Name _____

Chemical Notation and Balanced Equations

CHEMICAL NOTATION: Complete the following table

Chemical Notation	Number of Molecules	Number of each type of atom per one molecule
H_2O		
H_2SO_4		
$CaCO_3$		
$C_6H_{12}O_6$		
$Ca_3(PO_4)_2$		
$Al_2(SO_4)_3$		
	Number of Molecules	**Total number of each type of atoms present**
$3H_2O$		
$5CaCO_3$		
$3Al_2(SO_4)_3$		

TYPES OF REACTIONS

Identify the general type of reaction represented by each equation as decomposition, combination or replacement.

1. _____ $NiCl_2$ ➔ $Ni + Cl_2$

2. _____ $MgBr_2 + 2K$ ➔ $Mg + 2KBr$

3. _____ $4C + 6H_2 + O_2$ ➔ $2C_2H_6O$

4. _____ $2KClO_3 \rightarrow 2KCl + 3\ O_2$

5. _____ $2LiI + Pb_2NO_3$ ➔ $2LiNO_3 + PbI_2$

6. _____ $2H_2O + O_2$ ➔ $2H_2O_2$

7. _____ Na_2CO_3 ---> $Na_2O + CO_2$

Recall that there was more than one term (synonym) to describe each of the basic reaction types we studied (decomposition, combination & replacement).

8. What are all the terms we used for a combination reaction?

9. What are all of the terms we used for a decomposition reaction?

10. What are all the terms we used for a replacement reaction?

CHEMICAL REACTIONS: Balanced or Not Balanced?

Show whether each of the following chemical reaction is balanced or not. Show your work in the same format at the example below.

Example: *$Ca + 2H_2O$ ➔ $Ca(OH)_2 + H_2$*

1 - Ca - 1

2 - O - 2 ***BALANCED!***

4 – H – 4

1. $C_{12}H_{22}O_{11} + 12O_2$ ➔ $12CO_2 + 11H_2O$

BALANCED or **NOT BALANCED**

(circle one and *show your work*)

2. $2N_2 + 3H_2 \rightarrow 2NH_3$

BALANCED or **NOT BALANCED**

(circle one and show your work)

3. $Mg + CO_2 \rightarrow 2MgO + C$

BALANCED or **NOT BALANCED**

(circle one and *show your work*)

4. $SiCl_4 + 4H_2O \rightarrow Si(OH)_4 + 4HCl$

BALANCED or **NOT BALANCED**

(circle one and *show your work*)