

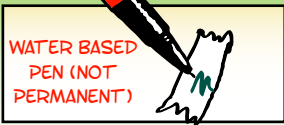
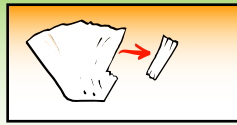
Mateo y Cientina

THIS WEEK: SEPARATING COLORS!

HEY CIENTINA, I BET I CAN SEPARATE THE BLACK INK IN THIS PEN INTO DIFFERENT COLORS.

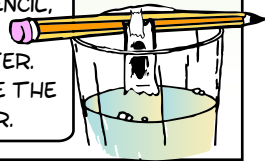
THAT DOESN'T MAKE ANY SENSE, MATEO, THAT INK IS BLACK.

NO, I'M SERIOUS. WATCH. FIRST I CUT A STRIP OF COFFEE FILTER PAPER. THEN I MAKE A MARK ON IT WITH A BLACK WATER-BASED (NOT PERMANENT) PEN.



WATER BASED PEN (NOT PERMANENT)

THEN I TAPE ONE END TO A PENCIL, AND I PUT THE OTHER END OF THE STRIP TOUCHING WATER. BUT YOU HAVE TO MAKE SURE THE PEN MARK ISN'T UNDER WATER.

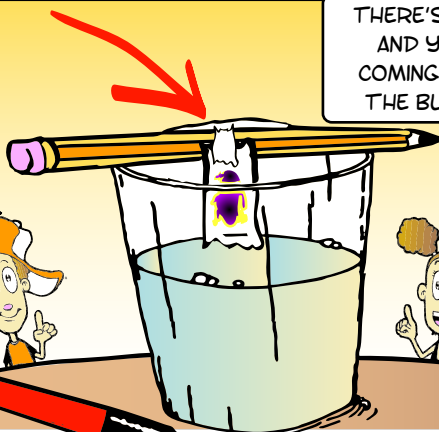


CHECK IT OUT! THE WATER MOVES UP THE PAPER! WHEN THE WATER MOVES UP THROUGH THE PEN MARK, IT SEPARATES THE DIFFERENT COLORS THAT WERE MIXED TO MAKE THE BLACK INK.

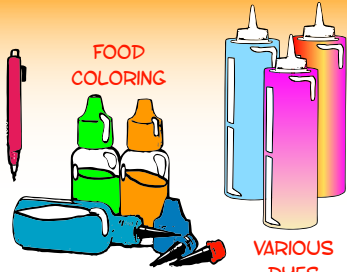
THERE'S PURPLE AND YELLOW COMING OUT OF THE BLACK INK!

BUT YOU DIDN'T SEPARATE IT. THE WATER DID THE WORK FOR YOU.

THAT'S RIGHT! WHEN THE WATER MOVES UP THE PAPER IT PULLS ALONG THE COLORS. IT CARRIES SOME COLORS HIGHER THAN OTHERS.



LET'S TRY IT WITH DIFFERENT BRANDS OF BLACK PENS AND DIFFERENT COLORS OF PENS. I WONDER IF IT WOULD WORK WITH FOOD COLORING OR THE DYES ON COLORFUL CANDIES.



SO WHAT?...

This is an example of **Chromatography**. Chromatography is one of the most important techniques used by chemists to separate chemicals. Chromatography can even be used to separate gases.



I JUST WISH I COULD GET WATER TO DO OTHER WORK FOR ME. LIKE CLEAN MY ROOM.

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