

Topics: Filters, Color, Light, Art History

Materials List

- ✓ Sticky-backed stencils
- ✓ Transparency film or equivalent
- ✓ Scissors
- ✓ Colored permanent markers

This activity can be used to teach:

- Experiment w/ forms, structures & materials (National Visual Arts Standards: Creating, Grades K-8)

Next Generation Science Standards:

- Light and vision (Grade 1, Physical Science 4-3; Grade 4, Physical Science 4-2)
- Waves: Amplitude, wavelength, energy (Grade 4, Physical Science 4-1)
- Waves are reflected, absorbed, or transmitted (Middle School, Physical Science 4-2)
- Body structures and systems (Grade 4, Life Science 1-1; Middle School, Life Science 1-3)

Stencil Suncatchers

Catching the Sun in Miniature “Stained Glass” Pieces



Use these instant suncatchers as a springboard for teaching about color, light, filters, art history... or just use them as a wonderful and fun decoration.

To Do and Notice

1. Bend the edge of the self-adhesive stencil to expose and peel off backing.
2. Press the stencil onto the transparency to adhere.
3. Use permanent marker to add color to areas in the transparency
4. Trim off any excess or undesired areas of stencil.

The Content Behind the Activity

Stained Glass has a rich and noble history as an art form. As with almost every new substance, artists are among the first to welcome the opportunity to explore a new medium. When Egyptian or Mesopotamian potters accidentally discovered glass while firing clay works, jewelry artists found an application in the creation of beads (earliest known manmade glass, 2750 and 2625 BC.) Roman builders first used glass in windows in the first century AD, but it took a few more centuries for artists to refine techniques and develop glass-coloring methods. The oldest example of multiple pieces of colored glass used in a window dates from 686 AD, at St. Paul’s Monastery, England. Exquisite medieval cathedral stained glass works often took decades, even centuries, to complete; and the artists’ techniques were highly prized and kept secret.

Just as pool filters collect certain substances (leaves and twigs) and allow other substances through (clean water), color filters absorb certain frequencies, or colors, of light but allow other frequencies through. For example, a red piece of glass allows red frequencies of light through, but filters, or “stops”, blue and green frequencies. If an object normally appears blue, it will appear black viewed through a red filter because the filter absorbs the blue light from the object. Artisans and technicians create colored glass using a variety of chemicals (e.g. - substances containing copper create green glass). Deep red glass has been highly prized for millennia because it is made using a rare gold salt (gold chloride, AuCl₃) with a tedious and difficult process; even today red glass remains the most expensive stained glass to purchase.

Taking it Further

Experiment with color filters and a spectroscope. How does a spectrum change when viewed through a filter?

Web Resources (Visit www.raft.net/raft-idea?isid=413 for more resources!)

For more information on the history of stained glass, go to:

- www.crystal-treasury.com/history.htm
- www.metmuseum.org/toah/hd/glas/hd_glas.htm
- www.pbs.org/wgbh/nova/ancient/science-stained-glass.html