

ART ASSIGNMENT #3B

History of Color & Color Psychology

In the Bois de Boulogne, Berthe Morisot, 1879.

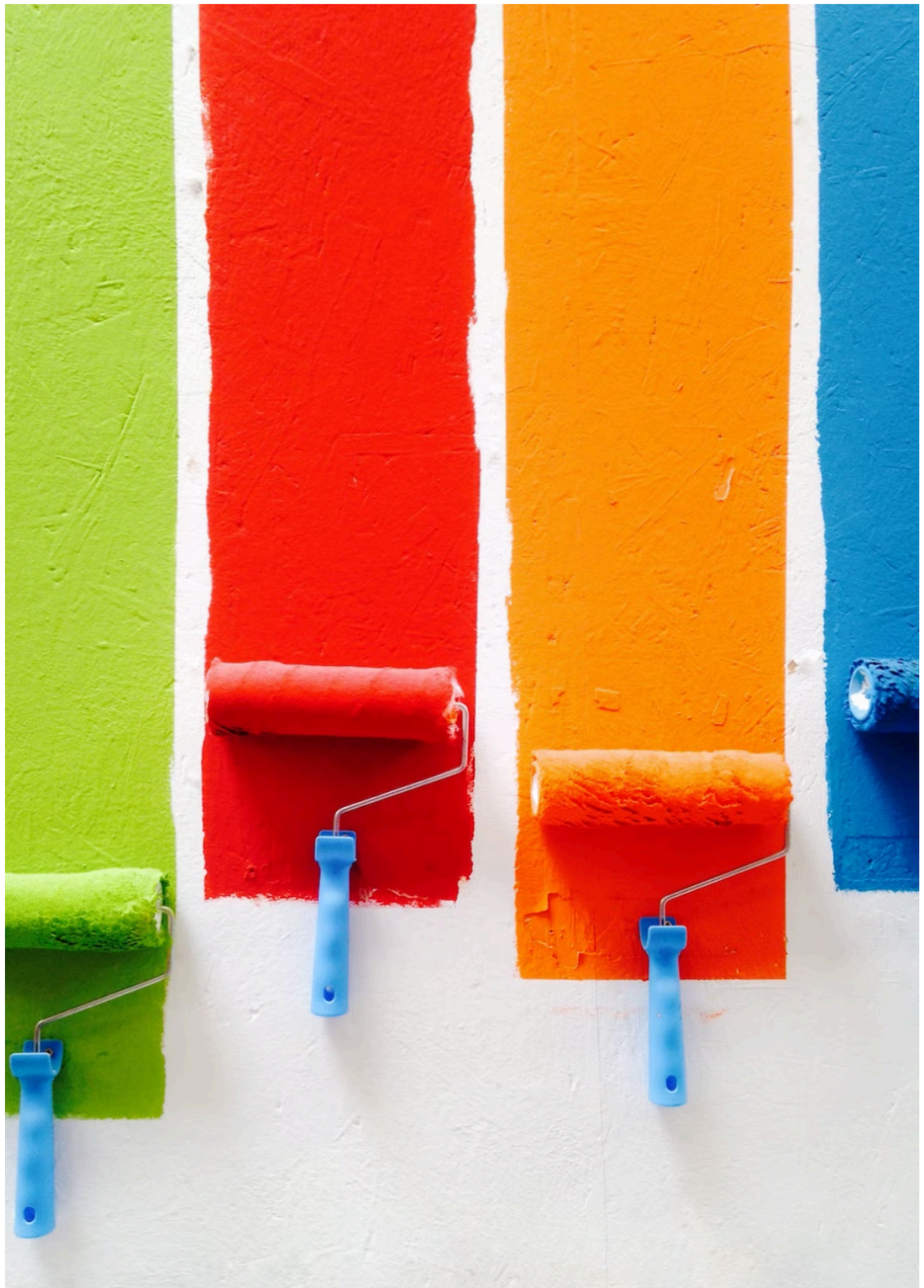
INTRODUCTION

Color Theory **involves both art and science. It refers to the guidelines and “rules" that explain how humans perceive and make use of color.**

It studies the origin/history of colors and pigments, the perception of color by the human eye, as well as its effects on the brain.

Color Psychology **is part of** ***Color Theory*****. It’s the study of how different colors influence the way we think and feel, and ultimately, our behavior.**

Aside from artists, ***Color Psychology*** **is used strategically by professionals in many fields, from interior and fashion designers, to graphic designers and marketing experts, to cinematographers.**



The colors (and color combinations) around us have an impact on us at both conscious and subconscious levels. We'll link different colors with certain ideas, feelings or even specifics objects or people, whether we're aware of it or not.

For example:

- The way we feel when we're in a room that's full of light, neutral colors, is different from how we feel when we're in a room with darker, saturated colors.
- How we judge products in the supermarket is different depending on their colors and overall packaging design.
- The colors someone is wearing when we first meet them is going to influence our first impression of them.











It’s important to remember that, how we perceive different colors, as well as *combinations* of different colors, will depend our culture and when/where we grew up, as well as our past personal experiences.

Colors hold different meanings and associations for different cultures around the world. What they symbolize can vary a lot from culture to culture.

As an example, Western cultures usually associate white with purity and innocence. It’s used in weddings and other religious ceremonies. Black, on the other hand, symbolizes sophistication, mystery and power. It’s also often seen as a mourning color, which is why it’s worn to funerals.

On the other hand, in China and the Koreas, white is associated with death, mourning and bad luck. White is the color worn to funerals. Red symbolizes luck and happiness in Eastern cultures, and is often used at weddings and other celebrations.

As artists, it’s always important to be aware of our audience and the context that our art will be shared in.

USING COLOR STRATEGICALLY FOR BETTER ART



When Will You Marry?, Paul Gauguin, 1892.

As artists, it's essential to understand how to use the building blocks that allow us to create visual compositions (Elements of Art).

This way, we'll be able to use them *strategically* in order to:

1. **Create balanced/harmonious compositions that capture the viewer**
2. **Effectively transmit a mood, message, idea or story**

At a more objective/technical level, it's important to be aware of the visual effects we can create when combining different colors.

- **Warm colors tend to pop out while cool colors recede**
- **By combining colors that are very different from each other (such as Complementary Colors), contrast can be easily created**
- **By using colors that are similar to each other (such as Analogous Colors), the piece will look less colorful, but these color choices lead to integration more easily**
- **Within different color schemes, we can manipulate value and saturation to increase/decrease contrast between colors**

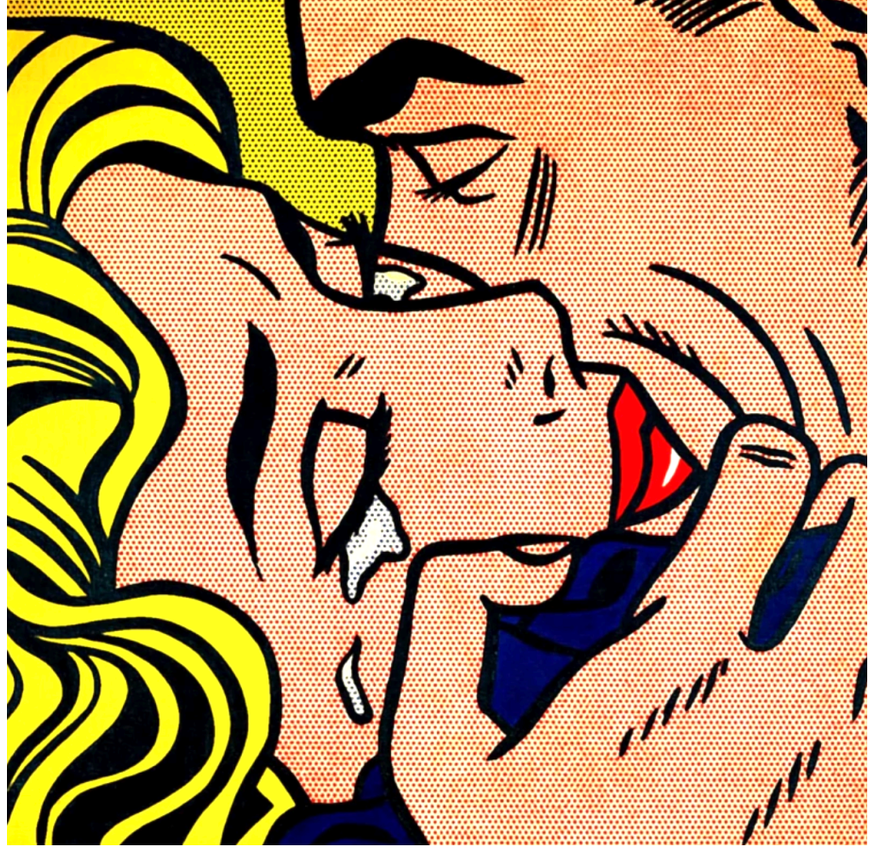
At a more subjective level, it's important to be aware of the psychological impact different colors can have on our viewers.

This is why learning about what different colors can symbolize is important for artists and designers.

If we're not aware of the psychological impact different Elements of Art can have on our audience, or we don't use them mindfully, we can fail at communicating what we're trying to communicate, or we can confuse the viewer.

Think of choosing specific colors (or *hues*) to support your message or art style, *aside* from using it to create visual harmony and integration.

We'll talk about the symbolism of different colors (in the West) in just a bit, but first, let's briefly discuss the history of color in art and science.

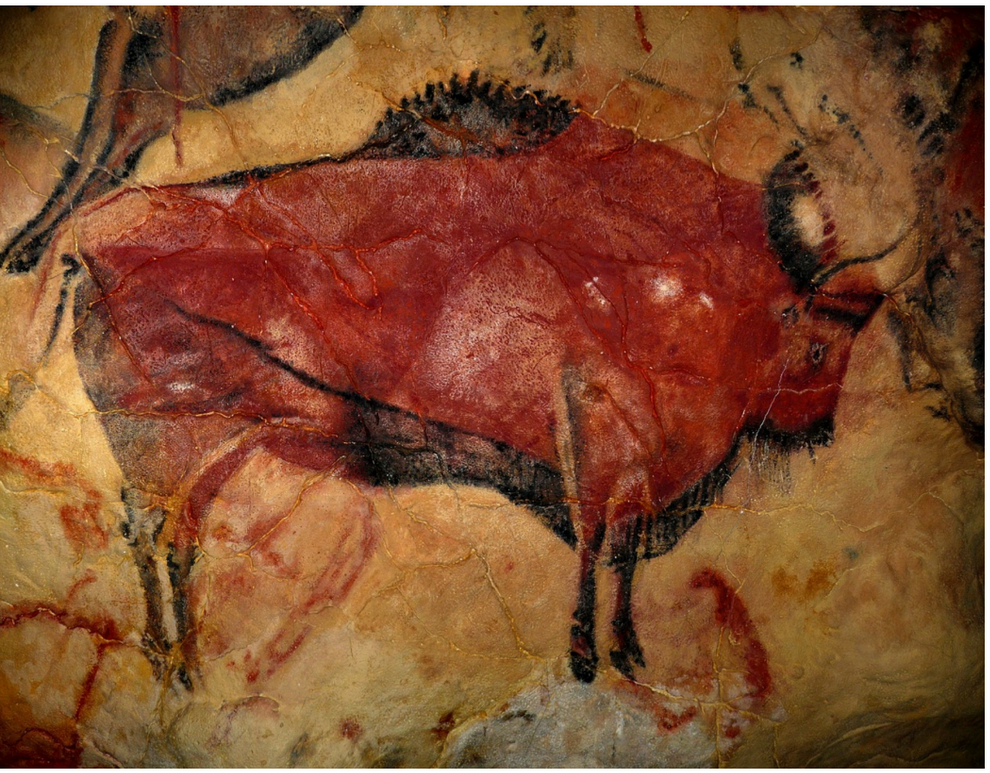


Kiss V, Roy Lichtenstein, 1964.



Girl with Hair Ribbon, Roy Lichtenstein, 1965.

BRIEF HISTORY OF COLOR IN ART AND SCIENCE







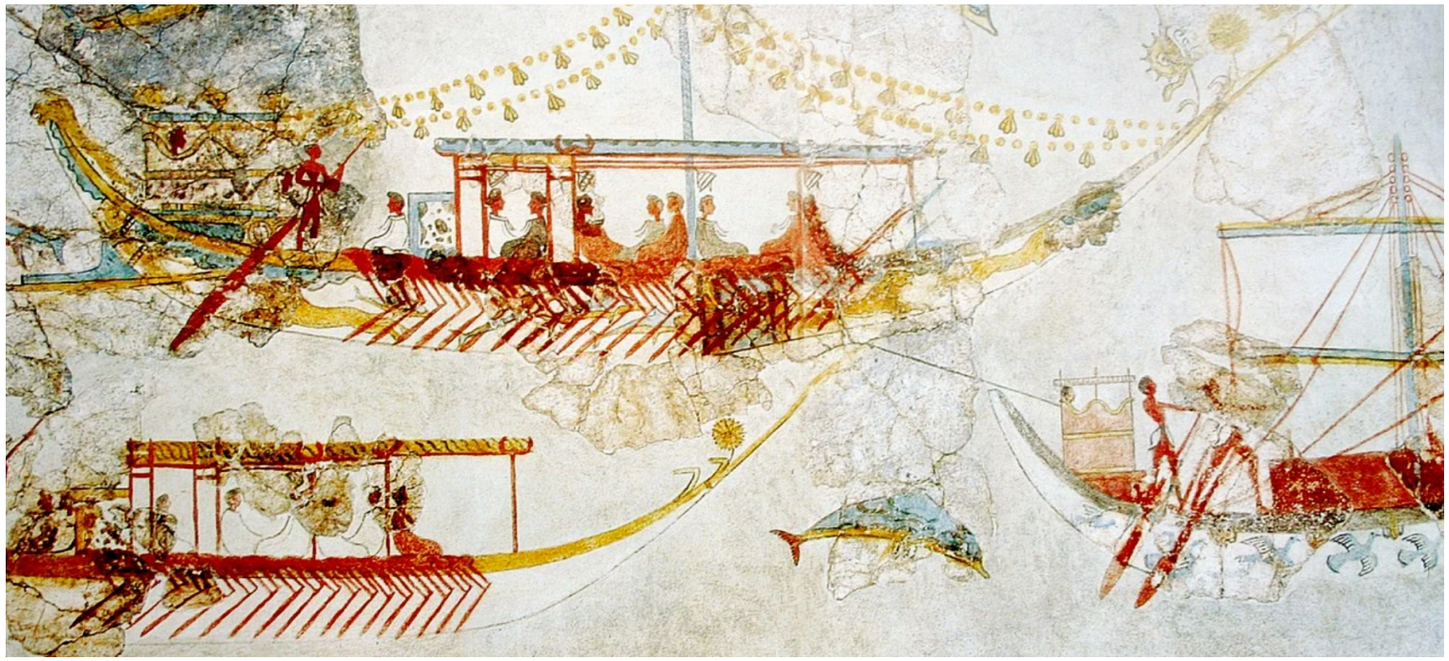
Color has always been important to humankind. Since prehistoric times, we've been making an effort to learn more about it, as we've continued using available pigments as a means to communicate and express ideas. Even before we had letters and the written word, we were already using color to create pictures to get messages across.

The first pigments artists had access to were made of soil, burnt charcoal, chalk and animal fat. With these resources, we had a limited palette of 5 colors that included yellow, red, brown, black and white. This was 40,000 years ago.

In ancient Greece, Egypt and China, different colors were associated with gods, natural elements, and good and evil.

The ancient Greeks created the first known document about Color Theory, which was titled *On Colors*. It is attributed to Aristotle and the Peripatetic School. It contained their findings and theories on color which were made observing nature around them.

In this document, they presented their theory which stated that color was emitted by a god through heavenly fire rays and that all colors were composed of brightness and darkness.



Ancient Greek painting.



Ancient Roman mosaic.

They believed that two primary colors existed, blue and yellow, and that these were derived from darkness and light. The Peripatetic School proposed a linear arrangement of colors that ranged from white (connected to the light of noon) to black (connected to the black of night). This linear arrangement included seven colors in total: white, yellow, red, purple, green, blue and black. They thought different colors are created by the mixing in different proportions of white and black. Colors were connected to natural elements.

Though Greek and Roman sculptures have survived, most of the paintings from this time no longer exist. What we know about painting in this time has been learned, mostly, from murals that still stand in places like Pompeii. The colors were bright and endured over time due to techniques that were used, but the hues were still quite limited.

During medieval times, middle eastern scientist Hasan Ibn al-Haytham, insisted that science should be brought in to understand color and how the eye works. He's the one who started conducting experiments with light and glass, and discovered he was able to produce a range of colors with these.

In Medieval times, art wasn't very realistic. Human and animal figures didn't convey 3D form and people all looked very similar. They also didn't show very realistic proportions.

We can see more ochres being used, but the range of colors available to artists was still quite limited.

Art was usually religious or related to war. The practice of portrait painting began until the end of this era.

It was during the Renaissance that art became more and more realistic, as artists discovered Linear Perspective and studied human anatomy more closely. They made an effort to create more exact representations of nature.

European art from this time drew inspiration from ancient Greek and Rome, idealizing the human body and being more classic in style.

Paintings were mostly religious scenes, as well as everyday life events, but more portraits were being made.





Medieval art.



Adam and Eve, Titian, 1550.

In Renaissance paintings, figures suggest mass (3D form) and realism is also demonstrated in the scenes the figures are in, whether indoors or outdoors.

As opposed to a lot of art from the middle ages, where figures stood against solid backgrounds and simple patterns, figures were now integrated into full scenes. They were also a lot more dynamic.

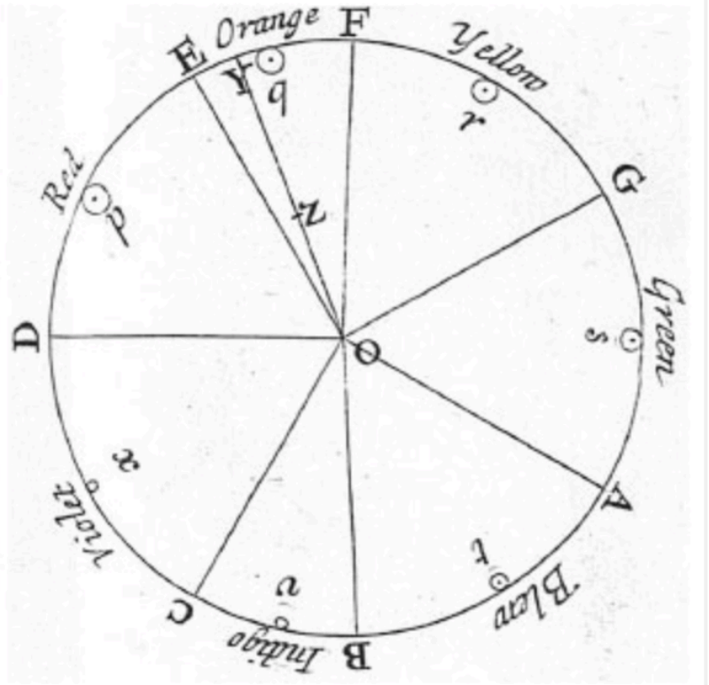


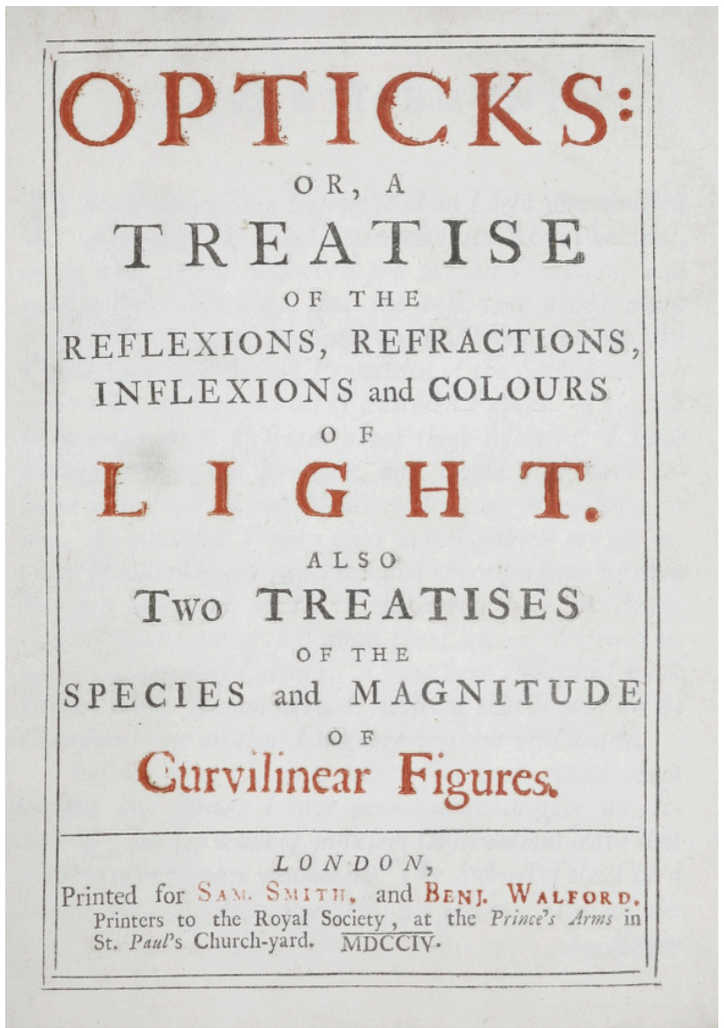
The Virgin and Child,
Sandro Botticelli, 1480.

Paintings were incredibly detailed and the result was a lot more realistic.

Painting techniques improved a lot during this time and the available range of pigments also expanded. A greater range of yellows, reds, greens, blues and browns were now available for artists who had the means to acquire them.

Whites were lead white, gypsum and lime white, and blacks were carbon black and bone black.





OPTICKS:

OR, A

TREATISE

OF THE

REFLEXIONS, REFRACTIONS,
INFLEXIONS and COLOURS

OF

LIGHT.

ALSO

Two TREATISES

OF THE

SPECIES and MAGNITUDE

OF

Curvilinear Figures.

LONDON,

Printed for SAM. SMITH, and BENJ. WALFORD,
Printers to the Royal Society, at the *Prince's Arms* in
St. *Paul's* Church-yard. MDCCIV.

It was English scientist, Isaac Newton, who redefined the theory of light and color, and created a color wheel most similar to the one we know and use today.

He published his book *Optiks* in 1704, after experimenting extensively with light and prisms (glass).

Newton was familiar with Al-Hasan Ibn al-Haytham's experiments and findings, and took these further. He was able to prove that color was not composed of black and white, but of white alone. He discovered that white is the combination of all colors.

He created the first color wheel after seeing that, when light was directed towards a prism, a color spectrum ranging from red to violet was produced. He concluded that different colors were produced by different wavelengths and, in tradition of Aristotle, added seven hues into his color wheel.

Newton proposed red, green and blue as the primary colors. He saw that, when combining blue and green, cyan was produced. Green and red light created yellow. And red and blue create magenta.

He also found out that colors directly opposite to each other in the color wheel "cancelled" each other out.





*Why we see different colors *in a nutshell**

Color perspective involves energy wavelengths, reflections, and signals that happen back and forth between our eyes and our brains.

The ROYGBIV (red, orange, yellow, green, blue, indigo, violet) order we learn about in elementary school is a pattern that corresponds with energy wavelengths. Red has the longest wavelength and violet has the shortest.

Sunlight is a combination of all of these wavelengths. When it hits different objects, objects will absorb and bounce back different wavelengths. Wavelengths that aren't absorbed by the object get bounced back/reflected back to our eyes and this makes us perceive the object as being a specific color.

It's important to know that perception of color can vary from person to person and environment to environment.

Some people have cones (photoreceptor cells in the retina) that don't function normally, which causes them to be color blind. Also, even when we have eyes that do work well, our brain may interpret signals differently from the person next to us.

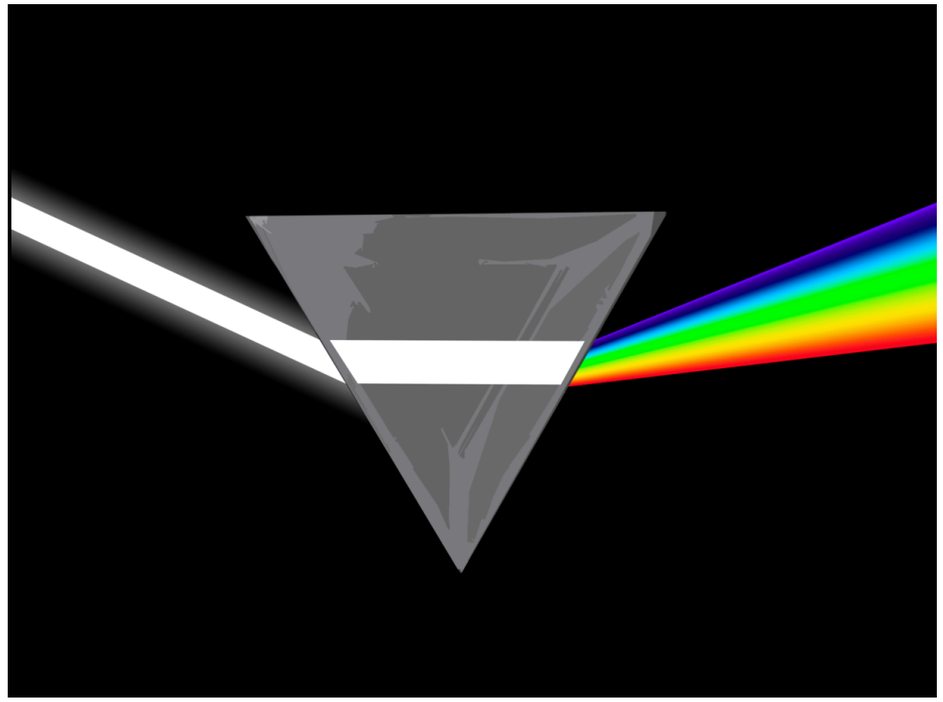
Here's what happens, step-by-step:

1. **Light hits an object (from any light source).**
2. **Certain lightwaves get absorbed by the object and others bounce off.**
3. **The reflected light enters our eyes.**
4. **The cone and rod cells in our eyes react to the light and send signals to our brain.**
5. **Processing happens in the brain through a complex network of neurons and synapses, and we perceive those signals as color.**

Newton created his color wheel in which the three primary colors (red, green and blue) were separated by three secondary colors (yellow, cyan and magenta).

His concept brought an easy understanding of color theory to the masses, and this is when artists started using the Color Wheel to make better use of color when creating art.

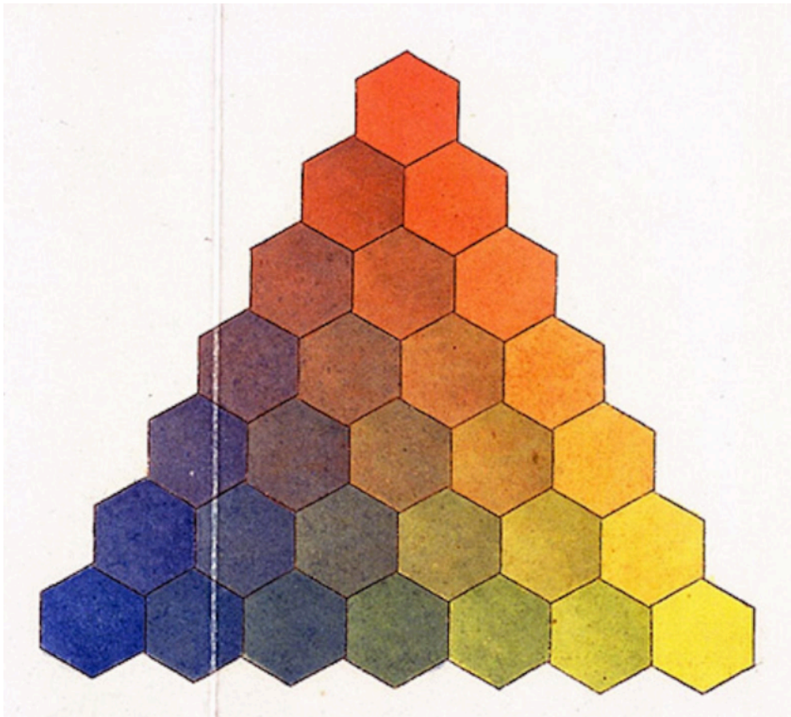
After Newton, other scientists have continued with their research on light and color. Some of them disagree with Newton, and others have built on his work.



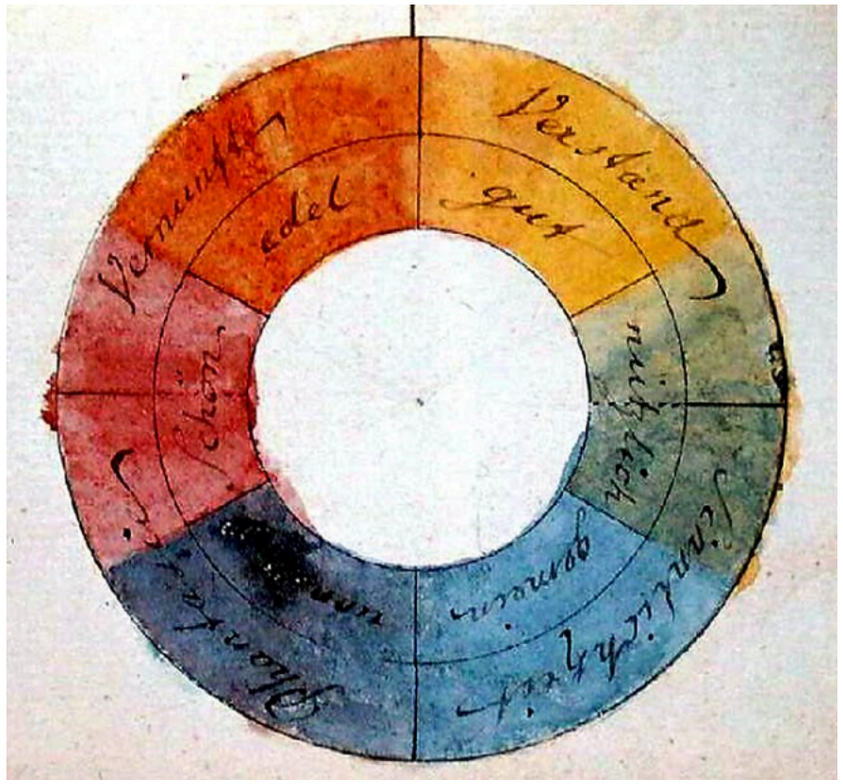
White light directed towards a prism, producing the colors of the rainbow.

Johann Wolfgang von Goethe's disagreed with Newton in some aspects, but his work *Theory of Colors* which was published in 1810, was very helpful for artists because it focuses on the connection between psychology and color theory. Von Goethe focused on the cognitive effects of color on humans, so his research is very much worth mentioning.

Tobias Mayer created a color triangle where his primary colors (red, yellow, and blue) were at each point. Mayer proposed theories on what is the highest degree of color variation the human eye can detect.



Tobias Mayer's color triangle.



Johann Wolfgang von Goethe's color wheel.



Modern color wheel

Thomas Young, Albert Henry Munsell, and many others have continued making significant findings on color throughout the years.

Johann Wolfgang von Goethe's version of the color wheel, which is based on Newton's color wheel, became the new standard in 1810.

As the Industrial Revolution swept through Europe, it continued to evolve. By the early 1910's, a wide variety of color charts, wheels and spheres specifically designed for different industries could be easily found.

The most common color wheel seen today is made by The Color Wheel Company. These color wheels have come a long way since Newton's first design, and include the primary, secondary and tertiary colors!

With the scientific findings of the late Renaissance and onward, experimentation with new tools and techniques increased on part of artists.

This led to a chain of artistic movements that brought forth never seen before characteristics and styles.

With accessibility to better resources, as well as freedom to create, artists rebelled against more traditional styles that came before them.

Seeking to express ideas about social and political occurrences of their times, as well as more about their own life experiences, artists now brought more of themselves into their artwork.

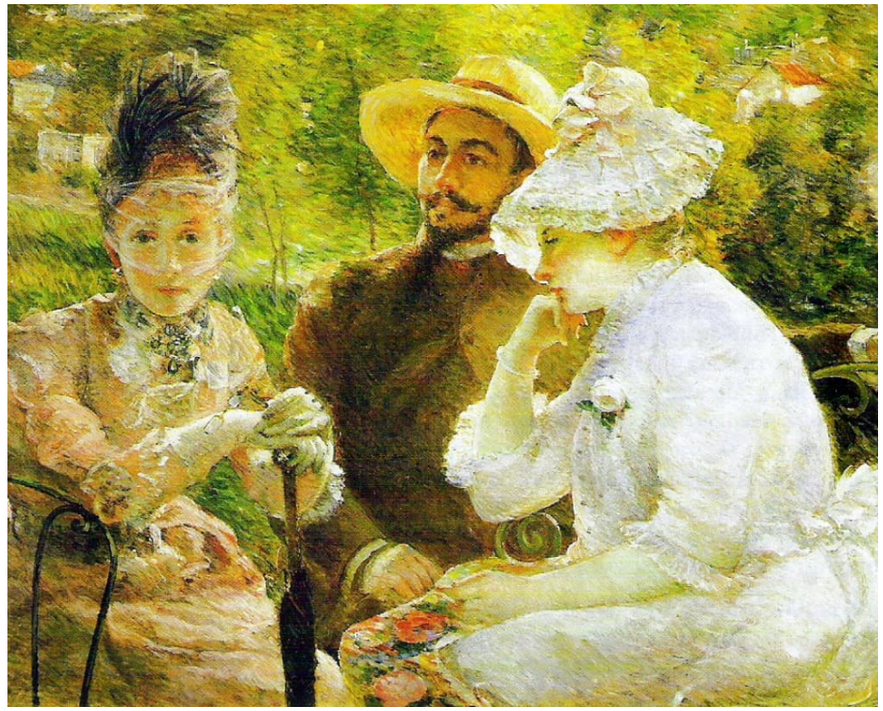
Modern art movements (late 19th and early 20th centuries) include Impressionism, which broke away from the classic art style that focused on very high degrees of realism.

Cubism, Fauvism, Surrealism, Dadaism, Expressionism and Pop Art, came quickly as well, each with its own distinctive characteristics.

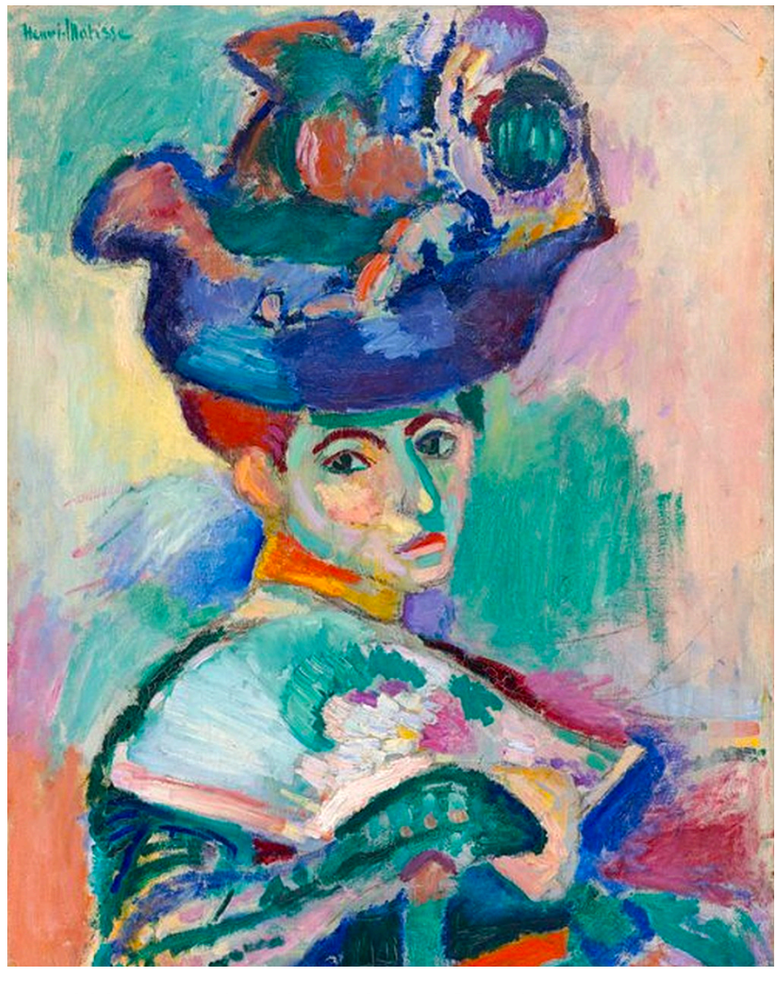
In modern art, color started being used more freely, to both create more visually pleasing results, *and* to express more on part of the artist.

Research and experimentation on light and color is ongoing.

Thanks to scientific findings and technological advances, artists today have easy access to an *immense* array of colors, as well as tools (both traditional and digital) that can be used for art creation.



On the Terrace in Sevres, Marie Bracquemond, 1880.



Woman in Hat, Henri Matisse, 1905.

COLOR SYMBOLISM / MEANING

Do consider that each color has a never-ending range of tints, tones and shades, and the specific way it is used, along with the other colors it is combined with, will have a different impact on the viewer.

How light or dark the color is, as well as it's level of saturation or intensity is going to affect people differently.

The four most common neutrals are black, white, brown and gray. Neutrals don't typically appear on the color wheel. They would be a mixture of different colors and would appear right in the center of the wheel.

Neutrals don't compete with primary, secondary and tertiary colors. They can be seen as a compliment. They can be added to any color scheme and won't alter or affect it.

All neutrals are easy to look at, and commonly symbolize relaxation or calm, and neutrality.



White: purity, cleanliness, peace, new beginnings, simplicity, coziness, light, elegant, classic

Grays: methodical, balanced, lack of emotion, fairness, responsibility, wisdom, depression, loss

- **Darker grays: mysterious, dramatic, sophisticated, enduring, solid, constrained, solemn**
- **Lighter grays: soothing, calming, enlightening**
- **Metallic grays: sleek, elegant, modern**



Black: **Often considered the strongest of neutrals. dominance, power, darkness, sophistication, authority, seriousness, affluence, quality, mystery, drama, death, evil, grief.**

Brown: **Most commonly seen neutral in nature. simplicity, inexpensive, natural, stabilizing, approachable, authentic, warm, modest, strong, wholesome, healing, grounding, honesty**

Warm Colors

**Just like the aforementioned neutrals, warm colors can have both positive and negative connotations/meanings. However, they tend to represent stronger emotions.*



Red: strength, passion, confidence, aggressive, anger, alert, danger, life, health, vigor, war, courage, anger, love, seduction

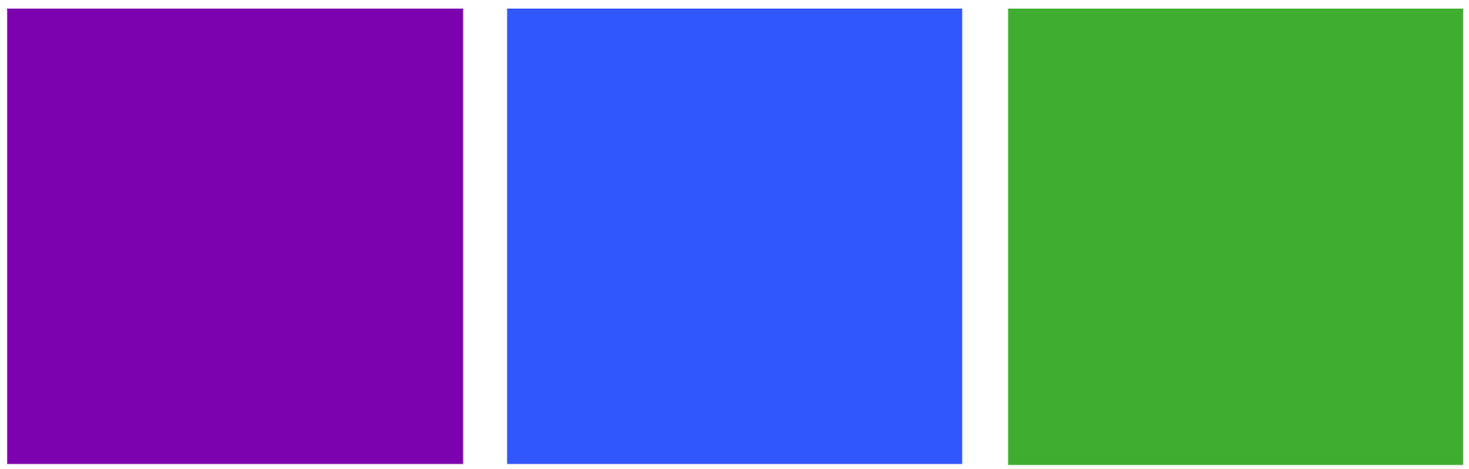
Orange: brightness, energy, power, playful, happiness, attention, youth, fun, strength, courage, creativity, enthusiasm, endurance

Yellow: cheerfulness, strength, alert, happiness, warmth, hope, curiosity, clarity

Pink: playful, passion, love, youth, femininity, lust, nostalgia

Cool Colors

**Cool colors can also have both positive and negative connotations/meanings. However, they tend to represent more mellow emotions.*



Green: money, wealth, trees, food, organic, health, nature, growth, relaxation, balance, hope, greed, envy

Blue: calm, relaxation, friendly, professional, trustworthy, serenity, intelligence, faith, sadness, coldness

Purple: elegance, loyalty, mysterious, royalty, ambition, luxury, magic, pride, extravagance

EXAMPLES OF FAMOUS ART THAT SHOW GREAT USE OF COLOR



Red on Red,
Mark Rothko, 1969.



The Old Guitarist,
Pablo Picasso, 1903.



Whistler's Mother, James Whistler, 1871.



Shoes, Vincent Van Gogh, 1888.



Joy of Life, Henri Matisse, 1905.

ART ASSIGNMENT #3B:

- **Pick three paintings from any modern art movement that you feel deeply drawn to.**

Take time to observe and analyze each piece and create a short write up for each explaining, in your own words:

- **How the artist made use of color (bring to mind color temperature, saturation, value, contrast and unity)**
- **The emotions or thoughts that come up for you as you observed them (bring to mind meanings of colors used, and how much of each was used)**