

Classifying Chemical Reactions (p. 641 – 645)

I. Types Of Reactions

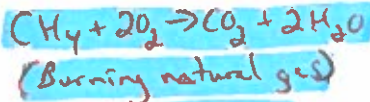
1. List the five main types of chemical reaction.

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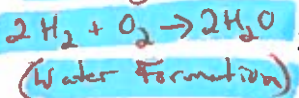
1. Combustion
2. Synthesis
3. Decomposition
4. Single- Replacement
5. Double- Replacement

Use Boyfriend-Girlfriend Analogy

2. Define the term combustion reaction.



Combustion Reaction – reaction that occurs when a substance reacts with oxygen to produce energy (in form of heat + light)



3. Combustion reactions sometimes fit into other reaction type categories.

Circle One : True False

4. Define the term synthesis reaction.

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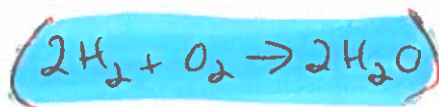
Synthesis Reaction – two or more substances combine to form another substance

5. Write out the general formula for a synthesis reaction.



6. Circle the letter of the equation that represents a synthesis reaction.

- a. 2Na + Cl₂ → 2NaCl
- b. $Cu + 2AgNO_3 \rightarrow Cu(NO_3)_2 + 2Ag$
- c. $2H_2O \rightarrow 2H_2 + O_2$
- d. $Ba(NO_3)_2 + K_2SO_4 \rightarrow BaSO_4 + 2KNO_3$



7. Define the term decomposition reaction.

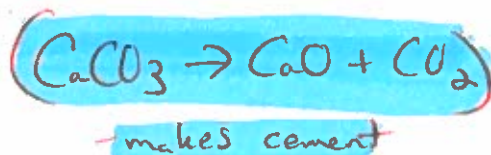
Decomposition Reaction – one substance breaks down into two or more substances

8. Write out the general formula for a decomposition reaction.



9. Circle the letter of the equation that represents a decomposition reaction.

- a. $2Na + Cl_2 \rightarrow 2NaCl$
- b. $Cu + 2AgNO_3 \rightarrow Cu(NO_3)_2 + 2Ag$
- c. $2H_2O \rightarrow 2H_2 + O_2$
- d. $Ba(NO_3)_2 + K_2SO_4 \rightarrow BaSO_4 + 2KNO_3$



10. Define the term single-replacement reaction.

Single-Replacement Reaction - one element replaces another element in a compound

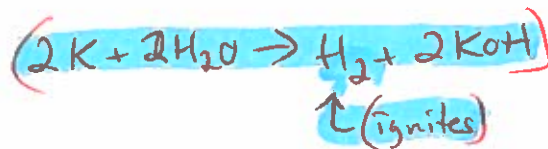
11. Write out the general formula for a single-replacement reaction.



12. Circle the letter of the equation that represents a single-replacement reaction.

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- a. $2Na + Cl_2 \rightarrow 2NaCl$
- b. $Cu + 2AgNO_3 \rightarrow Cu(NO_3)_2 + 2Ag$
- c. $2H_2O \rightarrow 2H_2 + O_2$
- d. $Ba(NO_3)_2 + K_2SO_4 \rightarrow BaSO_4 + 2KNO_3$



13. In replacement reactions, a metal will replace any less active metal.

Circle One : True False p. 643 Top

14. Define the term double-replacement reaction.

Double-Replacement Reaction - positive ion of one compound replaces the positive ion of the other to form two new compounds

15. Write out the general formula for a double-replacement reaction.



16. Circle the letter of the equation that represents a double-replacement reaction.

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- a. $2Na + Cl_2 \rightarrow 2NaCl$
- b. $Cu + 2AgNO_3 \rightarrow Cu(NO_3)_2 + 2Ag$
- c. $2H_2O \rightarrow 2H_2 + O_2$
- d. $Ba(NO_3)_2 + K_2SO_4 \rightarrow BaSO_4 + 2KNO_3$

17. Define the term precipitate.

Precipitate - insoluble compound that comes out of solution during a double-replacement reaction

18. Define the following terms.



Reduction - gain of electrons



LEO
Goes
GER

19. Which reactive element is often involved in redox reactions?

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Oxygen