ART ASSIGNMENT #3C: COLOR TEMPERATURE

Making Intentional Decisions for Better Paintings



John Singer Sargent, *Morning Walk,* 1888.



WHY COLOR TEMPERATURE MATTERS

Color temperature is one of the most important concepts in color theory, but it's also one of the most misunderstood. That's because it's often taught using oversimplified rules that don't reflect how color actually works.

Understanding color temperature helps us make more intentional color choices. It affects:

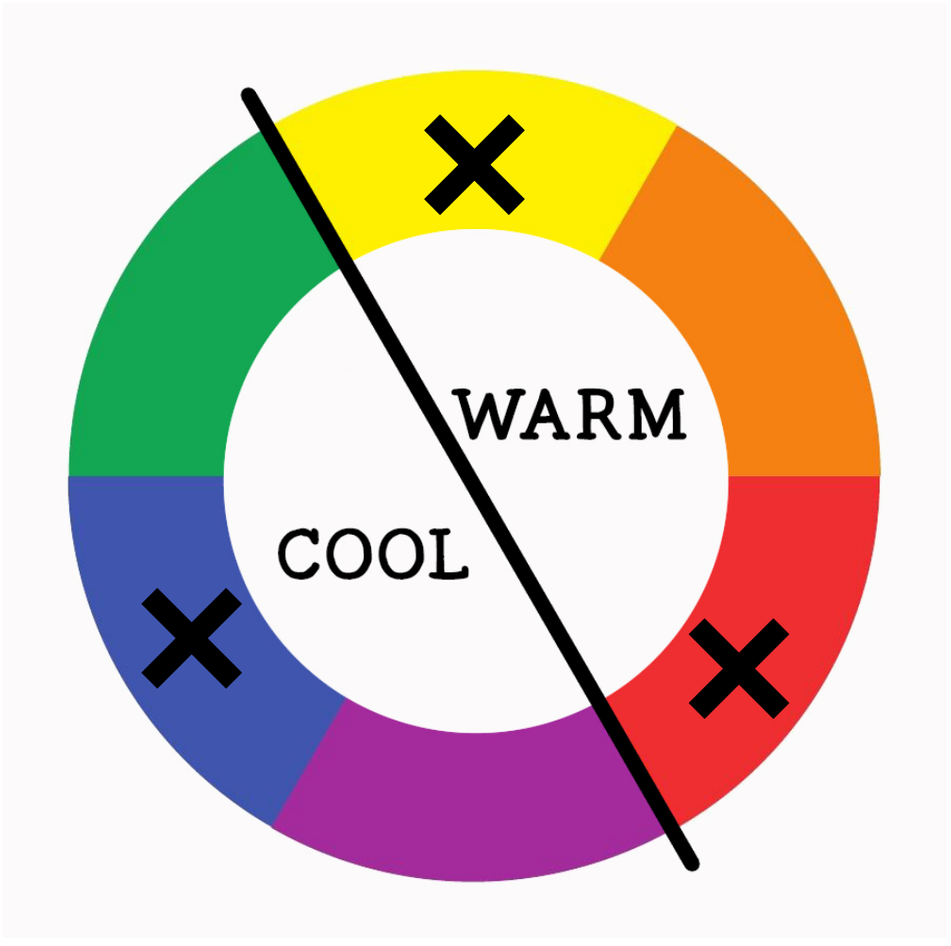
- **Color mixing**
- **The sense of depth and form**
- **Visual interest and harmony**
- **The mood and atmosphere of a piece**
- **Where the viewer's eye is drawn**

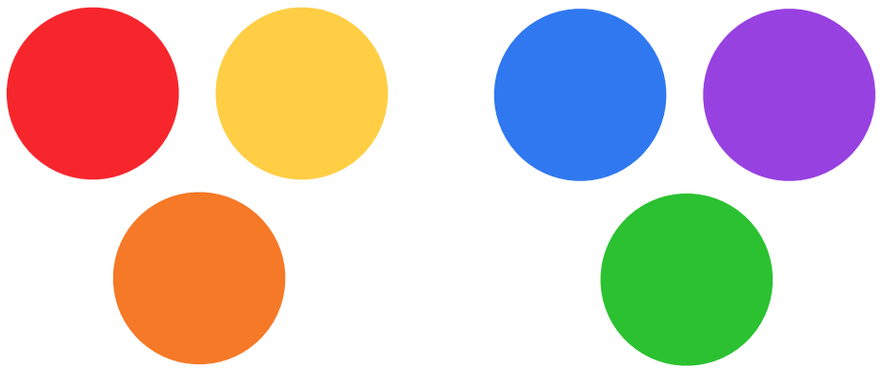
Without thoughtful temperature variation, paintings can feel flat, dull, and lifeless.

One of the most important ideas to remember is that **color temperature is relative**. We perceive a color as warmer or cooler depending on the colors surrounding it.

Instead of thinking of colors as simply "warm" or "cool," it's more accurate to say that one color is **warmer than** or **cooler than** another.

EVERY COLOR HAS WARMER AND COOLER VERSIONS





In a previous lesson, we learned that the color wheel can be divided into **warm** and **cool** halves.

In a general sense:

- Reds, oranges, and yellows are considered **warm**.
- Blues, greens, and purples are considered **cool**.

This is a helpful starting point, but it's only a simplified way of thinking about color.

One reason this division is useful is that two of the primary colors, **red and yellow**, fall on the warm side of the wheel, while **blue** falls on the cool side.

This can help us remember that hues that lean more toward **red or yellow** tend to appear warmer, while colors that lean more toward **blue** tend to appear cooler.



Begin developing your eye for observation. Learning to truly see and understand what's in front of you will take you much farther than memorizing rules ever will, especially because every subject, environment, and context can change so much.

However, thinking of colors as being simply "warm" or "cool" suggests that color temperature is **absolute**, meaning a color's temperature never changes.

In reality, this isn't how we perceive color. **Every hue has warmer and cooler variations.** Not only primaries, but secondaries, too (except orange- which will always be warm).

And the way we perceive a color when it is on it's own is very different from how we perceive it when it is surrounded by other colors. So, context matters.

As artists, it's much more useful to think of color temperature as **relative**. A color doesn't exist in isolation. We only perceive its temperature by comparing it to the colors around it.

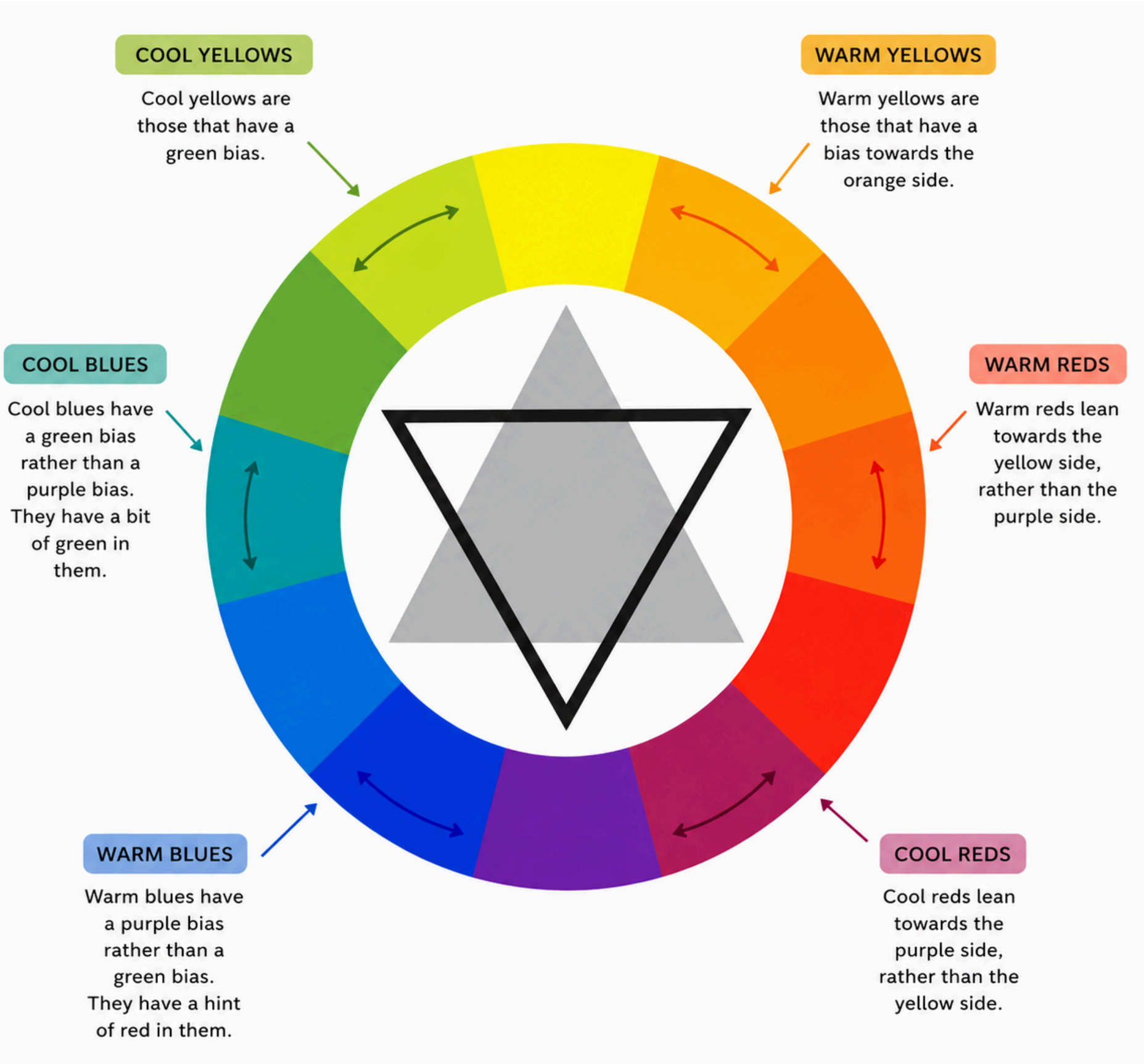
Instead of memorizing which colors are warm or cool, get in the habit of asking:

"Which direction is this color leaning on the color wheel?"

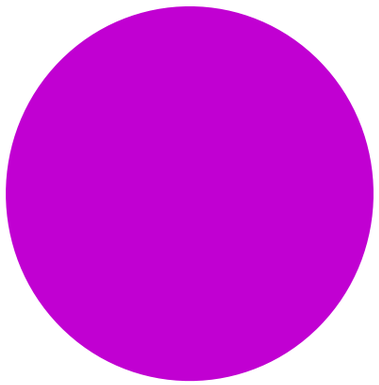
If it leans more toward **yellow or red**, it will generally appear warmer.

If it leans more toward **blue**, it will generally appear cooler.

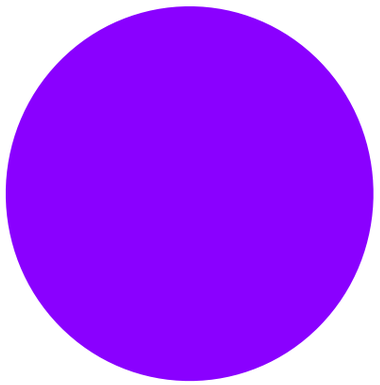
What primary color is it closest to?

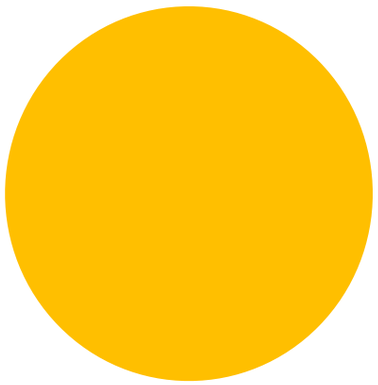

COOL YELLOWS
Cool yellows are those that have a green bias.
WARM YELLOWS
Warm yellows are those that have a bias towards the orange side.
COOL BLUES
Cool blues have a green bias rather than a purple bias. They have a bit of green in them.
WARM REDS
Warm reds lean towards the yellow side, rather than the purple side.
WARM BLUES
Warm blues have a purple bias rather than a green bias. They have a hint of red in them.
COOL REDS
Cool reds lean towards the purple side, rather than the yellow side.

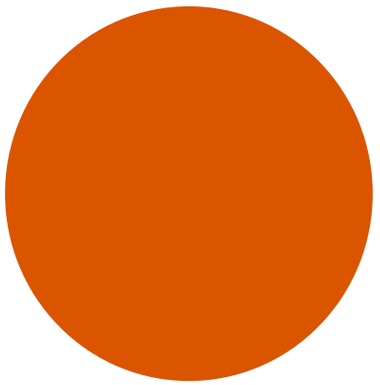
Warmer Purple-
Red Purple



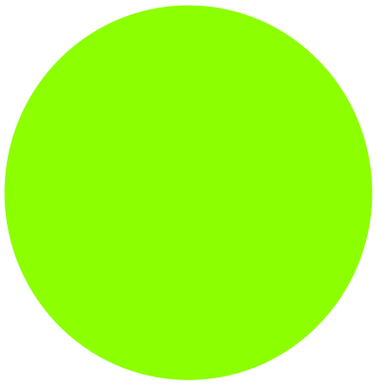
Cooler Purple-
Blue Purple



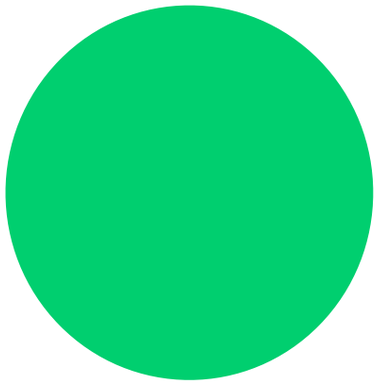




Warmer Green-
Yellow-Green



Cooler Green-
Blue-Green

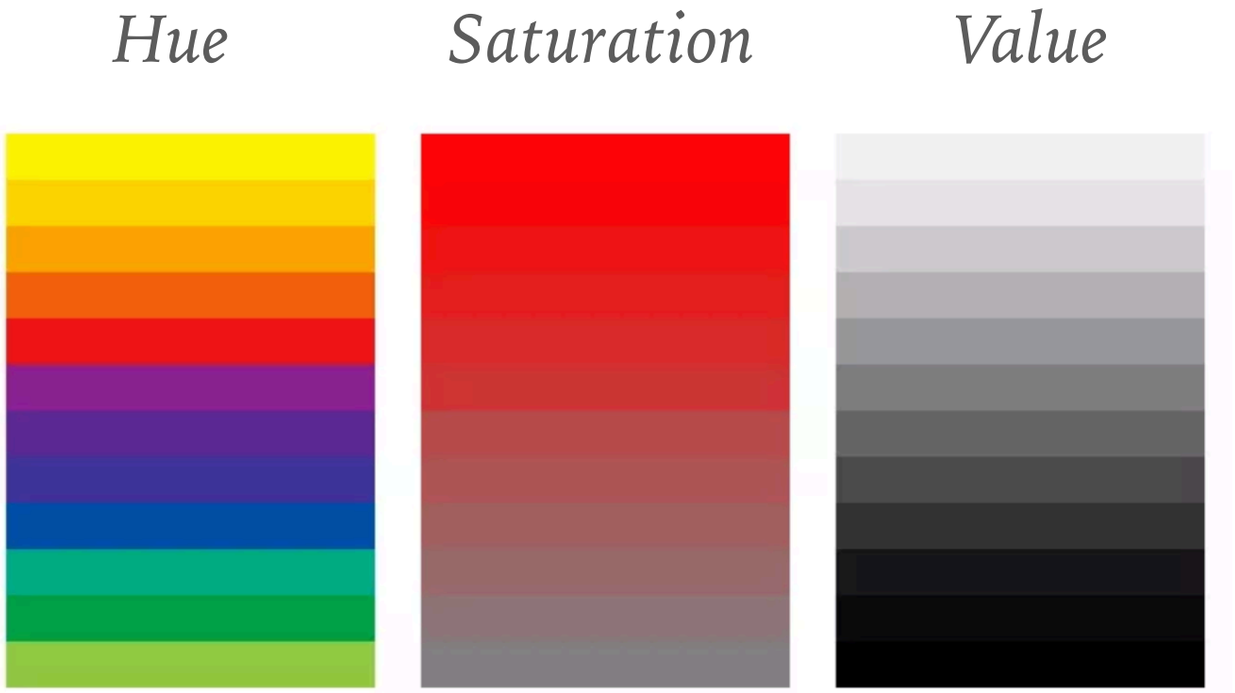


Middle-of-the-range secondary colors, which sit equally between two primary colors on the color wheel, can be considered either warm or cool depending on which half of the wheel they fall into.

Oranges will always be considered warm because they are created by combining two warm primary colors: yellow and red.

Some people consider orange to be the hottest color on the color wheel because of this, and also because it sits opposite blue, which is often considered the coolest color.

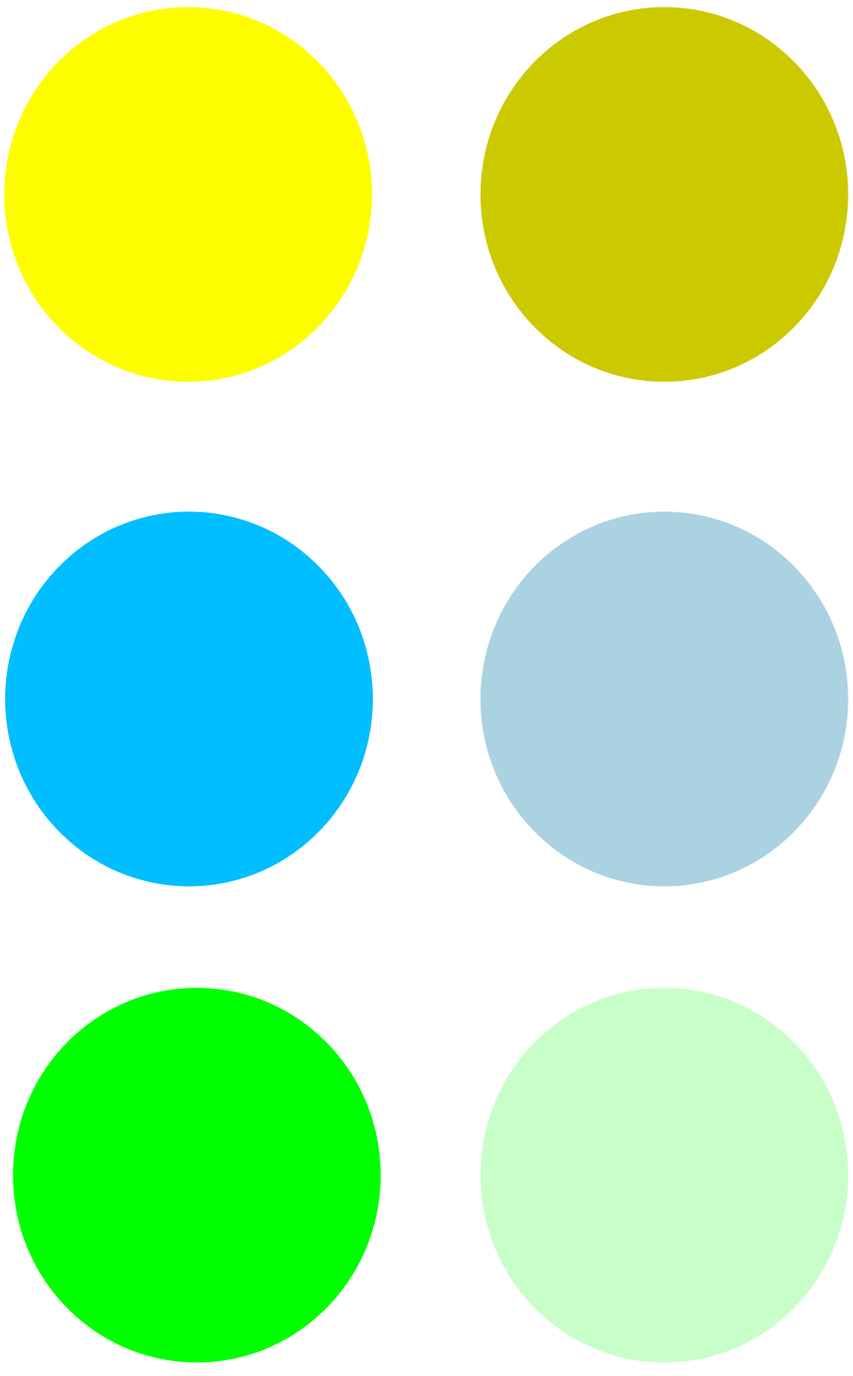
THE THREE PROPERTIES OF COLOR: WHERE DOES TEMPERATURE FIT IN?



In a previous lesson, we learned that every color has three main properties:

- **Hue:** The color itself.
- **Value:** How light or dark the color is.
- **Saturation:** How intense or muted the color is.

Color temperature is primarily determined by **Hue**, specifically by where that hue falls on the color wheel.

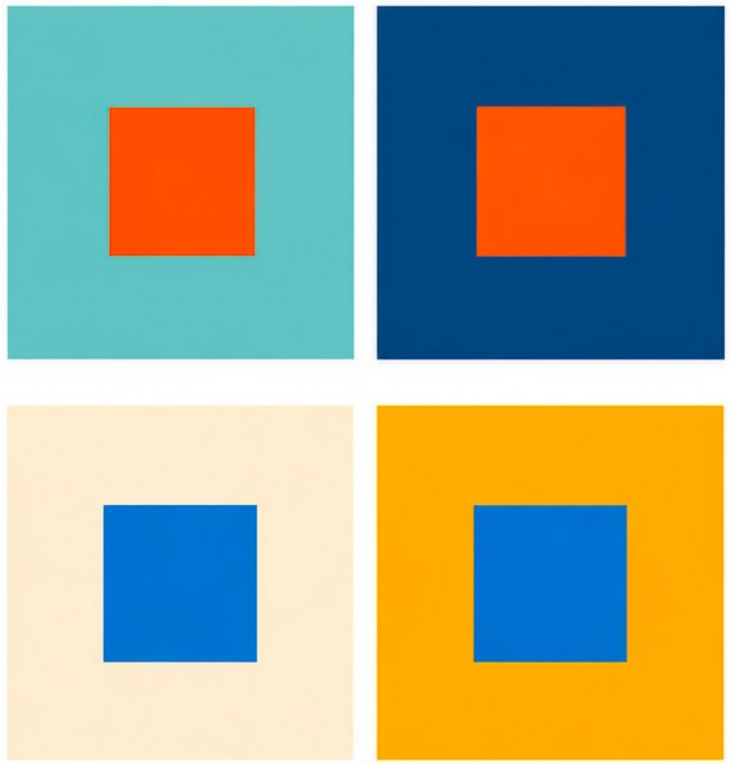


Hue establishes a color's basic temperature. But **Value** and **Saturation** can enhance or soften our perception of that temperature.

For example:

- A light, bright yellow often feels warmer than a dark, muted yellow.
- A muted, grayish blue might feel cooler than a bright, saturated blue.
- A bright, saturated green might feel warmer than a more muted version of that same green.

But, again, it all depends on the context.



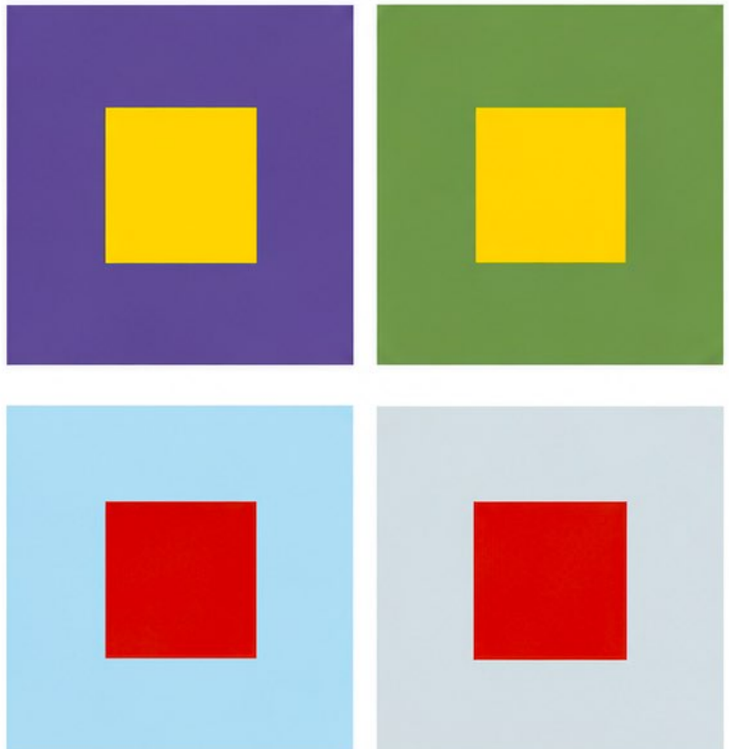
What do you notice?

Although the center squares in each pair are **identical**, the color around them has a huge impact on how we perceive them.

Take a moment to compare each pair.

- *Which center square appears warmer?*
- *Which appears cooler?*
- *Why do you think that happens?*

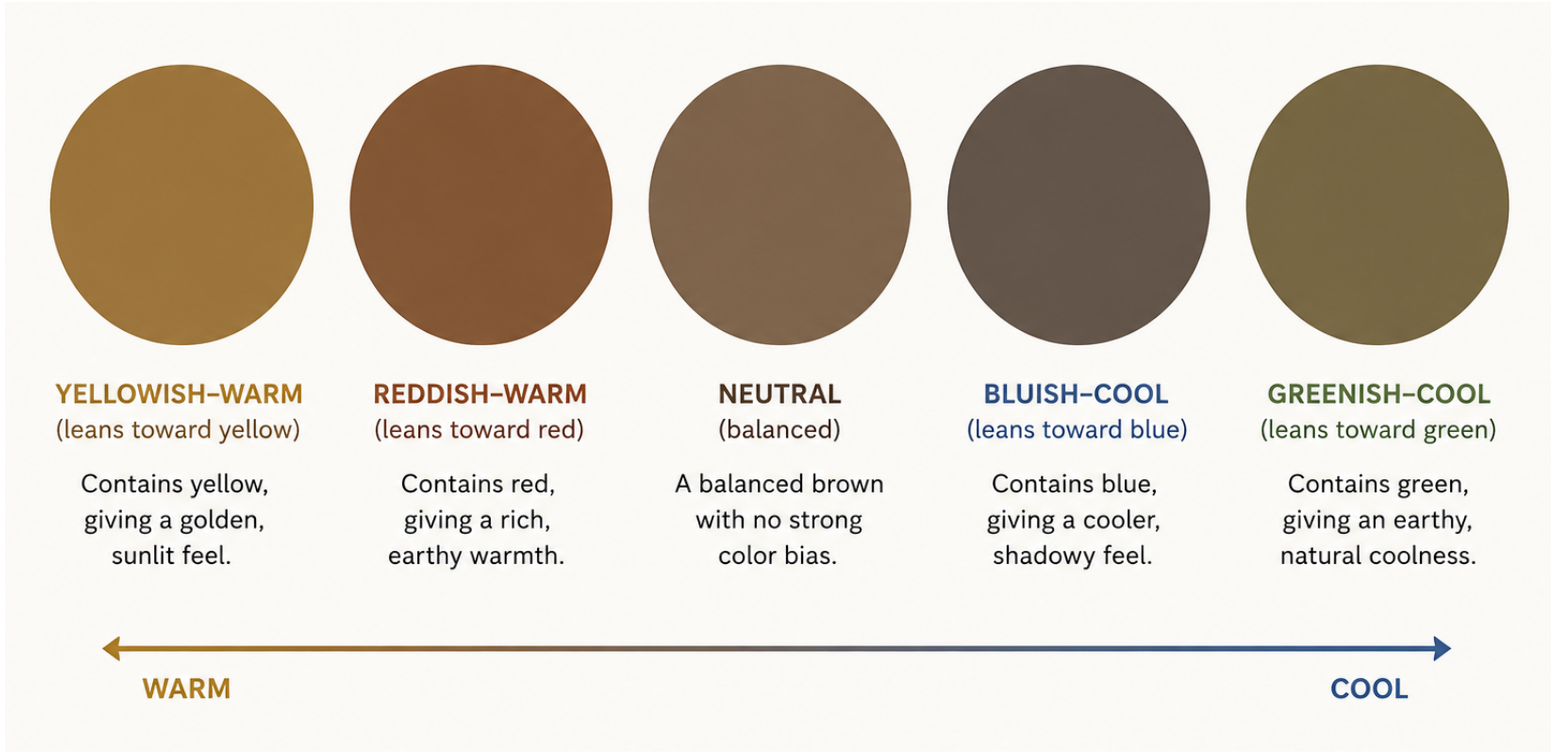
The answer isn't the center color... it's the colors surrounding it.



Our perception of color temperature is **relative**, never absolute.

- In the first two examples with the orange square, the orange square on the left looks warmer and darker than the one on the left.
- In the second row, the blue square on the left seems cooler than the blue square on the right.
- In the third row, the yellow square on the purple looks warmer and lighter than the yellow square on the right.
- In the fourth row, the red square over the blue looks warmer and brighter than the one over the gray.

WHAT ABOUT NEUTRAL COLORS?



Grays and browns can be more challenging because their temperature is often more subtle than that of highly saturated colors. But remember that they are a combination of all three primaries, in different amounts.

Instead of asking whether a neutral is warm or cool, ask yourself:

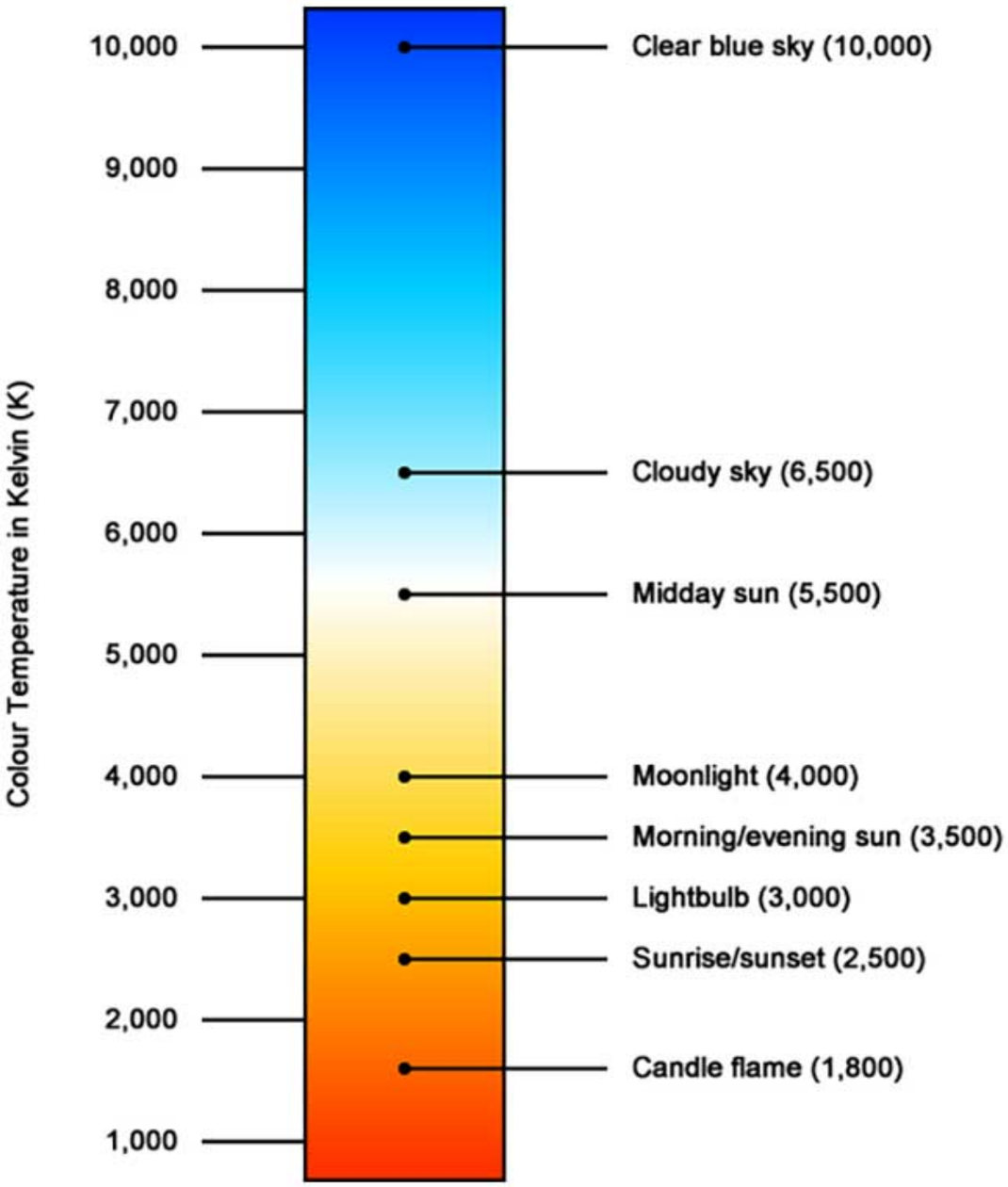
"Which hue does this neutral lean toward?"

- A brown or gray that leans toward **blue, green, or violet** will generally appear cooler.
- A brown or gray that leans toward **yellow, orange, or red** will generally appear warmer.



Camille, Pissarro, *Flowering Plum Tree,* 1894.

COLOR TEMPERATURE OF LIGHT



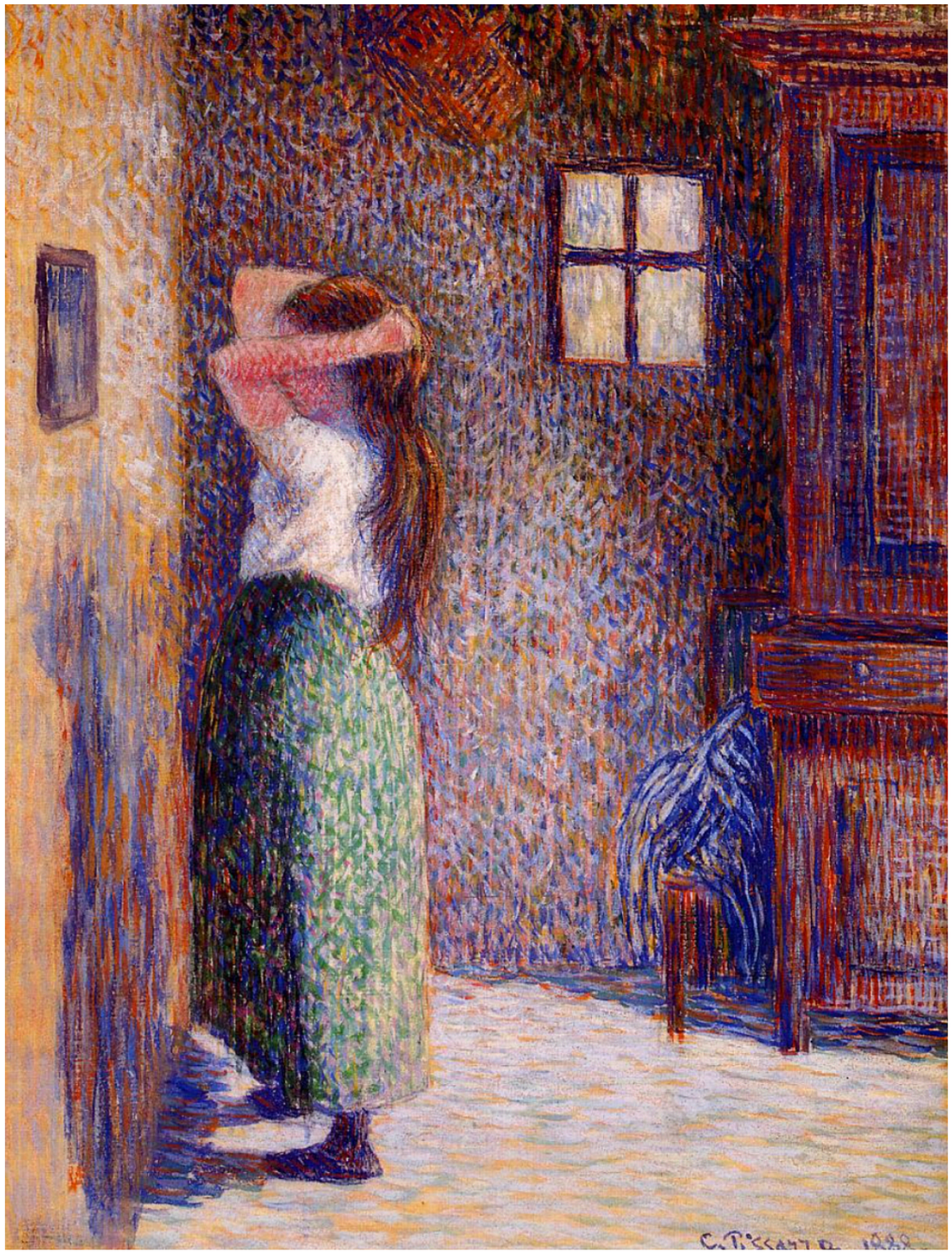
Throughout this lesson, we've been discussing the **temperature of pigments**. Now we're shifting gears to talk about something different: the **temperature of the light itself**.

It’s important to talk about this because understanding it will help us make more intentional decisions when planning a new piece, leading to better results.

Although artists use the same term, **color temperature**, these are actually two different concepts.

Unlike paint, **light has a measurable color temperature**, which is expressed using the **Kelvin (K) scale**.

As painters, we can't reproduce light itself. Instead, we use pigments to create the **illusion** of light. The better we understand how light behaves, the more convincing and harmonious our paintings become.



Camille Pissarro, *Young Peasant at her Toilet,* 1888.

The temperature of daylight changes throughout the day, and different light sources emit different color temperatures.

Understanding this helps us see why colors can appear different depending on the lighting conditions within a scene.

Artist Tip

Before you begin painting, identify the **dominant light source**. Its color temperature will influence every color in your scene, so keeping those temperature relationships consistent is one of the easiest ways to create believable paintings.

Don't Confuse These Two Concepts

Pigment Temperature

- The *perceived* warmth or coolness of a paint color, based on its hue and the colors surrounding it.

Light Temperature

- The *actual* color temperature of the light illuminating the subject, measured in **Kelvin (K)**.

COLOR TEMPERATURE PSYCHOLOGY

Have you ever wondered why we describe **reds, oranges, and yellows** as *warm* colors, while **blues, greens, and purples** are considered *cool*?

Interestingly, from a physics perspective, it's actually the opposite. As an object becomes hotter, it emits light that shifts from **red** to **orange**, **yellow**, **white**, and eventually **blue**. In other words, **blue light is actually hotter than red light**.

So why do artists think of blue as cool and red as warm?

The answer has more to do with **psychology** than physics.

We naturally associate colors with experiences from everyday life:

- **Warm colors** remind us of the sun, fire, glowing embers, and autumn leaves.
- **Cool colors** remind us of water, ice, shade, and a clear blue sky.

These associations shape the way we emotionally and visually respond to color, which is why artists continue to describe colors as warm and cool in this way.







PUTTING IT ALL TOGETHER: USING COLOR TEMPERATURE INTENTIONALLY

Before you begin painting, take a few minutes to plan your composition.

Thumbnail sketches are a great way to explore not only your composition and value structure, but also your color temperature relationships.

Remember that **value should always come first.** A strong range of values creates the illusion of light, depth, and form.

Once your values are planned, you can use color temperature to enhance the painting and strengthen its visual impact.

Before you start painting, ask yourself:

- **What is the dominant light source?** Is it warm or cool?
- **What mood or atmosphere** do I want to create?
- **Where do I want the viewer's eye to go?**
- **Where can I introduce subtle warm and cool shifts** to create more visual interest?

Temperature shifts don't need to be dramatic. Even small changes toward a warmer or cooler hue can make a painting feel richer, more believable, and more dynamic.

As artists, our goal isn't to perfectly replicate reality. Instead, we use color temperature intentionally to create the **illusion** of light and strengthen the visual story we're telling.

Oftentimes artists will actually enhance and push value and temperature when they feel it’ll help the composition.



Ways to Use Color Temperature

- Create a stronger sense of depth and form.
- Mix colors more intentionally.
- Build harmony and integration
- Reinforce the mood and atmosphere.
- Guide the viewer's eye toward your focal point.
- Suggest distance through atmospheric perspective.
- Strengthen the illusion of light.

Remember: Warm colors often appear to advance, while cool colors often appear to recede.

Key takeaway: Consistent temperature relationships create paintings that feel unified, believable, and visually engaging.

Color temperature isn't about memorizing which colors are warm or cool. It's about learning to see relationships and using them intentionally to support your artistic vision.



John Singer Sargent,
Morning Walk,
1888.



Edward Hopper, *Morning Sun,* 1952.



Edward Hopper, *Automat,* 1927.



Edgar Degas, *Dancers in a Studio,* 1884.



CAN'T TELL THE DIFFERENCE BETWEEN WARM AND COOL COLORS IN PHOTOS AND REAL LIFE?

Don't worry. This is *completely* normal.

Learning to recognize subtle temperature shifts takes time and practice. Like drawing or value perception, it's a skill that develops through observation and repetition.

Remember, artists don't simply copy what they see. They often **push**, **soften**, or **exaggerate** color temperature relationships to create a stronger composition, communicate a mood, or direct the viewer's attention. Many artists even adjust the colors in their reference photos before they begin painting to better support their artistic vision.

The goal isn't to identify every temperature shift perfectly. It's to become more aware of the relationships between colors and use them intentionally as you create your own work.

Training your eye to observe these subtle shifts is far more valuable than memorizing rules.

ART ASSIGNMENT #3C:

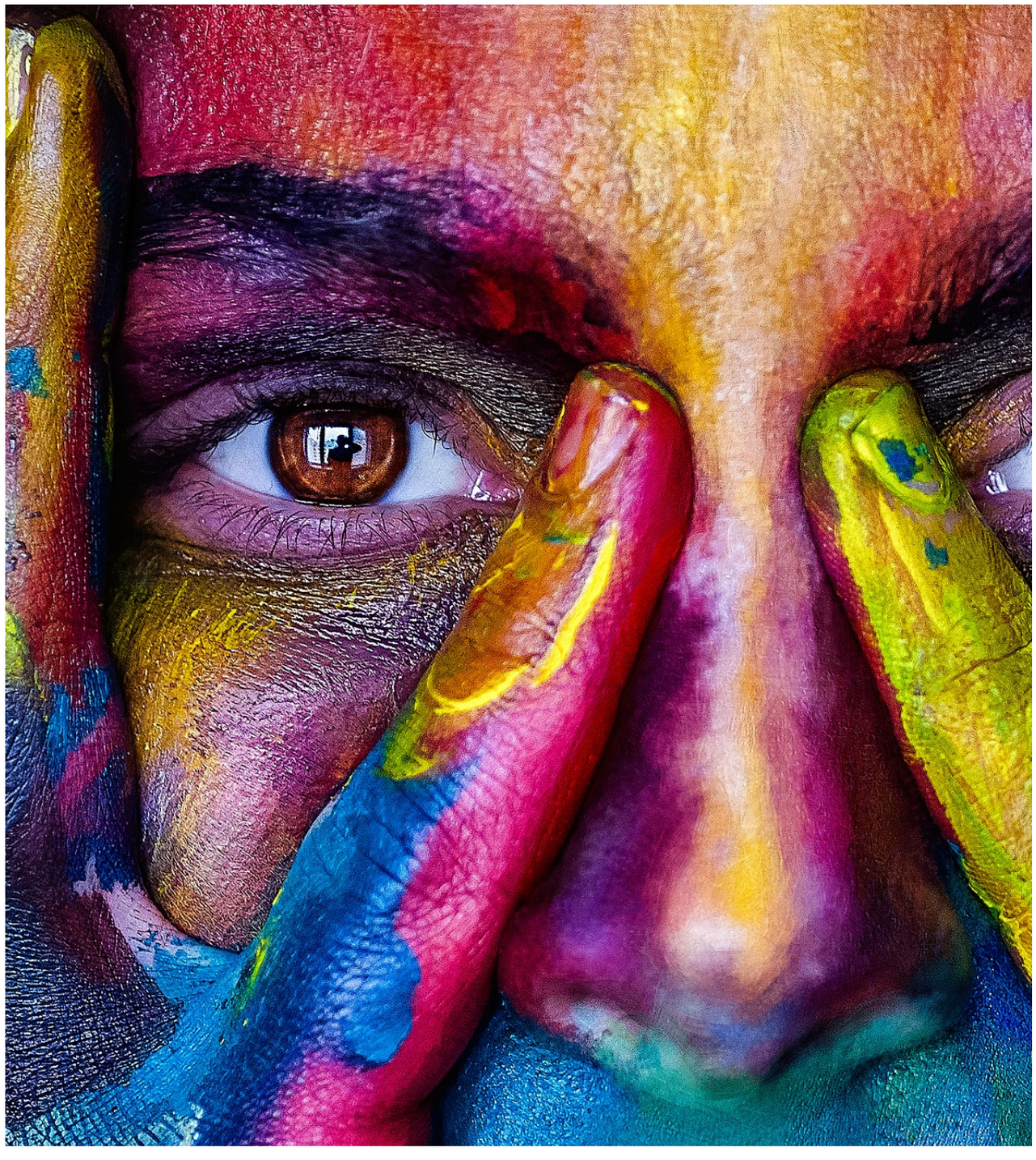
- Choose a photo of a scene, still life, or portrait with a clear, single light source.

- Create a thumbnail study (digital or traditional) where you map out the main value changes.

- Create another thumbnail study where you plan how you would organize your warm and cool colors to create stronger visual effects.

Suggested: Use photo-editing software to exaggerate or adjust the warm and cool colors, making them easier to identify as you plan your color choices.

ARTISTIC PROCESS *SUGGESTED* STAGES



1. Dream it
2. Plan + Prepare
3. Execution
4. End it (or repeat it)
5. Evaluate + Reflect

Staying mindful of these helps you keep moving forward!