Balancing Chemical Equations

In a chemical reaction, atoms are not made or destroyed. They are simply rearranged.

There must be the same number of each type of atom on each side.

To balance a chemical equation, you may only change the coefficients (numbers in front of the molecule). You may NEVER change the subscripts.

Steps to Balance Equations:

- 1. Determine the number of each atom on each side of the equation.
- 2. Choose an element that is not equal on both sides of the equation.
- 3. Place coefficient(s) to attempt to balance that element.
- 4. Update the number of atoms on each side of the equation.
- 5. Continue until every element is balanced.

$$\bigcirc$$
MgO + \bigcirc O₂ \rightarrow \bigcirc MgO

$$\bigcirc$$
Na + \bigcirc MgF₂ \rightarrow \bigcirc NaF + \bigcirc Mg

$$\bigcirc N_2 + \bigcirc H_2 \rightarrow \bigcirc NH_3$$

$$\bigcirc C_2H_6+\bigcirc O_2\rightarrow \bigcirc CO_2+\bigcirc H_2O$$

$$\bigcirc Cu_2O + \bigcirc C \rightarrow \bigcirc Cu + \bigcirc CO_2$$

$$\bigcirc$$
Na+ \bigcirc O₂ \rightarrow \bigcirc Na₂O

$$\bigcirc H_2O_2 \rightarrow \bigcirc H_2O + \bigcirc O_2$$

$$\bigcirc P + \bigcirc O_2 \rightarrow \bigcirc P_2O$$