Chemical Equations
1. Define all vocabulary words.

**Chemical Equation:**
A chemical equation uses chemical symbols and formulas as a shortcut to describe a chemical reaction.

**Reactant:**
The starting materials in a reaction are reactants.

**Product:**
The substances formed from a reaction are products.

**Conservation of Mass:**
Which states that mass is neither created nor destroyed in ordinary chemical and physical changes.
Chemical Equations

• Uses symbols and formulas to describe a chemical reaction.
• Reactants – starting material(s)
• Products – ending material(s)
Accuracy is Key!

The symbol or formula for each substance in a chemical equation must be written correctly or it will not correctly describe the reaction. Some formulas and symbols can be confused.

CO₂
The chemical formula for the compound carbon dioxide is CO₂. Carbon dioxide is a colorless, odorless gas that you exhale.

CO
The chemical formula for the compound carbon monoxide is CO. Carbon monoxide is a colorless, odorless, and poisonous gas.

Co
The chemical symbol for the element cobalt is Co. Cobalt is a hard, bluish gray metal.
Equations MUST BE Balanced!

- Atoms are never lost or gained in a chemical reaction – just rearranged!
- # of reactants = # of products
- Based on the work of Antoine Lavoisier (1700s)
16. Steps for balancing an equation.

1. Write symbols and formulas correctly.
2. List (make the same on both sides of the arrow)
3. Count
4. Use Coefficients
5. Recount/Redo

Never Ever Balance by Changing a Subscript!