

## Worksheet

### L.3 Atoms and Molecules

#### Very Short Answer Questions (1M each)

1. State the Law of Conservation of Mass.
2. What is the order of the size of an atom?
3. What do you understand by the term Atomicity?
4. Give one example of polyatomic cation.
5. Define Valency.

#### Short answer Questions (2M each)

1. a. If 100g of calcium carbonate on heating produces 44g of carbon dioxide, how much quick lime will be formed?  
b. Which law follows from this example?
2. Give the names of any two elements whose names have been derived from Latin. Give their Latin names and symbols.
3. An oxide of sulphur has sulphur and oxygen combined together in the ratio of 2:3 by mass. Calculate the formula of the oxide. (S=32; O=16)

#### Long Answer Questions (4m each)

1. Verify by calculating that
  - a. 5 moles of CO<sub>2</sub> and 5 moles of H<sub>2</sub>O do not have the same mass.
  - b. 240 g of Calcium and 240 g magnesium elements have a mole ratio of 3 : 5
2. Write the molecular formulae for the following compounds
  - a. Copper (II) bromide
  - b. Aluminium nitrate
  - c. Calcium phosphate
  - d. Sodium Sulphate
3. Calculate the number of particles in each of the following:
  - a. 46 g of Na atoms
  - b. 8 g of O<sub>2</sub> atoms

