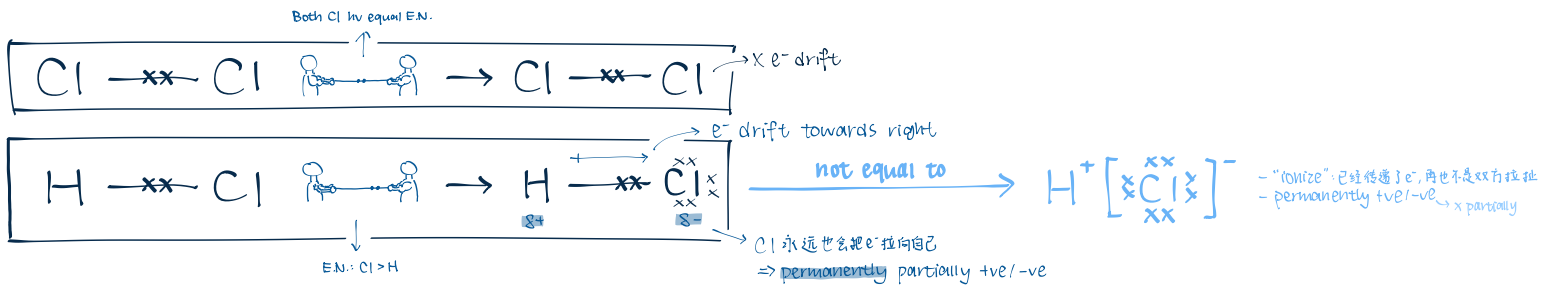
E.N. and polar bonds

1 Electronegativity

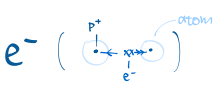
- ability of an atom to withdraw bonding e^- towards itself in a covalent bond

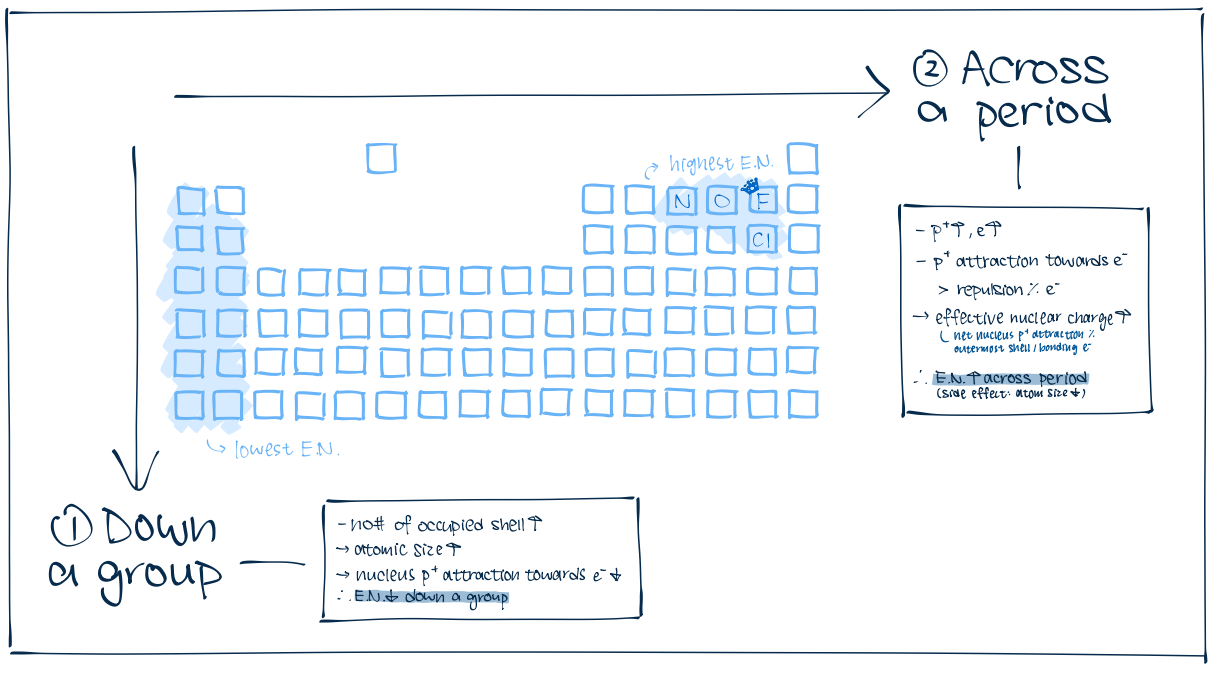
-



- factors affecting E.N.

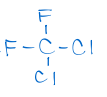
  - E.N. = ability of atom to attract bonding e^- → atom里什么真正吸引e^-? : proton

  → E.N. = attraction strength of nucleus p^+ towards bonding e^- 



2 Polar bonds

WHAT ARE THEY?

- uneven distribution of bonding e^- in covalent bond
- diff. atoms in a bond → diff. E.N. → polar
- ↑ E.N. diff. of 2 atoms → ↑ bond polarity
- eg. Identify polar bonds + compare polarity of them for CF_2Cl_2 

  > C-F bond & C-Cl bond
    - C & F atoms, C & Cl atoms have different electronegativities
  > polarity: C-F bond > C-Cl bond
    - diff. in E.N.: C,F > C,Cl — E.N.: F > Cl > C (highest in all elements)

REPRESENTATION OF POLAR BONDS