



This blog post was created as part of a FAQ (frequently asked questions) series for a beginner photography site. It was intended to be educational in nature while still revealing the site owners to be experts in the topic.

WHAT DOES LIGHT HAVE TO DO WITH THE COLOR SPECTRUM

If you watch an object sitting in a stable place long enough, you'll notice it changes its color as the light passes over it during the course of a day. That's because color is a quality of light as it reflects from the surface of the object and into the eye.

External Qualities of Light and Color

Sunlight passes through filters (clouds, pollutants in the air, windows, or curtains), each of which begin to absorb differing wavelengths. Jill Morton with Creative Tools for Digital Cameras explains each wavelength represents a color band to the human eye. The unabsorbed sunlight falls on the object you're looking at, which also absorbs some wavelengths but rejects others. These rejected wavelengths become reflected light. Reflected wavelengths become the color of the object in front of you.

Internal Qualities of Light and Color

Reflected wavelengths are identified in the eye and a message is sent to the brain indicating the color we've named. Morton says, "The most technically accurate definition of color is: 'Color is the visual effect that is caused by the spectral composition of the light emitted, transmitted, or reflected by objects'," yet color remains influenced by the interpretation of the receiver."

Color is Also a Matter of Mechanics

Zelanski and Fisher, in their book "Color," describe the mechanics of color perception as functions of photoreceptor cones in the retina. Eye Theory discusses the Trichromatic Theory. This theory suggests there are three general kinds of pigments, each one sensing a different wavelength. These correspond to the red, green and blue we use to create color in electronic, forms.

Sources used in this article:

Creative Tools for Digital Camera: Color Matters: Color & Vision, How the Eye Sees Color.

<http://akvis.com/en/articles/color-and-vision/how-eye-sees-color.php>

Color: Paul Zelanski & Mary Pat Fisher: 2003.

Eye Therapy: Trichromatic Theory <http://www.eye-therapy.com/Color/TrichromaticTheory/>