Name/Period: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Introduction to Chemistry and Reactions

* What is chemistry?
* What is a reactant?
* What is a product?

**Label the reactants and the products of the following:**

2 + 2 = 4

2 H2 + O2 🡪2 H2O

* What is a chemical equation?

**Circle the coefficient in the following equation.**

4 Cu + O2 🡪 2 Cu2O

* What is a coefficient in a chemical equation?

**Circle the subscript in the following equation.**

4 Cu + O2 🡪 2 Cu2O

* What is a subscript in a chemical equation?

**Write out the following equations.**

-Burning:

-Rusting:

-Photosynthesis:

-Cell Respiration:

Blue Book: “Chemical Interactions”

p.57 – 63

Formulas of Familiar Compounds

|  |  |
| --- | --- |
| **Compound** | **Formula** |
| Water |  |
| Carbon dioxide |  |
| Propane |  |
| Sucrose (Sugar) |  |
| Rubbing alcohol |  |
| Ammonia |  |
| Sodium chloride (Salt) |  |
| Sodium bicarbonate  (Baking Soda) |  |

* What is conservation of mass?
* How could the conservation of mass be modeled?
* The principle of conservation of mass states that in a chemical reaction, the total \_\_\_\_\_\_\_\_\_ of the reaction must \_\_\_\_\_\_\_\_\_\_\_ the total mass of the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* What is an open system?
* What is a closed system?
* What must be on both sides of a chemical equation?
* Write the four steps for balancing an equation.

1.

2.

3.

4.

**Balance the equations using the four steps.**

H2 + O2 🡪 H2O

Mg + O2 🡪 MgO

**Define and give and example of the following terms.**

* Synthesis:
* Decomposition:
* Replacement: