

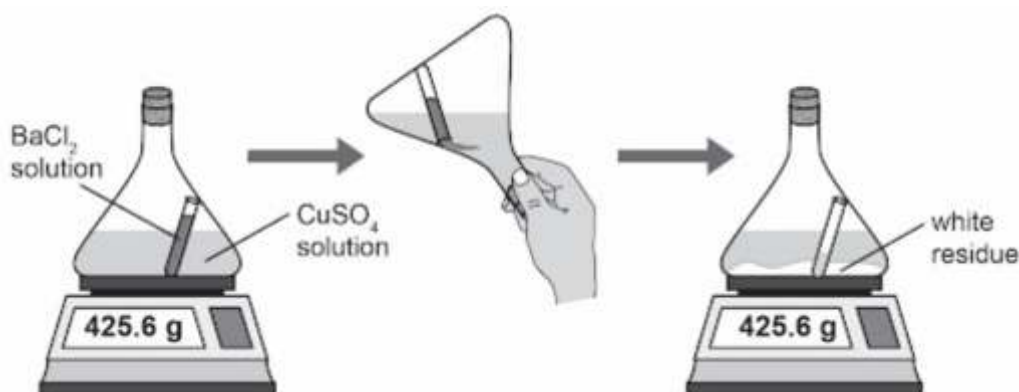
Curriculum Aligned Competency Based Test Items

Science

Class 9 – Chapter 3

Atoms and Molecules

Alia mixed BaCl_2 solution and CuSO_4 solution in a closed conical flask.



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1 What can be concluded from the result of the experiment?

- A. Total mass of the chemicals remain the same.
- B. Total volume of the chemicals remain the same.
- C. State of matter of the chemicals remain the same.
- D. Composition of the chemicals remain the same.

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2 What is the chemical name of the white residue?

The table lists the symbols for some common elements.

	Sodium	Uranium	Nitrogen	Zinc	Chlorine
Symbol of the element	Na	U	N	Zn	Cl

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- 3 Which of these is true for the symbols of different elements?
 Circle 'Yes' or 'No' for the correct response.

Is the statement true?	Yes or No
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

The atomic mass of two elements are given below.

Oxygen = 16 u

Sulphur = 32 u

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- 4 What is the ratio by atomic mass of Sulphur and Oxygen in SO_2 ?

- A. 1:1
 B. 1:2
 C. 2:1
 D. 1:4

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- 5 Which of the following molecules is **triatomic**?

- A. H_2
 B. C
 C. CO
 D. H_2O

The formula and charge on ions of three different compounds are shown below.

Formula	PbO_2	MgCl_2	Al_2O_3
Charge on ions	Pb^{4+} and O^{2-}	Mg^{2+} and Cl^-	Al^{3+} and O^{2-}

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6 Two ions, Zn^{2+} and S^{2-} , combine to form a compound. What should be the formula of the compound formed?

- A. ZnS
- B. Zn_2S
- C. ZnS_2
- D. Zn_2S_2

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7 Which of these statements is true for ions? Circle 'Yes' or 'No' for the correct response.

Is the statement true?	Yes or No
An ion is always a single charged atom.	Yes/No
An ion of a metal is always positively charged.	Yes/No
An ion of a non-metal is either positively or negatively charged	Yes/No

The atomic mass of four elements are given below.

	Carbon	Helium	Calcium	Nitrogen
Atomic mass (u)	12	4	40	14

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8 Molar mass is the mass of 1 mole of an element or a compound. Which element has the highest molar mass?

- A. Carbon
- B. Helium
- C. Calcium
- D. Nitrogen

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9 What is the unit for molar mass?

- A. u
- B. g
- C. mg
- D. kg

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10 In which of these elements is the mass of 1 mole atom equal to the mass of 1 mole molecule?

- A. H_2
- B. O_2
- C. He
- D. O_3