

Chromatography Lab

Procedures:

1. Obtain a piece of filter paper from your instructor and draw a light line in pencil (do not use ink) two centimeters above the bottom.
2. Place dots from several water soluble pens evenly spaced along the pencil line. Your instructor should have these pens.
3. Insert Tape the paper to a pencil or other object that can be used to suspend the paper vertically in a glass. The line ink dots should be on the edge away from the pencil. The filter paper should not touch the bottom or sides of the glass when it is suspended.
4. Put enough water in the glass so that the filter paper will just touch the water. You may wish place the filter paper in the glass before you add the water and mark the proper level with tape on the glass. Take the filter paper out add the water and carefully put the paper back in so it just touches the water
5. Do not disturb the glass. Watch what happens – the water should begin moving up the paper. Why does this happen?
6. What happens to the colored dots as the water moves through them?
7. Are these color inks mixtures or compounds? Why?
8. When the top edge of the water is about $\frac{2}{3}$ of the way to the top of the paper, remove it, place it on a paper towel and carefully draw a pencil line at the top edge of the wet area.
9. Allow the filter paper to dry, tape it carefully to an 8 $\frac{1}{2}$ inch piece of paper, and document it carefully with your name, date, time, and study group.
10. Bring your filter paper to class.

Chromatography Questions (To be answered by each study group):

1. Propose one more simple explanations for why the separations occurred. (There is more than one possible factor involved.
2. Which of the pen inks appears to contain a single color substance, and which are mixtures?
3. Which pens have colored components in common with other pens? Are they the same compounds? Explain your reasoning.
4. If you use a black pen, what color components does it contain?
5. From these results, predict which color components are most soluble in water and which aren't the least soluble in water. Explain your reasoning.