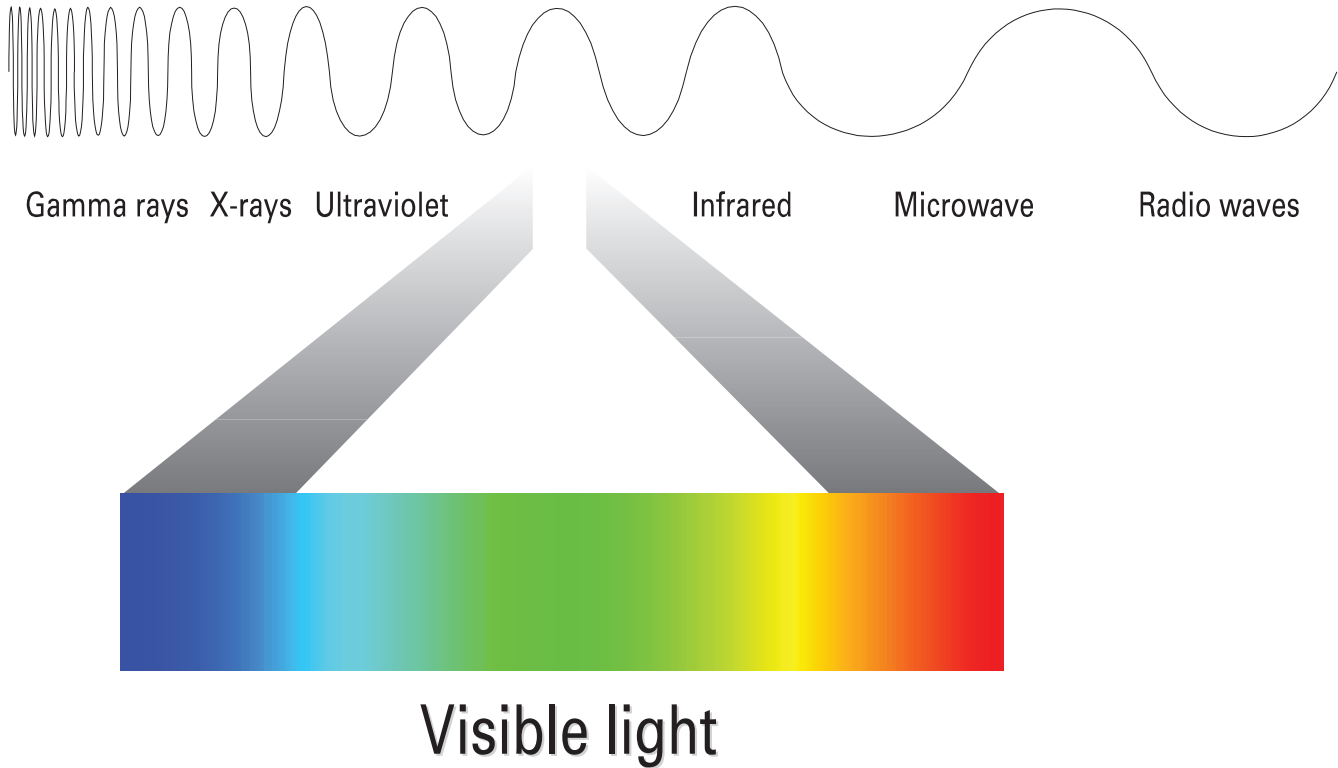
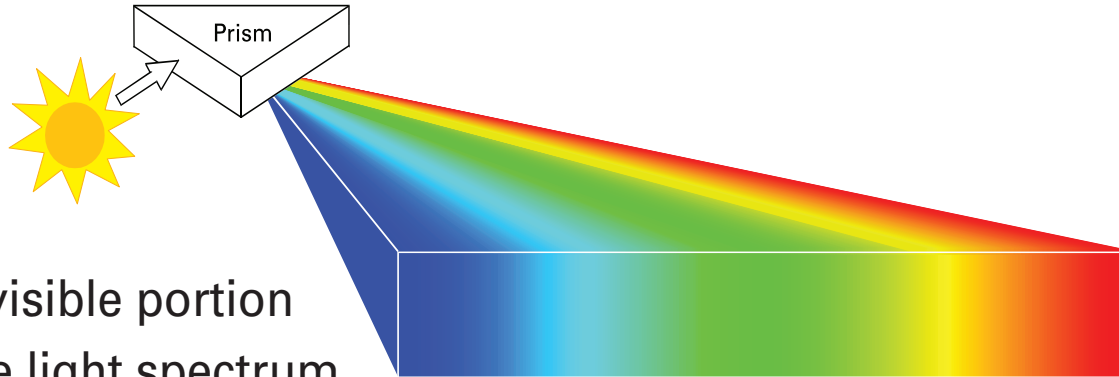


Electromagnetic Energy Spectrum



X-Rite Color Management. 60 slides from Apple Keynote presentation. January 2011.
X-Rite, Inc. Publication L11-176: Complete Guide To Color Management, 2005.
International Color Consortium (ICC). 1899 Preston White Drive, Reston, VA 20191. www.color.org

White Light



The visible portion of the light spectrum is composed of three dominant colors — blue, green, and red.



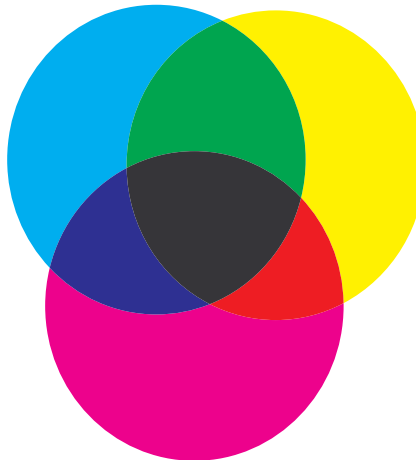
RGB light frequencies mix to create secondary, CMY colors.

All **primary** (RGB) colors of light = white



RGB light is used to create CMY.

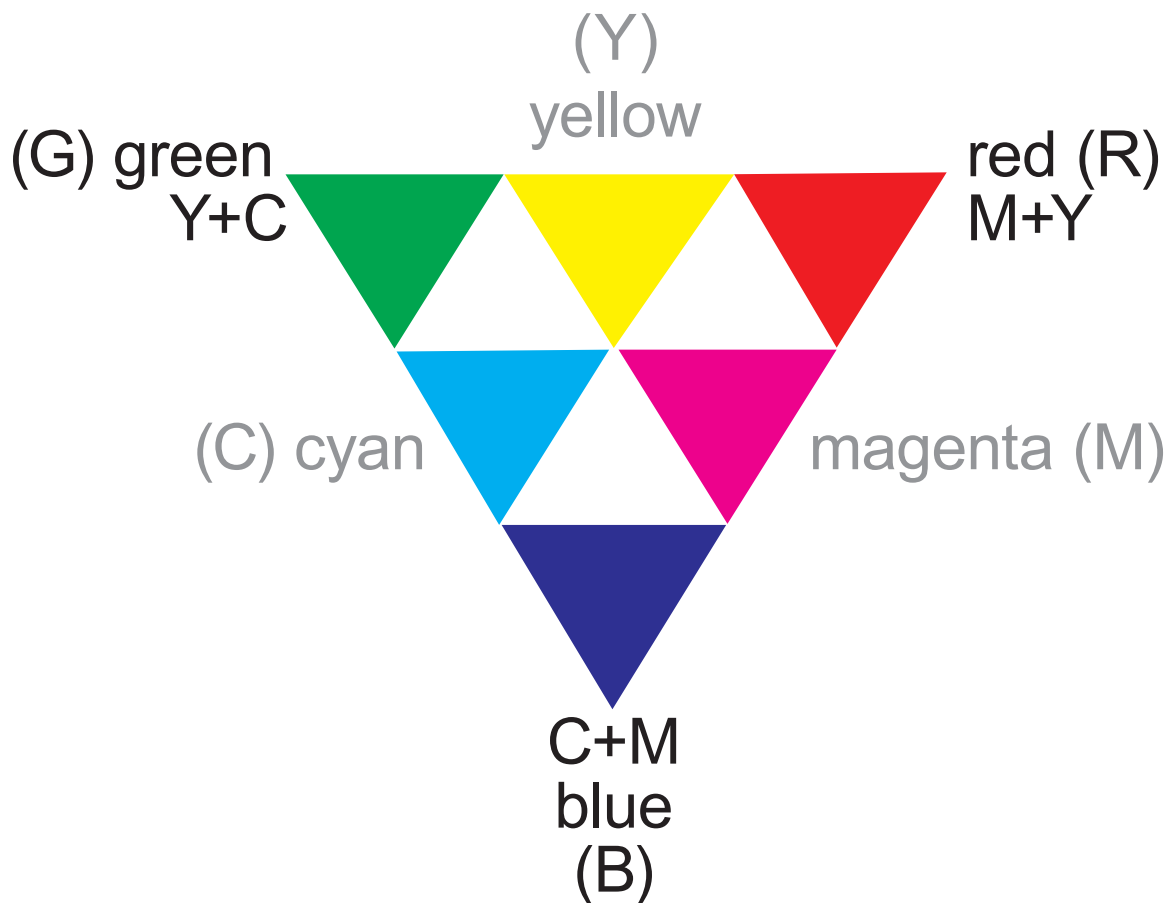
All **secondary** (CMY) reflected colors of light = 3-color "black"



CMY reflected light is used to create RGB.

Colors & Separations

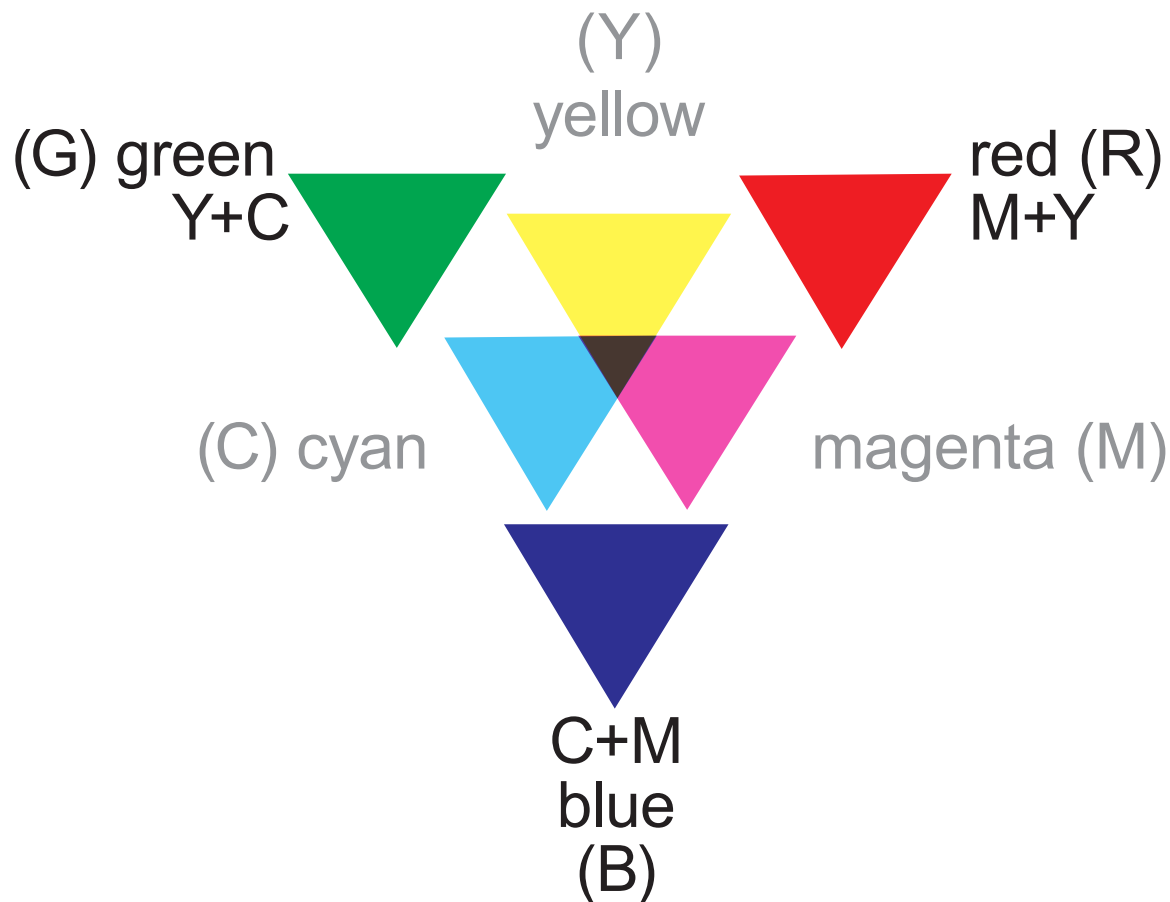
Professor Lloyd Carr
111119



K (black) is for tone & type

Colors & Gray Components

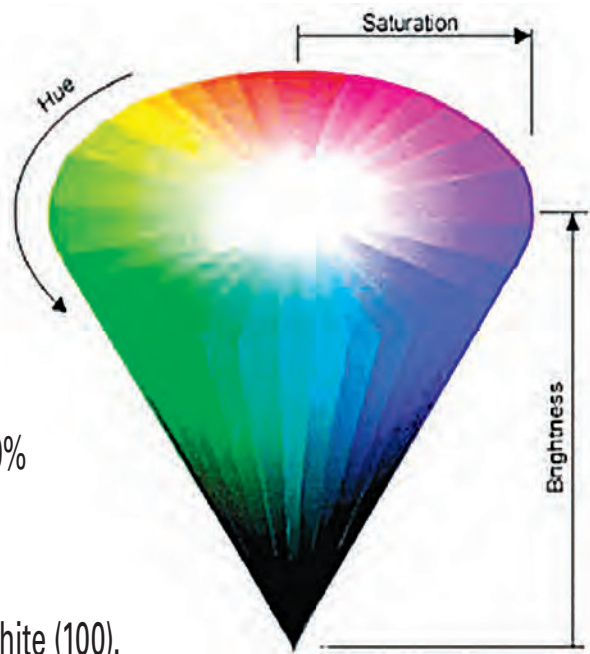
Professor Lloyd Carr
111119



K (black) is for tone & type

Hue, Saturation, Brightness (HSB)

- **Hue** (all actual color in an order around a circle of 360 degrees). It is measured in angular degrees counter-clockwise around the cone. This starts and ends at red = 0 or 360 (so yellow = 60, green = 120, etc.).
- **Saturation** is the purity of the color (100% solid density on the outside of the circle to 0% in the center),
- **Brightness** (100% lightness to 0% darkness). It is measured in percent from black (0) to white (100).



Hue, Saturation + Brightness (HSB) Lightness (HSL) Value (HSV)

color order:

M ROY GC BIV

magenta

red

orange

yellow

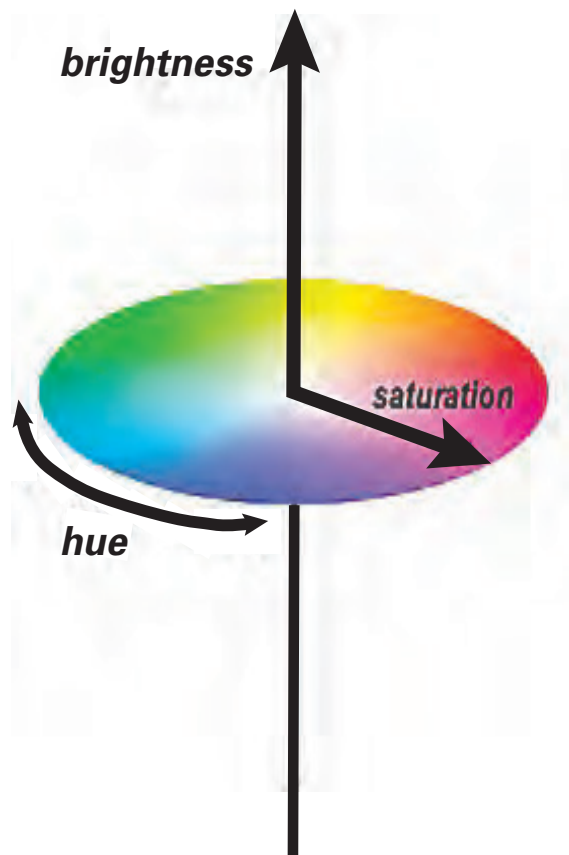
green

cyan

blue

indigo

violet



Visible color (CIE L*a*b) →

- Coated stock (**GRACoL**) CMYK
(outside white path) →
- Non-heatset (**SNAP**) CMYK
(inside white path) →
*** smallest color gamut of all media specifications**
- AMOLED (black) →

