

Counting Atoms

The **symbol** of an element represents one atom of that element.

e.g., Ba = _____

A **subscript** is a number written at the lower right corner behind the symbol of an element. If there is more than one atom of the element, then a subscript is used to indicate the number of atoms.

e.g., Cl₂ = _____

A subscript outside a bracket multiples all the elements inside the brackets.

e.g., Ca₃(PO₄)₂ Ca = _____ P = _____ O = _____.

A **coefficient** is a number written in front of a chemical symbol and indicates the number of atoms of that element or number of molecules

e.g., 3C = _____ 2NaSO₄ Na = _____ S = _____ O = _____

Examples:

2 H₂O : H = _____ O = _____ Total = _____

Na₂SO₄ : Na = _____ S = _____ O = _____ Total = _____

Pb(NO₃)₂: Pb = _____ N = _____ O = _____ Total = _____

Directions for each problem

- 1) write down the different elements in each compound.
- 2) write down how many of that particular atom there are
- 3) how many atoms are there total in the compound.

Examples:

A) MgCl ₂	Mg – 1	B) 5 ZnSO ₄	Zn – 5
	Cl – 2		S – 5
	3 total		O – 20
			30 total

1) NaOH

2) 4 HNO₃

3) MgCl₂

4) 4 Li₂O

5) 2 NaOH

6) Li₂SO₄