

# Chromatography



## What is Chromatography?

Chromatography is a way of separating a mix of things (a compound) out into the different parts by passing it through a liquid like water. This works because the different things which make up the compound move through the liquid at different speeds and so separate out.

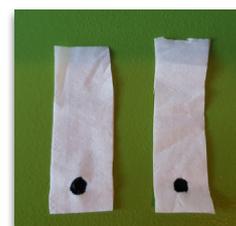
In our experiment we are going to separate the different colours in a black pen by passing the ink through water.

### Equipment

- Glass with about half a centimetre of water in the bottom
- Kitchen roll or coffee filters (If you don't have either of these we found tissues worked too but you can experiment with different papers)
- A black felt-tip pen (not a permanent marker)
- A pencil
- Tape

### Method

1. Cut your choses paper into strips and draw a dot about 1cm from the bottom of the paper with your back felt-tip
2. Tape the strip of paper to the pencil
3. Use this to place it into the glass of water so that the bottom of the paper but not the back dot dips into the water
4. Watch as the black dots rise up the paper splitting into different colours
5. Try with different ink colours or different types of pens to find more hidden colours. Our black pen had a lot of blue and green was yours the same?





## What is happening?

When the water passes through the ink it pulls the ink along with it however some inks are easier for the water to move than others. This means that some colours are moved further than others and we can see all the different colours as they separate.

## How do Scientists use this?

Chromatography is useful when scientists want to find something which is hidden or mixed in with something else. Some interesting examples are when trying to understand how tree leaves turn different colours, isolating chemical pollution in water, working out what chemical compounds are in Ebola to develop a vaccine and testing if food has gone bad to set the use-by dates on food.

To learn more about how Environmental Scientists use chromatography check out the [Nustem website](#)