Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Per: \_\_\_\_\_\_\_

**Study Guide - 8th grade Chapter 10 Test (Chemical Reactions and Equations)**

1. Terms to know (study all of the vocabulary words for Chapter 10, especially the following ones):

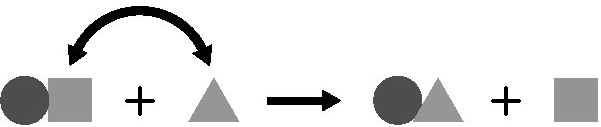
|  |  |  |  |
| --- | --- | --- | --- |
| Physical change | Conservation of mass | Chemical change | Exothermic |
| Product | Catalyst | Activation energy | Subscript |
| Endothermic | Inhibitor | Reactant | Rate of reaction |
| enzyme |

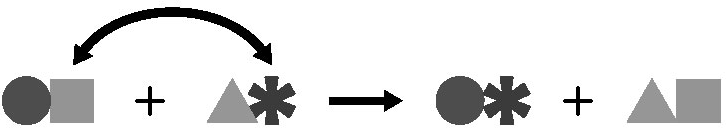
***\*\*Know how to identify each one given a scenario (ie. wood burning is an example of a chemical rxn).\*\****

2. What type of chemical reaction does each diagram represent?

I \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

II \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

III  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

IV  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3. According to the law of conservation of mass, how do the masses of reactants and products compare in a chemical reaction? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

4. In a chemical reaction, r\_\_\_ a \_\_\_ \_\_\_ a n \_\_\_\_ \_\_\_\_ (on the left) → \_\_\_\_ r \_\_ d u \_\_\_\_ \_\_\_ s (on the right).

5. What happens when a chemical bond is broken?

6. What happens when a chemical bond forms?

7. Which one of the following factors would speed up a chemical reaction? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Which one would slow it down? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

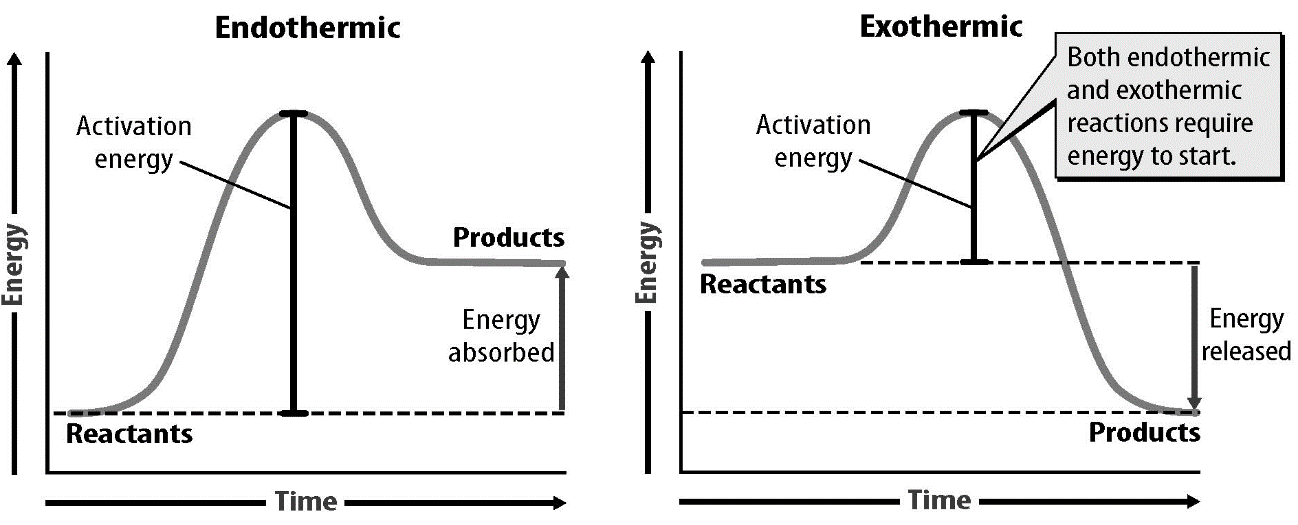
|  |  |
| --- | --- |
| a. | adding a catalyst |
| b. | raising the temperature |
| c. | making the reactant particles larger |
| d. | increasing the concentration of a reactant |

8. If the arrangement of atoms in a substance changes, then what is true? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

9. Study this diagram. Be sure that you area able to draw conclusions based on it.



10. Chemical reactions \_\_\_\_\_\_.

|  |  |
| --- | --- |
| a. | release more energy than they absorb |
| b. | absorb more energy than they release |
| c. | release and absorb exactly the same amount of energy |
| d. | can either release more energy than they absorb or absorb more energy than they release, depending on the reaction. |

11. What are some pieces of evidence that support the observation that a chemical reaction has occurred?

|  |  |
| --- | --- |
| a. | change of color |
| b. | Precipitate formation |
| c. | change of chemical properties |
| d | bubbles |
| e. | all of the above |

**KEY: Study Guide - 8th grade Chapter 10 Test (Chemical Reactions and Equations)**

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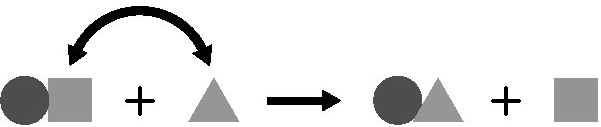
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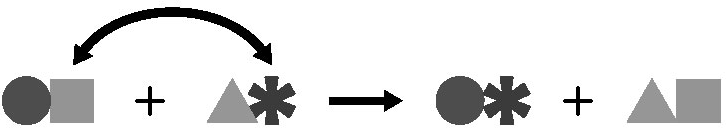
***\*\*Know how to identify each one given a scenario (ie. wood burning is an example of chemical rxn).\*\****

2. What type of chemical reaction does each diagram represent?

I DECOMPOSITION

II SYNTHESIS

III  SINGLE REPLACEMENT

IV  DOUBLE REPLACEMENT

3. According to the law of conservation of mass, how do the masses of reactants and products compare in a chemical reaction? THE MASS OF THE REACTANTS BEFORE THE CHEMICAL REACTION MUST EQUAL THE MASS OF THE PRODUCTS AFTER THE REACTION.

4. In a chemical reaction, REACTANTS (on the left) → PRODUCTS (on the right).

5. What happens when a chemical bond is broken?

ENERGY IS ABSORBED FROM THE SURROUNDINGS

6. What happens when a chemical bond forms?

ENERGY IS RELEASED INTO THE SURROUNDINGS

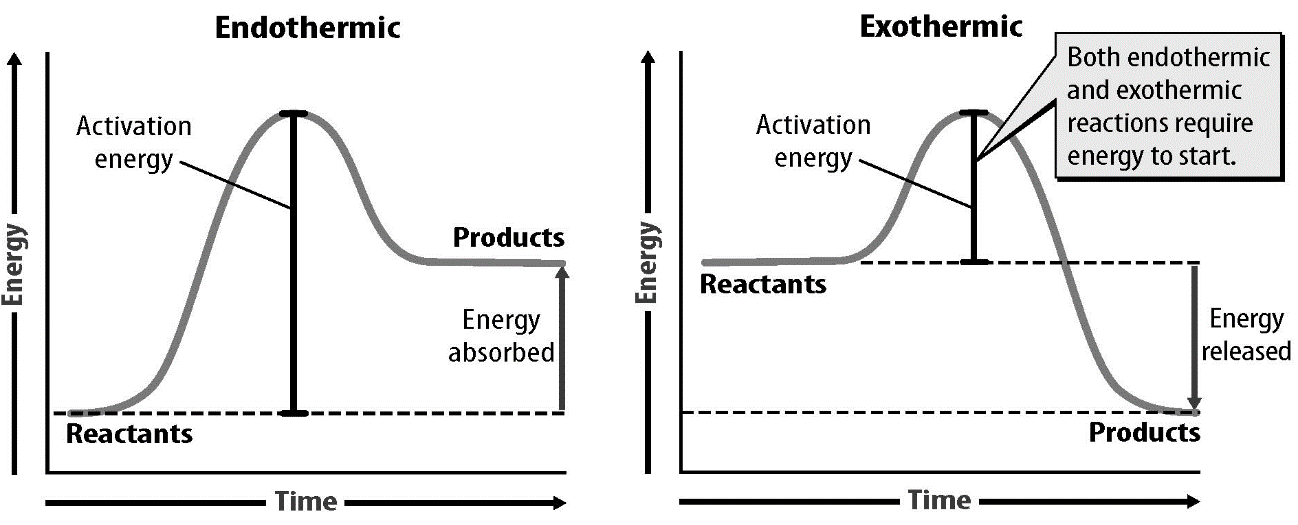
7. Which one of the following factors would speed up a chemical reaction? A/B/D.

Which one would slow it down? C

|  |  |
| --- | --- |
| a. | adding a catalyst |
| b. | raising the temperature |
| c. | making the reactant particles larger |
| d. | increasing the concentration of a reactant |

8. If the arrangement of atoms in a substance changes, then what is true? A CHEMICAL REACTION HAS OCCURRED.

9. Study this diagram. Be sure that you area able to draw conclusions based on it.



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