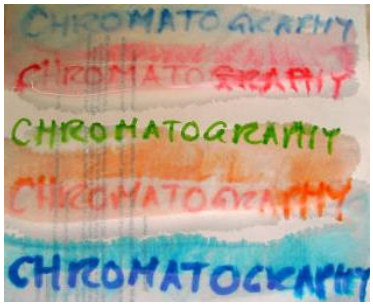
SCIENCE, TECHNOLOGY, ENGINEERING & MATH

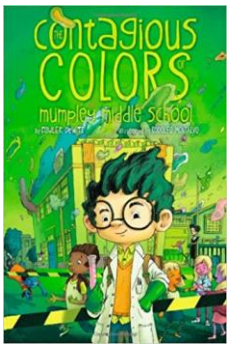
Color Chromatography (6-8)



KEY CONCEPTS:

- In chemistry, a **mixture** is a combination of substances that can be separated because they are not chemically bonded.
- The term **chromatography** is derived from the Greek words for color (chroma) and writing (*graphy*).
- Chromatography is a simple technique for separating a mixture's individual components. A **chromatogram** is the colored pattern revealed when substances are separated.

LITERACY CONNECTION:



The Contagious Colors of Mumpley Middle School by Fowler Dewitt is a fluorescent-filled adventure for a 6th grader Wilmer Dooley. There are books and previews of this story also available online.

ACTIVITY: CANDY CHROMATOGRAPHY

Materials: Water, salt, ruler, pencil, toothpick, tape/clips, plate, dropper/pipet, beaker, scissors, filter paper (coffee filter cut into strips), color-coated candy (we used skittles and M&Ms)

1. Mix 1/8 tsp salt in 3 cups water. Stir until dissolved. This is a **chromatography solvent**.
2. Cut two 4 x 8 cm rectangles from a coffee filter. This is **chromatography paper**.
3. Mark a line in pencil 1 cm from the bottom of each. Label one skittles and one M&Ms
4. Sort the candies for matching colors (both packs should contain green, red, orange, etc.)
5. Place a few drops of solvent on the plate for each color. Place one candy (different color) on each drop. Repeat the process for the Skittles.
6. The water will dissolve the candy coloring. Remove the candy after 1-2 minutes.
7. Dab the toothpick into the colored water droplet and apply to the filter paper (2-3 drops) and let it dry. **TIP**: Use a clean end of a toothpick for each color
8. Tape or clip the papers to the pencil and hang over the beaker. **TIP**: Make sure the paper barely touches the saltwater. The paper will slowly soak up the water.
9. When the water nears the top, take the papers out and transfer them to a clean, dry, flat surface and let them dry.

EXPLORE: Capillary action moves the water up the paper. Some **pigments** dissolve more easily, and move farther up the paper. Try this with other items like markers or colored drink mix!

For step-by-step instructions, watch the video at: Candy Chromatography STEM Activity

This at-home educational activity is from the Literacy Coalition of Palm Beach County's literacy-based Stories & STEM program.
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Having fun? Send pictures or video links of you and your Stories & STEM projects to csharkey@literacypbc.org