Quizizz

NAME : _____

CLASS : _____

DATE : _____

LOCOM

10 Questions

1. In a chemical reaction, atoms are rearranged to form new molecules. However, atoms are neither created nor destroyed.
What happens to the total mass of the atoms involved in a chemical reaction?

- ☐ a) It will stay the same no matter how the atoms are rearranged.
- ☐ b) It will decrease if two molecules combine to form a single compound
- ☐ c) It always changes as the atoms are rearranged into new molecules.
- ☐ d) It will increase if a new compound is formed during the reaction.

2. The polyatomic nitrate ion (NO_3^-) is present in both the products and the reactants of the chemical equation shown below.
$Ba(NO_3)_2 + 2LiOH \rightarrow Ba(OH)_2 + 2LiNO_3$
How many nitrate ions are in the products and the reactants of the chemical equation?

- ☐ a) two in the reactants and two in the products
- ☐ b) one in the reactants and two in the products
- ☐ c) six in the reactants and three in the products
- ☐ d) three in the reactants and three in the products

3. $C_6H_{12}O_6 + 6O_2 \longrightarrow 6CO_2 + 6H_2O + \text{energy}$

sugar, oxygen, carbon dioxide, water

Respiration describes the process that living cells use to release energy by combining sugar and oxygen. The primary chemical changes that happen during respiration are shown in the equation above

Which statement correctly compares the reactants and products of the equation?

- ☐ a) The number of reactant molecules is greater than the number of products.
- ☐ b) The mass of the reactants is greater than the mass of the products.
- ☐ c) The mass of the reactants is less than the mass of the products.
- ☐ d) The mass of the reactants is the same as the mass of the products.

4. In the chemical reaction below, calcium (Ca) and water (H_2O) react to form calcium hydroxide ($Ca(OH)_2$) and hydrogen gas (H_2).

$Ca(s) + 2H_2O(l) \rightarrow Ca(OH)_2(aq) + H_2(g)$

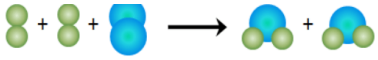
Calcium and water are the reactants in this chemical reaction. The products are calcium hydroxide and hydrogen gas. Which statement correctly describes the total mass of the products when the reaction is complete?

- ☐ a) The total mass of the products will be less than the original mass of the reactants.
- ☐ b) The total mass of the products will be greater than the original mass of the reactants.
- ☐ c) The total mass of the products will be equal to the original mass of the reactants.
- ☐ d) The total mass of the products cannot be found from the original mass of the reactants.

5. $2Li + S \rightarrow Li_2S$

The chemical equation given below represents the chemical reaction between lithium (Li) and sulfur (S). In the equation, why is the number 2 present in front of lithium on the reactants side of the equation?

- ☐ a) to show the number of electrons gained by lithium in the reaction
- ☐ b) to show the number of lithium atoms involved in the reaction
- ☐ c) to show the atomic number of lithium in the periodic table
- ☐ d) to show the number of electrons lost by lithium in the reaction

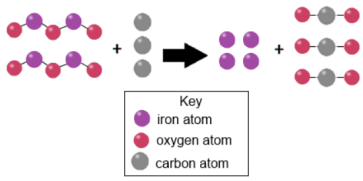
6. 

In atomic theory, new substances are formed when the atoms of other substances are rearranged. In this kind of change, the total number of atoms is conserved.
An example of this is shown in the diagram below. There are six atoms both before and after the arrow.Which statement below is also true of the rearrangement of atoms?

- ☐ a) The number of substances is conserved.
- ☐ b) The amount of matter decreases.
- ☐ c) The amount of matter is conserved.
- ☐ d) The number of substances increases.

7. **Select ALL the correct answers.**Which of the following equations are balanced correctly?

- ☐ a) $Zn + HCl \rightarrow ZnCl_2 + H_2$
- ☐ b) $2C_4H_{10} + 13O_2 \rightarrow 8CO_2 + 10H_2O$
- ☐ c) $Cu + H_2O \rightarrow CuO + H_2$
- ☐ d) $2Ag_2O \rightarrow 4Ag + O_2$

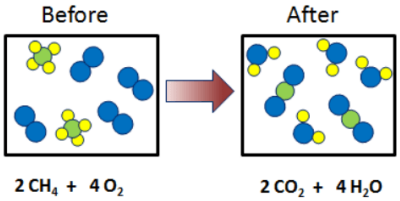
8. 

The diagram below shows the reaction between iron oxide and carbon that produces iron and carbon dioxide.The reaction takes place in a closed system. What is true about the carbon atoms in the reaction?

- ☐ a) The total mass of the carbon atoms is the same as the total mass of the oxygen atoms.
- ☐ b) The total mass of the carbon atoms is the same as the total mass of the iron atoms.
- ☐ c) The mass of the carbon atoms increases between the reactants and the products of the reaction.
- ☐ d) The mass of carbon atoms in the reactants is the same as the mass of carbon atoms in the products.

9. When iron reacts with oxygen, it forms iron oxide, or rust.
$4\ Fe + 3\ O_2\ 2\ Fe_2O_3$
If 112 g of iron (Fe) combines with 24 g of oxygen (O_2), how much iron oxide is formed?

- ☐ a) 88 g Fe_2O_3
- ☐ b) 112 g Fe_2O_3
- ☐ c) 136 g Fe_2O_3
- ☐ d) 24 g Fe_2O_3

10. 

The chemical reaction shown above takes place in a closed system. What is true about the system while the reaction occurs?

- ☐ a) The total number of particles in the system increases.
- ☐ b) The total number of particles in the system decreases.
- ☐ c) The total mass of the particles in the system stays the same.
- ☐ d) The total mass of the particles in the system increases.

Answer Key

1. a
2. a
3. d
4. c
5. b
6. c
7. b,c,d
8. d
9. c
10. c