



LEARNING ABOUT CHROMATOGRAPHY

This fun project will have your kid calling himself Sir Un-Mix-a-Lot

Kids love mixing things together just to see what happens, whether it's different flavors at the self-serve soda fountain or mixing stripes and plaid into that crazy outfit you begged them not to wear to your cousin's wedding.

But it's just as easy and a lot more science to un-mix things. In this simple science experiment using nothing more than water, markers and coffee filters, your child can separate ink into the colors used to create it. Unfortunately, it can't help un-mix those stripes and plaid.

GATHER THIS:

- Tall glass, with $\frac{1}{2}$ to $\frac{3}{4}$ of an inch of water
- Coffee filter
- Scissor
- Pencil
- Tape
- Non-permanent markers

THEN DO THIS:

1. Cut the coffee filter into strips. An inch wide is fine.
2. Use a marker to draw a dot on a coffee filter strip, about $1\frac{1}{2}$ inches from the end.
3. Hang the coffee filter strip in the glass so it touches the water. Make sure the marker dot is close to the water but not touching it.
4. Lay the pencil across the top of the glass and tape the coffee filter strip to it so you don't have to hold it.
5. Look for the water moving up the coffee filter, and especially see what happens when it starts moving through the marker dot.

ASK THIS:

- What happens to the ink when the water reaches it?
- What happens to different colors or different brands of markers?
- What happens if you try a permanent marker?
- What happens if you try something other than a coffee filter?

WHAT IS HAPPENING?

Chromatography uses water's ability to move things to drag mixtures apart. As the water creeps up the coffee filter by capillary action, it pulls the ink molecules up with it. Heavier molecules are harder to move than lighter ones, so the different color compounds are spread apart as the water rises.

WHAT THIS TEACHES:

Skills: Observation, Asking Questions, Analyzing Data
Themes: Light & Color, Motion, Art, Gravity

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SCIENCE
PLAYGROUND
& ZOO