

Name _____

Date _____

Color

- Color comes from light; if it weren't for light we would have no color.
- Light rays move in a straight path from a light source. Within this light rays are all the rays of colors in the spectrum or rainbow. Shining a light into a prism will create a rainbow of colors because it separates the color of the spectrum.
- When the light rays hits an object our eyes responds to the light that is bounced back and we see that color. For example a red ball reflects all the red light rays.
- As artists, we use pigments in the form of powder or liquid paints to create color.

Color Theory

- Color Theory is the science and ideas behind how we perceive and understand color (everything in this handout is just a start to color theory)

Categories of Color

A *Color Wheels* a tool used to organize color. It is made up of:

- *Primary Colors*: Red, Yellow, Blue
 - These colors cannot be mixed; they must be bought in some form.
 - In theory, all other colors are derived from these three



PRIMARY COLORS

- *Secondary Colors*: Orange, Violet/Purple, Green
 - These colors are created by mixing two primaries.



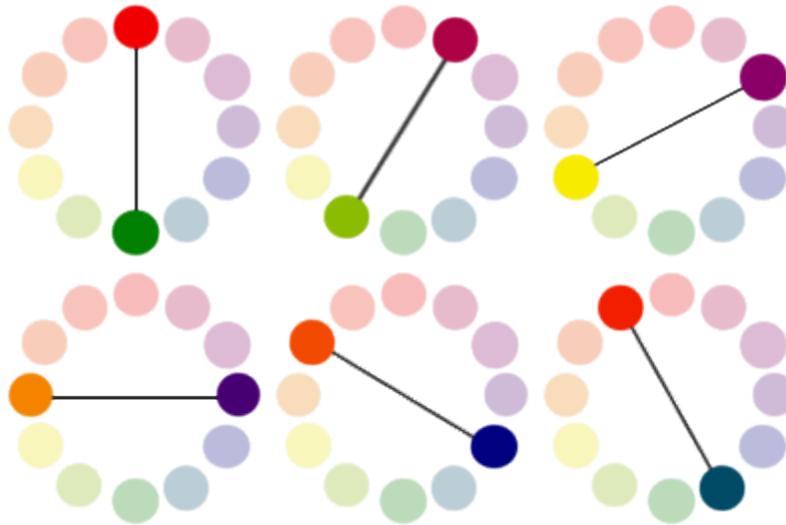
SECONDARY COLORS

- *Tertiary or Intermediate Colors*: Red Orange, Yellow Green, Blue Purple, Orange Yellow, Green Blue
- Mixing a primary with a secondary creates these colors.

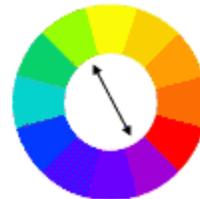


TERTIARY or INTERMEDIATE COLORS

- *Complementary Colors* are colors that are opposite each other on the color wheel. When placed next to each other they look bright and when mixed together they neutralize each other.



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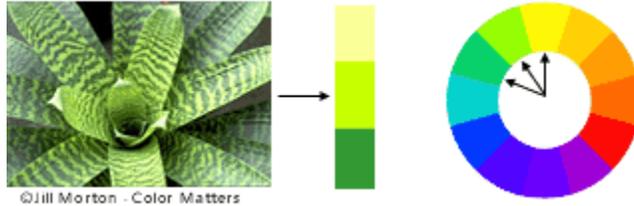
A color scheme based on complementary colors

- Note that **Vibrating Boundaries** may occur when opposing colors are brought together.
- (Notice the illusion of highlighted edges and raised text.)

Color Harmonies

In visual experiences, harmony is something that is pleasing to the eye. It engages the viewer and it creates an inner sense of order, a balance in the visual experience. When something is not harmonious, it's either boring or chaotic. At one extreme is a visual experience that is so bland that the viewer is not engaged. The human brain will reject under-stimulating information. At the other extreme is a visual experience that is so overdone, so chaotic that the viewer can't stand to look at it. The human brain rejects what it can not organize, what it can not understand. The visual task requires that we present a logical structure. Color harmony delivers visual interest and a sense of order.

- *Analogous Colors* are colors that are next to each other on the color wheel.
 - For example red, red orange, and orange are analogous colors.



A color scheme based on analogous colors

- *Triadic Colors* are where three equally spaced colors on the color wheel are used for example, yellow, Red, Blue is a triadic harmony color scheme.
- *Monochromatic Colors* are where one color is used but in different values and intensity.
- *Warm colors* are on one side of the color wheel and they give the feeling of warmth for example red, orange and yellow are the color of fire and feel warm.
 - Warm colors come forward in space.
 - Warm colors evoke active emotions.
- *Cool colors* are on the other side of the color wheel and they give the feeling of coolness for example blue, violet, are the color of water, and green are the color of cool grass.
 - Cool colors recede in space.
 - Cool colors are calm.

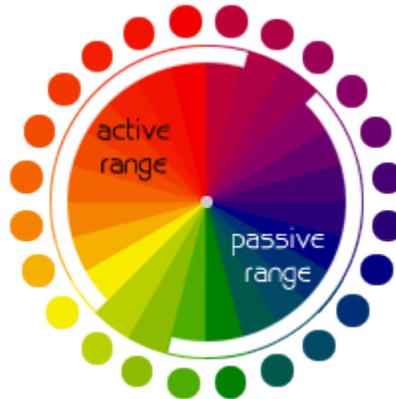
Color Properties

- *Hue* is the name of the color
 - red, yellow, blue
- *Value* is the lightness or darkness of the normal color.
- *Intensity* is the purity of the color
 - You can only lower intensity, to do so you add black, gray, or the complimentary color.
- *Tint*: add to make a color brighter
 - pink is a tint of red
- *Shade*: add to make a color darker
 - burgundy is a shade of red



Optical Effects of Color

- *Simultaneous Contrast* - if you place two complimentary colors next to each other both of them will seem more brilliant
 - Red seems redder and green seems greener.
- *After Image* - a particular phenomenon of complimentary colors where after staring at a color for a minute or so, the glancing away at a white piece of paper the same image will appear in the complimentary as a ghost image, i.e.: the American flag.
- *Pointillism* - optical color mixture - is when patches or dots of color are placed together, the eye will blend them to produce a new color,
 - Georges Seurat's study of El Chahut.
- *Emotional Qualities* - color effects emotions and conveys symbolism (see attached handout)
 - Warm colors are active and happy - red, orange.
 - Cool colors are passive - blue and green.



- *Behavior*: How color behaves in relation to other colors and shapes is a complex area of color theory. Compare the contrast effects of different color backgrounds for the same red square.



- Red appears more brilliant against a black background and somewhat duller against the white background. In contrast with orange, the red appears lifeless; in contrast with blue-green, it exhibits brilliance. Notice that the red square appears larger on black than on other background colors.



Different readings of the same color

- You will see that the small purple rectangle on the left appears to have a red-purple tinge when compared to the small purple rectangle on the right. They are both the same color as seen in the illustration below. This demonstrates how three colors can be perceived as four colors.