



Identifying the metal in compounds using flame tests

You have been given eight compounds which contain a different metal, but the same non-metal, to test. You need to follow the instructions for the test and then write down the result for each of the different metals.

Turn the Bunsen burner to the blue flame and heat the end of the flame rod (just the curled bit) in the flame until there is no colour. Dip the end of the rod into distilled water then touch the sample (the less of the sample the easier to identify the colour) and hold it in the edge of the flame at the height of the cone. Write down the colour observed. Wash the rod in the water and leave each rod with the sample it came from.

Metal present in compound	Observation
Potassium	
Magnesium	
Calcium	
Sodium	
Lithium	
Copper	
Zinc	
Aluminium	

These samples are mixed up in the samples labelled A-H. Test these samples and try to assign each of the metals present in these compounds.

Unknown	Metal present in compound
A	
B	
C	
D	
E	
F	
G	
H	

Are there any labels that you cannot assign? Why? How do you think it may be possible to identify these unknowns?



Identifying the metal in compounds using sodium hydroxide solution

You have been given eight compounds which contain a different metal, but the same non-metal, to test. You need to follow the instructions for the test and then write down the result for each of the different metals.

Put a small sample of the solution into a test tube and then add a small amount of sodium hydroxide solution. Write down any observations. Then add an excess of the solution and note down any further observations.

Metal present in compound	Observation
Potassium	
Magnesium	
Calcium	
Sodium	
Lithium	
Copper	
Zinc	
Aluminium	

These samples are mixed up in the samples labelled A-H. Test these samples and try to assign each of the metals present in these compounds.

Unknown	Metal present in compound
A	
B	
C	
D	
E	
F	
G	
H	

Are there any labels that you cannot assign? Why? How do you think it may be possible to identify these unknowns?



Identifying the metal in compounds using ammonia solution

You have been given eight compounds which contain a different metal, but the same non-metal, to test. You need to follow the instructions for the test and then write down the result for each of the different metals.

Put a small sample of the solution into a test tube and then add a small amount of ammonia solution. Write down any observations. Then add an excess of the solution and note down any further observations.

Metal present in compound	Observation
Potassium	
Magnesium	
Calcium	
Sodium	
Lithium	
Copper	
Zinc	
Aluminium	

These samples are mixed up in the samples labelled A-H. Test these samples and try to assign each of the metals present in these compounds.

Unknown	Metal present in compound
A	
B	
C	
D	
E	
F	
G	
H	

Are there any labels that you cannot assign? Why? How do you think it may be possible to identify these unknowns?