark background that are not complementary can be greatly strengthened if bounded by narrow bands of white or of light colors.

The greatest afterimage appears when figure and background relationships have the same value, and when a large background is set behind a small foreground figure.

Contrasts
- Texture
- Value
- Sheen

How eye-catching should the project be?
- An attention-grabbing project is typically a high-energy project - one that uses highly saturated colors.

What mood do you want your project to convey?
- Mood is conveyed mostly by value (lightness/darkness). Light values produce an airy, open feeling. Dark values produce a more weighty, serious, or regal feeling. Medium values produce a wide range of moods. Highly saturated colors produce bright and cheery moods, low saturation colors produce a more subdued, understated mood.