G10 Chemistry Unit One : 1.3 Types of reaction

worksheet Two

Part 1: True / False Questions

1. A direct combination reaction is also commonly known as a synthesis or composition reaction.
2. In a direct combination reaction, the number of product substances is always two or more.
3. The heating of mercury (II) oxide (HgO) produces liquid mercury and oxygen gas.
4. Thermal decomposition reactions are typically indicated by a delta (Delta) symbol placed below the reaction arrow.
5. Unreactive metals such as copper can easily displace hydrogen gas from dilute acids like HCl.
6. In a single-displacement reaction, a less active element always displaces a more active element from its compound.
7. When an iron nail is dipped into a blue copper (II) sulphate solution, the solution eventually turns green due to the formation of iron (II) sulphate.
8. Double-displacement reactions involve the exchange of positive and negative ions between two reacting compounds.
9. An insoluble solid that separates out from a solution during a double-displacement reaction is called a filtrate.
10. Photosynthesis is an example of a building-up (combination-type) chemical process.
11. The reaction $Zn + CuSO_4 \longrightarrow ZnSO_4 + Cu$ is classified as a single-displacement reaction.
12. Mixing aqueous solutions of barium nitrate ($Ba(NO_3)_2$) and sodium sulphate (Na_2SO_4) yields a barium sulphate precipitate.
13. The combustion of kerosene is classified as a building-up process rather than a breaking-down process.
14. In the general equation for a double-displacement reaction ($AB + CD \longrightarrow AD + CB$), AD and CB represent the new compounds formed.
15. A complete understanding of chemical reaction types helps predict the products of unknown chemical reactions.

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Part 2: Matching Questions

*Match each term or reaction description in **Column A** with the correct classification, example, or term from **Column B**.*

Column A:

…….. A + B ⟶ AB	1. Metathesis
……. AB ⟶ A + B	2. Blue
…….. A + BC ⟶ B + AC	3. Photosynthesis
……AB + CD ⟶ AD + CB	4. Double-displacement reaction
……Thermal decomposition indicator symbol (Delta)	5. Direct combination reaction
…… Insoluble solid product formed in solution	6. No reaction
…… Color of copper (II) sulphate solution before reaction	7. Iron sulfide
…… Green solution formed when iron reacts with copper sulphate	8. Decomposition reaction
…… Process that builds up complex molecules like glucose using light energy	9. Delta symbol representing heat energy
…… Reaction where copper is placed in hydrochloric acid (Cu + HCl)	10. Iron (II) sulfate ($FeSO_4$)
……Product formed when iron filings and sulfur powder are heated together	11. Precipitate
…… Common alternative name for double-displacement reactions	12. Single-displacement reaction

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