#### SCIENCE, TECHNOLOGY, ENGINEERING & MATH



# Color and Chromatography (3-5)

## The SCIENCE of COLOR:

**Chromatography** is a simple technique for separating a mixture's individual components.

A **chromatogram** is the colored pattern revealed when substances are separated.

A **mixture** is a combination of substances that can be separated.





#### LITERACY CONNECTION:

<u>A Bad Case of Stripes</u> by David Shannon brings the idea of wearing colors to a whole new level! Don't have the book? There are wonderful <u>readings</u> 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.
- 2. Cut two 2 x 4-inch rectangles from a coffee filter. This is chromatography paper.
- 3. Mark a line on the paper in pencil  $\frac{1}{2}$  inch from the bottom. Label one for each candy.
- 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 let them dry flat.

What is happening? Water travels up the paper by capillary action. The colors dissolve in the water and moves up the paper too. The easier it dissolves, the farther up it goes! 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. Stories & STEM is made possible with support from Prime Time Palm Beach County, Inc., which receives significant funding from the Children's Services Council of Palm Beach County, Inc.

Having fun? Send pictures or video links of you and your Stories & STEM projects to csharkey@literacypbc.org