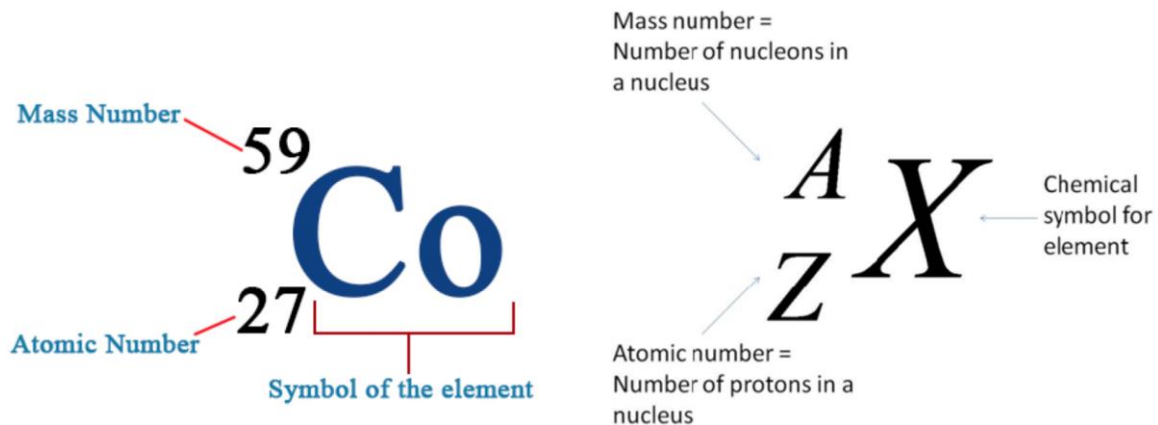


Atomic Symbol:



Atomic Number = Number of Protons in nucleus = Number of electrons

$$Z = \text{Protons} = \text{Electrons}$$

Mass Number = Number of Protons in nucleus + Number of Neutrons in nucleus.

$$A = \text{Protons} + \text{Neutrons}$$

$$A - Z = \text{Neutrons.}$$

Example: Co, $Z = 27$ $A = 59$

$Z = 27$ Co has 27 protons, 27 electrons ($Z = 27 = \underline{27 \text{ protons}} = \underline{27 \text{ electrons}}$)

$A = 59$

$A - Z = 59 - 27 = \underline{32 \text{ neutrons}}$

$A = 59$ Number of protons + neutron = 59

Rules for writing the symbol of an element in the periodic table.

1- The first letter must be uppercase. The second letter is always in lower case. (Cl, Br, Ne, Mn)

2- The symbol is usually the first letter of the name of the element.

(Boron: B, Hydrogen: H)

3- If 2 elements have the same first letter, then for one of them the second letter is added to the name in lower case.

(Hydrogen: H, Helium: He)

4- If two elements have the same first and second letter, then the name must include the third letter in lower case.

(Magnesium: Mg, Manganese: Mn)

5- For some elements, the letter of the symbol is derived from the name in another language (Ex: Sodium = Natrium, Na)

Note:

6- The names of the elements in group 17 end in "ide". They are also called Halogens.

(Fluoride, Chloride, Bromide)

7- The names of the elements in group 18 end with "on". They are also called Noble Gases.
(Neon, Argon, Xenon).

