## Q1W6-Ch.-H.W.-Chemical reactions and equations

#### **Multiple Choice**

Identify the choice that best completes the statement or answers the question.

- 1. Which of the following factors does not affect the rate of reaction?
  - a. The temperature at which the reaction is carried out.
  - b. The size of the container used.
  - c. The physical state of the reactants.
  - d. The amount of the reactants.
- 2. What is the probable product of a double-displacement reaction?
  - a. A new compound and the replaced nonmetal
  - b. A single compound
  - c. A new compound and the replaced metal
  - d. Two different compounds
- 3. What type of reaction takes place when fluorine reacts with sodium bromide?
  - a. Combination

- c. Decomposition
- b. Single-displacement d. Double-displacement

#### Completion

Complete each statement.

4. If the temperature at which a reaction occurs increases, the number of collisions \_\_\_\_\_\_.

B. Decrease
B. De

- 5. A chemical reaction in which two or more substances react to produce a single product is called a(n) \_\_\_\_\_\_ reaction.
  - A. Decomposition B. Synthesis
- 6. A chemical reaction in which oxygen combines with a substance and releases energy in the form of heat and light is called a(n) \_\_\_\_\_\_ reaction.

A. Combustion B. Formation

7. Forest fire releases energy in the form of \_\_\_\_\_\_ and \_\_\_\_\_.

A. Heat and light B. electric

8. A reaction in which the atoms of one element replace the atoms of another element in a compound is called a(n) \_\_\_\_\_\_ reaction.

A. double displacement

B. single displacement

#### Matching

### Match each item with the correct statement below.

- a. activation energy
- b. catalyst
- c. chemical reaction
- d. coefficient
- e. combustion
- f. concentration
- g. decomposition
- h. enzymes

- i. equilibrium
- j. inhibitor
- k. insoluble
- 1. product
- m. reactant
- n. single-displacement
- o. soluble
- p. synthesis
- 9. A chemical change is also known as a(n) \_\_\_\_\_
- \_\_\_\_\_ 10. A chemical reaction is in a state of \_\_\_\_\_\_ when the rate of products being formed equals the rate of reactants being reformed.
- 11. A precipitate forms in a chemical reaction when a(n) \_\_\_\_\_ substance is formed during the reaction.
  - \_\_\_\_\_ 12. \_\_\_\_\_ is a type of chemical reaction in which a substance combines rapidly with oxygen to form oxides.
- \_\_\_\_\_ 13. A term used to describe the amount of substance contained in a certain volume is \_\_\_\_\_.
- $\_$  14. A(n)  $\_$  is any substance that produces other substances in a chemical reaction.
  - \_\_\_\_\_ 15. You can slow down a chemical reaction by adding a(n) \_\_\_\_\_ to the reaction.
- 16. The carbon dioxide formed when coal burns is a(n) \_\_\_\_\_ of that reaction because it is formed as a result of the reaction.
- \_\_\_\_\_ 17. The human body contains \_\_\_\_\_, which are catalysts that change the rates of biochemical reactions.
- 18. Sugar is a(n) \_\_\_\_\_ substance because it dissolves in water.
- 19. Chemists often add a(n) \_\_\_\_\_ to a reaction if they want to increase the rate at which the reaction is taking place.
- 20. In order for a chemical reaction to take place, the particles involved must collide with a sufficient amount of \_\_\_\_\_.
- 21. An example of a(n) \_\_\_\_\_ reaction is the electrolysis of water, in which an electric current breaks down water into two new substances.
- \_\_\_\_\_ 22. The replacement of hydrogen from water by sodium is an example of a(n) \_\_\_\_\_ reaction.
- \_\_\_\_\_ 23. A(n) \_\_\_\_\_ reaction is one in which two or more substances combine to form a single product.
- 24. In order to balance a chemical equation, it may be necessary to add a(n) \_\_\_\_\_ before one or more of the symbols or formulas.

### Match each statement with the correct item below.

- a.  $2Na + Cl_2 \rightarrow 2NaCl$
- b. burning of coal in oxygen
- c. an amount of reactant present in a small enough amount to determine when the reaction will stop
- d. NaCl in  $2Na + Cl_2 \rightarrow 2NaCl$
- e. substance that slows down a reaction
- f. energy required to get a reaction started
- g.  $Cl_2 + 2NaBr \rightarrow Br_2 + 2NaCl$
- h. the 2 in 2NaCl
- i. substance that speeds up a reaction without being used up
- j. any chemical change
- k.  $2KBr + Pb(NO_3)_2 \rightarrow 2KNO_3 + PbBr_2$
- 1. substance that appears as a precipitate
- m. rate of  $A + B \rightarrow AB$  equals rate of  $AB \rightarrow A + B$
- n. either Na or  $Cl_2$  in  $2Na + Cl_2 \rightarrow 2NaCl$
- o.  $Ca(OH)_2 \rightarrow CaO + 2H_2O$
- \_\_\_\_ 25. combustion
- \_\_\_\_\_ 26. catalyst
- \_\_\_\_\_ 27. product
- \_\_\_\_\_ 28. double displacement
- \_\_\_\_\_ 29. decomposition
- \_\_\_\_\_ 30. chemical reaction
- \_\_\_\_\_ 31. reactant
- \_\_\_\_\_ 33. single displacement
- \_\_\_\_\_ 34. limiting reactant
- \_\_\_\_ 35. synthesis
- \_\_\_\_ 36. coefficient
- \_\_\_\_\_ 37. inhibitor
- \_\_\_\_ 38. insoluble
- \_\_\_\_\_ 39. dynamic equilibrium

# **True/False**

Indicate whether the statement is true or false.

- \_\_\_\_\_ 55. A piece of paper burns faster than pieces of shredded paper.
- \_\_\_\_\_ 56. If the temperature of the reactants is increased, the rate of the reaction will decrease.
- \_\_\_\_\_ 57. Word equations use words to indicate reactants and products of chemical reactions.

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