**Name: Date: Period:**

**Objective: Apply the law of conservation of mass by counting atoms to show that matter can not be created or destroyed.**

**Key Points**

**Label the chemical equation using PRODUCT, REACTANT, SUBSCRIPT, COEFFICIENT and Yields**

****

1. Chemical Symbols:
2. Subscript :
3. Coefficient:

**Steps to Counting Atoms:**

1.) Write the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

2.) Circle the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

3.) Underline and multiply by the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

3

4.) If there is a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Multiply by the subscripts.

**Examples:**

|  |  |  |
| --- | --- | --- |
| **1.) CO2****2.) 2 CO2**  | **3.) CH4** | **4.) Pb(NO3)3** |

**Part A: Parts and Pieces**

REMEMBER to MULTIPLY subscripts x coefficients

for EACH element

1. Circle each subscript in each chemical formula
2. Draw a square around each coefficient
3. Answer the questions related to each chemical formula

|  |  |  |
| --- | --- | --- |
| **O2**How many atoms of oxygen are shown? | **CO2**How many atoms of each element are shown?C = O = | **5H2**How many atoms of hydrogen are shown? |
| **2C2H6**How many atoms of each element are shown?**C= H =** | **3CCl4**How many atoms of each element are shown?C = Cl =  | **Na2(SO4)2**How many atoms of each element are shown?Na = S = O =  |

# **Worksheet: Number of Atoms**

#### Write the total number of each type of atom in each of the following elements, compounds, or reactions.

|  |  |
| --- | --- |
| 1. H­2O
 | 1. C6H12
 |
| 1. 2NaCl
 | 1. 3H­2O
 |
| 1. Ag2(SO­4)3
 | 1. Pb(NO­3)3 + PbCl2
 |
| 1. 3Al2Br3 + Al(NO3)3
 | 8) 2(NH4)2C2O4 + 6NO3 |