

ALL ABOUT **Color** ISSUE

Color Theory 101: How to Choose the Right Colors for Your Designs

Let's first go back to high school art class to discuss the basics of color.

Remember hearing about primary, secondary, and tertiary colors? Good. They're pretty important if you want to understand, well, everything else about color.

Primary, Secondary, and Tertiary Colors

The **primary colors** are red, yellow, and blue. Think about them as if you were using paints -- these are colors that cannot be created by combining two other colors.

Secondary colors, on the other hand, are the three (green, purple, orange) colors that are formed by combining the primary colors.

Tertiary colors are created when you mix a primary color with secondary color.

From here, color gets a little more complicated. And if you want to learn how the experts choose color in their design, you've got to first understand all the other components of color.

All the Colors in Between

Okay, great! So now you know what the "main" colors are, but you and I both know that choosing color, especially on a computer, has much more of a range than 12 basic colors.

That's because you can create brighter, lighter, softer, and darker colors by mixing white, black, and gray with the original colors. You also end up with different terms for these types of colors:

Hue: Hue is pretty much synonymous to what we actually mean when we said the word "color." All of the primary and secondary colors, for instance, are "hues."

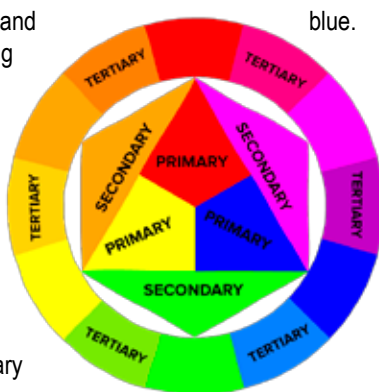
Shade: You may recognize the term "shade" because it's used quite often to refer to light and dark versions of the same hue. But actually, a shade is technically the color that you get when you add black to any given hue. The

various "shades" just refer to how much black you're adding.

Tint: A tint is the opposite of a shade, but people don't often distinguish between a color's shade and a color's tint. You get a different tint when you add white to a color. So, a color can have a range of both shades and tints.

Tone (or Saturation):

You can also add both white and black to a color to create a tone. Tone and saturation essentially mean the same thing, but most people will use saturation if they're talking about colors being created for digital images. Tone will be used more often for painting.



Adding and Subtracting Color

If you've ever played around with color on any computer program, you've probably seen a module that listed RGB or CMYK colors with some numbers next to the letters.

Ever wondered what those letters mean?

CMYK stands for Cyan, Magenta, Yellow, Key (Black). Those also happen to be the colors listed on your ink cartridges for your printer. That's no coincidence.

CMYK is the subtractive color model. It's called that because you have to subtract colors to get to white. That means the opposite is true -- the more colors you add, the closer you get to black.

Confusing, right?

Think about printing a piece of paper.

When you first put a sheet in the printer, you're typically printing on a white piece of paper. By adding color, you're blocking the white wavelengths from getting through.



Then, let's say you were to put that printed piece of paper back in the printer, and print something on it again. You'll notice the areas that have been printed on twice tend to look like colors closer to black.

It's easier to think about CMYK in terms of its corresponding numbers. CMYK works on a scale of 0 to 100. If C=100, M=100, Y=100, and K=100, you end up with a black color. But, if all four colors equal 0, you end up with true white.



RGB color models, on the other hand, are designed for electronic displays, including computers.

RGB stands for Red, Green, Blue, and is based on the additive color model of light waves. This means, the more color you add, the closer you get towards white.

For computers, RGB is created using scales from 0 to 255. So, black would be R=0, G=0, and B=0. White would be R=255, G=255, and B=255.

When you're creating color on a computer, your color module will usually list both RGB and CMYK numbers. In practice you can use either one to find colors, and the other color model will adjust accordingly.

However, many web programs will only give you the RGB values or a HEX code (the code assigned to color for CSS and HTML). So, if you're designing digital images, RGB is probably your best bet for choosing colors.

Creating Color Schemes

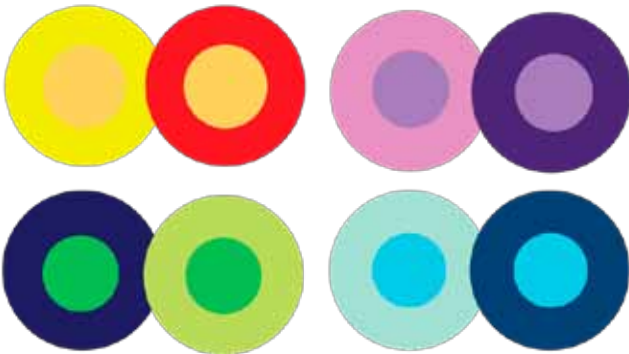
Now that we've got all of the basics out of the way, let's talk about how to actually use this newfound knowledge.

You've probably noticed before that some colors look great together and others ... just don't. The colors we choose can help enhance a design, or it can take away from a design.

When you're figuring out how to design a graphic, it's important to remember that how we perceive colors depends on the context in which we see it.

Color context refers to how we perceive colors as they contrast with another color.

Look at the pairs of circles in the example below to see what we mean.



The middle of each of the circles is the same size, shape, and color. The only thing that changes is the background color. Yet, the middle circles appear softer or brighter depending on the contrasting color behind it. You may even notice movement or depth changes just based on one color change.

This is because the way in which we use two colors together changes how we perceive it. So when you're choosing colors for your graphic designs, think about how much contrast you want throughout the design.

For instance, if you were creating a simple bar chart, would you want a dark background with dark bars? Probably not. You'd most likely want to create a contrast between your bars and the background itself since you want your viewers to focus on the bars, not the background.

Choosing colors with high contrast, however, isn't always as hard as choosing colors that look good together.

For us, this is where choosing color is trickiest. We could spend hours choosing colors for an infographic simply because it takes awhile to get a feel for what looks best together.

In reality, though, we usually don't have hours to spend just choosing colors for each project we design.

Luckily, there are logical rules for how to create color schemes that work together.

Analogous Color Schemes



Analogous color schemes are formed by pairing one main color with the two colors directly next to it on the color wheel. You can also add two additional colors (which are found next to the two outside colors) if you want to use a five-color scheme instead of just three colors.

Analogous structures do not create themes with high contrasting colors, so they're typically used to create a softer, less contrasting design. For example, you could use an analogous structure to create a color scheme with autumn or spring colors.

We like to use this color scheme to create warmer (red, oranges, and yellows) or cooler (purples, blues, and greens) color palettes like the one above. There isn't a high contrast between these colors, but don't they just look nice together?

We'd probably use this palette to design an image rather than an infographic or bar chart as I would want all of the elements in the image to blend together nicely.

Monochromatic Color Schemes



Using a monochromatic scheme allows you to create a color scheme based on various shades and tints of one hue. Although it lacks color contrast, it often ends up looking very clean and polished. It also allows you to easily change the darkness and lightness of your colors.

We like to use monochromatic color schemes for charts and graphs, but only when creating high contrast isn't necessary. However, monochromatic schemes don't tend to "pop", so if you're looking for a color scheme that's bright and attention grabbing, this one isn't your best bet.

Triadic Color Schemes



Triadic color schemes offer high contrasting color schemes while retaining the same tone. Triadic color schemes are created by choosing three colors that are equally placed in lines around the color wheel.

Triad color schemes are great if you want contrast, but they can also seem overpowering if all of your colors are chosen on the same point in a line around the color wheel.

To subdue some of your colors in a triadic scheme, you can choose one dominant color and use the others sparingly, or simply subdue the other two colors by choosing a softer tint.

The triadic color scheme looks great in graphics like bar or pie charts because it offers the contrast you need to create comparisons.

However, if I were using this color scheme to create an infographic, I'd be

more likely to choose one color as the background color, such as the yellow or light green, and a darker contrasting color as the dominant color. I then might use the other three colors as accents throughout. By changing up the intensity of the colors in the design, you can highlight important points and takeaways.

Complementary Color Schemes



You may have guessed it, but a complementary color scheme is based on the use of two colors directly across from each other on the color wheel and relevant tints of those colors.

The complementary color scheme provides the greatest amount of color contrast. Because of this, you should be careful about how you use the complementary colors in a scheme. It's best to use one color predominantly and use the second color as accents in your design.

The complementary color scheme is also great for charts and graphs. High contrast helps you highlight important points and takeaways.

However, if you were to use these colors in an infographic, you'd probably need to use a much lighter color for the actual background. Can you imagine choosing one of the oranges as a background with blues as accents and text? That'd probably be too overpowering and difficult to read.

Split Complementary Color Schemes



A split complementary scheme includes one dominant color and the two colors directly adjacent to the dominant colors complement. This creates a more nuanced color palette than complementary color scheme while still retaining the benefits of contrasting colors.

The split complementary color scheme can be difficult to balance well. Unlike analogous or monochromatic color schemes, the colors used all provide contrast (similar to the complementary scheme).

Imagine using the following split complementary color scheme in a variety of ways. You could use this in an chart or graph because it gives you the contrast you need and the colors remain visually appealing.

You could also imagine using these colors in an infographic, although play around with the colors a bit more to see which pairs look best together.

The positive and negative aspect of the split complementary color model is that you can use any two colors in the scheme and get great contrast ... but that also means it can also be tricky to find the right balance between the colors. As a result, you may end up playing around with this one a bit more to find the right combination of contrast.

No matter which color scheme you choose, try and keep in mind what your graphic needs. If you need to create contrast, then choose a color scheme that gives you that. On the other hand, if you just need to find the best "versions" of certain colors, then play around with the monochromatic color scheme to find the perfect shades and tints.

We've found that simply understanding how color schemes are built goes a long way for helping me choose the right color scheme. If you just think: "What is the goal of this graphic?" You can start to determine how much (or how little) contrast you need.

Remember, if you build a color scheme with five colors, that doesn't mean you have to use all five. Sometimes just choosing two colors from a color scheme looks much better than cramming all five colors together in one graphic.

Color Tools

There's been a lot of theory and practical information for actually understanding which colors go best together and why. But when it comes down to the actual task of choosing colors while you're designing, it's always a great idea to have tools to help you actually do the work quickly and easily. Luckily, there are a number of tools to help you find and choose colors for your designs.

Adobe Color

One of my favorite color tools to use while I'm designing anything -- whether it's an infographic or just a pie chart -- is Adobe Color (previously Adobe Kuler).

This free online tool allows you to quickly build color schemes based on the color structures that were explained earlier in this post. Once you've chosen the colors in the scheme you'd like, you can copy and paste the HEX or RGB codes into whatever program you're using.

It also features hundreds of premade color schemes for you to explore and use in your own designs. If you're an Adobe user, you can easily save your themes to your account.

Illustrator Color Guide

If you spend a lot of time in Adobe Illustrator, one of the most-used features is the color guide. The color guide allows you to choose one color, and it will automatically generate a five-color scheme for you. It will also give you a range of tints and shades for each color in the scheme.

If you switch your main color, the color guide will switch the corresponding colors in that scheme. So if you've chosen a complementary color scheme with main color of blue, once you switch your main color to red, the complementary color will also switch from orange to green.

Like Adobe Color, the color guide has a number of preset modes to choose the kind of color scheme you want. This helps you pick the right color scheme style within the program you're already using.

After you've created the color scheme that you want, you can save that scheme in the "Color Themes" module for you to use throughout your project or in the future.

From Theory to Practice

There's a lot of theory in this, I know. But when it comes to choosing colors, understanding the theory behind color can do wonders for how you actually use color.

But before we send you off to create amazing images to improve your designs, let us give you a few extra tips for choosing colors:

- Don't stick with presets. Almost every program you use will automatically give you preset colors. Get past the presets and explore color on your own. Don't let the program decide how you use color in your design.
- Start with one color you like. Every time I design something, I start with one color and build the color scheme from there. If you try and start with more than one color, you'll have a harder time finding harmony between your colors.
- Save your color schemes. If you find a color scheme you like, it'll probably be useful to you later. I wouldn't suggest using the same color scheme for every chart or graphic you create, but you can always use different schemes in different ways later on.
- Practice makes perfect. The more you play with color and practice design, the better you get. No one creates their masterpiece the first time around.

Source: <http://blog.hubspot.com/marketing/color-theory-design>

We loved this blog so much we just had to share parts of it with you!

Psychological Properties of Colors

There are four psychological primary colors - red, blue, yellow and green. They relate respectively to the body, the mind, the emotions and the essential balance between these three. The psychological properties of the eleven basic colors are as follows:

RED • Physical

Positive: Physical courage, strength, warmth, energy, basic survival, 'fight or flight', stimulation, masculinity, excitement.

Negative: Defiance, aggression, visual impact, strain.

Being the longest wavelength, red is a powerful color. Although not technically the most visible, it has the property of appearing to be nearer than it is and therefore it grabs our attention first. Hence its effectiveness in traffic lights the world over. Its effect is physical; it stimulates us and raises the pulse rate, giving the impression that time is passing faster than it is. It relates to the masculine principle and can activate the "fight or flight" instinct. Red is strong, and very basic. Pure red is the simplest color, with no subtlety. It is stimulating and lively, very friendly. At the same time, it can also be perceived as demanding and aggressive.

BLUE • Intellectual

Positive: Intelligence, communication, trust, efficiency, serenity, duty, logic, coolness, reflection, calm.

Negative: Coldness, aloofness, lack of emotion, unfriendliness.

Blue is the color of the mind and is essentially soothing; it affects us mentally, rather than the physical reaction we have to red. Strong blues will stimulate clear thought. Lighter, soft blues will calm the mind and aid concentration. Consequently it is serene and mentally calming. It is the color of clear communication. Blue objects do not appear to be as close to us as red ones. Time and again in research, blue is the world's favorite color. However, it can be perceived as cold, unemotional and unfriendly.

YELLOW • Emotional

Positive: Optimism, confidence, self-esteem, extraversion, emotional strength, friendliness, creativity.

Negative: Irrationality, fear, emotional fragility, depression, anxiety.

The yellow wavelength is relatively long and essentially stimulating. In this case the stimulus is emotional; therefore yellow is the strongest color, psychologically. The right yellow will lift our spirits and our self-esteem; it is the color of confidence and optimism. Too much of it, or the wrong tone in relation to the other tones in a color scheme, can cause self-esteem to plummet, giving rise to fear and anxiety. Our "yellow streak" can surface.

GREEN • Balance

Positive: Harmony, balance, refreshment, universal love, rest, restoration, reassurance, environmental awareness, equilibrium, peace.

Negative: Boredom, stagnation, blandness, enervation.

Green strikes the eye in such a way as to require no adjustment whatever and is, therefore, restful. Being in the center of the spectrum, it is the color of balance - a more important concept than many people realize. When the world about us contains plenty of green, this indicates the presence of water, and little danger of famine, so we are reassured by green, on a primitive level. Negatively, it can indicate stagnation and, incorrectly used, will be perceived as being too bland.

VIOLET • Spiritual

Positive: Spiritual awareness, containment, vision, luxury, authenticity, truth, quality.

Negative: Introversión, decadence, suppression, inferiority.

The shortest wavelength is violet, often described as purple. It takes awareness to a higher level of thought, even into the realms of spiritual values. It is highly introverted and encourages deep contemplation, or meditation. It has associations with royalty and usually communicates the finest possible quality. Being the last visible wavelength before the ultra-violet ray, it has associations with time and space and the cosmos. Excessive use of purple can bring about too much introspection and the wrong tone of it communicates something cheap and nasty, faster than any other color.

ORANGE • Security

Positive: Physical comfort, food, warmth, security, sensuality, passion, abundance, fun.

Negative: Deprivation, frustration, frivolity, immaturity.

Since it is a combination of red and yellow, orange is stimulating and reaction to it is a combination of the physical and the emotional. It focuses our minds on issues of physical comfort - food, warmth, shelter etc. - and sensuality. It is a 'fun' color. Negatively, it might focus on the exact opposite - deprivation. This is particularly likely when warm orange is used with black. Equally, too much orange suggests frivolity and a lack of serious intellectual values.

PINK • Feminine

Positive: Physical tranquility, nurture, warmth, femininity, love, sexuality, survival of the species.

Negative: Inhibition, emotional claustrophobia, emasculation, physical weakness.

Being a tint of red, pink also affects us physically, but it soothes, rather than stimulates. (Interestingly, red is the only color that has an entirely separate name for its tints. Tints of blue, green, yellow, etc. are simply called light blue, light green etc.) Pink is a powerful color, psychologically. It represents the feminine principle, and survival of the species; it is nurturing and physically soothing. Too much pink is physically draining and can be somewhat emasculating.

GREY • Neutral

Positive: Psychological neutrality.

Negative: Lack of confidence, dampness, depression, hibernation, lack of energy.

Pure grey is the only color that has no direct psychological properties. It is, however, quite suppressive. A virtual absence of color is depressing and when the world turns grey we are instinctively conditioned to draw in and prepare for hibernation. Unless the precise tone is right, grey has a dampening effect on other colors used with it. Heavy use of grey usually indicates a lack of confidence and fear of exposure.

BLACK • Sophistication

Positive: Sophistication, glamour, security, emotional safety, efficiency, substance.

Negative: Oppression, coldness, menace, heaviness.

Black is all colors, totally absorbed. The psychological implications of that are considerable. It creates protective barriers, as it absorbs all the energy coming towards you, and it enshrouds the personality. Black is essentially an absence of light, since no wavelengths are reflected and it can, therefore be menacing; many people are afraid of the dark. Positively, it communicates absolute clarity, with no fine nuances. It communicates

sophistication and uncompromising excellence and it works particularly well with white. Black creates a perception of weight and seriousness. It is a myth that black clothes are slimming: The truth behind the myth is that black is the most recessive color a matter of not drawing attention to yourself, rather than actually making you look slimmer.

WHITE • Pure

Positive: Hygiene, sterility, clarity, purity, cleanness, simplicity, sophistication, efficiency.

Negative: Sterility, coldness, barriers, unfriendliness, elitism.

Just as black is total absorption, so white is total reflection. In effect, it reflects the full force of the spectrum into our eyes. Thus it also creates barriers, but differently from black, and it is often a strain to look at. It communicates, "Touch me not!" White is purity and, like black, uncompromising; it

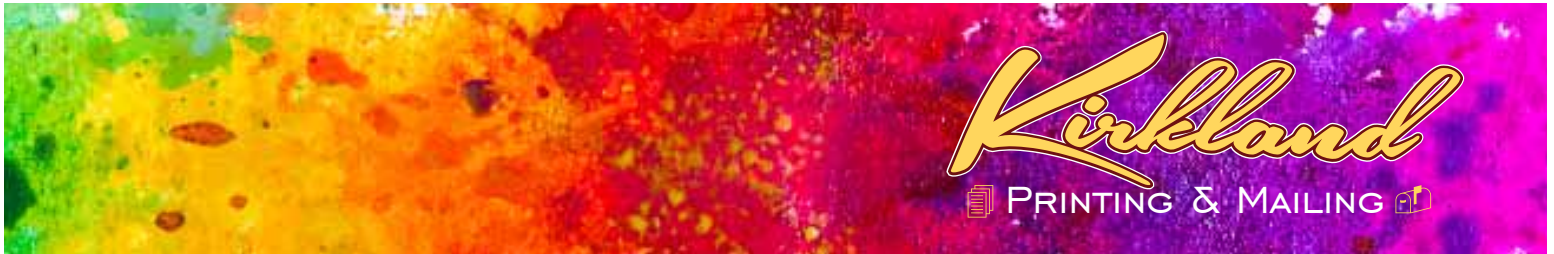
is clean, hygienic, and sterile. The concept of sterility can also be negative. Visually, white gives a heightened perception of space. The negative effect of white on warm colors is to make them look and feel garish.

BROWN • Earth

Positive: Seriousness, warmth, nature, earthiness, reliability, support.

Negative: Lack of humor, heaviness, lack of sophistication.

Brown usually consists of red and yellow, with a large percentage of black. Consequently, it has much of the same seriousness as black, but is warmer and softer. It has elements of the red and yellow properties. Brown has associations with the earth and the natural world. It is a solid, reliable colour and most people find it quietly supportive - more positively than the ever-popular black, which is suppressive, rather than supportive.



What Each Color Means In Feng Shui

We've all experienced the profound difference a new shade of paint can make in a room. Or how a red dress makes us feel as opposed to a light blue one. **This is not to be undervalued!** Colors have meaning and express a certain energy, and our subconscious is constantly taking cues.

Simply put, color is one of the most powerful tools used in feng shui.

If you're looking to make a change in your life, you may want to reconsider the color schemes in your home and office. But do so consciously! Start with the following list, and consider hiring a feng shui consultant who can help you choose the appropriate colors according to feng shui principles.

Red

Red represents the element of fire, and because of its intensity, is considered a lucky color in feng shui. Use it in doses to redirect energy around the home.

Basic meanings: hot, bold, daring, high voltage, lucky.
Avoid red in cases of anxiety, insomnia, or over-activity.

Orange

Orange is considered a "social" color, one that is happy, vibrant, and eye-catching.

Basic meanings: creative, exuberant, lively, fun-loving, extroverted.
Avoid orange when creating a space of quiet and reflection.

Yellow

Yellow is cheerful and uplifting. It can also trigger the intellect, as it's mentally stimulating.

Basic meanings: happy, sunny, enlivening, powerful, active, cheerful.
Avoid yellow if anxious and wanting to calm the nerves.

Green

Green represents balance, growth, and abundance. In the chakra system, it's located in the heart. It can also signify youthfulness.

Basic meanings: healing, balanced, expanding, lively, prosperous, fresh.
Because of green's balancing nature, there are few times it should be avoided.

Blue

Blue establishes calm. It's the color of the sky and ocean and therefore gives a sense of vastness, as in "the wide blue yonder."

Basic meanings: truth, communication, peace, calm, spiritually attuned.
Avoid blue in cases of depression or when needing to feel more social.

Purple

Purple has a feeling of royalty, wealth, and high spirituality.

Basic meanings: rich, noble, deep, quiet, wise.
Avoid purple if wanting to feel more extroverted or connected to the Earth.

White

White is all about new beginnings, purity, and innocence.

Basic meanings: cleansing, pure, light, free, whole.
Avoid white when feeling overwhelmed.

Black

Black is introspective and represents the void.

Basic meanings: protective, secretive, mysterious, hidden.
Avoid black when wanting to express oneself and feel uplifted.

Pink

Pink is the color of unconditional love and feminine energy.

Basic meanings: love, nurturing, romance, peace.
Avoid pink when wanting to activate a more masculine energy.

Brown

Brown is an Earth tone and is therefore nurturing and grounding.

Basic meanings: rooted, quiet, nurturing, grounding.
Avoid brown when wanting to expand and "branch out."

Using color consciously can enhance your life. Wear it, decorate with it, write with it, or paint with it! Remember different shades will vary the meanings, so consider that. And be sure to set your intentions while working with color to activate its energy and potential even more.

**And most importantly, have fun!
After all, you're working with rainbows!**



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