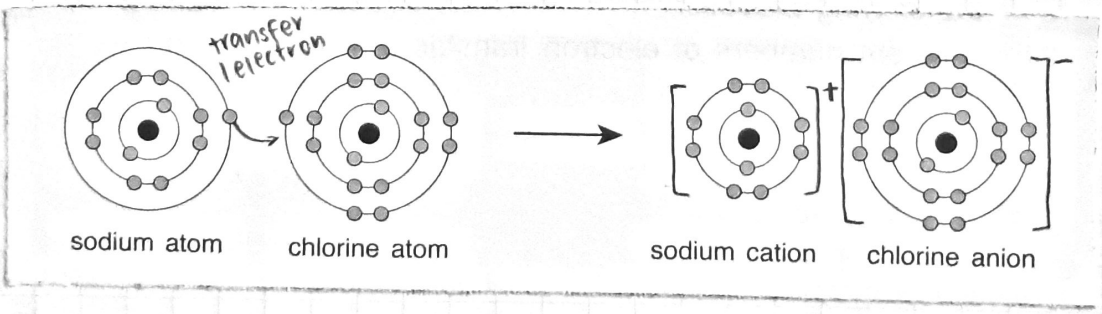
CHEMICAL BONDING

IONIC COMPOUNDS

- metal + non-metal
- the ions are arranged in a giant lattice structure held together by electrostatic forces of attraction

physical properties

- high melting and boiling points
  - → as the forces of attraction between the oppositely charged ions are strong, a large amount of heat is needed to overcome the strong electrostatic forces of attraction to change its state
  - → because of this, most ionic compounds are solids at room temperature and pressure
- soluble in water and insoluble in organic solvents (oil, petrol, turpentine etc.)
  - → except silver chloride and barium sulfate (insoluble in water)
  - → water molecules are attracted to ions, weakening the forces of attraction between ions, pulling the ions from the lattice structure and so the compound dissolves to form an aqueous solution
- conduct electricity in molten or aqueous state
  - → in molten or aqueous state, there are free-moving ions to conduct electricity.
  - → However, there are no free-moving ions to conduct electricity in solid state as the ions are held in place in the lattice structure.



2.8.1 → 2.8.7 → 2.8 2.8.8

STABLE ELECTRONIC CONFIGURATION