

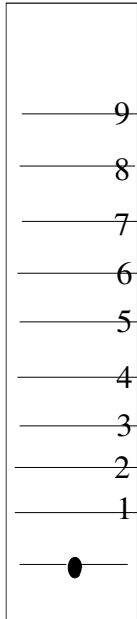
Chromatography is a useful method for separating the substances in a mixture. In a mixture the substances are not chemically combined, therefore, they can be separated. Chromatography uses the fact that different substances dissolve at different rates to separate those mixtures.

Purpose: To use chromatography to separate substances in a mixture.

Show differences in physical properties in a substance that make up a mixture.

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|------------------|--------------------|-------------------------------------|-------------|
| Materials | Filter paper | Red, green, blue and black markers. | Pencil |
| | Metric ruler | scissors | Methanol |
| | Graduated cylinder | Beaker | Paper towel |
| | | | water |

Procedure:



1. Cut four strips of filter paper at least 10 cm long.
2. Use a pencil to draw a line across the paper 1 cm from the bottom.
3. Use a pencil to label the paper as red, blue, green, black.
4. Make a spot corresponding to the color on each of the papers, on the center of the line.
5. From the center of the dot, measure up the center of the paper and make a mark every centimeter.
6. Let the dot dry and darken the mark again.
7. Using the graduated cylinder, measure out 5 mL of water, and pour into beaker.
8. Using the graduated cylinder, measure out 5 mL of methanol and pour into the beaker.
9. Carefully stand all 4 paper strips in beaker, and crease edges to keep them from falling
DO NOT ALLOW THE DOTS TO TOUCH THE LIQUID
10. Record observations until the solvent reaches the edge of the beaker.
11. After the solvent has reached the edge of the beaker, remove the strips, and put them on a piece of paper towel to dry. (CAUTION the dyes from the marker can stain your hands and clothes. Do not touch the colored areas of the paper.)
12. Clean and dry beaker and graduated cylinder. Return all materials to where you got them.
13. Answer the questions.
14. Attach dried strips to sheet

Ink Color	Observations
Green	
Blue	
Red	
Black	

Questions:

1. Did a physical or chemical change occur during this experiment? How do you know?

2. What colors of dye were there in each color of ink? (i.e. What colors were there in the green ink?)

3. Compare the order of the colors on you strips. Is there a pattern to how the colors moved?

4. Predict what would happen to
 - A. Orange ink

 - B. Purple ink

 - C. Yellow ink

Attach the dried strips here