

Separation by Paper Chromatography

Forensics labs and researchers often need to know what parts make up a mixture. One method that works well is paper chromatography.

Safety Precautions



- Clean up any spills immediately.
- Put broken glass in the proper broken glass disposal bin.
- Wash your hands and clean up the work area when you have completed the activity.

What You Need

two different blue and two different black ink pens or markers
filter paper and scissors
4 large test tubes
4 support stands and test tube clamps
water

What to Do

1. Cut four long strips of filter paper. Make sure these strips will fit into a large test tube.
2. At the top of each strip, write the ink colour and sample number. For example, write Blue A, Blue B, Black A, Black B.
3. Measure about 1.5 cm up from the bottom of each strip. Draw a faint pencil line. This is the line you will place your ink on.
4. Use a different strip for each marker. Place a dot of ink in the middle of the strip on the line you just drew. Wait 10 seconds, then repeat the dot two more times to make a very dark dot.
5. Attach the test tubes to a support stand to keep them perfectly still and standing straight up.
6. Add about 15 drops of water to each test tube. There should be about 1 cm of water in the bottom of the test tube.
7. Place each of the 4 strips into one of the 4 test tubes.
8. Leave the strips in the test tubes for 1–3 minutes. Watch the water and ink crawl up the paper.
9. You will now notice the ink pigments separate into their parts. Each pigment travels a certain distance. By measuring this, forensic scientists can identify pigments.

