## Boloncing Act

Name $\qquad$

Atoms are not $\qquad$ or $\qquad$ during a chemical reaction.

Scientists know that there must be the $\qquad$ number of atoms on each $\qquad$ of the $\qquad$ . To balance the chemical equation, you must add $\qquad$ in front of the chemical formulas in the equation. You cannot $\qquad$ or $\qquad$ subscripts!

1) Determine number of atoms for each element.
2) Pick an element that is not equal on both sides of the equation.
3) Add a coefficient in front of the formula with that element and adjust your counts.
4) Continue adding coefficients to get the same number of atoms of each element on each side.

## Try these:


$\mathrm{N}=\quad \mathrm{N}=$
$\mathrm{H}=\quad \mathrm{H}=$




| $\mathrm{H}=$ | $\mathrm{H}=$ |
| :--- | :--- |
| $\mathrm{O}=$ | $\mathrm{O}=$ |

$\qquad$
Balance each equation. Be sure to show your lists! Remember you cannot add subscripts or place coefficients in the middle of a chemical formula.
1.

$$
\mathrm{Na}+\mathrm{MgF}_{2} \rightarrow \quad \mathrm{NaF}+\mathrm{Mg}
$$

2. 

$$
\mathrm{Mg}+\mathrm{HCl} \quad \rightarrow \quad \mathrm{MgCl}_{2}+\mathrm{H}_{2}
$$

3. $\mathrm{Cl}_{2}+\mathrm{KI} \rightarrow \mathrm{KCl}+\mathrm{I}_{2}$
4. $\mathrm{NaCl} \rightarrow \quad \mathrm{Na}+\mathrm{Cl}_{2}$
5. $\quad \mathrm{Na}+\mathrm{O}_{2} \rightarrow \quad \mathrm{Na}_{2} \mathrm{O}$
6. $\mathrm{Na}+\mathrm{HCl} \quad \rightarrow \quad \mathrm{H}_{2}+\mathrm{NaCl}$
7. $\mathrm{K}+\mathrm{Cl}_{2} \rightarrow \quad \mathrm{KCl}$

Challenge: This one is tough!

$$
\mathrm{C}_{2} \mathrm{H}_{6}+\mathrm{O}_{2} \rightarrow \mathrm{CO}_{2}+\mathrm{H}_{2} \mathrm{O}
$$

