Balancing Act

Name _____

Atoms are not ______ or ____ during a chemical reaction.

Scientists know that there must be the _____ number of atoms on each _____ of the _____. To balance the chemical equation, you must add _____ in front of the chemical formulas in the equation. You cannot _____ or ____ 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.

$$Mg = Mg =$$

Try these:

$$\Box$$
 Ca + \Box O₂ \rightarrow \Box CaO

$$Ca = Ca =$$

$$| N_2 + | H_2 \rightarrow | NH_3$$

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

$$Cu = Cu =$$

$$C = C =$$

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

Balancing Act Practice

Name _____

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. Na + MgF₂
$$\rightarrow$$
 NaF + Mg

2.
$$Mg + HCl \rightarrow MgCl_2 + H_2$$

3.
$$Cl_2 + KI \rightarrow KCl + I_2$$

4. NaCl
$$\rightarrow$$
 Na + Cl₂

5. Na +
$$O_2 \rightarrow Na_2O$$

6. Na + HCl
$$\rightarrow$$
 H₂ + NaCl

7.
$$K + Cl_2 \rightarrow KCl$$

Challenge: This one is tough!

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