

CHROMATOGRAPHY - SPOT THAT FRAUD

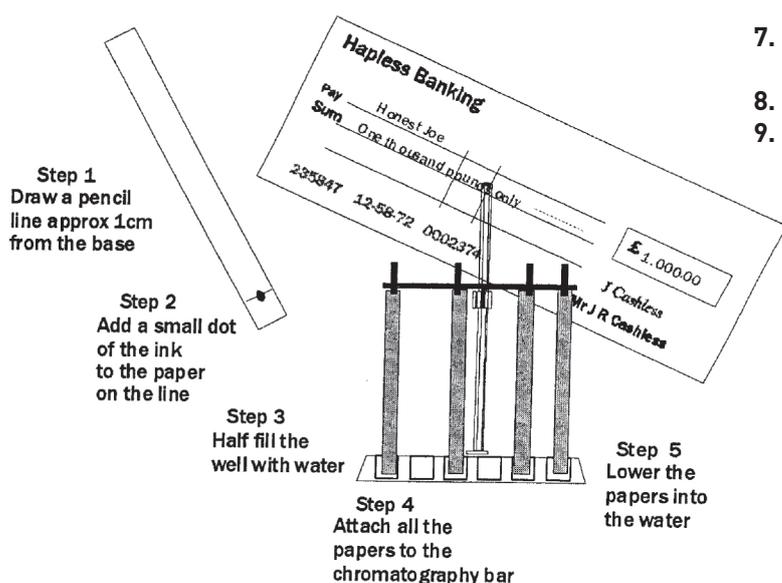
Most ink pen colours are made up from several different dyes. If this mixture can be separated out so that all the colours can be identified, then the pen that wrote the note can be linked to the note written with it.

A cheque has been stolen and the signature forged. The money has been paid into a false bank account. Use a technique called chromatography to separate all the dyes; we will test all the pens taken from the suspects and a sample of ink taken from a cheque.

You must decide which suspect forged the cheque.

Method

1. Get 4 strips of chromatography paper and draw a pencil line 1cm up from the bottom of the paper.
2. Add 1 dot of ink from each of the 3 suspects' pens to 3 of the papers and 1 dot on the last paper using ink from the cheque. Label them (1, 2, 3 & C) using a pencil.
3. Half fill the wells in row F with water. Place the microstand with boss in D7.
4. Adjust the boss to the highest position and attach the chromatography bar.
5. Attach each paper to the bar, using a paper clip / mini peg / sticky tape, at the same height above a well.
6. Slowly lower the boss on the stand so the papers are in the water but the original ink dots are not.
7. Leave the chromatogram to run until the water line is near the top of the paper.
8. You may need to add a little more water to each well.
9. Raise the boss and compare the papers.





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Results and Conclusions

Which of the inks were mixtures? _____

Explain your answer.

Which inks were pure substances? _____

Explain your answer.

Which pen was responsible for the forged cheque? _____