Color Theory
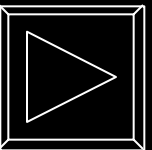
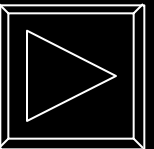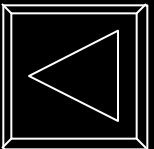# Color Theory

Color Wheel
Color Values
Color Schemes
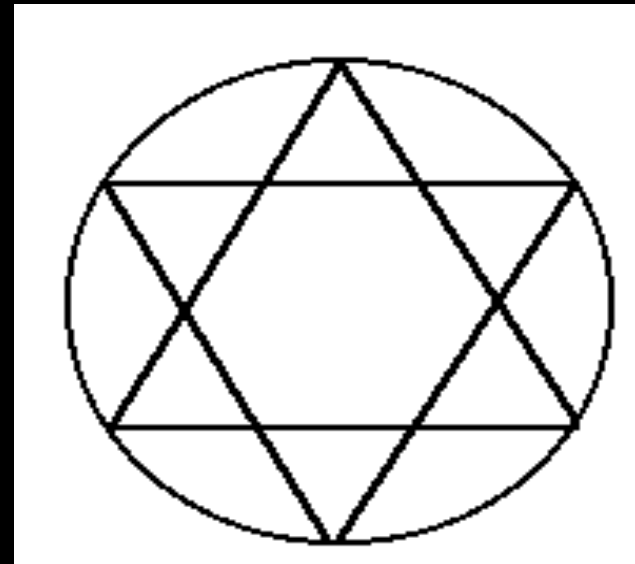
At its core, **color is light**.

Light is composed of many different colors and the various mixtures of light compose the colors that we can see.
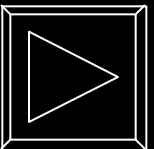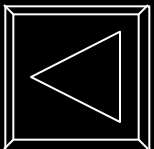
The Color Wheel

The color wheel fits together like a puzzle - each color in a specific place. Being familiar with the
color wheel not only
helps you mix colors
when painting, but in
adding color to
all your art
creations.
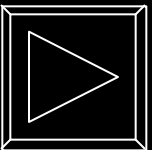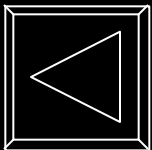
Primary Colors

Primary colors are not mixed from other elements and they generate all other colors.

- Red
- Yellow
- Blue
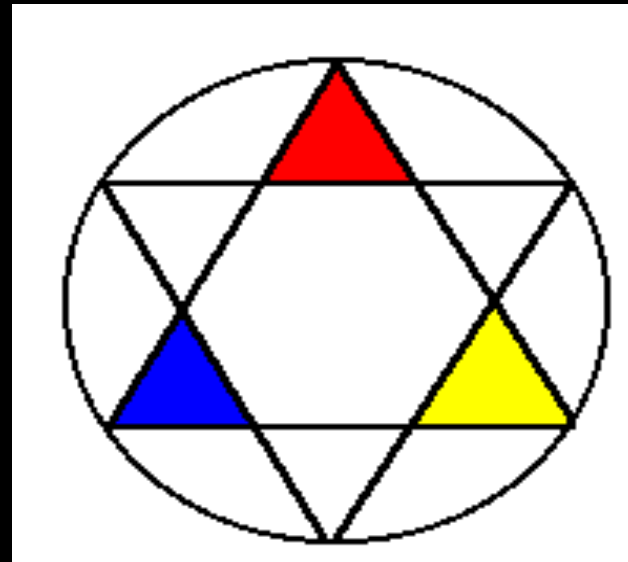
Secondary Colors

By mixing two primary colors, a secondary color is created.

- Red + Yellow = Orange
- Yellow + Blue = Green
- Blue + Red = Purple
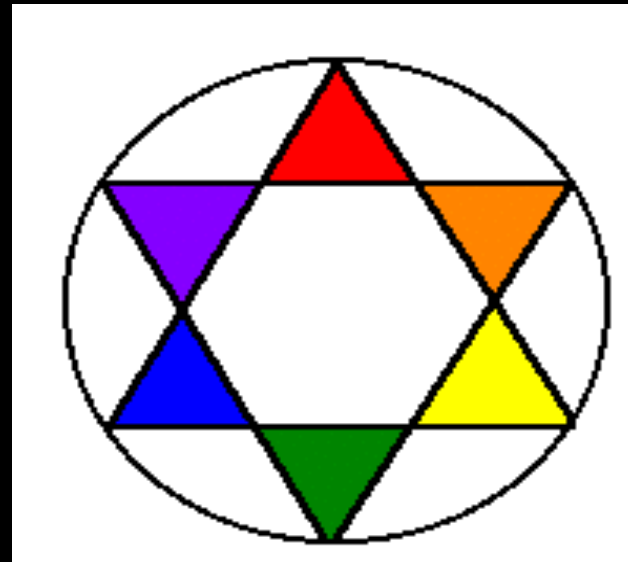
Intermediate Colors

Intermediate, or Tertiary, colors are created by mixing a primary and a secondary.
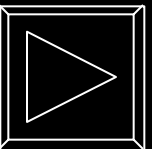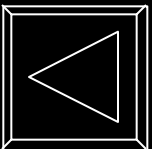
•red-orange
•yellow-orange
•yellow-green
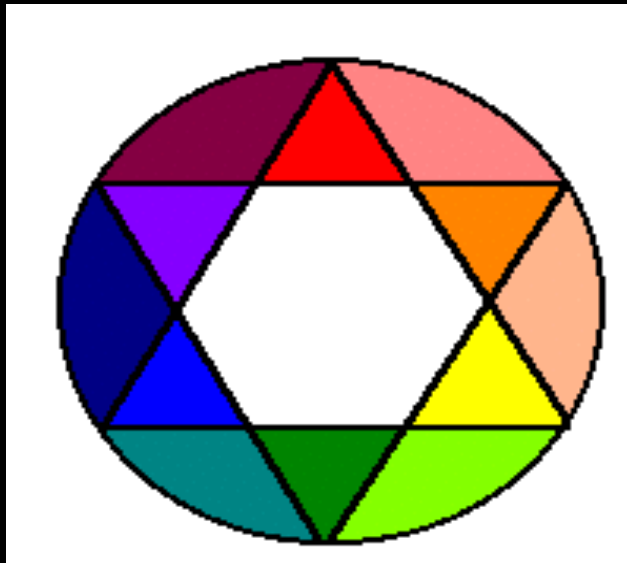
•blue-green
•blue-purple
•red-purple
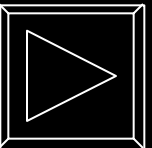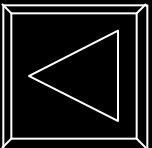
Neutral Colors

The principles of color mixing let us describe a variety of colors, but there are still many colors to explore. The neutral colors contain equal parts of each of the three primary colors. Black, white, gray and sometimes brown are considered "neutral".
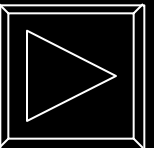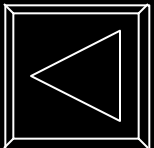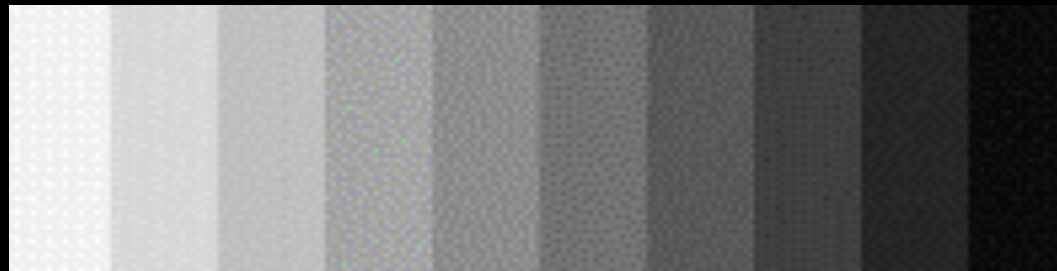
Color Values

Color values are the lights and darks of a color you create by using black and white ('neutrals") with a color. This makes hundreds of more colors from the basic 12 colors of the wheel.

- **white + color = tint**
- **color + black = shade**
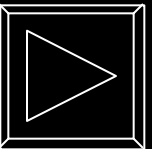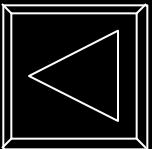
Tints

Tints are lightened colors. Always begin with white and add a bit of color to the white until the desired tint is obtained. This is an example of a value scale for the tints of blue.
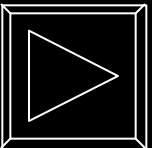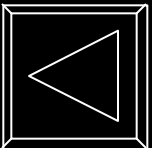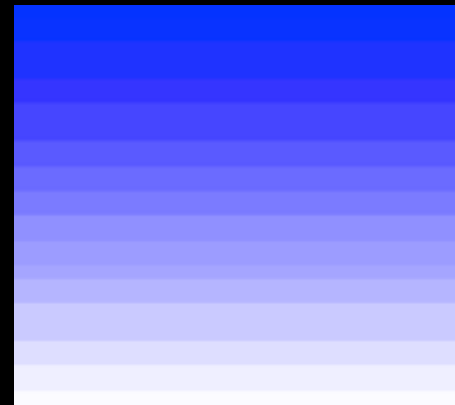
Shades

Shades are darkened colors. Always begin with the color and add just a bit of black at a time to get the desired shade of a color. This is an example of a value scale for the shades of blue.
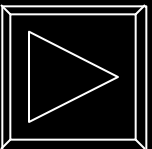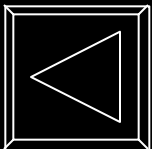
Color Schemes

Color Schemes are a systematic way of using the color wheel to put colors together… in your art work, putting together the clothes you wear, deciding what colors to paint your room…..

monochromatic, complementary, analogous, warm and cool.
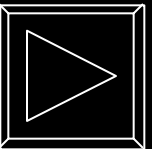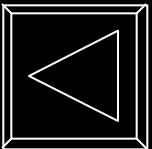
Monochromatic

"Mono" means "one", "chroma" means "color"… monochromatic color schemes have only one color and its values. The following slide shows a painting done in a monochromatic color scheme.
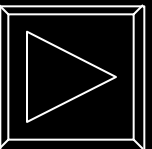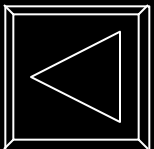
This non-objective painting has a **monochromatic** color scheme - blue and the values (tints and shades) of blue.
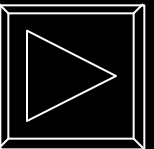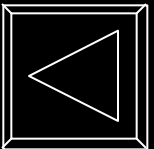
Complementary

Complementary colors are opposite on the color wheel provided a high contrast - if you want to be noticed wear complementary colors!
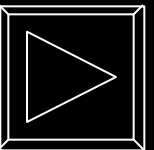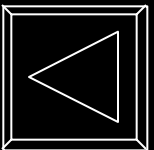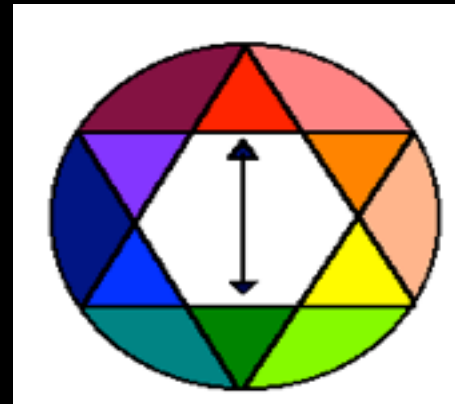
This painting has **complementary** colors and their values - blues and oranges.
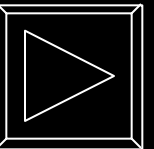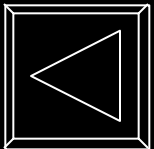
Analogous

The analogous color scheme is 3-5 colors adjacent to each other on the color wheel. This combination of colors provides very little contrast.
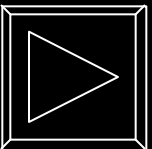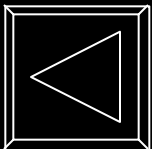
Analogous colors are illustrated here: yellow, yellow-green, green and blue-green.
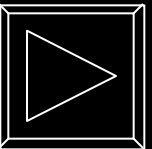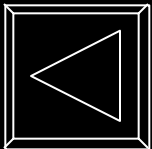
Warm

Warm colors are found on the right side of the color wheel. They are colors found in fire and the sun. Warm colors make objects look closer in a painting or drawing.
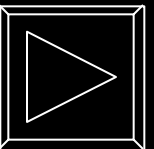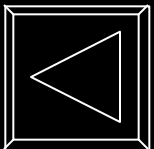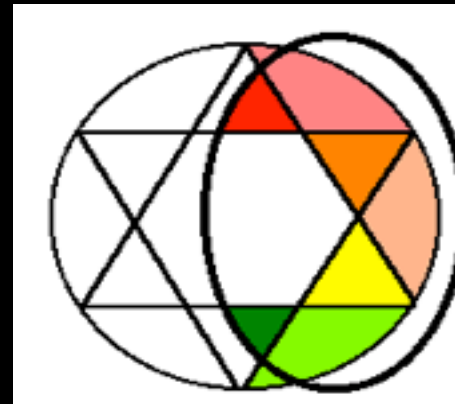
This is an illustration of the use of **warm** colors - reds, oranges and yellows.
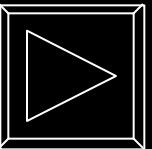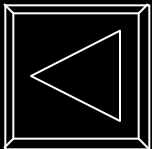
Cool

Cool colors are found on the left side of the color wheel. They are the colors found in snow and ice and tend to recede in a composition.
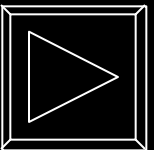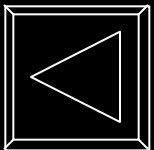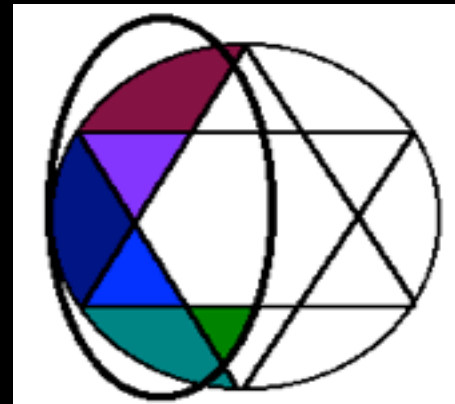
Note the **cool** color scheme in this painting (greens, purples and blues).
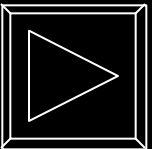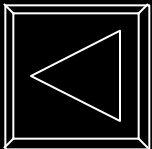
Contrast draws attention to the item that is most contrasting (or different) among a number of other design elements.

Therefore, you can use color contrast to draw attention to an element of your design that is more important, relevant, or immediately pressing.

OWL Contrast with Text

The more a color contrasts with the colors around it, the more easily visible that color will appear. This fact is extremely important when using different colored texts and backgrounds

This is why **black text on a white background** is so popular and effective. There's a **high degree of contrast**.

On the other hand, **blue and black offer little contrast**. An extended read of this combination **could be painful**.

But be careful, **even though colors may contrast they may not always work well for text** and background pairing.

"Simultaneous Contrast" occurs when a color like red is fore grounded on blue. Note how the text appears to slightly vibrate. This would get **annoying** really quickly.

But simultaneously be aware of extreme lack of contrast in your text and background choices.

Honestly, this is just **painful**. Do not make your readers struggle with this!

How to Choose Colors

- Be inspired by art and nature
- Explore color palettes of templates
- Use psychological associations (color and mood/meaning)
  - Red: passion, bloodshed, power, zeal
  - Blue: serenity, tranquility
  - Green: growth, hope, disease, terror

Color Contrast and Legibility

(a) Black on yellow

(b) Green, red, or blue on white (clear film)

(c) White (clear film) on blue

(d) Black on white (clear film)

(e) Yellow on black

Neither of these flyers is completely ineffective and both provide shape contrast with the text box.

But the orange box above provides a nice contrast with the blues and grays of the clothes rack.

The blue box here, however, is too similar to the clothes' color palette.

Color and Cultural Association

Color's often come with feelings, moods, and associations that you can draw on.

For example, the color **Red** is largely associated with **danger**, **aggression**, **stimulation**, and **excitement**.

Red stop signs signify danger if you don't stop, and stimulate your senses with excitement if you don't see one coming up!

Color and Cultural Association

It's an important to remember that **these color associations do not come from the color itself**. Without us to interpret it, red is simply light without any meaning laden characteristics.

Because **these associations** depend on us, they can **differ from culture to culture**, **and** they can also **change over time**.

For example, purple use to be associated with solely belonging to royalty. This PowerPoint could now be beheaded if it weren't made by a King or Queen!
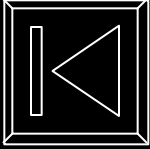
There are a number of sources that list and suggest color associations commonly agreed upon by many people.

- **Color in Motion:** A particularly interesting and useful one, contains a number of fun Flash videos that illustrate these associations with music and animation.

Web Links

- **Clickable Color Wheel**
  - **Basic Color Schemes Color Wheel**
- **Carmine's Introduction to Color**
  - **This site uses fun rhymes to explain what primary, secondary, and intermediate colors are. Mix colors before moving to another page and complete a quiz on color wheels.**
- **Sanford's ArtEdventures with Carmine Chameleon**
  - **During this online adventure kids can learn about the color wheel, primary, secondary, and intermediate colors. Students also can find out what colors create these secondary and tertiary colors. Includes interactive game for mixing colors online.**
- **Color Factory**
  - **Visit the online color factory for fun activities. Select the "Sorting Sector" and practice your knowledge of the color wheel by selecting and placing right colors into the circle. Go to the "Mixing Room" and create secondary and intermediate colors using online mixing machine then go to the "Messy Area" to paint pictures.**
- **Make a Splash with Color**
  - **Learn about color. Find out why and how we see colors. Discover how hue, saturation, and brightness effect an image. Click on the "Combining All Three" link to go to the part of the site with interactive color wheel for practicing use of hue and saturation.**
- **The Science of Light: Made from Dots**
  - **Read how cyan, magenta, and yellow colored dots are mixed together to produce images on paper. Click on the "Go" link and use three swatches to mix and match colors.**
- **The World of Color**
  - **Here are interactive applets that demonstrate how colors interact, mix with each other, and affect images.**
- **Additive Color**
  - **Learn what color addition is and how it works. Use spotlights to practice mixing colors.**
- **Subtractive Color**
  - **Find out how color subtraction works and mix some colors.**

- Please click [◁] to return to the first slide or…

- Click [🏠] to exit this presentation.

[◁]