TOPIC: COLOR VISION

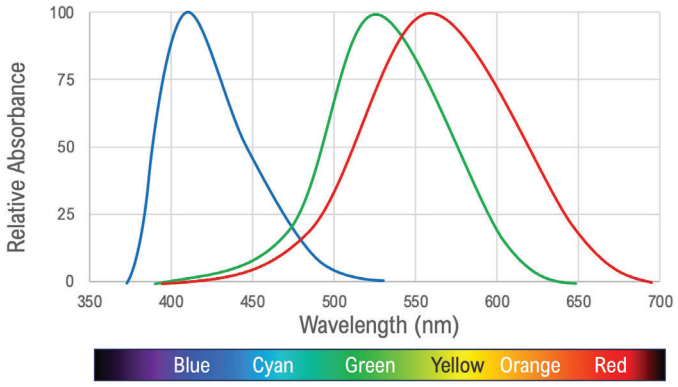
Trichromatic Theory

◆ Multiple systems work in conjunction to allow us to perceive color:

Trichromatic Theory

◆ The _____ stage of visual perception; occurs in the retina.

◆ ____ types of cones; each sensitive to a different _____ of wavelengths.



◆ Trichromatic theory can't explain all color-processing phenomena.

TOPIC: COLOR VISION

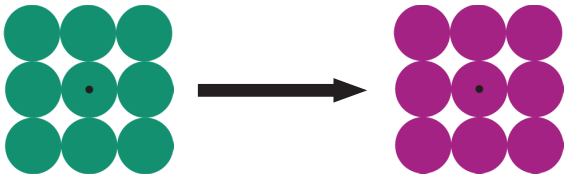
Opponent Process Theory

Opponent Process Theory

- The _____ stage of visual perception; occurs in opponent process cells in the nervous system.
- Colors have _____:

Red / Green Blue / Yellow Black / White

- Opponent process cells _____ in response to one color and 'turn ____' in response to another.
  - This pattern of activation is then interpreted by the visual _____.
- **Afterimage**: _____ where the opposite of a color is visible after staring at a particular color for a long time.



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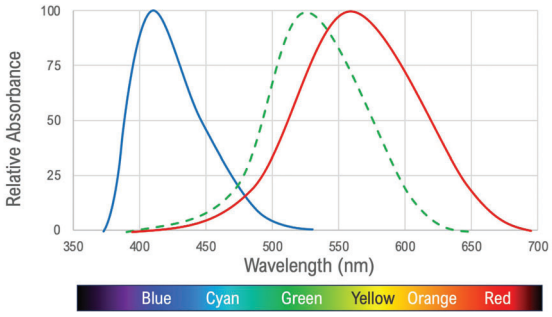
EXAMPLE

Colorblindness is a condition where one or more types of cones are not functional. The most common type is called deuteranopia. The spectrum below shows what colors the functioning cones in a person with deuteranopia can see. The non-functional cone is drawn with a dashed line. Use this spectrum to answer the following:

a) What colors are individuals with deuteranopia able to see well? _____

b) What colors are individuals with deuteranopia not able to see? _____

c) Based on this information, which type of cone is not working? (Blue / Green / Red)



PRACTICE

Opponent process theory explains which phenomenon that trichromatic theory doesn't explain?

a) Colorblindness.

b) Afterimages.

c) Hallucinations.

d) Night vision.