

COLOR

Color is a versatile tool that can be used to communicate, to guide attention and to trigger emotion.

USES OF COLOR—T.E.A.C.H.

T = tone

Colors have emotional impact. They can feel cool, calm, warm, energetic, etc. Using color to set an appropriate tone is important, but challenging because people's perceptions of color vary: what looks fun and interesting to one person looks childish and glaring to another. What looks sophisticated and subdued to one person looks dull and boring to another.

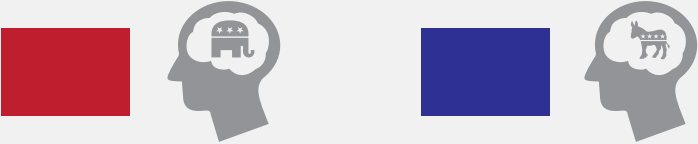
E = encode

Color can be used as a coding system. For example, you can use the color blue to mean "team A" and red to mean "team B", then the viewer will know which team is represented by a given bar/line/region/dot based on its color.

● = team A ● = team B

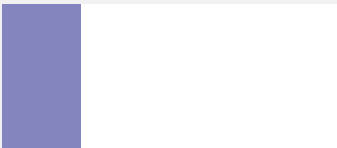
A = associate

Color can be chosen because the audience will associate those colors with the topic at hand. For example, red can trigger an association with republicans and blue an association with democrats.



C = cluster, contain

Coloring regions on a page or screen can convey a clear message that those elements within that region belong together.



H = highlight

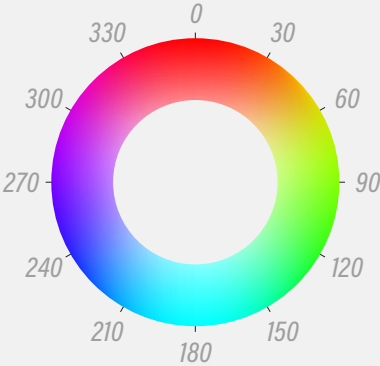
Color can make some elements stand out and other recede.



QUALITIES OF COLOR

Each color is defined by its hue, its level of saturation, and its level of brightness.

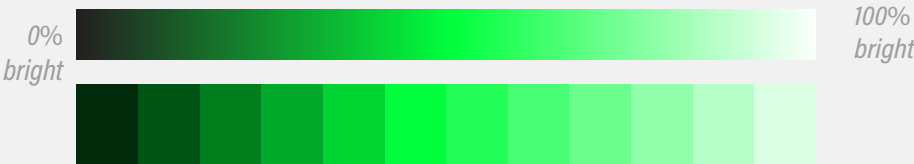
Hue Hue refers to what is commonly called "color," but actually refers to a family of bright/dark and saturated/desaturated colors. It is expressed in number of degrees on the color wheel,



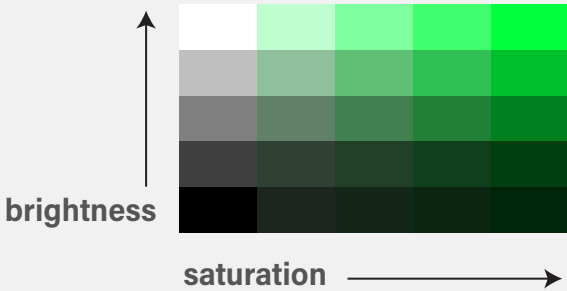
Saturation Saturation refers to the intensity of color.



Brightness/Value Brightness refers to how light or dark the color is.



The grid below shows brightness on one dimension and saturation on the other to help drive home the point that these are distinct qualities.

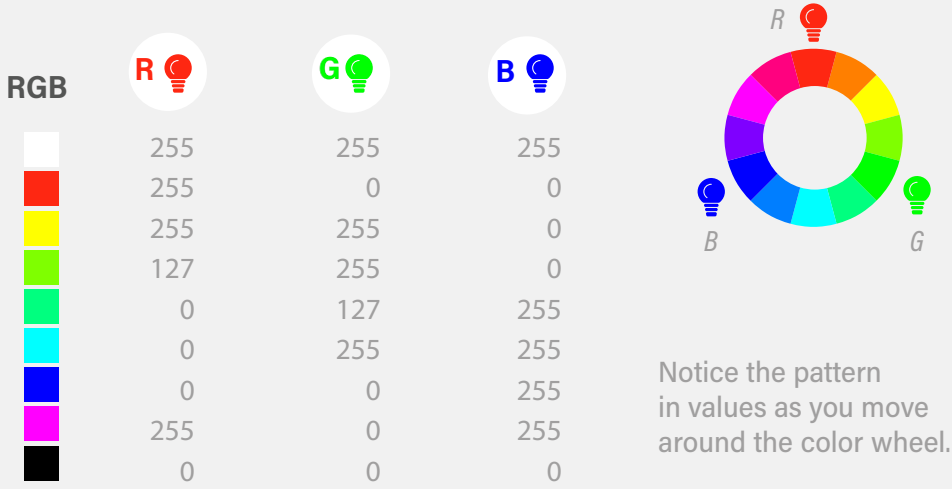


COLOR REPRESENTATION

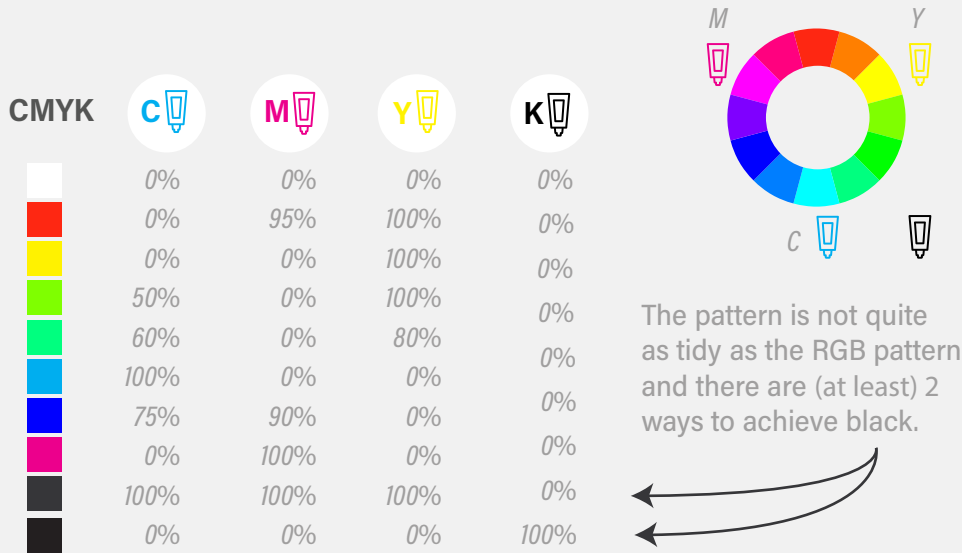
In addition to defining colors by their hue, saturation and brightness, they can also be defined by the pure ("primary") colors that can be mixed together to create them. There are two systems of primary colors: one for combining colored light (i.e. in a projector or computer screen); and one for combining ink on white paper.

RGB

The primary colors for combining light are Red, Green and Blue. When Red, Green and Blue light are combined, they create white light. When they're combined in different proportions, they create different colors as shown below:



RGB can also be expressed as hexadecimal values (00-ff). The first two digits express the amount of Red, the second two the amount of Green and the third two the amount of Blue.



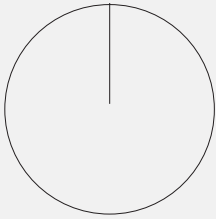
COLOR HARMONY

Color Harmonies

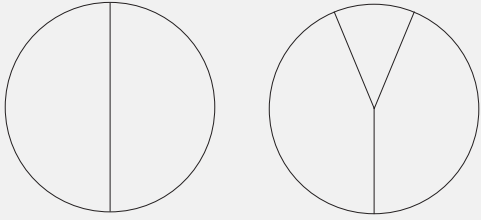
The phrase "color harmonies" is used to describe color combinations that work well based on their geometric relationship to each other on the color wheel. The most common and easiest-to-use color harmonies explained and described below.

monochromatic = single hue

A monochromatic color palette uses one or more colors with a single hue along with white, black and or shades of gray.



complementary / split complementary = colors from opposite sides of the color wheel



A complementary color palette uses two hues that are on opposite sides of the color wheel (they don't have to be exactly 180 degrees across). A split complementary uses one hue on one side of the color wheel and a group of hues in a narrow range on the opposite side.

analogous (uh-NAL-uh-gus) = colors from a narrow wedge on the color wheel

An analogous color palette uses colors within a relatively narrow wedge on the color wheel.

