

Conservation of Mass

Balancing Equations Study Guide

Name _____
Date _____
Period _____

Balance the following chemical equations.

1. $\text{Ca} + \text{HCl} \rightarrow \text{CaCl}_2 + \text{H}_2$ What kind of reaction? _____ What are the reactants? _____ What are the products? _____	2. $\text{NaCl} + \text{AlF}_3 \rightarrow \text{NaF} + \text{AlCl}_3$ What kind of reaction? _____ What are the reactants? _____ What are the products? _____
3. $\text{Al} + \text{CuCl}_2 \rightarrow \text{AlCl}_3 + \text{Cu}$ What kind of reaction? _____ What are the reactants? _____ What are the products? _____	4. $\text{Ca}(\text{HCO}_3)_2 + \text{NaCl} \rightarrow \text{NaHCO}_3 + \text{CaCl}_2$ What kind of reaction? _____ What are the reactants? _____ What are the products? _____

5. If we put 35 grams of liquid Nitrogen into a 2 liter bottle and sealed the bottle until the liquid turned into a gas, what would be the mass of the Nitrogen gas if the bottle was never open? _____

6. 15 grams of Hydrogen and 7.5 grams of Oxygen were placed in a beaker. An explosion happened inside the beaker that produced water. The beaker was never opened. How many grams of water were produced? _____

7. Fred mixed 12 grams of Hershey's chocolate into a cup that had 35 grams of milk in it. He then put a lid on the cup and shook it until the chocolate was completely mixed with the milk. What is the mass of the chocolate milk? _____

8. A chemist mixed 23 grams of hydrofluoric acid with 17 grams of mossy zinc. The mossy zinc disintegrated in the hydrofluoric acid. This all happened in a sealed beaker. What was the mass of the products left in the beaker? _____

9. What is the difference between the mass of an ice cube and the mass of the water it melts into? _____