

What is Black?



Lesson Overview

In this lesson, students explore the color black and find out it is not what it looks like.

Suggested Grade Levels: K~2

Standards for Lesson

Content Standard A: Science as Inquiry

K-4: Ask questions about objects, organisms, and events in the environment.

Time Needed

This lesson takes several class periods. Sample schedule:

Day One: Complete the **Engage** and **Explore** portion of the lesson
Day Two: Complete the **Explain** portion of lesson
Day Three: Complete the **Elaborate** and **Evaluate** portion of the lesson

Materials for Lesson

Materials

- Round filter paper (it's like a coffee filter... only thicker!)
- Scissors
- Small plastic cup
- Black pen (water soluble)
- Pipe cleaner

Content Background

The color black is actually all the colors of the spectrum mixed into one.

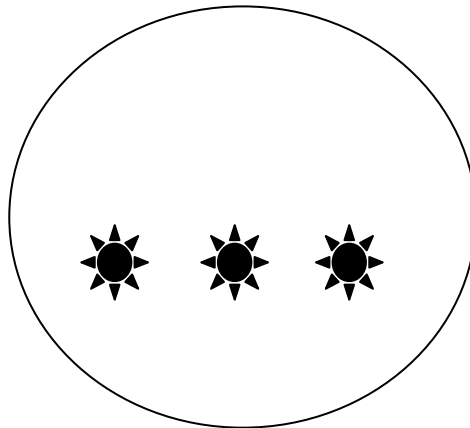
Engage

Read to the students the following story: *My Many Colored by Dr. Seuss*.
Discuss how the color is used in the story.

Explore

Tell students that today they are going to explore the question “Is the color black really made of many different colors?”

To begin, start by using a black pen and make a dot along the bottom half of the filter paper. See drawing below.



Have the students put the filter paper (just the bottom below the dots) in a cup of water and watch what occurs. Students should draw what they see occurring.

When done, ask the students the following questions:

What happened? Have students use the following writing prompt to write their answers: At first _____, but now _____.

Explain

Black is a whole bunch of colors mixed together. There's literally a rainbow of color hiding in just one black dot! The burst of color that you see on the filter paper proves that black is really a combination of colors. This technique of color separation is actually called chromatography which was originally used to separate different plant pigments.

Elaborate

Ask the students to generate some questions about what they observed. Use their questions to design further tests. For instance, do all black pens work the same? What about other colors? What is the difference in colors between a black and a red pen?

Evaluate

Using the students writing, help them to generate conclusions about black ink.