



Butterfly Chromatography

Supplies:

1. Coffee Filter / Chromatography Paper
2. Washable Markers
3. Cup of Water
4. Binder Clip
5. Popsicle Stick
6. Pipe cleaners
7. Paper Towels

Directions:

1. Draw a design with markers on the chromatography paper/coffee filter.
2. Fold the paper in half and then half again.
3. Place a craft stick at the top of the wedge of paper. Attach a binder clip to the paper and the craft stick.
4. Place the paper in the jar of water (suspended by the craft stick) so that only just the tip of the end is touching the water.
5. Watch as the pigments in the ink begin to be absorbed by the paper. Watch as the colors separate and spread.
6. After the colors stop spreading, remove the filter and unfold it. Blot the excess moisture out onto a paper towel.
7. Pinch the filter in the center to form your butterfly wings.
8. Twist a fuzzy stem in the center and curl the ends to form antennae.



Why does it work?

Marker inks are made from many different colored dyes. (This is most obvious with dark colors such as black and purple.) Each dye is made up of different chemicals, some heavier and some lighter, that travel at different speeds as the water moves them up the paper. The heavier dyes will separate out first and move more slowly while the lighter dyes keep moving faster up the paper, creating the tie-dyed or washed out effect. Try to count how many different colors you see on your final product! Chromatography is used every day in professional chemistry and biology labs.