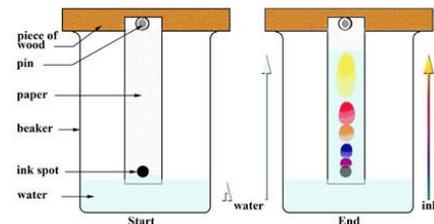




## Try some CSI!

### Instructions for finger print activity and paper chromatography



#### Finger print experiment

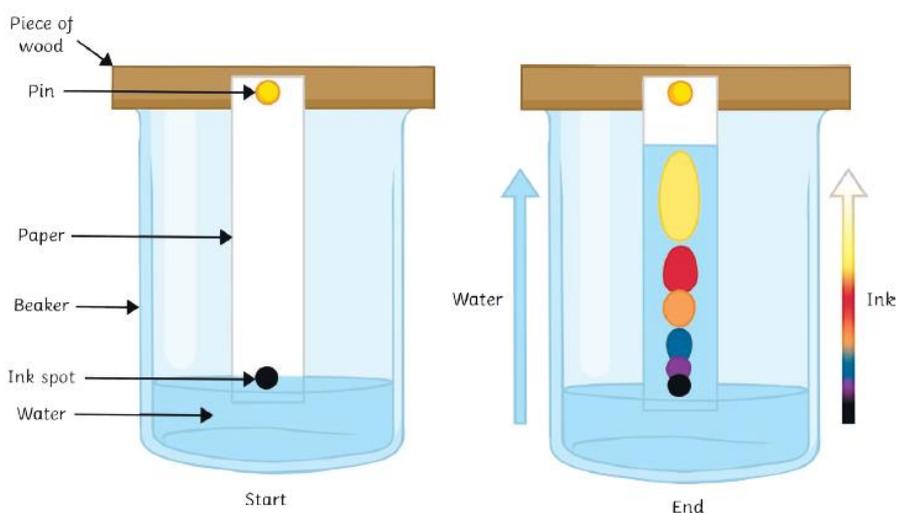
- Press an oily or sticky finger onto a glass. Dust your fingerprint with cocoa powder and gently brush it off with a camel hair brush (or a very soft paint brush). Place a piece of sticky tape over the fingerprint. Lift the fingerprint on the tape and stick it to some light coloured paper.
- Alternatively, you could get messy and take finger prints using an ink pad or by brushing a fine layer of paint onto your finger and then pressing it onto some paper or card.
- Can you repeat this with the fingerprints of other people in your household? Does your fingerprint look like anyone else's?

#### Chromatography

Try to find out which pen has been used to make the original chromatogram by testing all 3 pens: which one matches the original most closely?

##### Equipment

- Strips of Chromatography paper (or filter coffee paper)
- A beaker (or glass or clear plastic cup)
- A piece of wood (or pencil, coffee stirrer or lolly stick)
- Drawing pin (or sticky tape)
- Water
- 3 different black pens (different brands if possible)
- A chromatogram of an unknown black ink spot (made with 1 of the 3 pens being tested) \*If you can, ask someone else to make this using one of the pens you will test (without telling you which one they used).



### Method:

Step 1: Using the first pen, make a small spot at one end of the paper, about 1cm from the edge. Make sure you know which pen this chromatogram relates to.

Step 2: With the drawing pin (or sticky tape), secure the other end of the strip to the middle of a wooden pencil and balance across the top of the beaker.

Step 3: Take the pencil off and put enough water into the bottom of the beaker so that the paper will be submerged but the black ink spot will remain above the water line. Then re-balance your pencil (making sure you don't splash the paper or allow it to touch the sides of the beaker)

Step 4: Observe as the water is drawn up the paper. When it has reached the top, carefully lift out the paper using the pencil and lie it flat to dry.

Step 5: Repeat steps 1 to 4 again for each of the other pens.

Step 6: Once dry, compare your chromatograms to the unknown one and identify the pen used.

### Additional Link:

If you would like to, you could watch other people doing chromatography e.g.

<https://www.youtube.com/watch?v=8uFLOQ18Mt8>