Name _____ Class _____ Date _____

Balancing Chemical Equations Worksheet

This assessment addresses the following State of Tennessee 8th grade science standards:
SPI 0807.9.10 Identify the reactants and products of a chemical reaction.
SPI 0807.9.11 Recognize that in a chemical reaction, the mass of the reactants is equal to the mass of the products (Law of Conservation of Mass).

For the following:

1. Draw a circle around each subscript.
2. Draw a square around each coefficient.

H_2O $5Cl_2$ $2Mg$ $3H_2O_2$

For the following

1. List the chemical symbols of each element.
2. Give the number of atoms of each element.

HCl CO_2 Na_2SO_4

Balance the following chemical equations.

1. ____ Cu_2O + ____ C → ____ Cu + ____ CO_2

2. ____ H_2O_2 → ____H_2O + ____O_2

3. ____ Al + ____Fe_3N_2 → ___ AlN + ____ Fe

4. ____Ag_2S → ____Ag + ____ S_8

5. ____ ZnS + ____AlP → ____Zn_3P_2 + ____Al_2S_3

6. ____ $Fe(OH)_3$ → ____ Fe_2O_3 + ____H_2O

Given the two chemical equations, circle the one that is balanced.

7. a. $2Na + Cl_2 \rightarrow 2NaCl$

   b. $2Na + 2Cl_2 \rightarrow 2NaCl$

8. a. $C_3H_8 + 5O_2 \rightarrow 3CO_2 + 4H_2O$

   b. $2C_3H_8 + 5O_2 \rightarrow 3CO_2 + 8H_2O$

9. a. $2NH_3 + 5O_2 \rightarrow 2NO + 3H_2O$

   b. $4NH_3 + 5O_2 \rightarrow 4NO + 6H_2O$

10. a. $Y(NO_3)_2 + GaPO_4 \rightarrow YPO_4 + Ga(NO_3)_2$

    b. $2Y(NO_3)_2 + 2GaPO_4 \rightarrow 2YPO_4 + Ga(NO_3)_2$

ANSWER KEY
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H_2O $5Cl_2$ $2Mg$ $3H_2O_2$

For the following

1. List the chemical symbols of each element.
2. Give the number of atoms of each element.

HCl	CO_2	Na_2SO_4
H = 1	**C = 1**	**Na = 2**
Cl = 1	**O = 2**	**S = 1**
		O = 4

Balance the following chemical equations.

1. **2** Cu_2O + ____ C → **4** Cu + ____ CO_2

2. **2** H_2O_2 → **2** H_2O + ____ O_2

3. **2** Al + ____ Fe_3N_2 → **2** AlN + **3** Fe

4. __8_Ag_2S → _16_Ag + ____ S_8

5. __3_ ZnS + __2_AlP → ____Zn_3P_2 + ____Al_2S_3

6. __2_ $Fe(OH)_3$ → ____ Fe_2O_3 + __3_H_2O

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