View hints View feedback Play All

QUESTION 1

Select the best choice.

Which of the following **BEST** describes the law of conservation of mass?

- The mass of matter changes when a physical change takes place.
- ✓ The mass of matter does not change if either a physical or a chemical change takes place.
- The mass of matter changes when a chemical reaction takes place.
- The mass of matter cannot be determined if a chemical change takes place.

QUESTION 2

Select the best choice from the drop-down menu.

In a chemical equation, the number written in front of the chemical formula is the

coefficient ✓ .

water

$3H_2O$

QUESTION 3

Select the correct answer.

Consider the following chemical equation:

$$CH_4 + 2O_2 \rightarrow CO_2 + 2H_2O$$

How many water molecules are in this chemical equation?

- 4 molecules
- 2 molecules ✓
- 1 molecule
- 5 molecules

QUESTION 4

Select your answer from the drop-down menu.

Suppose that a chemical reaction was performed in a closed system. If the mass of the products is 20 grams, then the mass of the reactants is the same ✓ .

QUESTION 5

Select the correct answer.

5.0 g of carbon reacts with excess oxygen to form 12.0 g of carbon dioxide.
What mass of oxygen reacted?

- ○ 5.0 g
- ○ 17.0 g
- ○ 12.0 g
- ✓ 7.0 g

QUESTION 6

Select your answer from each drop-down menu.

Choose the correct numbers to balance the following chemical equation:

CH_4 + 2 O_2

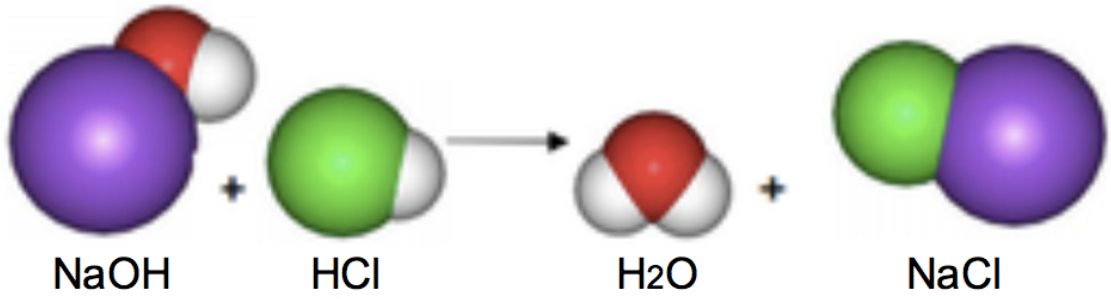
→

CO_2 + 2 H_2O

QUESTION 7

Drag and drop the correct choices.

When a base and an acid react, the reaction is called a neutralization reaction. The reaction produces salt and water. Use the neutralization reaction of sodium hydroxide and hydrochloric acid below to complete the blanks:



The number of water molecules in the reactants is 0.

In the given chemical equation, the number of hydrogen atoms is conserved.

not conserved | decreasing | 4 | 3

2

QUESTION 8

Select the best choice.

Which of the following statements is **NOT** correct about the chemical equation below:

$$6\ CO_2 + 6\ H_2O \rightarrow C_6H_{12}O_6 + 6\ O_2$$

- The mass of (6 H_2O + 6 CO_2) is equal to the mass of ($C_6H_{12}O_6$ + 6 O_2).
- There are 2 products produced in the reaction.
- There are 18 oxygen atoms in the reactants.
- There are 12 oxygen atoms in the reactants. ✓

QUESTION 9

Select the correct answer.

During photosynthesis, carbon dioxide and water react to form glucose sugar and oxygen.
Which elements will be present in the products of this reaction?

$CO_2 + H_20$

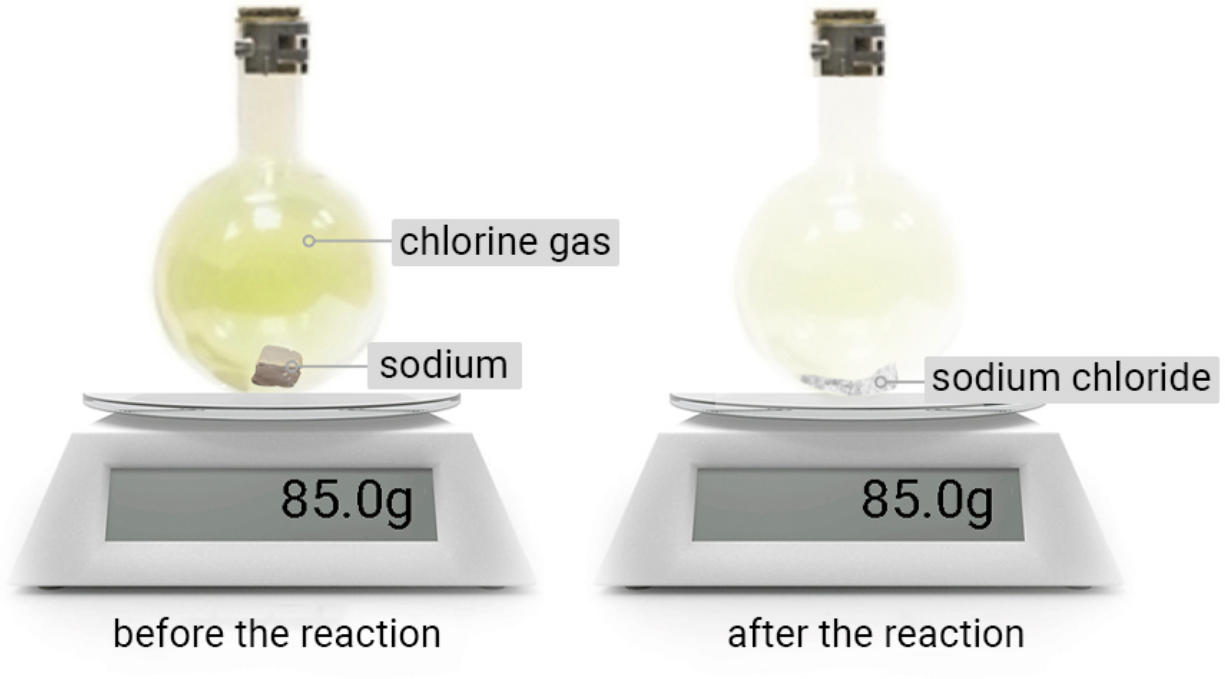
→

- carbon and oxygen only
- carbon only
- carbon and hydrogen only
- carbon, hydrogen, and oxygen only ✓

QUESTION 10

Select the correct answer.

Chlorine gas and sodium were combined in a closed container.
Which of the following is NOT relevant to the image?



- sodium + chlorine → sodium chloride
- A chemical reaction has taken place.
- sodium chloride → sodium + chlorine ✓
- The mass of the reactants is equal to the mass of the products.

QUESTION 44

QUESTION 11

Select all the options that apply.

Which of the following equations are balanced?

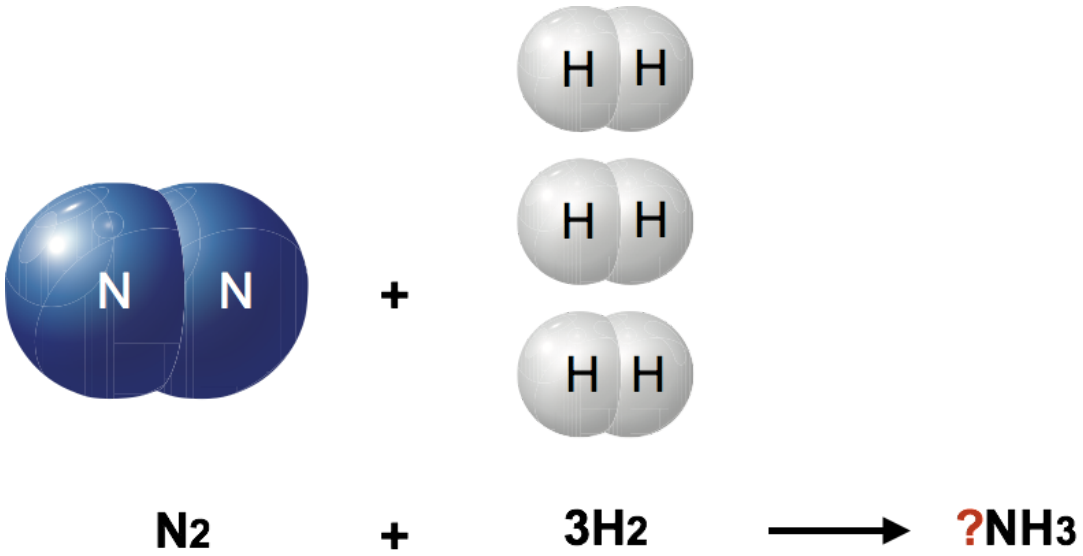
- [ ] $Zn + HCl \rightarrow ZnCl_2 + H_2$
- [ ] $Al + HCl \rightarrow AlCl_3 + H_2$
- [x] $Mg + 2HCl \rightarrow MgCl_2 + H_2$
- [x] $2K + 2HCl \rightarrow 2KCl + H_2$

QUESTION 12

Insert the correct number in the blank below.

The figure shows a model of the formation of ammonia (NH_3).

How many molecules of NH_3 are produced for this chemical equation to be balanced?
The **CORRECT** answer is:



2 ✓

QUESTION 13

Select the best choice.

Rashed wanted to investigate the law of conservation of mass in a chemical reaction.

Time (min)	Mass of the solution
0	100 g
5	93.5 g
10	85 g
15	79.5 g
20	75 g

He mixed 50 g of baking soda with 50 g of vinegar in an open beaker.
He observed that the mixture began to fizz, and form bubbles.

Rashed weighed and recorded the mass of the beaker every 5 minutes.

Rashed and his friends analyzed the data in the table and wrote different conclusions.
*Which one of the following conclusions is **CORRECT**?*

- **Rashed:** The law of conservation of mass does not apply to the chemical reaction involving baking soda and vinegar.
- **Abdullah:** The gas that was produced was not able to be weighed since the container was open. ✓
- **Salem:** During the reaction, matter was lost and the mass was destroyed.
- **Ahmed:** With the progress of time, mass is lost. This is proof that the law of conservation of mass is not accurate.

QUESTION 14

Insert the correct numbers to balance the chemical equation.

2 ✓ $HCl + Na_2O$

→

2 ✓ $NaCl + H_2O$

QUESTION 15

Select the best choice.

Which of the following statements describes the law of conservation of mass?

- There should be two reactants and one product in the chemical equation.
- The mass of the reactants is double the mass of the products.
- The mass of the products is double the mass of the reactants.
- The mass of the products is equal to the mass of the reactants. ✓