

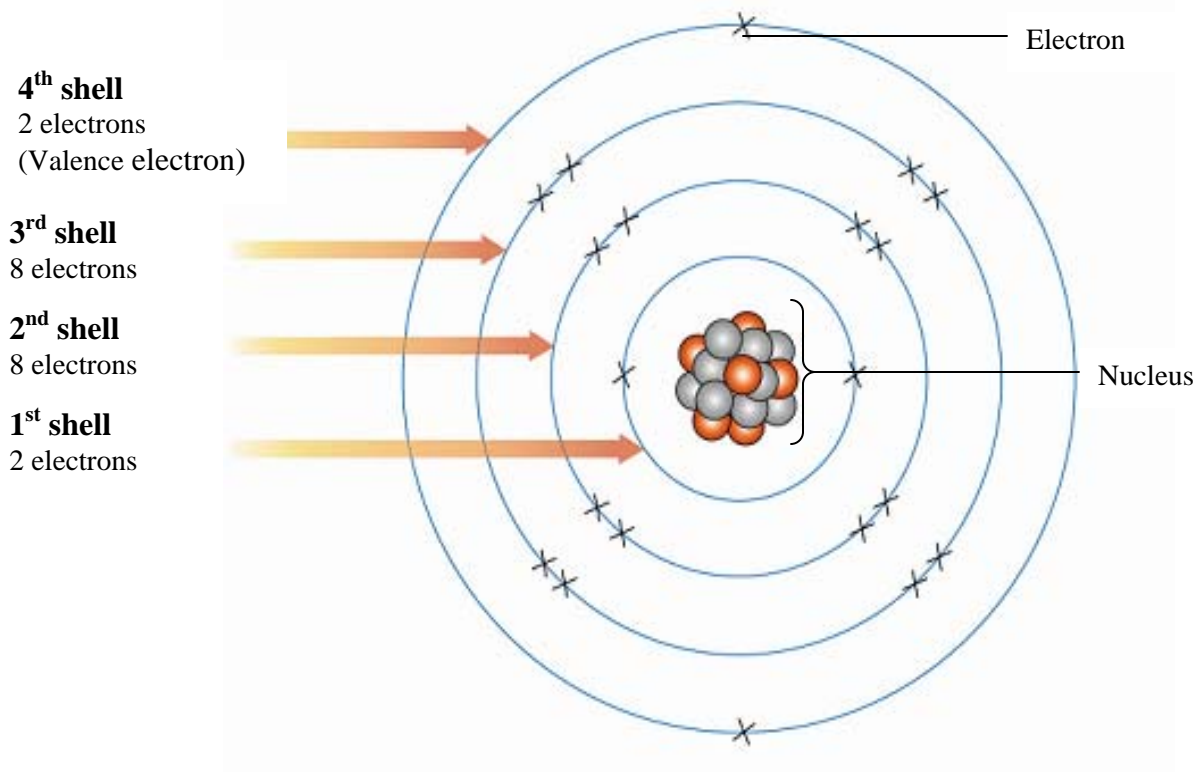


## CHAPTER 4: PERIODIC TABLE OF ELEMENT



### Graphics

Arrangement of the electrons



*Element: Calcium, Ca*  
*Electron arrangement: 2.8.8.2*

### The shell theory:

- Electrons are arranged in shells or energy levels.
- The lowest energy levels are always filled first.
- Each shell has a limit to the number of electrons it can hold.
  - 1<sup>st</sup> shell – maximum 2 electrons
  - 2<sup>nd</sup> shell – maximum 8 electrons
  - 3<sup>rd</sup> shell – maximum 8 electrons
  - 4<sup>th</sup> shell – maximum 18 electrons
- An atom with full shells cannot fit any more electrons into these shells. Therefore, the atom does not bond to other atoms.