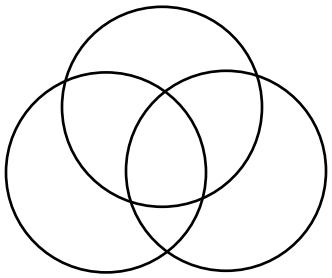
Colors of Light

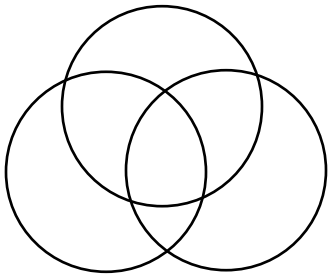
- Additive Process
- Primary Colors
  - _____
  - _____
  - _____
- Complimentary Colors (make White)
  - Cyan (to _____)
  - Yellow (to _____)
  - Magenta (to _____)



1

Pigment Colors

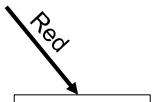
- Subtractive Process
- Primary Colors
  - _____ (Reflects Blue and Green)
  - _____ (Reflects Red and Green)
  - _____ (Reflects Blue and Red)
- Complimentary Colors (make Black)
  - Red (to _____)
  - Blue (to _____)
  - Green (to _____)



2

What color will it be?

- Pigments can only reflect the colors of light that make up that color, if available. If they are not available, it will appear black.
- For example:



Cyan

Can Reflect Green & Blue

Only Red is available so it will appear BLACK

Yellow

Can Reflect Green & Red

Blue & Red is available so it will appear Red

Magenta

Can Reflect Red & Blue

Blue & Green is available so it will appear Blue

3

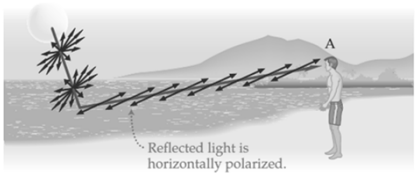
Color Examples

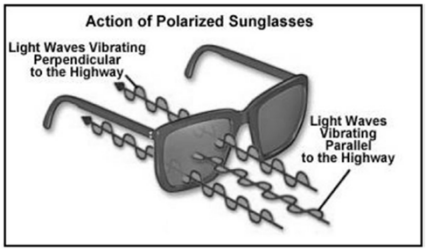
- What color is a yellow posted-note absorbing from white light?
  - Answer: _____
- What color would you have to add to cyan paint to make black paint?
  - Answer: _____
- What color would a magenta tie appear if you shine yellow light on it?
  - Answer: _____
- What color would a cyan color shirt appear when you shine red light on it?
  - Answer: _____

4

Polarization

- A light can be linearly polarized one of three ways.
  - Light is polarized through transmission, reflection and scattering.
- All three methods of polarization cause the <u>confining of wave movement to one plane along the line of propagation</u>.
- Sunglasses are effective due to the concepts of polarization.
- Only a property of transverse waves.





5