

C8 Chemical Analysis

Can you...?			
8.1.1 Pure Substances			
Describe what a pure substance is.			
Explain how melting and boiling point data can be used to identify pure and impure substances.			
Use melting and boiling point data to distinguish pure substances from impure substances.			
Describe what a 'pure substance' can mean in everyday language.			
8.1.2 Formulations			
Describe what a formulation is.			
Describe how a formulation is made.			
State examples of formulations.			
Identify formulations given appropriate information.			
8.1.3 Chromatography			
State the uses of chromatography.			
Describe how paper chromatography is carried out.			
Explain how paper chromatography separates substances.			
Explain how chromatography can be used to distinguish pure substances from impure substances.			
Interpret chromatograms and calculate R _f values.			
Explain how R _f values can be used to identify substances.			
8.2 Test for common gases			
Describe and explain the test for hydrogen.			
Describe and explain the test for oxygen.			
Describe and explain the test for carbon dioxide.			
Describe and explain the test for chlorine.			
Interpret the results of gas tests.			
8.3.1 Flame tests [Chemistry only]			
Describe how to test for metal ions using flame tests.			
Identify the following metal ions from the colours that their compounds produce in flame tests: lithium, sodium, potassium, calcium and copper.			

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Can you...?			
Explain why it can be hard to identify metal ions in a mixture.			
Interpret the results of flame tests.			
8.3.2 Metal Hydroxides [Chemistry only]			
Describe and explain how to test for metal ions using precipitation reactions and state the name of the precipitates formed.			
Describe the appearance of the precipitates that are formed from the reactions of aluminium, calcium and magnesium ions.			
State which of the above precipitates dissolves in excess sodium hydroxide.			
Identify copper (II), iron (II) and iron (III) ions from the colours of precipitates that they form.			
Interpret the results of metal hydroxide tests.			
8.3.3 Carbonates [Chemistry only]			
Describe and explain how to test for carbonate ions.			
Interpret the results of carbonate tests.			
8.3.4 Halides [Chemistry only]			
Describe and explain how to test for halide ions.			
Identify halide ions in solution from the colours of precipitates formed.			
Interpret the results of halide tests.			
8.3.5 Sulfates [Chemistry only]			
Describe and explain how to test for sulfate ions.			
Interpret the results of sulfate tests.			
8.3.6 Instrumental methods [Chemistry only]			
Describe the advantages of using instrumental methods over chemical tests.			
8.3.7 Flame emission spectroscopy [Chemistry only]			
Describe the how flame emission spectroscopy is carried out.			
Explain what a flame emission spectrum shows and how it can be used.			
Interpret flame emission spectroscopy data.			

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