JR ENGINEERS

CHROMATOGRAPHY

Did you know there might be secret colors in your black markers? Let's look deeper and find out!

SUPPLIES

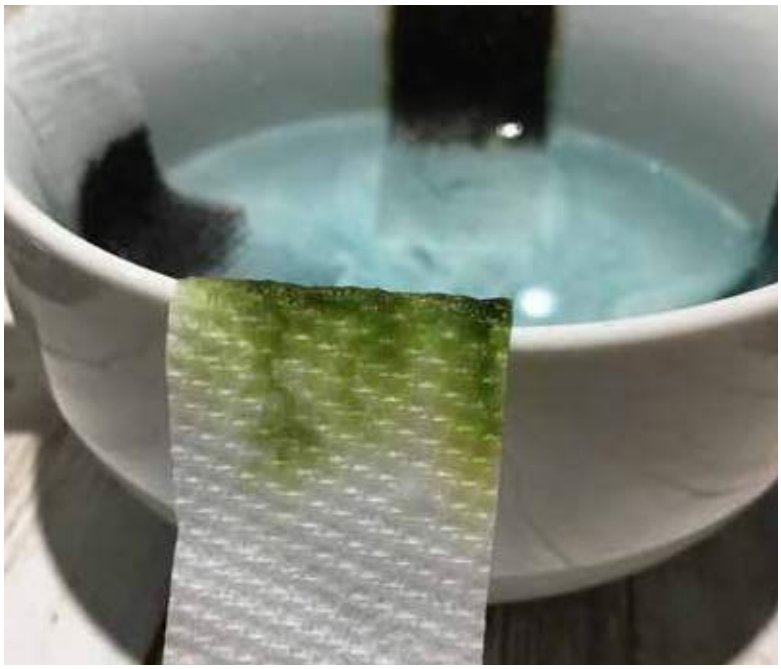
Black markers
Paper towel
Scissors
Bowl of water

INSTRUCTIONS

STEP 1: Gather four different brand black markers.
STEP 2: Cut four strips out of a paper towel.
STEP 3: Fill a bowl with water.
STEP 4: Color a small square toward one end of your paper strip.
STEP 5: Repeat for each black marker.
STEP 6: Dip the end nearest your black square into the water and hang the rest of the strip over the edge of the bowl.
STEP 7: Repeat for each strip and let sit until the are completely wet.
STEP 8: Observe what colors you see in each strip.

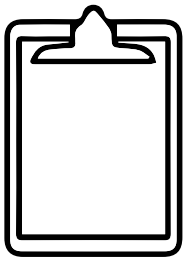
CHROMATOGRAPHY

Chromatography is separating the parts of a mixture so that you can see each one by itself. When you dip the paper in water, the dried pigments dissolve. As the water travels up the paper, it carries the pigments along with it. Different-colored pigments are carried along at different rates; some travel farther and faster than others. How fast each pigment travels depends on the size of the pigment molecule and on how strongly the pigment is attracted to the paper. Since the water carries the different pigments at different rates, the black ink separates to reveal the colors that were mixed to make it.



Chromatography Observations

Use this worksheet to process and evaluate your work.



RECORD

What colors did you observe?

Marker 1: _____

Marker 2: _____

Marker 3: _____

Marker 4: _____

How long did it take for the color to travel?

_____

What did you learn about chromatography and capillary action?

_____

_____