



INDIAN SCHOOL NIZWA - WORKSHEET

CHEMISTRY

CH: 3: Atoms &Molecules

Name: _____

Date: _____

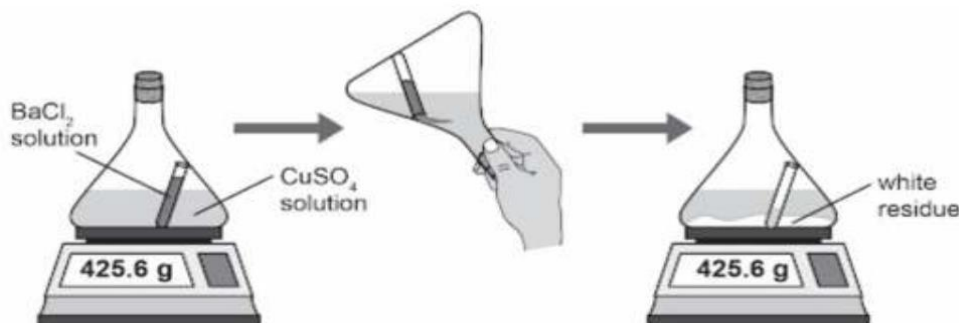
Class: IXSec: ____

1. Which of the following are tri-atomic and tetra-atomic molecules?
 CH_3Cl , CaCl_2 , NH_3 , PCl_3 , P_2O_5 , H_2O , CH_3OH
2. In ammonia (NH_3) nitrogen and hydrogen are always present in the ratio 14:3 by mass. i) State the law which explains the above statement. ii) During the formation of NH_3 , What mass of hydrogen gas would be required to react completely with 42g of nitrogen gas?
3. Calculate the percentage composition of glucose($\text{C}_6\text{H}_{12}\text{O}_6$)
3. The ratio by mass for Mg and S in magnesium sulphide is given as 3:4. Calculate the ratio by number of atoms for magnesium sulphide.(At.mass of Mg&S =24 & 32)
4. Find the ratio by number of atoms for Calcium oxide. The ratio by mass values of Calcium and Oxygen is found to be 5 : 2. (Atomic Mass of Ca = 40 u and O = 16u).
5. Calculate the total number of atoms of a) Baking soda b) ammonium chloride c) Magnesium hydroxide.
6. Write the chemical formula of the following
 - a) Ammonium carbonate b) Calcium phosphate c) silver nitrate d) ferrous sulphate
 - e) Ferric sulphate f) Cupric oxide.
7. Calculate the formula unit mass a) zinc sulphate b) Aluminium carbonate.
- 8 Calculate the ratio by mass of a) Magnesium oxide b) calcium sulphide
- II. (a) Both assertion and reason are true and reason is the correct explanation of assertion.
(b) Both assertion and reason are true but reason is not the correct explanation of assertion.
(c) Assertion is true but reason is false.
(d) Assertion is false but reason is true.



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9. Assertion : Ions are always positively charged.
Reason : Ions are formed by losing or gaining of electrons.
10. Assertion: Atomicity of ozone is three while that of oxygen is two.
Reason: Atomicity is the number of atoms constituting a molecule.
11. Assertion: On burning magnesium in oxygen, the mass of magnesium oxide formed is equal to the total mass of magnesium and oxygen
Reason: In a chemical substance, the elements are always present in a definite proportion.
12. Assertion: Atomic mass of oxygen is 16.
Reason: Molecular mass of oxygen is 16.
- iii. Competency based questions.
13. Alia mixed BaCl_2 solution and CuSO_4 solution in a closed conical flask.



- What can be concluded from the above experiment?
- What is the name of the white residue obtained?
- Which law of chemical combination does this experiment justify and state the law.
- What are the products of this experiment?



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14. The table list the name and symbol of some common elements.

Name	Sodium	Nitrogen	Magnesium	Chlorine	Helium	Hydrogen
Symbol	Na	N	Mg	Cl	He	H

Which of these is true for the symbols of different elements?

Circle 'Yes' or 'No' for the correct response.

It always contains the first letter of the element's name.	Yes / No
If it contains two letters, then the first letter is capital and the second letter is small.	Yes/No
It contains a single letter for non-metals and two letters for metals.	Yes/No
Some elements symbol is given from its Latin name	Yes/No