



# An HJS Studio Tutorial: Basic Color Terms



Color is a subject many people feel intimidated about. I was no exception. I grew up with a mother who painted landscapes and other subjects, in oils and acrylics. You would think I would have absorbed color theory practically from birth, but that wasn't the case at all. My own love for color expressed itself in those little projects where you dab a bunch of different colors on a piece of paper, fold the paper in half, mush the colors around, and open it up to see a butterfly of color inside. My mother's idea of color was to try to make me do realistic pictures of things. The two of us never saw eye-to-eye, and the result was I entered the fiber world completely unprepared in color theory (and totally averse to art, besides :)

I started knitting when I was 20, expecting my first baby. Just a pair of booties, from (horrors!) acrylic yarn, nothing special. But a few months later I had some help and decided to try a sweater. I didn't like the colors in the picture, so standing in front of the yarn display, I picked my own. Little did I know I was starting my adventure with color and fiber!

I think the single most important thing to know about color is that everyone's eyes see it differently, and everyone's emotions react differently to each color. A color which is uplifting to me may be depressing to you, and vice versa. There are some colors which make me feel physically ill to work with—one early commission I did had me believing I had the flu, when really it was just the colors in the project! There are other colors which make me feel joyful, or serene, or energetic. In other words, choose what you like best to work with. Don't let other people intimidate you into thinking your favorite color is 'wrong' for you. Explore, and develop your own color sense! You are the only expert when it comes to your color.

## **Basic Color Terminology**

As in just about any field of endeavor, it helps to have a common language to describe things with. If I say 'doohickey' and you say 'doodad', we may not know we're talking about the same thing. These definitions are ones that work for me. They are not super technical, but are designed for people who didn't go to college and get a fine arts degree.

Don't let this glossary intimidate you. It's not necessary to know, understand, or even care about these definitions! I developed my understanding of these terms through playing with color, then reading a few books and understanding a couple new things, going back to play with color, then trying the books again. Over time, I found that I could better understand why certain color combinations were pleasing to me, and some were not, by comparing my experience of color with these terms. It was a slow, comfortable process. Consider this page, and the other articles on color I plan to write, to be a reference to return to after you, too, have played with color a bit.



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## ***Color***

Technically it's the wavelength of light reflected by something which then enters your eye and is processed by your brain. This means the color is influenced by the light surrounding the item, what the item is made of, the ability of your eye to see and your brain to process color, etc. Which is just a fancy way of saying every person sees every color a bit differently! An example is the color I painted my studio in 2007. To me, it's a warm color, which I call "peach". Some people agree, while others insist it's pink, even when I show them a "true" pink next to the wall. Neither of us is right or wrong—we're all right, based on how our brains process what we see, and the labels we've learned to attach to those colors.

## ***Hue***

The purest form of a color, with no added black, gray, white, or the color's complement mixed in. For example, the colors of a rainbow. Color wheels typically have the hues on the outer edge of the wheel, then add windows to show the colors which result when other hues or colors are mixed with them. The word "color" is more generic—it can be applied to mixes of hues as well as pure hues.

## ***Primary Color***

Any one of the several colors which generally cannot be mixed using other colors. One set of primaries is the traditional primary group we're all taught in kindergarten, of red, yellow, and blue, also written as RYB. Another set of primaries is the Printer's Primary, of magenta, yellow, and cyan, or MYC. Some writers also class green as a primary in a psychological sense, and of course green is one of the colors of light which, when mixed with red and blue light, will produce white light, and are known as RGB.

## ***Secondary Color***

Those hues produced when two primary colors are mixed. The RYB set of primaries traditionally yield orange, green, and purple. The Printer's Primaries of MYC also yield orange, green, and purple, but these secondary colors vary somewhat from the RYB secondaries. The brightest, most vivid green comes from mixing cyan and yellow; most vivid purple from magenta and blue; most vivid orange from red and yellow. Using both sets of primaries in mixing offers the widest range of colors.

## ***Intermediary Colors***

Sometimes inaccurately called tertiary colors, these are colors formed by mixing a primary with the secondary of that primary and another primary. In other words, if you mix blue with green, you get blue green, an intermediary color.

## ***Tertiary Colors***

Tertiary colors are formed when two secondary colors of one primary system are mixed, for example orange and green in the RYB system. These can be very subtle and muted colors.



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## **Saturation**

The closer a color is to its purest form, the more saturated it is. This is sometimes confused with how dark a color is. A pure yellow is highly saturated, even though it's not dark.

## **Value**

The lightness or darkness of a color is its value. This is said to be the first thing a person notices about a given piece, so it's even more important than the color. A given color may be of:

- ❖ *High value*: very light—pure yellow is a high value hue, baby blue is a high value tint
- ❖ *Low value*: very deep or dark—pure purple is a low value hue, maroon is a low value tone
- ❖ *Medium value*: medium in lightness/darkness—pure orange is a medium value hue, rose pink a medium value tint

Perhaps the best way to envision the value of a color is to imagine it photographed in black and white. The closer to white that color would be, the higher its value. The closer to black, the lower its value. High value colors tend to come forward in a piece, while low value colors seem to recede.

## **Tint**

Any hue mixed with white, commonly called a pastel.

## **Tone**

Any hue mixed with a gray that is equivalent in value to its complement.

## **Shade**

Any hue mixed with black. Note that many of us use the term 'shade' to denote any color that's not a pure hue, but this isn't the most accurate use of the word.

## **Neutrals**

Colors which technically aren't colors, such as white, black, and gray, are called neutrals. Other colors may also be considered neutrals, such as various browns, because they can work as backgrounds to the major colors of a project. "True" neutrals are colors that are evenly balanced in temperature and hue, leaning neither toward warm nor cool or more toward one primary more than another.

## **Temperature**

The apparent warmth or coolness of a color. Temperature is a relative term. Yellow is generally considered a warm color, but there are both warm yellows (yellow with a tiny touch of red or magenta—butter yellow, for example) and cool yellows (yellow with a touch of blue or cyan, like lemon yellow). The same can be said of any other color. Cool colors tend to recede while warm colors appear to come forward in a piece.



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## **Complementary Colors**

Any two colors on a color wheel which are opposite to each other are called complements or opposites. Examples are red and green, blue and orange, yellow and purple. Note that one color is a primary, while the other is a mix of the other two primaries. Other complementary pairs are tertiary colors: blue green and red orange, for example. When a small amount of a color's complement is mixed with it, like adding a touch of blue to orange, the effect is to gray down that color, making it more subtle. It's possible to use very bright hues to gain very subtle colors when this is understood.

## **Visual Blending**

When fibers of various colors are blended together, the mix will appear to create a new color. For example, equal amounts of magenta and yellow wool, very well blended, will from a distance appear reddish. The blend will never be as bright as the original dyed colors, though, because of the way light scatters from the fibers.

## **Color Scheme**

A group of colors which are used in harmony to create a certain effect in a project. This is where fiberists, and others who want to use color, often have problems. They may feel there is one 'right' way and many 'wrong' ways to combine colors, and worry they will not find the 'right' way. Any color wheel will provide a variety of ways to combine colors. I will only define three particularly useful color schemes here:

- ❖ *Monochromatic Color Scheme:* A scheme based on a variety of values, saturations, and temperatures of one hue. Pretty safe, but it can be boring. It helps to vary the values and/or temperatures quite a bit.
- ❖ *Analogous Color Scheme:* A combination of hues which are neighbors on a color wheel. For example, purple, blue, and green is an analogous color scheme. Safe, but again can be boring unless values or temperatures are varied.
- ❖ *Complementary Color Scheme:* There are a wide variety of complementary color schemes, but they all work on choosing one color, and then using its complement, or colors near its complement, to round out the color scheme. An example might be red with blue green and yellow green. These schemes are easiest to work with when the colors are of similar value.

It is not necessary to structure your project with a color scheme. I often find I don't recognize the color scheme of my work until it's finished! But it can be a useful tool when planning your project.

## **Simultaneous Contrast**

This is one of those terms better demonstrated than described with words, but since computer monitors show color so differently from fiber, I'll stick to words. Imagine you're planning a project. You want an area of yellow, surrounded by oranges and reds (analogous color scheme, remember?). You dye and spin your fiber, choosing nice, bright, balanced hues of each color. You put them together, and find to your dismay that the balanced yellow now looks greenish!



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What you are seeing is simultaneous contrast. When two colors are viewed side by side, each affects the other. The yellow is made to look greenish by the contrast with the very reddish colors around it. A green that's beside blue will look quite yellowish, but place the same green beside yellow, and it will look very blue. The larger the areas, or the more surrounded one area is by other colors, the more the impact of simultaneous contrast.

These are the terms I have personally found the most useful when working with color. Future color tutorials will explore some of these in more depth.



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