**Directions:** Tell how many atoms in total there are in each molecule.

 **2 CH 4**

Subscript

Coefficient

Atom Names

Step 1: Identify the separate names of each atom

*Example: 2CH4 =* ***C*** *and* ***H atoms***

Step 2: Identify how many of each atom there are and write it separately as a subscript next to each atom. Circle the subscripts and box the coefficients.

**coefficient**

*Example: 2CH4 =* ***C1*** *and* ***H4*** *2 CH 4*

subscript

*(or 1 Carbon atom and 4 Hydrogen atoms)*

Step 3: Multiply the coefficient by the number of each atom (the number in the subscript)

*Example: 2CH4 = 2 x* ***C1*** *and 2 x* ***H4***

***Or: 2 x 1 Carbon and 2 x 4 Hydrogen***

Step 4: Write out your products in only the subscript.

*Example: 2CH4 = 2 x* ***C1*** *and 2 x* ***H4***

 *2CH4 =* ***C2 H8***

Step 5: Add the subscripts in your new molecule to find the number of total atoms.

*Example:* *2CH4 =* ***C2 H8 = 2+8 = 10 atoms total***

**Practice Problems**

O2

4CO2

2H2O

5Na

 3Cl2

2NaCl

2AgNO3

4MgCl2

5AgCl

Challenge: 6MgNO3