

# Chromatography Method



**Whoever killed our victim very probably wrote the threatening letter which was found in his pocket too.**

**The police have analysed the letter under a microscope and have concluded that it was written by someone who is left handed, using an old-fashioned fountain pen, the kind which must be filled from a bottle of ink.**

**There are only two shops which sell this ink in Exeter, and only four types of black ink are sold in total. If you can identify which ink was used, we'll be a step closer to solving this murder!**

Firstly, cut a strip of chromatography paper about 5 cm wide and the same height as the glass beaker you will be using

Tape the top of the paper to the middle of a pencil Balance the pencil across the top of the beaker so that the paper hangs down into the beaker. The bottom of the paper should hang just above the bottom of the beaker but it doesn't matter if it touches slightly.

Next, take the paper out of the beaker fill the beaker with water to a height of 1cm.

Draw a line across the bottom of the strip of paper, about 1.5 cm. Draw a small cross on the centre of the line

The fifth step is to drop a very small blob of the ink onto the cross using the end of a paper clip to dot the sample on)

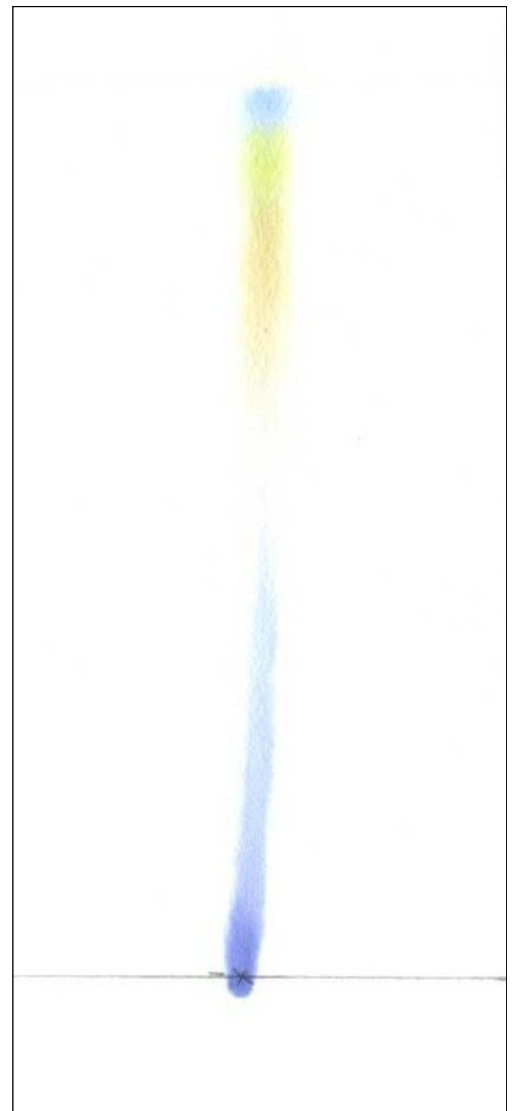
Replace the pencil across the top of the beaker so that the paper hangs down into the water. Make sure that the ink blob is above the water!

Watch as the water moves up the paper, splitting the ink into different colours

When the water is about 2.5 cm from the top of the paper, lift the paper out of the water and leave to dry. You have now made a chromatogram

Finally, compare your chromatogram with that of the ink taken from the note found at the scene of the crime. Have you identified it?

Repeat the test with all four inks



Chromatograph produced by the police analysis of the ink used to write the threatening note found on the body