

A watercolor illustration of a color wheel. The wheel is composed of various colored segments radiating from a central point. The colors include shades of yellow, orange, red, pink, purple, blue, and green. The segments are separated by thin white lines, and the overall style is soft and artistic, typical of watercolor painting.

GUIDE TO COLOR MIXING

Learning how to mix colors is a crucial step to take when learning to paint with watercolors. This PDF contains notes you can use as a reference.

Basic Color Theory



Color wheel with 12 colors, warm primary colors

Primary, Secondary and Tertiary Colors

Primary colors: These are the three main parent colors. They are Red, blue, and yellow. All other colors stem from primary colors and they cannot be created by mixing two colors.

Secondary colors: These colors are created by mixing two primary colors. They are: purple, green, and orange

Tertiary Colors- These are colors created through mixing a primary and secondary color. They are blue-purple, red-purple, red-orange, yellow-orange, yellow-green, and blue-green.

Properties of color

Hue- (This is another word for color). Hue is basically the name of a color on the color wheel.

Saturation- as intensity or chroma. Saturation refers to how pure and vibrant a color is. A color that is very muted and gray is considered to have low saturation. Meanwhile, a color that is vivid and bright is considered to have high saturation.

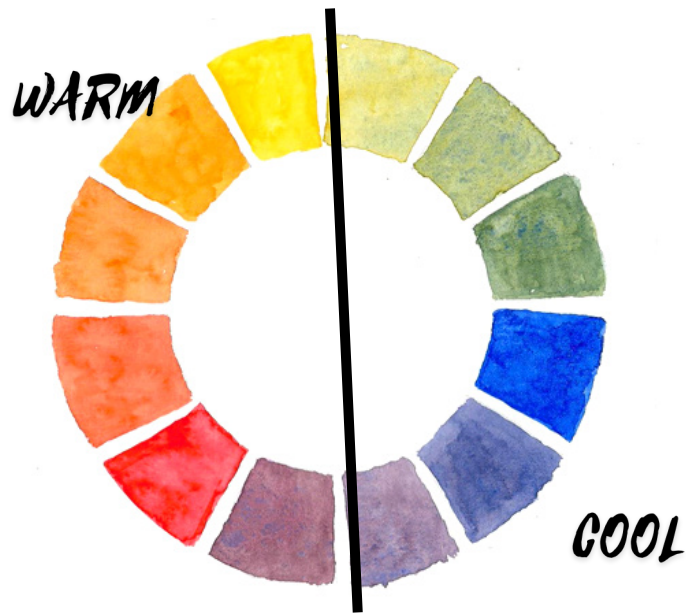
Value/tone- This is basically how light or dark a color is.

Temperature: Refers to the warmness or coolness of a hue.

Color wheel with warm & cool colors

Color Temperature

The color wheel can be divided into warm and cool colors. Yellow, orange, and red are considered warm colors. Meanwhile, Blue, purple and green are considered cool colors



Color wheel with 12 colors, warm primary colors

However, any color can have a warm or cool temperature. So you can have a warm and cool blue, red, yellow...etc

You can determine the temperature bias of a color by looking at its position on the wheel



For example, the cool red is considered cool because it has more of a purple undertone and therefore leans towards blue.

The cool blue is considered cool because it has more of a greenish undertone and is closely related to green than purple.

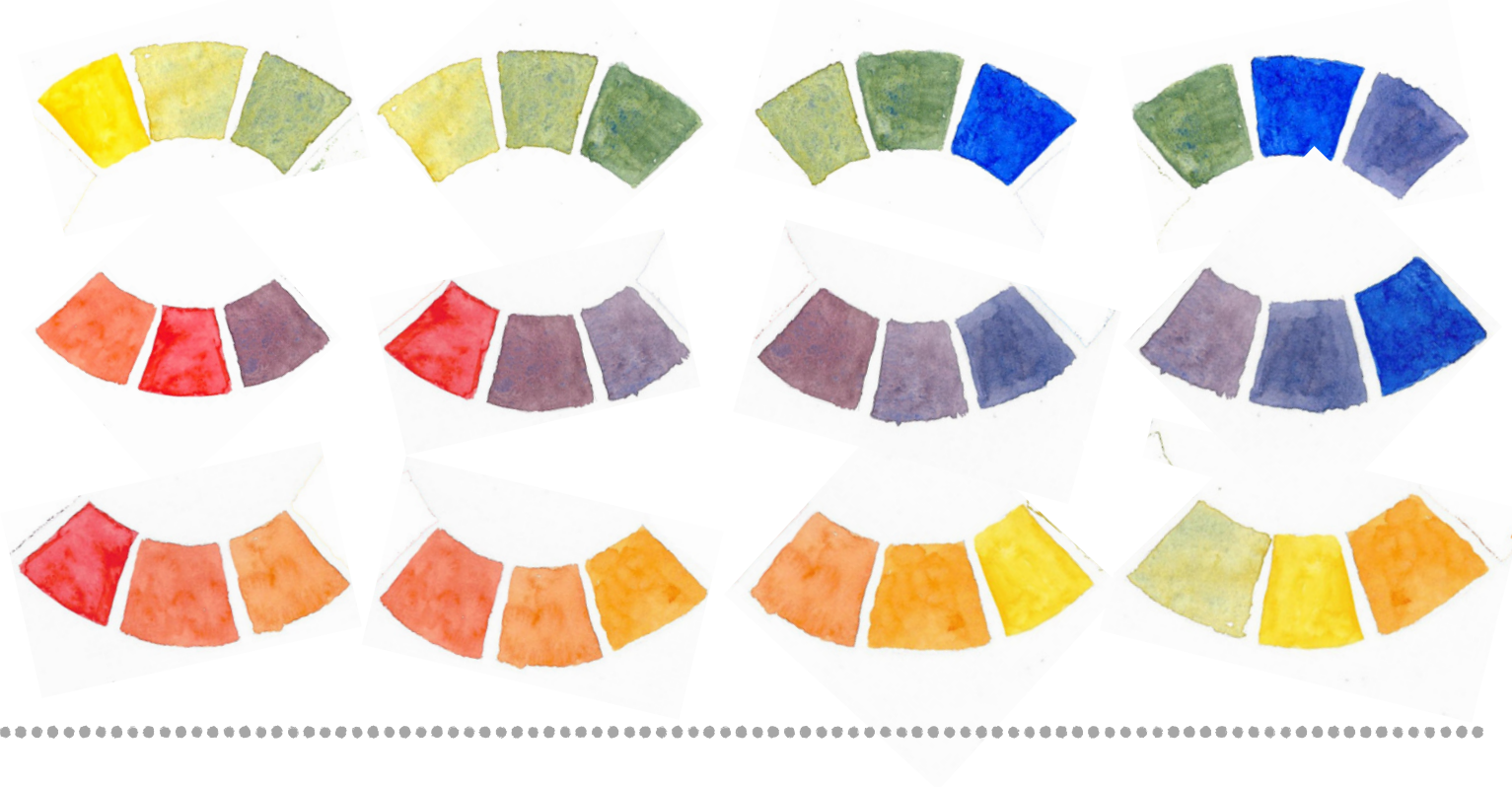
Note: When comparing two different versions of the same primary color, we can see that one can be warmer than the other. For example, a warm red and a cool red, however both reds when compared to a blue (a cool color) will be categorized as warmer than the blue.

Color Harmonies

Analogous colors

Analogous colors are colors that sit next to each other on the color wheel. They help create a sense of harmony.

Examples of analogous color groups:



Complementary colors

Colors that sit on opposite ends of the color wheel are considered Complementary Colors. By mixing complementary colors you can :

1. Neutralize to create browns and grays.
2. Reduce the intensity of a color.
3. Create contrast by painting them beside each other.

Complementary colors include:

- Blue and orange
- Green and red
- Yellow and purple

Examples of complementary mixtures:



Color wheel with warm & cool colors

The color wheel to the right is made with 15 colors and includes warm and cool primary colors. I always find this color wheel the most useful because it tells you which temperature bias of a primary color you need to mix intense and saturated colors.















Saturated secondary colors













The diagrams below show the different secondary color mixtures that result from mixing primary colors with different temperature biases.



Green

	+		=	
Cool Blue (Pthalo blue)		Cool yellow (Lemon yellow)		Saturated green
	+		=	
Cool Blue (Pthalo blue)		Warm yellow (New Gamboge)		
	+		=	
Warm Blue (French Ultramarine)		Cool yellow (Lemon yellow)		
	+		=	
Warm Blue (French Ultramarine)		Warm yellow (New Gamboge)		

Purple

	+		=	
Warm Red (Pyrrol Scarlet)		Warm Blue (French Ultramarine)		
	+		=	
Warm Red (Pyrrol Scarlet)		Cool Blue (Pthalo Blue)		
	+		=	
Cool Red (Quinacridone Rose)		Warm Blue (French Ultramarine)		Saturated Purple
	+		=	
Cool Red (Quinacridone Rose)		Cool Blue (Pthalo Blue)		