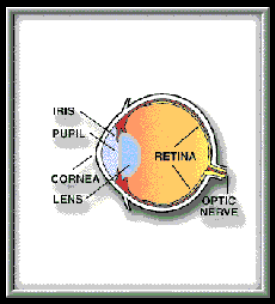
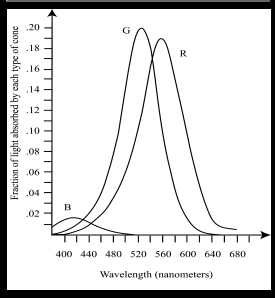
Color

- The Science of Color
  - What is color
  - Why we see what we see
- The Psychology of Color
  - Color Theory
  - Uses of Color
  - Anita's Color Theory application
- The Technology of Color
  - Color in Director

Why we see what we see?

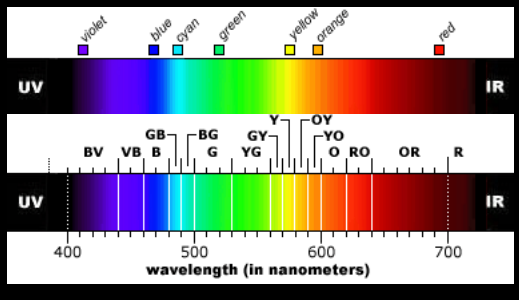
- We can see > 10M colors
  - Still small number compared to what is "out there"
- Our retinas have:
  - color-sensitive cells (cones)
    - Red, green, blue
  - Intensity-sensitive cells (rods)
  - Our response ability varies





What is color?

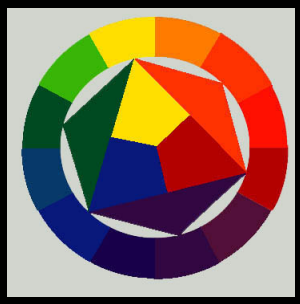
visual response to light wavelengths



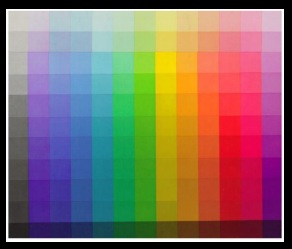
Basic Color Theory

hue:

The identifiable wavelength of light
Gives a color its name

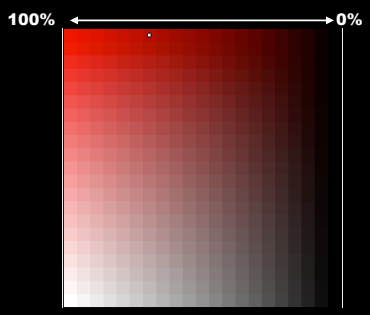


Basic Color Theory



hue:
The identifiable wavelength of light
Gives a color its name

brightness:
"value" of a color (tints/shades)
How bright a color is

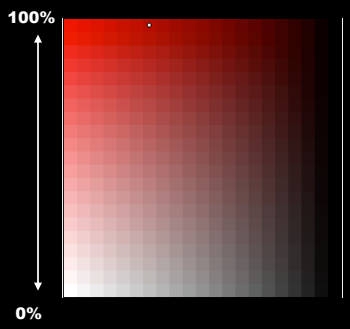


Basic Color Theory

hue:
The identifiable wavelength of light

brightness:
"value" of a color (tints/shades)
How bright a color is

saturation:
The intensity/purity of a color
How unmixed with white is



The Munsell Color System

Is based on

hue (angle of wheel)

brightness (vertical)

saturation (distance from center)

5 main hues: R Y G B P

We will use the high-tech

Color Scheme Generator 2

http://wellstyled.com/tools/colorscheme2/index-en.html

and Anita Yip's

Color Theory Tutorial

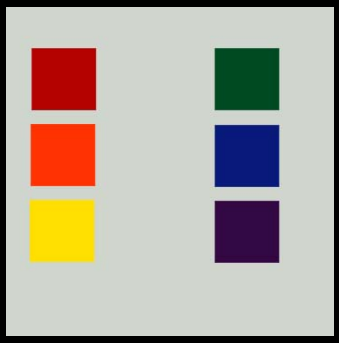
http://cs.wellesley.edu/~cs215/Lectures/L07-ImagesColorTheory/Anita_color_theory.html

Chemistry of Color

- Color wheel divided into 3 categories:
- Primary:
  - can create all others
  - red, yellow, blue
- Secondary:
  - mix 2 primaries
  - orange, green, violet
- Tertiary:
  - mix primary+adj. secondary
  - RO, RV, YG, YO, BG, BV

Psychology of Color

Colors convey feeling



- **Warm:**
  - **red, orange, yellow**
- **Cool:**
  - **green, blue, violet**

Combining Colors:
"Color Schemes"

- **Related Schemes**
  - **Monochromatic**
  - **Analogic**
- **Contrasting:**
  - **Complementary**
  - **Split complementary**
  - **Triadic**
- **Discordant:**
  - **Double complements**

monochromatic

question

tree

contrasting colors