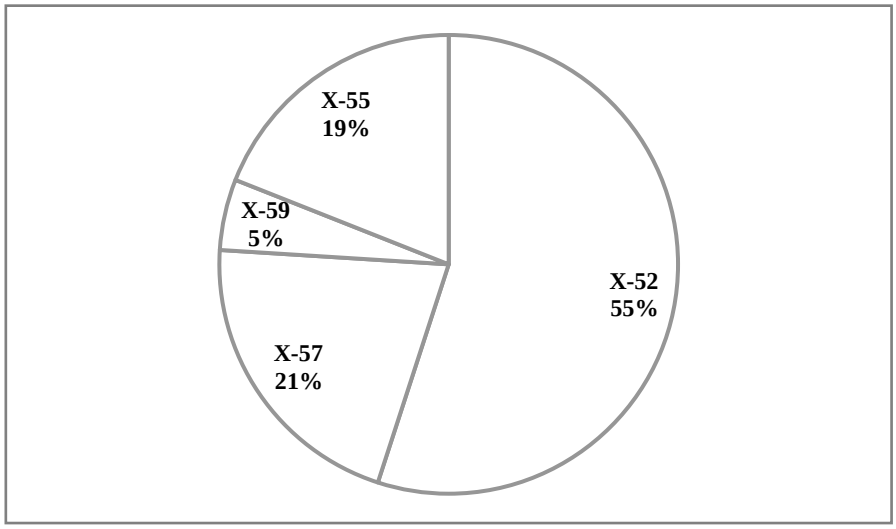
Microscopic World I – Relative Atomic Mass

How to calculate the relative atomic mass.



Relative Atomic Mass of X: $55 * 19\% + 59 * 5\% + 57 * 21\% + 52 * 55\% = 53.97$

Calculate the Relative Atomic Mass of W:

	Relative abundance
$^{54}_{26}W$	5.80%
$^{56}_{26}W$	91.72%
$^{57}_{26}W$	2.20%
$^{58}_{26}W$	0.280%

Given that Element Y has 3 isotopes and the relative atomic mass of Y is 61.8. The relative abundance of ^{60}Y is 30%. Calculate the relative abundance of ^{62}Y and ^{64}Y

Microscopic World I – Ion

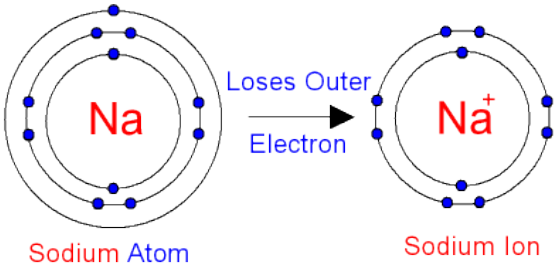
The Force between the Electron and the Proton is <u>Electrostatic Force</u>

Where it can be expressed as $F_e = \frac{kQ_1Q_2}{r^2}$ *, Where* Q_1 *and* Q_2 *are the charge of electron and proton, k is constant.*

When the distance between electron and the proton (r) increase, the electrostatic force decrease.

- When the number of occupied electron shell increase:
  - The Attraction between the proton and the outermost electron is smaller
    - It is easier to **<u>loss one more</u>** electron
    - It is more difficult to **<u>gain one more</u>** electron
- When the number of occupied electron shell decrease:
  - The attraction between the proton and the outermost electron is greater
    - It is easier to **<u>gain one more</u>** electron
    - It is more difficult to **<u>loss one more</u>** electron

How to predict an atom is reactive or not?



✧ Octet rule:

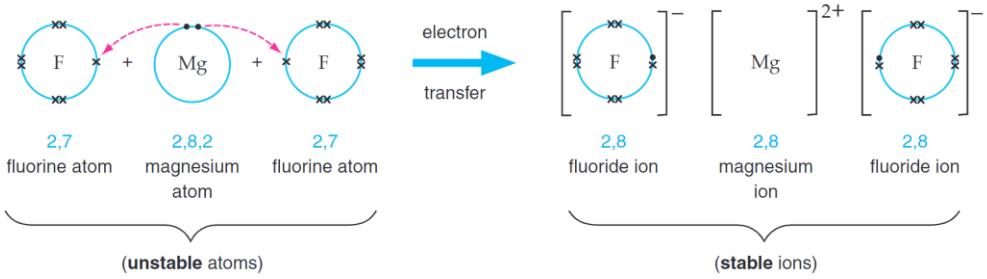
- There is a strong tendency of all atoms to attain the <u>stable electronic arrangement of a noble gas</u>, where there is 8 electrons in the outermost electron shell

How to be stable – I

By Lossing one or more electron, the ion with positive charge is formed = Cation

By Gaining one or more electron, the ion with negative charge is formed = Anion

<u>Cation + Anion → Ionic Bond</u>



The electron diagram of magnesium fluoride can also be written as