Candy chromatography essay sample

Environment, Water

Paper chromatography is a logical technique used to separate works of a solution. Three examples of how we apply this technique to real-life would be: contaneminants in water, separation of plant pigmentation, and analysis of narcotics.

Source: http://www. discoveriesinmedicine. com/Bar-Cod/Chromatography. html#b

Purpose: To find out why candies are different colors.

* Materials: Candy with a colored coating, like Skittles® or M&Ms® (4 different colors)
* Rubbing alcohol or isopropyl alcohol
* Coffee filters (2)
* Tall glasses or plastic cups (2)
* Pencil
* Ruler
* Tape
* Foil or paper plate
* Table salt
* Water
* Toothpicks or cotton swabs (4)
* Measuring cups/spoons
* Clean pitcher or 2-liter bottle

Procedure: 1. Cut coffee filter in a square (3cm) (2 strips). 2. Space four drops of water on a piece of foil. Put one candy of each color on the drops. Let it sit for a minute. Throw away candy. 3. Use a pencil (not a pen) to draw

a line one cm (1/2 inch)from the edge of one end of the one strip of paper. 4. Make four pencil dots (one of each color used) on the given line about 0. 5 (1/4 inch) apart. Label the color of the candy you test on. (Use abrreviations.) Make prediction.

5. Dip toothpick into a sample colored water, dab the color onto the pencil. Repeat using another toothpick for the following colors. Allow filter paper to dry, go back and add MORE color to the following dots. 6. Mix 1/8 teaspoon of salt and three cups of water in a pitcher/2 – liter bottle. Stir solution. Result: 1% salt solution. 7. Pour the salt solution in a tall glass (clean). The liquid level will be: ¼ inch. 8. Tape strip to a pencil. Put pencil on top of jar. Let the strip hang in the jar. Colored spots should not come in contact with the liquid in the bottom of the glass. 9. Tube action will draw the salt solution on a paper. As it passes the dots, it will separate the dyes. Remove it from the glass when the salt water is ¼ inch from the top edge of the paper. Lay it on a flat surface to dry. 10. Repeats steps two through nine to test all of the following colors using the alcohol solution on the bottom of the glass instead of the salt. Data and Observations/ Discussion and conclusion:

I started to observe a lot once I got into the process of attaching the paper with the dye and setting it on the bottle. I poured in what was asked, and at first, I didn’t think anything was going to happen. I was waiting for the paper to get wet. It required a lot of patience! I realized the purpose was that when it hits the water, you’re going to want to measure how far the streaks go. Even just waiting a minute, I saw a difference. The paper was losing its color. The salt solution percolates faster than the alcohol solution. I looked at the

paper that was hanging inside of the alcohol based solution and noticed that the colors weren’t even streaking down. The dye was half way up the paper in the salt part, whereas it looked good as new on the alcohol side. The color separation was very clear. 10-15 minutes, you could see the color rise. Measurements for the watery solution: Red: 23 cm, orange: 21 cm, green: 44 cm, and purple: 29 cm. Observation: water solution, it washed away graphite and the alcohol solution, it almost made it brighter and more clear. Red: 50, orange: 50, green: 24 purple: 44. Alcohol stopped at 55cm. Water stopped at 60cm.