

#### 4) Manipulating the variables:

1 marks

Controlled Variable	How will you keep this controlled?	How could it affect your results if not controlled?
Same colors Same volume of solvent Same time	Keep using the same colors. Keep putting the same amount of solvent and Keep it for the same time	The colors that are used will the length of the solvent front the length will also change

#### 5) Materials and Method:

1 mark

paper towel strips/ Coffee filters

glass cups

Pencil

Ruler

**Permanent markers** Write the colors that you used (Use three colors one of them is black)

black, green and brown

Water

Rubbing alcohol/ nail polish remover/ vinegar Write the solvent that you used

rubbing alcohol

Method: What are the steps of the investigation?

8. Watch as the water rises up the strips.
9. Record your observation. (What happens to the colored lines on the strips? Does the color run up as well? Do you see any color separation?)
10. Repeat steps 1-9 using another solvent. Write the solvent that you used rubbing alcohol.

### Safety precautions

Don't use rubbing alcohol/ nail polish remover near flames.  
Wash hands after using any chemical.

3 marks

### 6) Results

- Data

Solvent	Color 1	Colors appeared & distance travelled by each color/cm	Color 2	Colors appeared & distance travelled by each color/cm	Color 3	Colors appeared & distance travelled by each color/cm
Water	black	red 4.5 blue orange cm	green	blue 4.1 + cm yellow	brown	orange + red 5.5 blue cm
Other solvent ..... rubbing alcohol	black	blue + red and green 4.5 cm	green	blue and yellow 4.5 cm	brown	black + orange + red + blue 4.1 cm

Results with water

Results with other solvent

black

brown

black  
foul  
odor

brown

green

green

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