

## C8 - Chemical Analysis—Pure Substances and Mixtures

How does the **everyday meaning of pure** differ from the **chemistry meaning of pure**?

### Analysing Pure Substances and Mixtures

B\_\_\_\_\_ points and m\_\_\_\_\_ points can be used to identify pure substances.

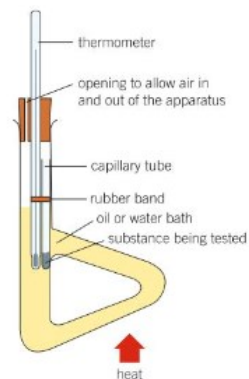
Pure elements and compounds melt at s\_\_\_\_\_ temperatures, and these fixed points can be used to identify them.

Impurities tend to l\_\_\_\_\_ the melting point of a substance and raise its boiling point.

A mixture will melt and boil over a r\_\_\_\_\_ of temperatures.

The melting range will i\_\_\_\_\_ as the number of impurities increase. This is also true of the b\_\_\_\_\_ range.

The closer your sample is to the fixed temperature, the p\_\_\_\_\_ the sample is.



### Formulations

Formulations are useful m\_\_\_\_\_, made up in definite p\_\_\_\_\_, designed to give the product the best properties to carry out its f\_\_\_\_\_.

Complete the table (bottom left) detailing examples of ingredients that could be present in a formulation.

Why are formulations important in the **pharmaceutical industry**?

Quite often children do not like to take medicines. Suggest a substance that can be added to a medicine to encourage children to take it. Give a reason for your suggestion.

Give some **everyday examples** of formulations.

Ingredient	Function (add the function)
Pigment	
Solvent	
Binder or Resin	
Additives	

## C8 - Chemical Analysis—Chromatograms

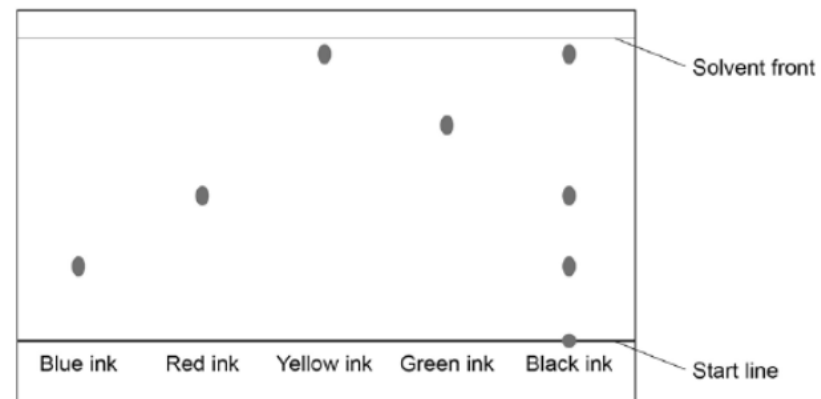
### How Paper Chromatography Works

Explain how paper chromatography separates substances.  
Include a diagram and use as many key words from the box below.

mobile	stationary	phase	solvent
Pencil	start line	solubility	filter paper

### R<sub>f</sub> Calculations

Write down the formula for calculating the R<sub>f</sub> value of a substance.



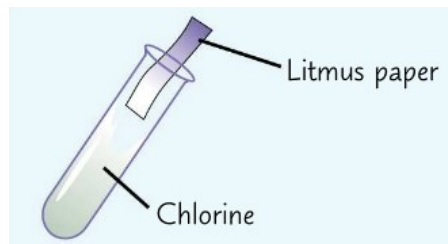
Analyse the chromatogram above. Describe and explain the result for the black ink.

Calculate the R<sub>f</sub> value of the blue ink.

## C8 - Chemical Analysis—Gases

### Chlorine

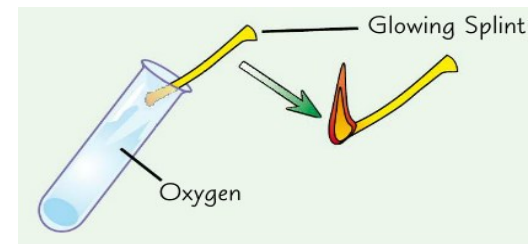
Describe the test for chlorine.



Give the result of a positive test.

### Oxygen

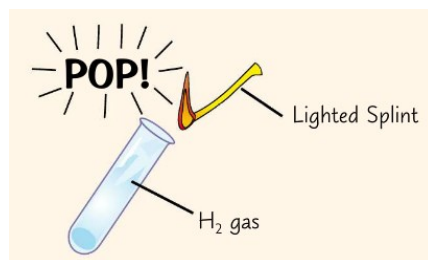
Describe the test for oxygen.



Give the result of a positive test.

### Hydrogen

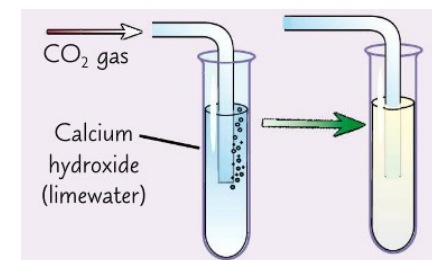
Describe the test for hydrogen.



Give the result of a positive test.

### Carbon Dioxide

Describe the test for carbon dioxide.



Give the result of a positive test.