

Light and its ability to pass through matter (use page 536 for definitions)

Opaque-

Transparent-

Translucent-

How do we see objects of different color?

White light is made up of what?

Objects that reflect all colors look white while objects that absorb all colors look black.

A **Blue** object looks Blue because it absorbs every color except blue, which it reflects.

If a **Blue** object only had **Red** light shine on it, what color would it appear?

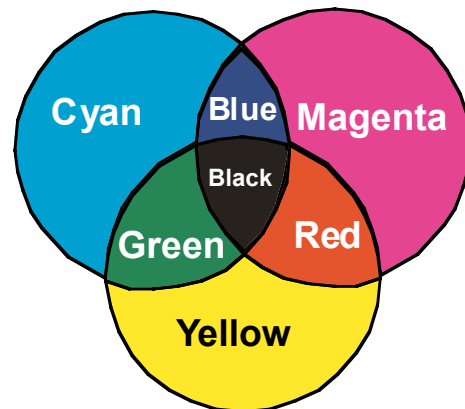
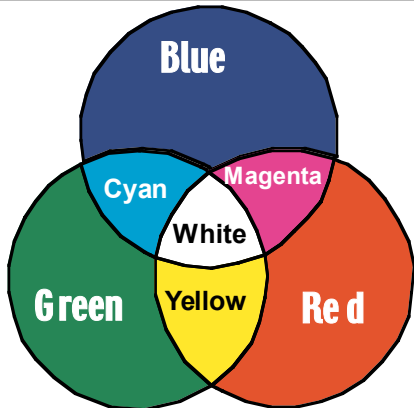
It would look black because it absorbs Red light. Since there is no **Blue** light to reflect it can't look Blue.

Color Filters- Only allow that color to be transmitted through the filter while absorbing the other colors. A **Red** filter absorbs all colors except Red which it allows through. If **Blue** light passes through a **Red** filter it would get absorbed.

Primary Light Colors (Additive)

Primary Pigment Colors (Subtractive)

<p>When all three primary light colors are combined you get white light. Combining two primary colors makes a brighter secondary color. This is why it's called an additive process.</p>	<p>When all three primary pigment colors are combined you get black. Combining two primary colors makes a darker secondary color due to the surface filtering out certain colors. This is why it's called a subtractive process.</p>
<p>Red , Blue and Green</p>	<p>Magenta , Cyan and Yellow</p>



Look at the color chart on page 538. The color opposite the primary color is called the complimentary color. The following color pairs are listed as primary then complimentary. Red-Cyan, Green-Magenta, Blue- Yellow. A primary color plus its complimentary will combine to make white light.

How do we see colors? **Red** , **Blue** and **Green** cone cells in the retina respond to different wavelengths of light producing all the colors.

Light and dark are perceived by the rod cells, also in the retina.
Color Blindness is caused by malfunctioning cones.