

Activity 1.7 Flame Tests

Question: What is the unidentified metal in the metallic solution?

Purpose: _____

Observations:

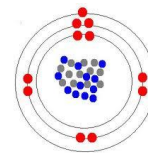
Table 1: _____

Metallic Compound	Flame test Colour
Copper (II) nitrate (solution)	
Lithium nitrate (solution)	
Potassium nitrate (solution)	
Calcium nitrate (solution)	
Barium nitrate (solution)	
Sodium nitrate (solution)	
Sodium chloride (solution)	
Sodium chloride (solid)	

Answer questions b-d, f and g on page 24.

Worksheet: The Bohr Model of the Hydrogen Atom

page. 21-22



1. Describe the Bohr model of the atom.
2. In developing his atomic model, Bohr used evidence from the line spectrum of hydrogen. Suggest a reason why Bohr chose to work with hydrogen and not another element.
3. According to the Bohr model, how many electrons must be in each of the following energy levels for an atom to be stable? a) 1st energy level _____ b) 2nd energy level _____ c) 3rd energy level _____
4. a) What is a spectroscope?

b) What does a spectroscope do?

c) Why is a spectroscope a useful qualitative analysis tool?
5. Why must an electron absorb a fixed amount of light energy in order to jump from its ground state to an excited state? Use the staircase analogy to help in your explanation.
6. An electron in an atom has several excited states but only one ground state. Explain.
7. Predict what the line spectra of atoms would look like if the energy was not quantized. Justify your prediction.