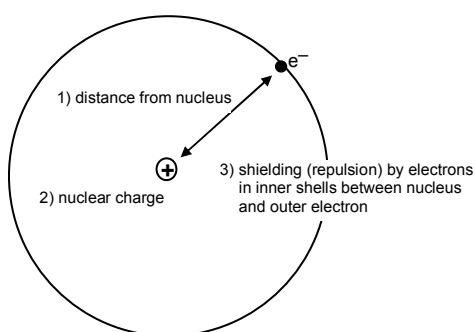




IONISATION ENERGIES

- Evidence for how the electrons are arranged in atoms comes from ionisation energies.
 - 1st ionisation energy is the energy required to remove one electron from each atom in a mole of gaseous atoms producing one mole of 1+ gaseous ions.
 - Note that 2nd ionisation energy is the energy required to remove the second electron (not both electrons).
- e.g. 1st ionisation energy of Na:
2nd ionisation energy of Na:

- Three factors affect the ionisation energy:



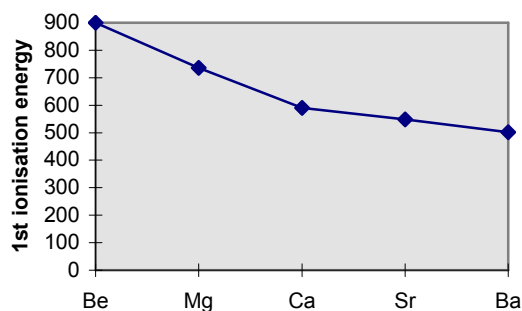
1) Distance from nucleus (atomic radius)

2) Nuclear charge

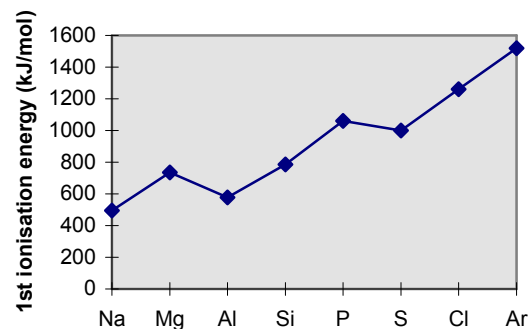
3) Shielding

Evidence for electron arrangement from ionisation energies

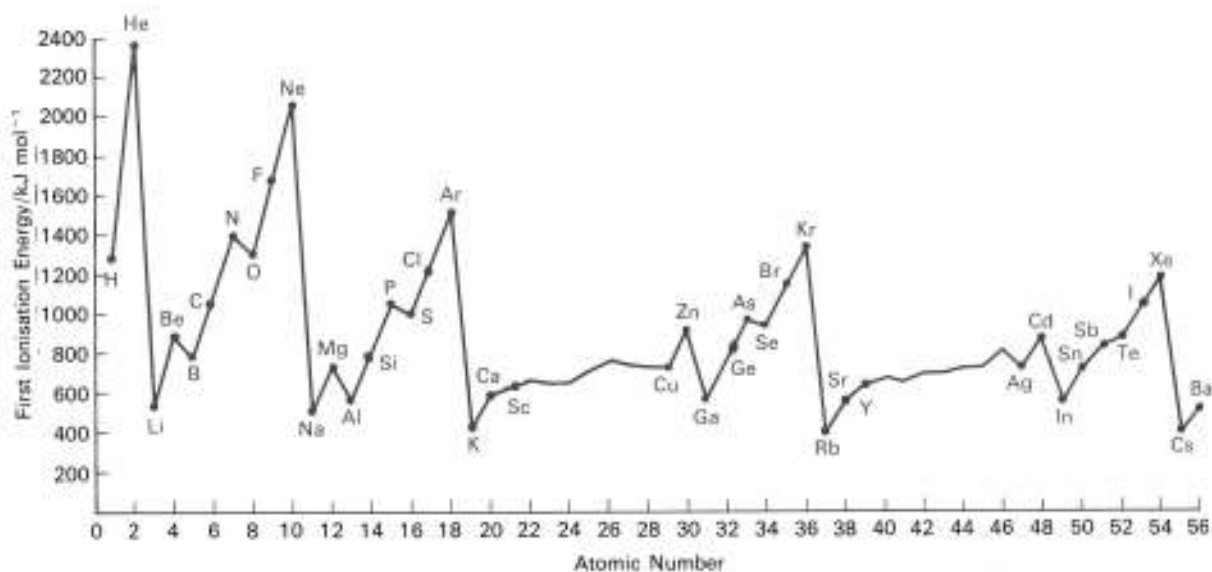
Down a group, e.g. Group 2



Across a period, e.g. Period 3



First ionisation energy (up to element 56)



Logarithmic plot of successive ionisation energies (of potassium)

