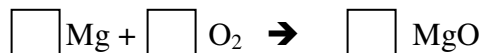# Balancing Act

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.

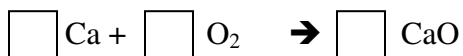2) Pick an element that is not equal on both sides of the equation.

3) Add a coefficient in front of the formula with that element and adjust your counts.

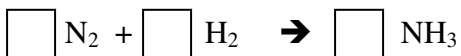4) Continue adding coefficients to get the same number of atoms of each element on each side.
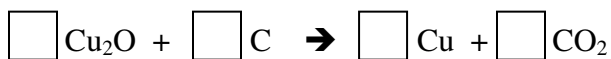
☐ Mg + ☐ O_2 ➔ ☐ MgO

Mg =   Mg =

O =   O =

Try these:

☐ Ca + ☐ O_2 ➔ ☐ CaO

Ca =   Ca =

O =   O =

☐ N_2 + ☐ H_2 ➔ ☐ NH_3

N =   N =

H =   H =

☐ Cu_2O + ☐ C ➔ ☐ Cu + ☐ CO_2

Cu =   Cu =

O =   O =

C =   C =

☐ H_2O_2 ➔ ☐ H_2O + ☐ O_2

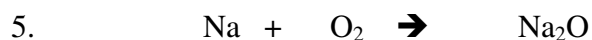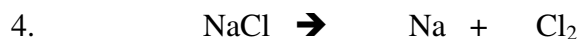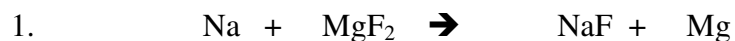H =   H =

O =   O =

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 + MgF_2 ➜ NaF + Mg

2. Mg + HCl ➜ $MgCl_2$ + H_2

3. Cl_2 + KI ➜ KCl + I_2

4. $NaCl$ ➜ Na + Cl_2

5. Na + O_2 ➜ Na_2O

6. Na + HCl ➜ H_2 + $NaCl$

7. K + Cl_2 ➜ KCl

Challenge: This one is tough!

        C_2H_6 + O_2 ➜ CO_2 + H_2O