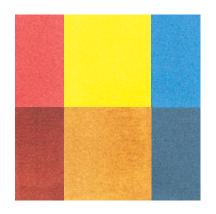
# UNDERSTANDING COLOR FOR BEGINNERS:

A Free Intro to Color Theory and More

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## Breaking the (Color) Code

Acquaint yourself with color terminology and theory so you can use colors to their full potential.

LEARNING TO USE COLOR effectively is one of the most challenging aspects of becoming an artist. Mastering this process starts with understanding the terms and concepts of color theory. Then it's a matter of applying these principles to your art. Let's begin with a bit of history and a few key terms.

#### **Color Wheel Basics**

Back in 1666, Sir Isaac Newton discovered the spectrum, the band of color produced when white light passes through a prism. Since then, color theorists have devised many color systems to explain how color works. The one I've found most useful is the 12-color system, typically arranged in a circular wheel, based on the primaries: red, yellow and blue (see The Artist's Dozen, on this page). A primary color is one that

can't be mixed in paint; that is, you can't create a primary by combining other pigment colors.

The primaries are the foundation of the 12-color system, and all other colors are made from them. When you mix two of these primaries, the result is a **secondary color**: orange, green or violet. When you mix a primary color with one of the secondary colors next to it on the color wheel, you make a **tertiary color** that lies between the two. With the 12-color system, you can mix just about any color in the natural world or in your imagination.

#### **Understanding Hues**

Whether you're describing your own painting process or trying to learn



#### The Artist's Dozen

The 12-hue color wheel is the one most commonly used by artists. The squares indicate primary colors that can't be made by mixing other pigments. The circles designate secondary colors, which are created by mixing two primaries. Tertiary colors, shown here as triangles, are made by combining a primary and a secondary color.

#### **Primary Options**

You can substitute this alternate set of primaries—magenta, yellow and cyan—for the traditional pigments



#### color corner



#### General vs Specific

Any hue may have lots of pigment variations, as shown in this chart. Therefore, you should use the word *hue* when referring to any spectral color, such as red, yellow or blue (at far left). But be sure to use the pigment or paint name—as in the examples at left—when speaking of the specific colors in a painting.

from someone else's, you'll find that it's much easier to talk about color if everyone involved agrees on the definitions of the various terms. For example, though it's often misused, **hue** is a general term for the spectral names of colors. Red, yellow and blue-green are all hues. However, hue should not be confused with specific pigment names. For example, the hue yellow may be represented by many different pigments, such as yellow ochre, new gamboge, aureolin yellow, cadmium yellow or Hansa yellow. Most actual pigment names—cadmium red, for example refer to the materials used in their manufacture. However, some are trade names, like Winsor lemon, and some have whimsical names, like peppermint red.

Along with the basic hues are related terms such as **chromatic hue** and **achromatic hue**. Chromatic hues are colors, like the red, yellow and blue-green mentioned previously. Achromatic hues (sometimes called neutrals), like white, gray and black, have no color at all. Artists sometimes refer to earth tones as neutrals, but they're actually chromatic hues.

# Chromatic versus Achromatic

When studying color, you may encounter the terms *chromatic hue* and *achromatic hue*. Chromatic hues are colors like those seen at the near right. Conversely, achromatic hues, such as those in the row on the far right, have no color. They're true neutrals—even though they may vary in color temperature. For example, ivory black is a warm, brownish neutral, while Payne's gray has a cooler, bluish look.



#### color corner

#### **Intensity Training**

How intense are your colors? Some painters have a tough time answering that question, partly because intensity is often confused with **value**, which refers to the lightness or darkness of a color. But a strong understanding of intensity, along with little bit of attention to how you're using it, can give the colors in your paintings a real boost.

The **intensity** of a hue or pigment, sometimes called its **chroma** or **saturation**, describes its brightness (purity) or dullness. A bright, pure hue is a high-intensity color, such as the colors in the spectrum or the pigments cadmium yellow and French ultramarine. When you neutralize one of these hues you're lowering its intensity. Earth colors straight from the tube, such as raw umber or olive green, are low-intensity colors.

There are several ways to neutralize or lower the intensity of a pure, high-intensity color. When you mix the high-intensity color with white, the result is a **tint**; with gray, a **tone**; and with black, a **shade**. Another method is to mix the color with a complementary or opposite color on the color wheel, and a third is to mix the color with an earth tone. Raising the intensity of a color is more difficult, however. It can be done to a limited degree by mixing

# Know Your Mixtures

I lowered the intensity of this cadmium scarlet by mixing it with black (top), with the complementary French ultramarine (middle), and with the earth color burnt umber (bottom). Each choice makes an interesting new color.



in a brighter color, but the original intensity can't be fully restored once the color is mixed.

Low-intensity colors are sometimes thought to be too muddy, but they're often quite beautiful if mixed and used correctly. Muddiness typically results from overmixing, so be sure that you can still identify the colors that went into your mixture. And remember, a little variety and careful distribution of intensities will help your colors reach their full potential.

Understanding *hue* and *inten-sity*—and other color terms and concepts—can play a key role in improving your art. In the process of clarifying such terms, you also clarify your knowledge and thus speed the process of your artistic growth.

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author of three best-selling North Light books: Exploring Color, The New Creative Artist and Creative Collage Techniques, and of the DVDs Creating Confident Color and Paper Collage Techniques. To learn more about Leland and her products, go to www.northlightshop.com and search by "Nita Leland," and visit her website at www.nitaleland.com.

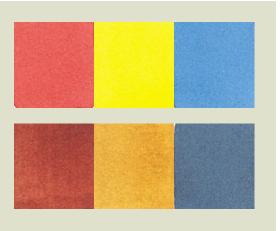
This article is a complilation and reprint of the 1999 September, October and November Color Corner columns.

#### **Consider Intensity**

To make pure colors glow, surround them with similar but lower-intensity hues. I started here with a high-intensity yellow (Winsor lemon), added a diluted Winsor red around it, and wet-blended the two to an orange or peach color. You can then blend this color at the edges with a diluted French ultramarine or cobalt blue to lower the intensity of the outer area.



The high-intensity pigments in the top row (alizarin crimson, Winsor lemon and Winsor blue, top row) are purer and brighter than the low-intensity pigments in the bottom row (brown madder, raw sienna and indigo).







### A Balanced Diet

You don't need a Ph.D. in color theory to achieve harmony in your paintings. Try this simple formula: mostly, some and a bit.

COLOR THEORY IS a fascinating subject, but it can be awfully complicated, hard to remember and even harder to successfully apply. Even though there are plenty of schemes for achieving harmonious color in a painting, the information is often not much good when you're in the studio faced with a blank canvas and a daunting subject. As a result, many artists rely a little too much on luck.

So here's a formula that really works and is easy to use. I call it "mostly, some and a bit." This means that the distribution of color properties in a painting should roughly follow those proportions—most of the colors should share the same characteristics. some should differ from the first, and a very small bit of color should differ from the rest.

#### **How It Works**

First, use the properties of color to find a good distribution. Perhaps the most obvious is hue or, more broadly, color family (reds, blues, etc.). There's also value, with lights, darks and middle tones. There's temperature, being either warm (reds, oranges, yellows) or cool (blues, purples and some greens) and finally there's intensity, where colors can be straight-from-the-tube intense or graved down by other colors.

When you begin a painting, ask yourself, Which color best sets the mood and describes the subject? That color will dominate the painting, and from there just remember "mostly, some and a bit." Most of the painting will be that initial color, so make sure some of the painting (a notably smaller area) involves colors that differ substantially from the

#### The Harmonious Picture

Here's an example of how the formula works. Looking at this photo of the subject (A), you can see that the picture is mostly green, dark, cool and low intensity. In some parts it's middle tone, warm, high intensity and in the yellow-orange family. Finally, it's just a bit light, intense, warm and made up of blues and purples.

These different properties don't overlap precisely in their distribution, but they don't have to, and you can see in both the photo and the finished painting (B) that the highest contrast occurs around the focal point (the cluster of buildings). In



Breakdown: Color Properties, page 95, I've created simplified versions of the painting that exaggerate the properties of color so you can easily see how each is distributed.



#### color corner

dominant color in hue, temperature, value and/or intensity, and then use a bit of color (a very small quantity, probably at the focal point) that significantly contrasts with the others.

That may seem like a lot to think about, but you don't have to tackle it all at once. Here are some examples: a painting can have mostly dark colors, some middle tones and a bit of light tone. It can have mostly bluish colors, with some yellows and a bit of red. It can have mostly warm colors with some cool colors and then (because temperature is really only either warm or cool) a bit of either warm or cool color at the focal point that provides a sharp contrast in one of the other properties. Similarly for intensity, you might have a painting dominated by neutralized colors with some pure colors and a bit of another high-intensity color that has another contrasting property.

#### **Why It Works**

There are two ideas at the heart of this strategy, and the first is to make sure that all the color properties in your paintings aren't the same. Most representational paintings done with all reds, for example, would be very boring, but the same is true for the other properties as well. An all-warm painting wouldn't hold our interest, a painting with only high values would look washed out, and a painting with only full-intensity colors would be overwhelming.

The second idea is one of contrast, which, when carefully applied, can be the key to a compelling visual image. That's why the smallest of the three proportions—the one that occupies only a bit of the painting, which you might think of as a color accent—is especially important. In order to function as a "spark" by grabbing the viewer's attention, the accent must contrast with the rest of the painting. This contrast is what makes it a perfect choice for your enter of interest.

#### Breakdown: Color Properties





Now let's see how the formula "mostly, some and a bit" applies to the various properties of color in the landscape (**B**) in The Harmonious Picture (page 94).

#### **Value**

When the scene is simplified into just three values, we can see that most are dark, some are midtone and just a bit of the area at the focal point is light.





#### **Hue and Intensity**

In reducing the painting to its basic colors, I've combined hue and intensity because they're easily perceived together. Most of the painting is in the green family, some of it is in the yellow and orange group, and a smaller amount is in the blues (which include purple). The green and orange are low intensity (grayed down), while the other colors (including the purple, which creates the focal point) are high intensity.



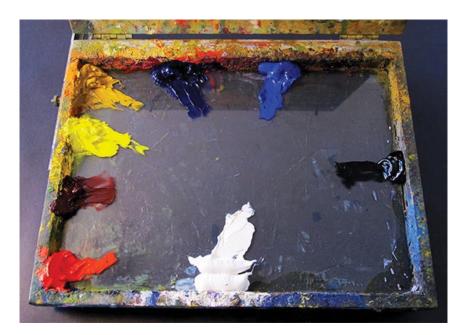
#### Temperature

Exaggerating the temperatures of the painting, it's clear that the colors are mostly cool, as the middle-ground greens are, and the sky is the coolest. The foreground, having more yellow makes some of the painting warmer, while the grouping of buildings (again, the center of interest) contains the warmest colors.

While it's wise to consider all four of the color properties mentioned here—hue, temperature, value and intensity—you don't have to make every property conform to exact proportions for every painting. Just make sure you've varied the hues, temperatures, values and intensities in unequal distribution, and that you have a bit of an accent around the focal point that contrasts with the dominant properties of the painting.

You'll find that good color doesn't require genius; all it takes is good planning.

GREG ALBERT is author of *The Simple*Secrets to Better Painting (North Light
Books, 2003) and contributor to *The Artist's*Magazine's "Mediapedia" series (2009). This
article is reprinted from the May 2003 issue
of *The Artist's Magazine*.



Six Color Prismatic Palette: Cadmium Red Light, Alizarine Crimson, Cadmium Yellow Pale (or Cadmium Yellow Lemon), Cadmium Yellow Medium (or Yellow Ochre), Ultramarine Blue, Cobalt Blue, plus Ivory Black and Titanium White.

# Color Mixing Secrets for the Plein Air Painter

by John Hulsey

Painting outdoors on location poses unique challenges compared to the well-controlled studio environment - no question about that! With the explosion of interest in plein air painting, there has been a commensurate increase of interest in educational workshops taught by experienced artists. Perhaps this is because upon beginning to paint outdoors, one quickly realizes how difficult and frustrating it can be to create even a small, pleasing picture from hours spent hard at work. There is so much to learn, and the quickest way to get there is to study with someone who has spent years learning the ins and outs of landscape painting. We teach plein air workshops in order to help cut years off of the plein air learning curve for our students. This article shows the unique method that we have developed and that we teach our workshop students to quickly analyze the local color and values, premix all the colors needed for the whole painting and develop a consistent color harmony among the premixed colors.

Every successful plein air painter we have come across uses a disciplined, systematic approach to analyze the subject in front of them, simplify it, and then restate it in painterly terms. This is how we approach the task of mixing correct values and harmonious color relationships:



Green secondary mixed from Cad. Yellow Light and Cobalt Blue.

#### STEP ONE

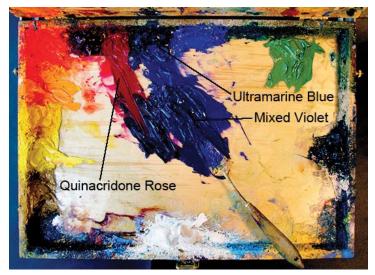
Arrange the colors on your palette, from warm to cool as shown on previous page. We recommend that you read our article: The Educated Palette at <a href="https://www.theartistsroad.net">www.theartistsroad.net</a> first and be thoroughly familiar with all the concepts there. After you have done this, mix the three secondaries from the primaries in your palette. To save time in the field, we suggest that you mix these secondaries up in advance in your studio.

Over time, you will arrange your primary colors to your liking. As shown here, I have moved my reds and yellows around a bit to reflect my own preferences, but I still keep the warms and cools separated so that I can reach for them without thinking about where they are. Once you arrive at the optimal arrangement, don't change it and your brush will always find the right color. This green mix is perfect - neither too blue nor too yellow.

Why mix secondaries when we can easily buy them ready-made? We believe that the only way to truly understand color relationships is to experience mixing them. The confidence and speed you get from knowing which colors will make what mixed tone and how colors affect each other will automatically improve your paintings.



Orange secondary mixed from Cad. Red Light and Cadmium Yellow Light.



Violet secondary mixed from Quinacridone Rose and Ultramarine Blue. To get a cleaner, brighter violet, I added Quinacridone Rose to my palette.



Take your time when mixing the secondaries! It is very important to mix them so that they do not lean toward one or the other primary. They should sit right in the middle. Compare them to the pure primaries as you mix, using your palette knife like a trowel or cake spatula to smooth the colors into each other with a flat, sawing motion. Then place them in your palette where you can cross-mix them to develop those beautiful grays.

#### STEP TWO

Once you have located your subject and set up your gear, develop an effective composition and get that drawn on your canvas or board. If you are unsure of how to achieve this, refer to our article, The Artist's Road Guide to Composition at www.theartistsroad.net, for exact information.

My painting subject in Abiquiu, New Mexico.



ABOVE My gear and finished study

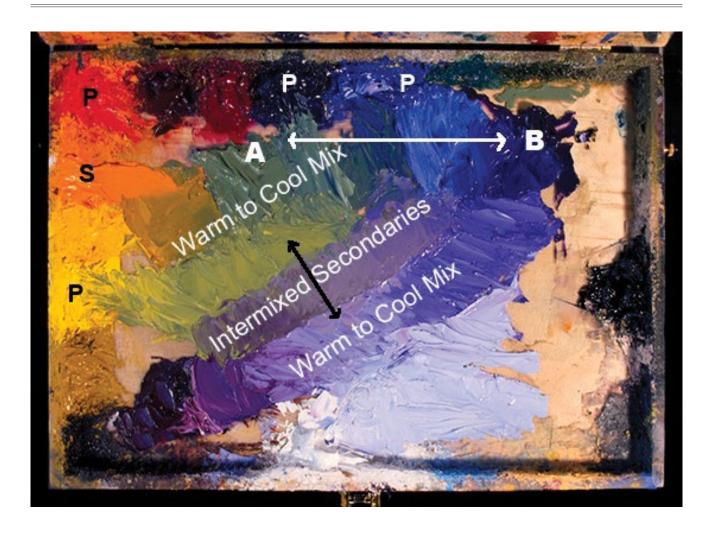


Getting the values right with the sight-through grey scale.

#### STEP THREE

Using your palette knife, premix the colors in your landscape subject. We suggest that you first mix only the one or two largest masses of color, which you determine by squinting. As you mix these base colors, constantly compare them in value to your subject. This process is made simpler by the use of a sightthrough gray scale, as shown. First match the actual observed value of your major masses to a point on the scale, and then mix your color to match that gray value, using a palette knife. Just hold up your brush or palette knife with the mixed color on it in front of the scale and adjust it until it matches the value you have determined is correct.

You will want to use the gray scale for every plein air painting. To modify it like the one we use, see, Perspectives No. 86, Hit the Right Values Every Time. In this painting, one of my main masses is green, which is a secondary color, and the other mass is violet, another secondary, so this is an easy-to-understand example of our basic principles.



STEP FOUR

Premixed colors on my palette.

Placing your two piles of accurately mixed base color in your palette as shown, start blending one into the other. Use the flat of a large palette knife with a sliding, sawing motion to do this. Move a small amount of color **A** over to color **B** where you'll get some of that mixed in and then work that back toward **A** again. Repeat this operation until you have a gradated set of colored grays that represent all the various tones of the two colors as they change in hue from **A** to **B**. You have just harmonized your two base colors to each other!



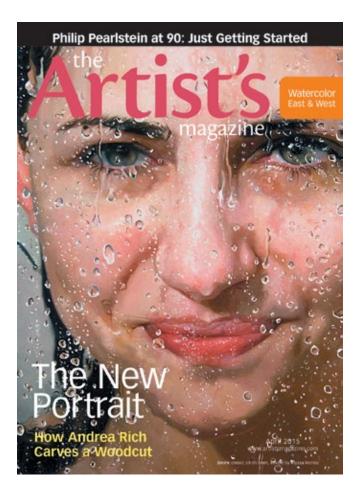
#### STEP SIX

Paint the entire picture with only these colors, not adding new colors after this point. They will stick out like a sore thumb. If you run out of a color, stop and remix it the same as before. Over time you'll get a sense of how much paint to mix up front. My original two base colors now work as pure hues, while all the other mixes are gradations of those main tones. It is a simple matter at this point to add white to any of these colors to effect a tint or highlight, or add black to make an accent. Note: when you need a large quantity of highlight color, start with a pile of white paint first, and then add small amounts of your premixed color to it, not the other way around. You'll avoid wasting lots of white paint this way.

Where I used the premixed colors in this painting.

#### STEP FIVE

Let's take this a step further and create some more harmonized grays on either side of our two main colors. I like to use complementaries or even tertiary colors to do this, so that I can get a nice range of cools and warms. In this example, I've used Cadmium Orange to the left of **A**, and Alizarine Crimson to the left of **B**, and mixed them with my knife as above. Look at those beautiful grays! Joaquin Sorolla said that "the money is in the grays", and he was right. 90% of our paintings should consist of colorful grays such as these, with only touches of pure colors here and there to bring it all together. These are now all the colors I will need to complete my painting, and because they all share something of each other, they are all in harmony together.



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