

# [Chromatography: lab report assignment](https://assignbuster.com/chromatography-lab-report-assignment-lab-report-samples/)

Reece’s yellow, Reece’s orange, Reece’s brown, pink pen and green pen all appear to contain only one component. . Which colors were consistently composed of more than one color? 1 5 points) – Green food coloring and blue food coloring appeared to be the only ones consistently containing more than one color. 7. Why does the technique require you to use a pencil to mark the original spotting line? (15 points) – The pencil is used to mark the original spotting line because the lead from the pencil will not move like the colors will, if you used a pen then your original spotting line would move with the color. 8. The solvent in the jar is approximately 1 CM deep, yet the spot on the paper is la CM up on the paper.

Why is it important to keep the spots above the solvent? 15 points) – You have to keep the spot above the solvent because if you lay the spot in the solvent it will soak into the solvent as opposed to diffusing up the chromatography paper, keeping it out of water allows the solvent to carry the color up the paper with it as opposed to washing it off. 9. What conclusion did you reach? Were the components of the dyes similar or different? Justify your answer using your empirical evidence. (15 points) – The M and Reece’s have about 50% the Ref as the dye’s, therefore the components are different, the dye’s are mulch stronger than the foods.

The and Reece’s were however, similar to each other, their Ref values stayed in about the same range and the colors there did not move as much as the dye’s. The felt tip pens also had low Revalues which I did not expect, I expected them to be in the same range as the dye’s. 10. You run a chromatograph of two different food colorings, each consisting of a single substance. One food color (spot X) has a Revalue of 0. 350 and the other (spot Y) has a Revalue of 0. 750. Draw a sketch of the chromatograph. Include and label in your sketch the origin, the solvent front, and two labeled pots. 20 points) 11 . As the owner of a patented ink for pens, you suspect that another company has stolen the mixture. How could you use chromatography to prove they are using the same formula? (20 points) – You could conduct a chromatography test to separate the mixture they are using in comparison to yours, this will allow you to see if the components are the same. You would need to test both mixtures and compare the Ref value results in order to prove they are using the same formula. 12. Forensic scientists use chromatography in crime scene investigations.

Give an example of an instance when a forensic scientist would need to use chromatography. (20 points) – Chromatography can be used in forensic science in many ways. A forensic scientist could use chromatography to test substances found at a crime scene to determine the components and decide what the substance is. Urine dip tests are another very common use for chromatography in forensic science, a victims urine, or a suspects urine for that matter, could be tested in such a way as to determine the presence of drugs or other chemicals in the persons system.