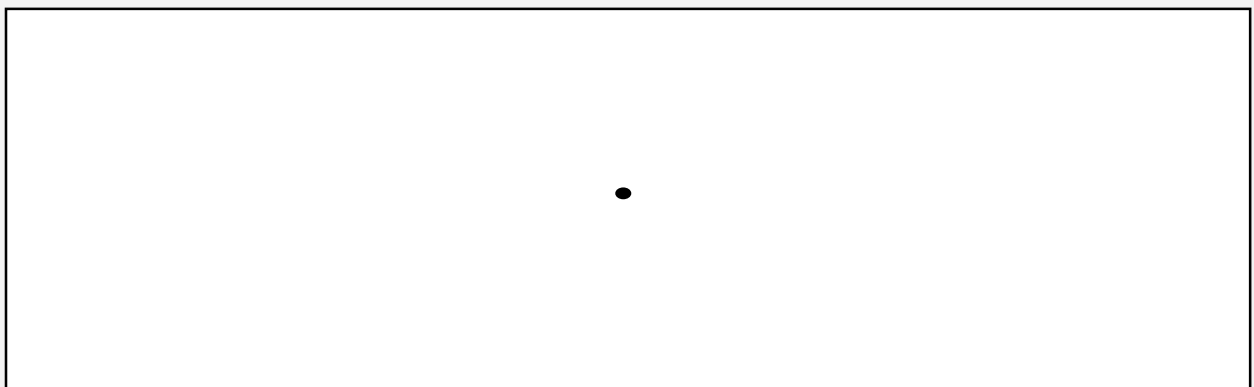
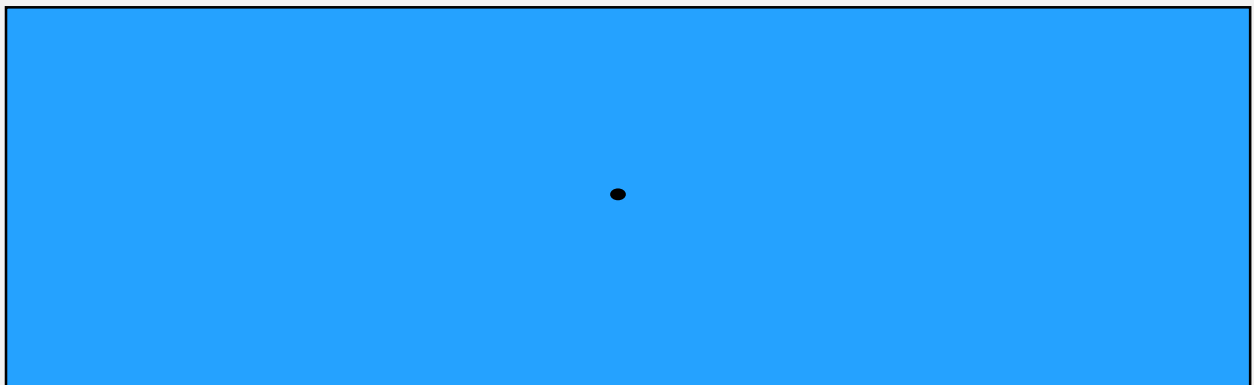
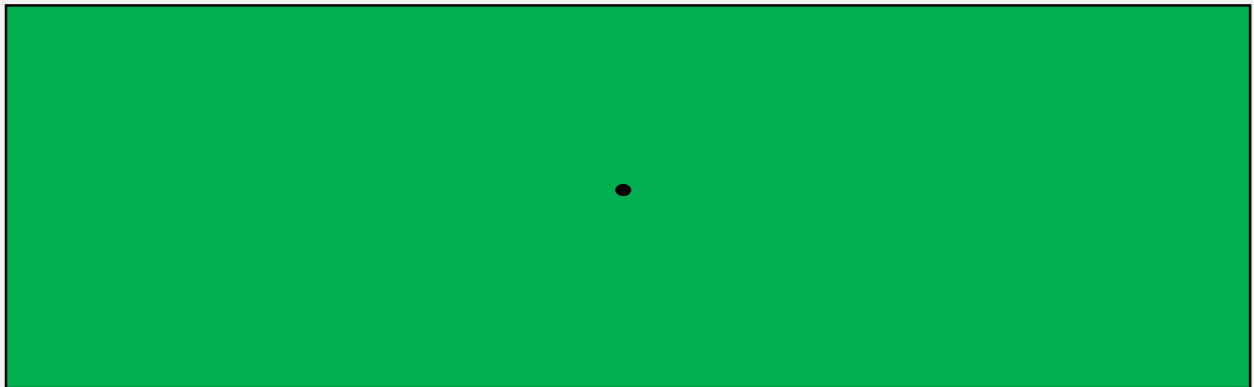
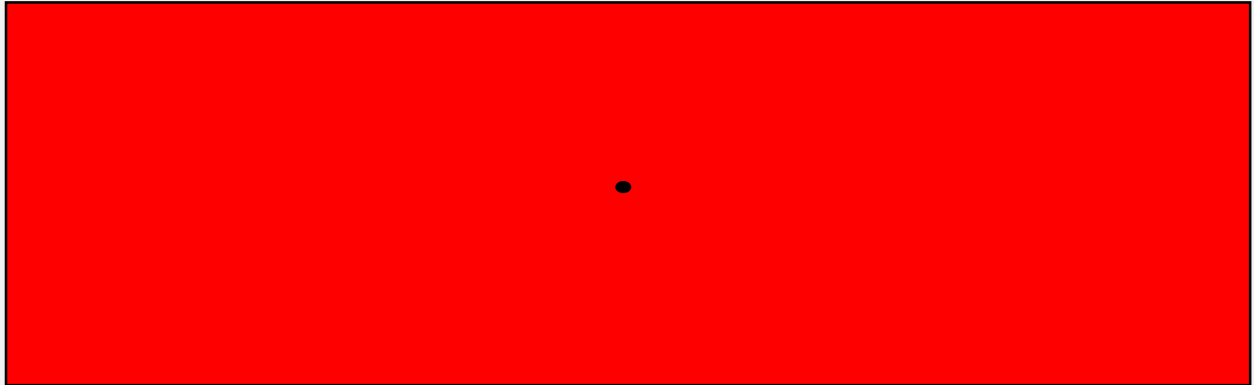


Color is Subjective

First, stare at the center of any of the colored blocks for 30 seconds.
Then, look at the center of the white block. *What color do you see?*

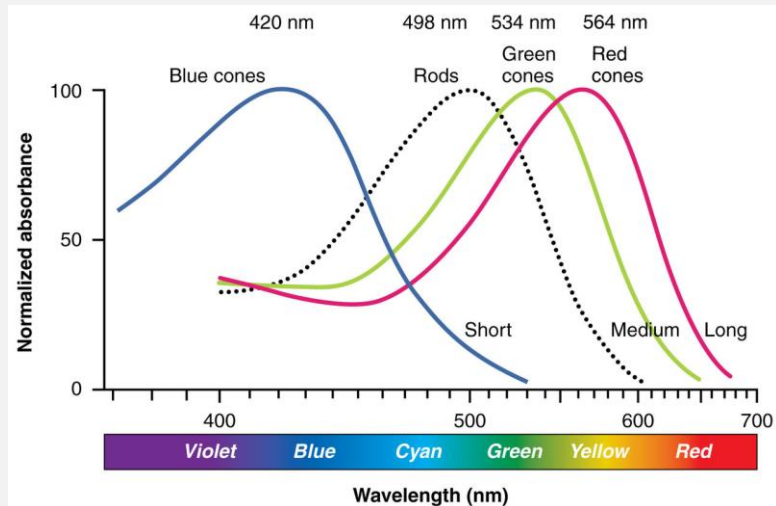


Explanation:

Human perception of color is mediated by molecular processes (as is all biological processes). The retina of the eye contains 3 variations of **photoreceptor** cells called **cones** with sensitivity to different wavelength of light.

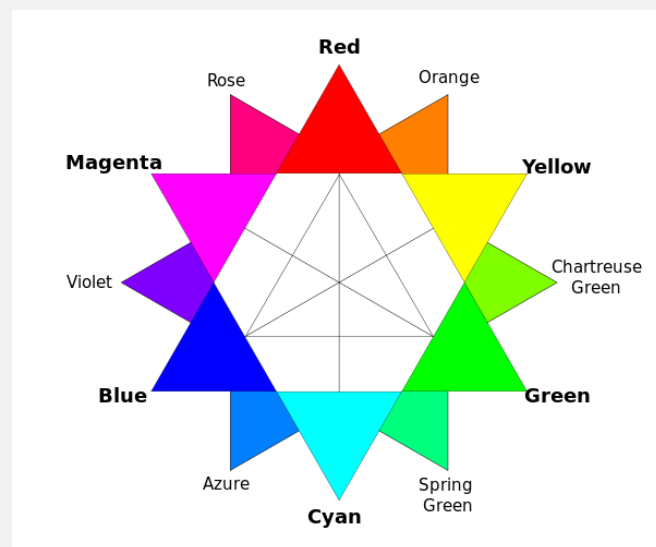
Blue, Green, and Red Cones react with short, medium, and long wavelength light respectively.

In the chart to the right, one can observe the reactivity of each photoreceptor with lights of different colors.



Bowmaker J.K. and Dartnall H.J.A. (1980). "Visual pigments of rods and cones in a human retina". *J. Physiol.* **298**: 501-511. [doi:10.1113/jphysiol.1980.sp013097](https://doi.org/10.1113/jphysiol.1980.sp013097). [PMC 1279132](https://pubmed.ncbi.nlm.nih.gov/7359434/). [PMID 7359434](https://pubmed.ncbi.nlm.nih.gov/7359434/).

Photo-adaptation occurs when a photoreceptor is exposed to a strong stimulus for an extended time. The receptor will initially respond with a strong reaction to the stimulus, but will weaken its response during a prolonged exposure. When the stimulus is removed, the rest of the environment will appear (briefly) absent of this pigment.



Based on the color wheel to the left, what color would you expect to see a shift to if you removed any one pigment from white light?

Hint: White light contains light of all wavelengths

Does this confer with your experience on the page prior?

Perhaps discuss with your neighbors about their perceptions...

https://en.wikipedia.org/wiki/Tertiary_color#/media/File:RGB_color_wheel.svg