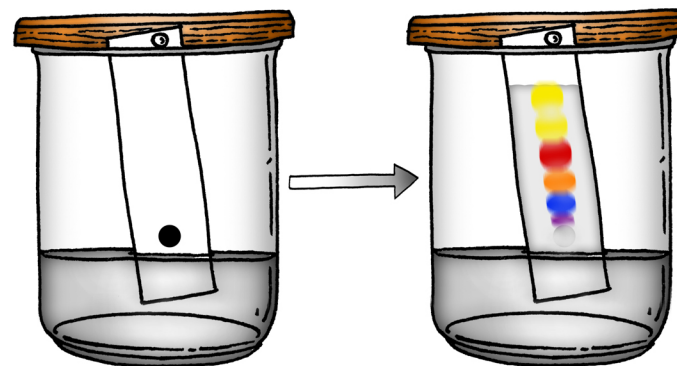
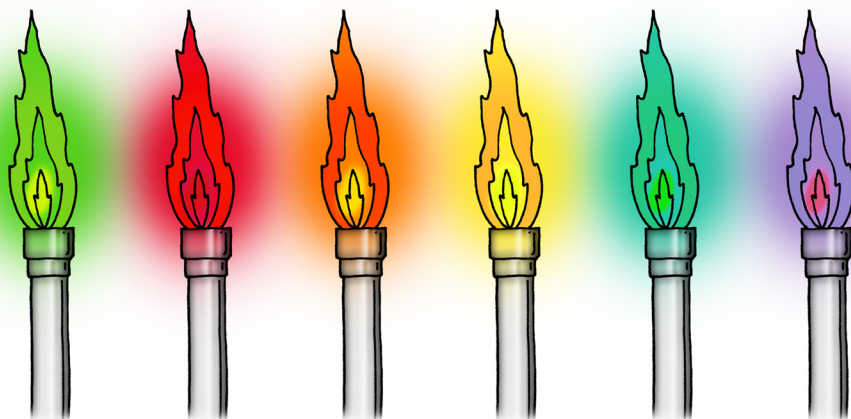


AQA GCSE
CHEMICAL ANALYSIS
THINK IT!



Pure substances:

- Sea water is not a pure substance. Explain why sea water cannot be described as pure
- Draw graphs to compare the boiling points of pure water and sea water and explain what these graphs show.
- Soap is often described as pure, would you agree with this statement? Explain your answer.

Identification of common gases:

- A lit splint is put into a test tube of an unknown gas, the splint goes out. Describe how you could prove that the gas is carbon dioxide.
- Which two gases cannot be in the test tube? Explain your answer.
- A student believes that a test tube contains chlorine, what colour would the gas be and describe a test to prove that it is chlorine.

Metal hydroxides (Chemistry only):

- Explain fully how you would identify calcium ions and aluminium ions in two separate solutions.
- A student carries out a precipitation reaction and a green precipitate is formed, he believes iron ions are present. Explain why he is not completely correct.

Formulations:

- Pure gold is very soft and easily wears away. Explain and describe how making the gold a formulation can make the gold harder and more long lasting?
- Other than a formulation what name is given to this type of material and name and describe three others like this
- What is a formulation and why do Scientists develop them?
- A paint is described as a formulation. Explain what a paint is made from and why it is a formulation.

AQA GCSE Chemical Analysis ThinkIT!

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Non-metal ions: (Chemistry only):

- A student adds silver nitrate solution to a sample of impure water a white precipitate is formed. When barium chloride is added another white precipitate is also formed. What ions are present in the water?
- What are the balanced symbol equations for the above reactions.
- A scientist believes that a sample of pure water is contaminated by sodium carbonate. Describe the two tests they can carry out to prove this.

Chromatography:

- Chromatography is carried out on three pure substances: A has an R_f value of 0.7, B has an R_f value of 0.4, C has an R_f value of 0. What can you conclude from this?
- Explain how paper chromatography separates mixtures.
- Describe how you could use chromatography to separate a pure substance from a mixture of three pure substances.

Flame tests (Chemistry only):

- Describe how you would perform a flame test.
- Give the flame test colours of three group 1 metals.
- Explain why you might not get an orange-red flame when carrying out a flame test even though calcium ions are present.

Instrumental methods (Chemistry only):

- A student decides to use instrumental methods to determine which ions are present in a chemical sample. Why might this be an advantage in comparison to chemical methods?
- Describe in detail how a scientist would carry out flame emission spectroscopy and how the results for sodium and potassium ions might differ.