

Simple chromatography

Most of the liquids we encounter in our everyday lives are actually a mixture of several different liquids. There are many methods scientists can use to separate mixtures, including a process called chromatography. Mixtures that are suitable for separation by chromatography include inks, dyes and even colouring agents used in food.

Paper chromatography

Find out if black ink really is black! Ink from different pens may look the same but they are actually made up of different coloured dyes. Here is an experiment to separate the dyes from different pens.

You will need:

- five different black pens (not ballpoint)
- blotting or filter paper
- scissors and a pencil
- a cup with a small amount of water in it (no more than 1 cm deep)

What to do

- 1 Cut the blotting paper into strips about 2 cm wide by 8 cm long.
- 2 With one of your black pens, draw a dot the size of a small pea, approximately 1 cm up from the bottom of one of the strips.
- 3 Using a pencil, label the strip to identify which pen was used.
- 4 Repeat steps two and three for all of the black pens.
- 5 Hold the five strips in the cup of water, making sure the water level is below the ink dots.
- 6 Continue to hold the strips in the water and watch as the water is absorbed up the strips. Each dot of ink will separate into a unique profile of colours.

