

Table of Activities

Part 1: In the Eye of the Beholder (1 session)

Students begin their color studies by comparing their perceptions with those of other students, concluding with an overview of unit activities and assessment criteria.

Activity 1A: Color Survey

Students explore their perceptions of color by taking a color survey in which they categorize colored crayons and compare their responses with classmates' responses.

Activity 1B: Introducing the Unit

Students are introduced to the unit content and activities and receive a preview of the assessment criteria.

Part 2: Light and the Physiology of Vision (3 sessions)

Optical illusions set the stage for investigations to explore the roles of light, the eye, and the brain in color perception.

Activity 2A: Light and Perception

2A.1: <i>Illusion 1: Gray or White?</i>	Students experience an illusion that introduces how light affects color perception.
2A.2: <i>The Color Spectrum</i>	Students learn about the color spectrum, including wavelength and frequency.
2A.3: <i>Viewing Colored Objects Under Colored Light</i>	Students view some familiar objects under colored light to see how their perception of the objects' color changes.

Activity 2B: The Eye and the Image

2B.1: <i>Illusion 2: After-Images</i>	Students begin their exploration of the eye by experiencing an illusion in which they perceive after-images after staring at solid colored squares.
2B.2: <i>Drawing the Eye</i>	Students draw a partner's eye, label the parts they can see, and speculate about how the eye works.
2B.3: <i>The Structure of the Eye</i>	Students learn about the parts of the eye, relate what they learn to their drawings, and learn what happens when light from an image passes into the eye.
2B.4: <i>Additive and Subtractive Mixing</i>	Students use flashlights and filters to conduct experiments in two kinds of color mixing.

Activity 2C: The Brain Decides

2C.1: <i>Illusion 3: The Disappearing Dot</i>	Students create and experience an illusion in which part of an image seems to disappear.
2C.2: <i>What the Brain Sees</i>	Students read about the brain's role in perception and learn how the brain interprets visual information and compensates for information gaps.

Part 3: Do You See What I See? (1 session)

Students briefly explore three techniques used in arts and media that take advantage of the way our eyes and brain process visual information: complementary contrast, equiluminance, and pointillism.

Activity 3A: Complementary Contrast

Students view examples of how artists use the juxtaposition of contrasting colors to produce visual effects, and they learn the biological basis for these perceptions.

Activity 3B: Equiluminance

Students experience how the color phenomenon of *equiluminance* affects the way that the brain interprets shape and color in a work of art. They learn that equiluminant colors appear to vibrate because of the way the brain processes brightness.

Activity 3C: Pointillism

Students learn about a third type of color mixing called *partitive mixing* and experience the color effects of *pointillism*, a painting style that uses partitive mixing.

Activity 3D: Assessment

Students summarize their understanding of color perception and analyze the physiological basis for a color effect in an artwork, media piece, or illusion of their choice.