**Balancing Chemical Equations Worksheet**

Balance the following reactions by filling in the coefficients.

1. \_\_\_\_\_\_ C *(s)* + \_\_\_\_\_\_ H2 *(g)* 🡪 \_\_\_\_\_\_ CH4 *(g)*
2. \_\_\_\_\_\_ Fe *(s)* + \_\_\_\_\_\_ O2 *(g)* 🡪 \_\_\_\_\_\_ Fe2O3
3. \_\_\_\_\_ NaI *(s)* + \_\_\_\_\_\_ Na *(s)* 🡪 \_\_\_\_\_\_ I2 *(s)*
4. \_\_\_\_\_ C6H12O6 *(s)* 🡪 \_\_\_\_\_\_ C *(s)* + \_\_\_\_\_ H2O *(l)*
5. \_\_\_\_\_\_ AgNO3 *(aq)* + \_\_\_\_\_\_ Cu *(s)* 🡪 \_\_\_\_\_\_ Ag *(s)* + \_\_\_\_\_\_ Cu(NO3)2 *(aq)*
6. \_\_\_\_\_\_\_ Na2CO3 *(aq)* + \_\_\_\_\_\_ HCl *(aq)* 🡪 \_\_\_\_\_\_ NaCl *(aq)* + \_\_\_\_\_\_ H2O *(l)* + \_\_\_\_\_\_ CO2 *(g)*
7. \_\_\_\_\_\_ H2 *(g)* + \_\_\_\_\_\_ Cl2 *(g)* 🡪 \_\_\_\_\_ HCl *(g)*
8. \_\_\_\_\_\_ N2 *(g)* + \_\_\_\_\_\_ O2 *(g)* 🡪 \_\_\_\_\_\_ N2O4 (g)

1. \_\_\_\_\_\_ CH4 *(g)* + \_\_\_\_\_\_ O2 *(g)* 🡪 \_\_\_\_\_\_ CO2 *(g)* + \_\_\_\_\_\_ H2O *(g)*
2. \_\_\_\_\_\_ N2 *(g)* + \_\_\_\_\_\_ H2 *(g)* 🡪 \_\_\_\_\_\_ NH3 *(g)*
3. \_\_\_\_\_\_ H2O2 *(l)* 🡪 \_\_\_\_\_\_ H2O *(l)* + \_\_\_\_\_\_ O2 *(g)*
4. \_\_\_\_\_\_ Al2O3 🡪 \_\_\_\_\_\_ Al *(s)* + \_\_\_\_\_\_ O2 *(g)*

1. \_\_\_\_\_\_ C *(g)* + \_\_\_\_\_\_ O2 *(g)* 🡪 \_\_\_\_\_\_ CO2 *(g)*
2. \_\_\_\_\_\_ CuO *(s)* + \_\_\_\_\_\_ C *(s)* 🡪 \_\_\_\_\_\_\_ Cu *(s)* + \_\_\_\_\_\_ CO2 *(g)*
3. \_\_\_\_\_\_ Ca(OH)2 *(aq)* + \_\_\_\_\_\_\_ HCl *(aq)* 🡪 \_\_\_\_\_\_ CaCl2 *(aq)*  + \_\_\_\_\_\_ H2O *(l)*

**Regents Practice**

1. Which equation shows a conservation of mass?
   1. Na + Cl2 🡪 NaCl b. Al + Br2 🡪 AlBr3

c. H2O 🡪 H2 + O2 d. PCl5 🡪 PCl3 + Cl2

1. All chemical reactions have a conservation of
   1. Mass, only b. mass and charge, only

c. charge and energy, only d. mass, charge, and energy

1. Given the unbalanced equation: \_\_\_\_\_ Fe2O3 + \_\_\_\_\_ CO 🡪 \_\_\_\_\_ Fe + \_\_\_\_\_ CO2  
   When the equation is correctly balanced using the *smallest* whole-number coefficients, what is the coefficient of CO?
   1. 1 b. 2 c. 3 d. 4
2. Consider the following unbalanced equation: \_\_\_\_\_ Ag + \_\_\_\_\_H2S 🡪 \_\_\_\_\_ Ag2S + \_\_\_\_\_H2  
   What is the *sum* of the coefficients when the equation is balanced using the smallest whole-number coefficients?
   1. 5 b. 8 c. 10 d. 4
3. Given the unbalanced equation: \_\_\_\_\_ Mg(ClO3)3 *(s)* 🡪 \_\_\_\_\_ MgCl2 *(s)* + \_\_\_\_\_ O2 *(g)*What is the coefficient of O2 when the equation is balanced using the smallest whole-number coefficients?
   1. 1 b. 2 c. 3 d. 4