Balancing Act
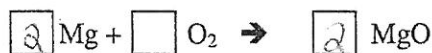
Atoms are not **CREATED** or **DESTROYED** during a chemical reaction. Scientists know that there must be the **SAME** number of atoms on each **SIDE** of the **EQUATION**. To balance the chemical equation, you must add **COEFFICIENTS** in front of the chemical formulas in the equation. You cannot **ADD** or **CHANGE** subscripts!

Step 1: Determine number of atoms for each element.

Step 2: Pick an element that is not equal on both sides of the equation.
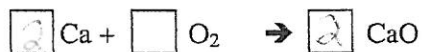
Step 3: Add a coefficient in front of the formula with that element and adjust your counts.

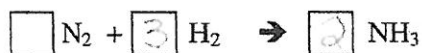Step 4: Continue adding coefficients to get the same number of atoms of each element on each side.

$$\boxed{2}\ Mg + \boxed{}\ O_2 \rightarrow \boxed{2}\ MgO$$

$Mg = 1$　　　　$Mg = 1$

$O = 2$　　　　$O = 1$

Try these:

$$\boxed{2}\ Ca + \boxed{}\ O_2 \rightarrow \boxed{2}\ CaO$$

$Ca = 1$　　　　$Ca = 1$

$O = 2$　　　　$O = 1$

$$\boxed{}\ N_2 + \boxed{3}\ H_2 \rightarrow \boxed{2}\ NH_3$$

$N = 2$　　　　$N = 1$

$H = 2$　　　　$H = 3$

$$\boxed{2}\ Cu_2O + \boxed{}\ C \rightarrow \boxed{4}\ Cu + \boxed{}\ CO_2$$

$Cu = 2$　　　　$Cu = 1$

$O = 1$　　　　$O = 2$

$C = 1$　　　　$C = 1$

$$\boxed{2}\ H_2O_2 \rightarrow \boxed{2}\ H_2O + \boxed{}\ O_2$$

$H = 2$　　　　$H = 2$

$O = 2$　　　　$O = 2$

4　　4　　2