

Define a pure substance.

How can you distinguish a pure substance from an impure substance?

The b\_\_\_\_\_ p\_\_\_\_\_ and the m\_\_\_\_\_ p\_\_\_\_\_.

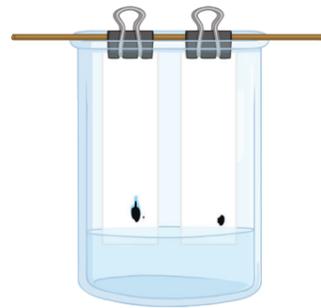
What will happen to the above if there are impurities in the sample?

What is a formulation?

Give some everyday examples of where formulations are used.

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_
6. \_\_\_\_\_

What does chromatography separate?



Describe how the process works. Use the diagram to help.

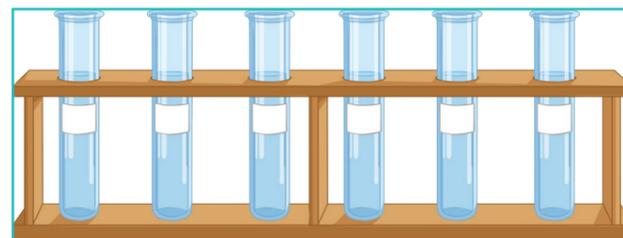
Keywords: solvent, paper, soluble, mixture, spots, Rf value.

Complete the word equation for calculating the Rf value.

Rf = \_\_\_\_\_

How does the Rf value allow you to identify a substance?

What colour does litmus go if chlorine is present?



What is the Rf value of the following chromatogram?

The distance moved by substance B is 30mm and the distance moved by solvent A is 52mm.

$$Rf = \frac{B}{A}$$



What are the 2 phases of chromatography?

M\_\_\_\_\_ phase. Describe this phase.

S\_\_\_\_\_ phase. Describe this phase.

Describe the test for oxygen.

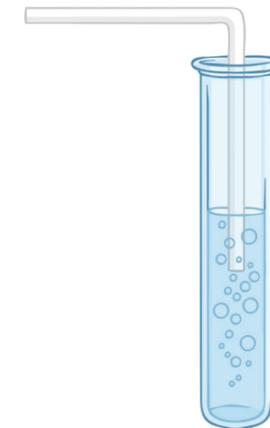
I understand the following topic...

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What gas does this experiment test for?



What gas does this experiment test for?



What colour does the limewater go if the gas is present?

Define a pure substance.

**When nothing has been added to a substance.**

How can you distinguish a pure substance from an impure substance?

**The melting and boiling points of substances allows you to distinguish one substance from another. e.g. pure water boils at 100°C.**

What will happen to the above if there are impurities in the sample?

**They will lower the melting point.**

**They will increase the boiling point.**

What is a formulation?

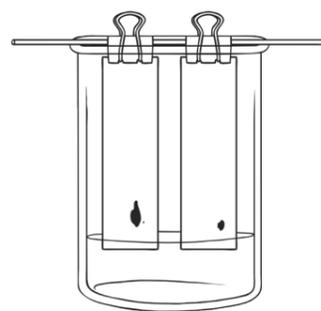
**Useful mixtures that have a particular use.**

Give some everyday examples of where formulations are used.

**paint, fertilisers, cleaning products, fuels, cosmetics, nail polish, perfume, medicine, pesticides, inks.**

What does chromatography separate?

**It separates 2 or more soluble substances in a mixture.**



Describe how the process works. Use the diagram to help.

**The solvent moves up the paper. As it moves, it takes the mixture with it.**

**The more soluble the substance, the farther it moves up the paper.**

**Some are not as soluble so do not travel as far. They separate into different spots.**

Complete the word equation for calculating the Rf value.

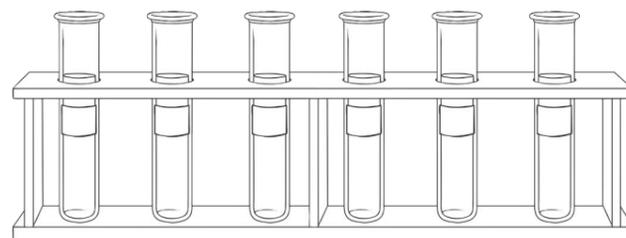
$$\text{Rf} = \frac{\text{distance moved by substance (B)}}{\text{distance moved by solvent (A)}}$$

How does the Rf value allow you to identify a substance?

**Each solvent has a different Rf value.**

What colour does litmus go if chlorine is present?

**It turns white.**



What is the Rf value of the following chromatogram?

The distance moved by substance B is 30mm and the distance moved by solvent A is 52mm.

$$\text{Rf} = \frac{\text{B}}{\text{A}}$$

$$\text{Rf} = \frac{30}{52} = 0.58$$

What are the 2 phases of chromatography?

**Mobile phase. Describe this phase.**

**Where the molecules can move.**

**Stationary phase. Describe this phase.**

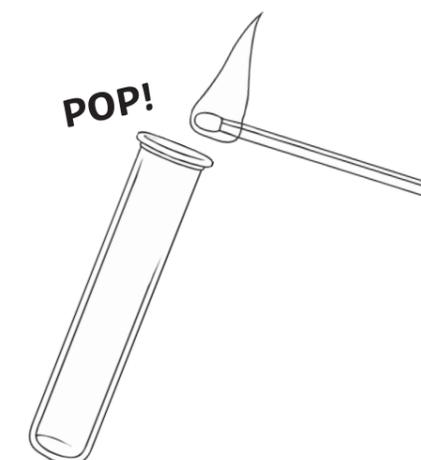
**Where the molecules can not move.**

Describe the test for oxygen.

**If a glowing splint is put into a test tube filled with oxygen, the splint will relight.**

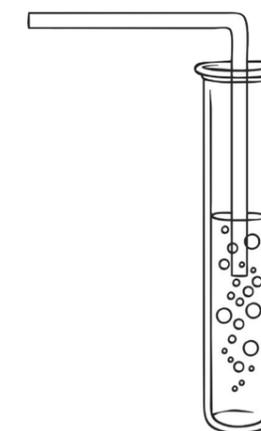
What gas does this experiment test for?

**It is the test for hydrogen gas.**



What gas does this experiment test for?

**It is the test for carbon dioxide.**



What colour does the limewater go if the gas is present?

**Cloudy white.**

I understand the following topic...

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