Chapter One

The Basic Principles of Light and Color

What are you thinking when you reach for a pastel stick? Do you think, “I need a blue here,” and then shuffle through an assortment of blue pastels looking for the stick that’s just light enough or just dark enough?

There’s another way of approaching color selection, and that’s to think about value first. You may have read or heard art instructors say, “If you don’t have the right color, choose the right value.” I say, “Before you think about color, think about value.”

Value—or tone—is the relative lightness or darkness of a color and is critically important to the structure of your painting. Strong contrast of light and dark will draw the viewer’s eye. In general, grayed or lighter values appear to recede, while stronger dark values appear to be closer.

But there’s another important factor as well, and that’s temperature—the relative warmness or coolness of a color. Warm colors appear to be closer to the viewer, while cool colors appear to be farther away.

Careful use of both value and temperature will help give your paintings dimension. So when you select a color for your painting, try to think value first, temperature second and finally hue. Instead of reaching for a “blue,” look for a “dark cool color,” and you may find a cool purple will work just as well or better.

A clear understanding of the values and temperatures of colors in your subject will put you on the right track to a successful painting. But there’s another important point to consider. Whether you’re painting a landscape outdoors or from a photograph, or a still life in natural or artificial light, the position of the light source is critical in developing a convincing representation of how light, shadow and color describe form. In this chapter, we’ll examine all of these factors.
Determining the Range of Values

An interesting contrast of light and dark areas usually serves as the foundation for all of my paintings.

The Importance of Shadow
Understanding value and the intrinsic relationship between light and dark is crucial for an artist. Light cannot exist without shadow, and shadows are always present, working with the light to define form.

The very presence of a shadow provides you with a priceless piece of information necessary to create a successful painting: knowing the position of the sun. Observing the direction and angle of light, and therefore the direction and angle of cast shadows, helps you paint objects more accurately. When you visually survey the natural landscape, you’ll see the lightest areas tend to be in the sunlight and the darkest areas in shadow. This sounds simplistic, but it’s important to consider when establishing the value range for a painting.

Establishing Value Range
In order for the natural light and shadows in your painting to appear realistic, you must define the value range that you will use, spanning from the darkest dark to the lightest light value within the subject. Some artists who paint from photographs even find it helpful to print a second version of the photo in black and white. This can give you a good feeling for the value range of your subject.

Once you've established the value of the darkest dark and the lightest light, you can consider the general range of values in both sunlight and shadow. Reflected light, or light reflected into a shadowed area, will belong to the light range rather than the shadow range, even though it’s within a shadow.

Making a Value Scale
Having a value scale handy is useful in the preliminary determination of value ranges. You can either purchase one at an art supply store or make your own with a range of white, gray and black pastels. Generally, the value of white is assigned the numeral 10, while black has a value of 1. However, the values in your painting may not encompass the entire range—for example, your lightest light might be a 9 and your darkest dark a 3.

Holding the chart next to a reference photograph, you might determine that the strongest sunlight values range from 10 to 7, while the darkest shadow values range from 1 to 3. This initial rough assignment of values will help you keep sunlight light and shadows dark. Remember though, your reference photograph may portray the darks too dark and the lights too light. When assigning values for your painting, make the necessary adjustments.

Squinting: An Artist's Best Friend
One of the best tools for defining values is right on your face—your squinters! Simply narrow your eyes as you look at the subject you’re about to paint. Squinting helps you see the big shapes of value masses or the groups of values.

APPLYING THEORY TO PRACTICE

The highlight on the largest rock is the only value that comes close to a 10 in this painting, while the darkest darks are no more than a value of 2. Dappled sunlight and shadowed areas require careful analysis as the painting develops, helping you determine what is in sunlight and what is in shadow, and what values to assign to each object or area.

Colorado Creek  - Maggie Price
Pastel on Richeson premium pastel surface  - 18" × 24" (46cm × 61cm)

MAKING A THUMBNAIL SKETCH

Sketching a thumbnail of the subject by dividing it into three general value masses—light, dark, and mid-value—helps determine an appropriate value range. The dark and middle values are both shadow values, while the light value represents the mass of sunlight. When you develop a painting after creating a simple thumbnail, you can add in smaller shapes, expanding the values from three to however many you see in your subject.

The First Kiss of Fall  - Maggie Price
Pastel on terra cotta Richeson premium pastel surface  - 16" × 20" (41cm × 51cm)
Achieving Realistic Whites

Though white objects are usually the lightest values in a painting, they are rarely painted using pure white. Using pure white often results in an unnatural look. This is because the sun’s light—or the reflected light bouncing off other objects—tints the color, coating it with subtle traces of either warm or cool hues. The position of the sun and the angle of its rays, together with other atmospheric factors, will determine the exact color of this tint.

Instead of white, try creating the impression of white with very light values of colors such as yellow, pink, orange, and even green or blue. By using one or more of these colors and laying them in adjacent to each other with short strokes, you’re sure to create some luminous whites.

Using Tints and Shades
Pastel manufacturers generally make a number of tints (lighter colors) and shades (darker colors) of each hue. Look for groups of tints of the same value to create dynamic whites and shades of the same or closely related values to create lively shadows.

Mission Light  
Phil Bates  
Pastel on mounted Wallis museum-grade sanded pastel paper  -  12” × 9” (30cm × 23cm)

CREATING CONVINCING WHITES
The brightly lit white wall was created with a combination of tints, from yellow-white and peachy white to greenish white and orange-white. Note that the majority of colors used are warm, though the shadows contain a mix of cool colors and the warm colors of the reflected light.
Creating Believable Blacks

Much like white, black seldom exists in pure form in paintings. Black shown in full sunlight may appear much lighter than you expect. For example, if you look at the roof of a black car in full sunlight, you’ll notice how much closer its value appears to light blue, green or violet than to black. Take the time to observe the color a black object appears to be rather than just relying on your knowledge that it’s black. In addition, different black materials and surfaces—black metal versus black wood—reflect sunlight differently, so capture these discrepancies in your paintings.

Using Dark Black
The value of black or close-to-black colors in full shadow is usually the darkest value in a painting. Still, adding hints of colors similar in value keeps these areas from being “black holes” in your painting. A few areas of really dark black are sometimes appropriate though. When I paint rocks, I always look for places to use a rich, unadulterated black. I call these my “spider holes”—places so dark and deep you would never want to reach into them. No light reaches into the depths of spider holes, so they can be painted totally black. Just don’t put in too many!

PAINTING BLACK SURFACES THAT FALL IN LIGHT
Different black materials and surfaces reflect light differently. Note the discrepancies between the color of the door, the light pole and the one-way sign. Variations between a metal surface, a plastic surface or a wooden one can dramatically affect the perception of color.

PAINTING BLACK OBJECTS THAT FALL IN SHADOW
Although this dark rock in deep shadow is almost black, there are still subtle hints of color to better define the rock’s form.

Look to the Edges
When painting black objects, pay special attention to the edge between the shift from sunlight to shadow. While angular objects may reflect that change as a hard line, rounded surfaces may need to be painted with halftones.

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Artists often refer to a color as “warm” or “cool” in temperature, but what exactly do these terms mean? Generally speaking, cool colors are those that fall into the blue range, while warm colors fall into the red and yellow ranges. The perception of a color as warm or cool is a crucial, sometimes complicated component of color theory. While it’s not necessary to master this subject, understanding the basics of temperature will greatly enhance your paintings.

Complementary Combinations
When looking at complementary pairs on the color wheel, notice the split between warm and cool: Red is warm, while green is cool; yellow is warm, while violet is cool; and orange is warm, while blue is cool. As you move into secondary and tertiary combinations, it gets more complex. Analyzing the composition of the colors will help you determine whether they belong on the cool side or the warm side. For example, red-violet has more warm components (red plus the components of red and blue in violet equals two warm colors and one cool color), while blue-violet has more cool (blue plus the components of red and blue in the violet equals two cool colors and one warm).

THE COLOR WHEEL
This simple color wheel shows the primary, secondary and tertiary colors. To choose a complementary pair, select colors directly opposite each other on the wheel, such as blue and orange. You may also find interesting combinations by selecting the “neighbors” of one color, such as blue and red-orange or yellow-orange.

THE PERCEPTION OF COLOR
In placing colors in your painting, take into account that the perception of a color is affected by the surrounding colors. A green mark in the middle of a red field may appear cool, but the same green may appear warm when surrounded by blue. Green is an ambiguous color because it’s composed of a warm (yellow) and a cool (blue); the variation in amounts of one or the other component can cool or warm it. If you want to make a specific color appear cooler, consider warming up the colors around it.
Suggesting the Cool Tones of Morning Light

When I’m painting outdoors or from a photograph taken outdoors, one of the first questions I ask myself is *What color is the light?* A person who is not an artist might think this is a silly question, but an artist learns to analyze and understand the many colors of light—all of which are tied strongly to the time of day.

Moods of Morning Light
Morning light, which tends to be cooler in temperature, bathes landscapes in lovely shades of blue and lavender. Using these cool hues in your paintings is a great way to create a soothing, peaceful or mellow mood. However, it’s important to note that different viewers will respond differently to color choices. That is, the painting may evoke an entirely different feeling from one viewer to the next.

Though the light in Richard Lundgren’s *Amelia Island Flowers* is undeniably cool, notice how the cheerful flowers in the subject keep the painting from becoming too cold or sterile. Small touches like these can make all the difference in your compositions.
Capturing the Warmth of Midday Light

Upon first glance, we might think of light as white. Indeed, some forms of artificial lights do give off a white glow. But natural light from our sun, which is a yellow star, often contains a hint of yellow. This is particularly true in the strong midday light when the sky is clear.

To achieve a more realistic midday light, oil painters often add touches of yellow to their white paints. However, a pastel artist painting a white object in midday light (e.g., a cloud) can avoid the process of blending or layering colors by simply laying down a very light pale yellow in place of white. If you don’t have a pale enough yellow in your collection, don’t worry; lay down a light yellow and then skim white over it.

When painting landscapes in the hot light of midday, choosing colors that have yellow in them not only harmonizes the painting but gives a feeling of the heat of the sun. Select greens that contain more yellow than blue, and keep your highlights in the yellow range.

Warm Afternoon - Phil Bates
Pastel on Wallis sanded pastel paper
16” × 20” (41cm × 51cm)

PAINTING IN MIDDAY LIGHT
The hot light of early afternoon is captured in this painting not only in the strong yellows, but in the use of yellow-greens. Note how the artist has selected grayed blues for the distant shadows, and lavenders and oranges as well as green in the close foreground shadows. Using these colors not only creates a sense of distance, but maintains the feeling of strong sunlight throughout the painting.

Re-creating the Glow of Late Afternoon Light

Possibly the easiest color of light to identify is that of the late afternoon, when the setting sun casts an orange or reddish glow. When you paint a subject in this light, include a hint of the light’s color throughout the painting. Doing so will create harmony in your painting and unify it as a whole.

Using touches of complementary colors is also a great way to strengthen your composition. By simply including the color opposite the color of the light, you can create visual contrast. For example, if you’re painting a subject that’s basking in the rich, warm orange light of the setting sun, adding hints of blue throughout will help keep your composition interesting and tie it together.

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Rendering the Effects of Midday Light

The type of light being cast onto an object can change its appearance drastically. As you've seen, morning light cools color, pushing the shadows to blue, while late afternoon sun tints color with a fiery glow. Midday light has an equally remarkable effect on color, intensifying highlights and gently warming the surface of objects. This is especially evident when painting the human figure in midday light.

In this demonstration, you'll see just how dramatically the midday sun can affect the color of skin, yielding beautifully deep, rich and warm tones.

Materials

SURFACE
14” × 11” (36cm × 28cm) white Ampersand Pastelbord

PASTELS
Background and shadows: burnt sienna, dark red earth, light blue-violet, light tan, middle-value blue-violet
Boots: dark red earth, light blue-violet, light gray
Dresses: dark red earth, light pink, pink, two values of blue-violet, white, yellow-white
Faces, legs and hands: dark burnt umber, flesh, light blue-violet, light ochre, light orange, lighter red-orange, middle-value burnt sienna
Underpainting: blue-violet, dark burnt umber, dark umber, dark red earth, light ochre, light tan, middle-value burnt sienna, two light values of blue-violet

PASTEL PENCILS
Boots: bright red, burnt umber, white
Dresses: bright red, middle-value blue-violet, red, turquoise, violet, white
Faces, legs and hands: blue-violet, bright orange, dark burnt umber, dark red earth, dark umber, light red-orange, orange, red
Highlights: bright orange, high-key yellow, red, sienna, yellow, white
Shadows: blue-violet

OTHER
1-inch (25mm) and ¼-inch (6mm) synthetic watercolor brushes;
11” × 14” (28cm × 36cm) 50-lb. (105gsm) white drawing paper;
mineral spirits; nos. 2, 2B, 4B and 9B pencils; paper towels; pencil sharpener; sandpaper block; SpectraFix fixative; tape

REFERENCE PHOTO
The strength of this photo is the midday light shining on the girls’ faces and their dazzling white costumes. The challenge is to compose a painting that focuses on these elements while excluding extraneous data. To do this, reduce the background to a warm abstraction and omit the partial figure on the far left.
Complete the Sketch

Make a full-sized sketch of the painting on a piece of 50-lb. (105gsm) drawing paper using your 2B and 4B pencils. While this can be done freehand, it’s easier to scale your reference photo into a convenient size. 1⅛-inch (3cm) squares provide the proper proportions. Use a vertical format and position the figures far enough to the right to prevent the viewer’s eye from being led out of the left margin.

Make the second figure from the left more dominant by enhancing her look of concern. Maintain the feeling of spontaneity by varying the interval between the figures and the directions the heads are turned.

To enhance the sense of a bright sunny afternoon, surround the shadows under the figures with light. Darken the values from the lower edge of the skirts toward the upper third of the sketch, suggesting a background in shadow. Grade to a slightly lighter value at the very top where the warmth of the sun penetrates the background.

Transfer the Drawing

Blacken the back of the drawing with a 9B graphite pencil. Then tape the drawing over the white Ampersand Pastelbord and use a no. 2 pencil to trace the drawing onto it. Carefully lift the taped corners to check that you’ve traced all the lines.

Reinforce any weak lines, and spray the drawing with SpectraFix casein-based fixative. Rub a nonessential part of the drawing with your finger. If it smears, apply another coat of fixative.
3 Underpaint the Background

Using the sides of your pastel sticks, lightly lay in the background colors. Avoid filling the tooth of the support. Begin with dark burnt umber followed by middle-value burnt sienna, light tan and a little blue-violet.

Next, brush the pastel into the surface using your 1-inch (25mm) flat brush and a small amount of mineral spirits. Use your ¼-inch (6mm) brush when working around the fine details like the faces. Start with the lighter areas and work to the darker values.

Keep a paper towel on hand to wipe the brush between colors. The color will darken when wet, but will dry back to the original value in a couple of minutes.

4 Underpaint the Figures

Using hard pastels, color the faces with light ochre and middle-value burnt sienna. Color the hair with dark umber. Use the same colors for the legs and hands. Leave the highlights on the skin and hair mostly unpainted. This is where the strongest sunlight hits, and the white surface helps keep those values light.

For the skirts, use hard pastels of two lighter values of blue-violet to color in the shadowed areas. Use a dark red earth to color the boots.

Using the same brushes from step 3, work in the colors. First wet the faces, blending the color slightly into the unpainted highlights. Do the same for the hands, legs and hair. Use mineral spirits to paint over the red of the boots. Allow your painting to dry.

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Express Yourself

When doing the demonstrations in this book, remember to have fun, experiment and play with color. If you don’t have a hard pastel in a specific color, a soft one will work just as well. There are no rigid rules. Even when following a step-by-step, you have the freedom to add colors or not. There is always latitude for personal expression.
Add Facial Features

Define the faces using the tips of your pastels. To get a sharp point, begin with a pencil sharpener and then finish the point using a sandpaper block. Establish the darks of the eyes with a dark burnt umber. For the lips, use a dark red earth pastel pencil. The ears are semi-transparent in sunlight, so use a lighter red-orange pastel pencil.

Refine these critical details by working over the colors with lighter tones. Render one face at a time, but use the same pastels for all: middle-value burnt sienna, light ochre, light orange, flesh and a little light blue-violet for the shadow areas around the nose, upper lip and temples.

Place Highlights

The highlights are critical to create the impression of bright sunlight. Use a soft yellow that is almost white. This will create a stronger feeling of sunlight than pure white. Blend the facial colors and show the contours of the cheeks, jawline and eyebrow ridge using the edge of the pastel pencil. Notice areas of reflected light from the dresses on the jawlines and cheeks. These reflected lights intensify the sense of bright sunlight on the figures. An easy way to achieve these critical highlights is to use a sharpened white pastel pencil to slightly lighten the values in these areas. The ears are mostly highlighted with bright orange, high-key yellow and red. The hair is mostly dark umber with sienna, white and high-key yellow highlights.
7  **Paint the Dresses**

Keep your rendering impressionistic with strong shadows and highlights. Start by refining the shadowed areas to emphasize those areas in direct sunlight. Indicate the edges in sun with white, particularly the collars. Use a hard and soft white pastel and a soft yellow-white pastel to emphasize the brilliance of the sun. Reinforce the dark contours of the folds and creases with a middle-value blue-violet pastel pencil, then soften the contours with two values of blue-violet, using both hard and soft pastels. Blend the colors with the side of a sharp pastel pencil. Use a soft light pink pastel to indicate reflected light where one dress reflects upon another.

Notice the petticoats also reflect the warm color of the ground. Lightly glaze pink over these blue-violet areas with the side of the pastel stick. Then, with a white pastel pencil or hard white pastel, suggest the satin trim of the petticoats. The red sash is painted with a hard dark red earth pastel and a bright red pastel pencil. Suggest the various colors of the trim on the sleeves, skirts and collars with pastel pencils of red, violet and turquoise.

8  **Add Finishing Touches**

Indicate the shadows on the legs by glazing with a blue-violet pastel pencil.

Paint the boots with the same reds used for the sash. Indicate the straps with a burnt umber pastel pencil, and place the highlights with a hard, light gray pastel and a white pastel pencil. Suggest the spurs with a few strokes of light blue-violet.

The shadow cast by the figures includes both the direct light of the sun and the reflected light off the boots. Begin by reinforcing and defining the edges with a hard burnt sienna. Glaze over the sienna with the side of a hard dark red earth pastel and a middle-value blue-violet pastel. Work over the light areas of the ground with the same light tan pastel used for the underpainting.

Go back into the background with the same pastel used for the underpainting to soften the transition from ground to background and to touch up any areas that look thin. Last, lightly glaze a little light blue-violet over the heads of the figures.
Red Boots - Richard Lundgren
Pastel on white Ampersand Pastelbord - 14" × 11" (36cm × 28cm)