

Name: _____ Period: _____

Law of Conservation of Mass Worksheet

- 1) Define the law of conservation of mass. _____

2. According to the LOCO mass, the mass of reactants and products are _____

3. Which of the three types of equations follows the law of conservation of mass?

4. What is the difference between an open system and a closed system? _____

5. Use the LAW OF CONSERVATION OF MASS to fill out the missing information in the table below. Mass of Reactants = Mass of Products

Reaction	Reactant(s)		Product(s)	
A)	$\text{H}_2 + \text{O}_2 \rightarrow$		H_2O	
mass	3.4g	10g		
B)	$\text{CH}_4 + \text{O}_2 \rightarrow$		$\text{CO}_2 + \text{H}_2\text{O}$	
mass	12.2g	14g		20.0g
C)	$\text{HgO} \rightarrow$		$\text{Hg} + \text{O}_2$	
mass	23.6g			13.0g
D)	$\text{Li} + \text{O}_2 \rightarrow$		Li_2O	
mass		5.7g	24.6g	
E)	$\text{C}_3\text{H}_6 + \text{O}_2 \rightarrow$		$\text{CO}_2 + \text{H}_2\text{O}$	
mass	18.9g	11.1g		15.6g
F)	$\text{Al(OH)}_3 \rightarrow$		$\text{Al}_2\text{O}_3 + \text{H}_2\text{O}$	
mass			21.8g	9.7g
G)	$\text{HCl} + \text{NaOH} \rightarrow$		$\text{H}_2\text{O} + \text{NaCl}$	
Mass	2.87g		3.75g	1.98g

**6-10 Answer the word problems using the LAW OF CONSERVATION OF MASS.
SHOW ALL WORK AND INCLUDE UNITS !!!!**

6. Hydrogen & oxygen react chemically to form water. How much water would form if 14.8 grams of hydrogen reacted with 34.8 grams of oxygen? ($\text{H}_2 + \text{O}_2 \rightarrow \text{H}_2\text{O}$)
7. When ammonium nitrate (NH_4NO_3) explodes, the products are nitrogen, oxygen, & water. When 40 grams of ammonium nitrate explode, 14 grams of nitrogen and 8 grams of oxygen form. How many grams of water form? ($\text{NH}_4\text{NO}_3 \rightarrow \text{N}_2 + \text{O}_2 + \text{H}_2\text{O}$)
8. A solid mass of 25 g is mixed with 60 g of a solution. A chemical reaction takes place and a gas is produced. The final mass of the mixture is 75 g. What is the mass of the gas released?
9. If 115 g of a substance reacts with 84 g of another substance, what will be the mass of the products after the reaction?
10. A student adds 15 g of baking soda to 10 g of acetic acid in a beaker. A chemical reaction occurs and a gas is given off. After the reaction, the mass of the products remaining in the beaker is 23 g. Has mass been conserved in this reaction?

Explain. _____

