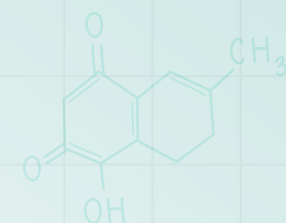


Last Moment Exam Cheat Sheet

Metals And Non-Metals

- Metals lose **electrons** and form **positive ions**.
- Metals are **electropositive elements**.
- Non-metals accept **electrons** and form **negative ions**.
- Metals usually have **1 to 3 valence electrons**.
- Non-metals usually have **4 to 8 valence electrons**.
- **Hydrogen and helium** are non-metals despite having 1 and 2 valence electrons.
- **Iodine** is a lustrous non-metal.
- **Mercury and gallium** are metals liquid at or near room temperature.
- **Gold and silver** are highly malleable metals.
- **Silver and copper** are the best conductors.
- **Lead, bismuth and mercury** are poor conductors.
- **Osmium** has highest density; lithium has lowest density.
- **Graphite** is a non-metal but conducts electricity.
- **Bromine** is a liquid non-metal.
- Metal oxides are generally **basic**; **aluminium oxide** is amphoteric.
- Non-metal oxides are generally **acidic**; **carbon monoxide** is neutral.





- Nitric acid usually does not release hydrogen with metals because it is a **strong oxidising agent**.
- Aqua regia is concentrated HCl and concentrated HNO_3 in **3:1 ratio**.
- More reactive metal displaces **less reactive metal** from salt solution.
- Ionic compounds conduct electricity in **molten or aqueous state**, not solid state.
- Metallurgy is **extraction and refining of metals**.
- **All ores are minerals, but all minerals are not ores.**
- Gangue or matrix means **unwanted impurities** in ore.
- Roasting converts **sulphide ores into oxides** in excess air.
- Calcination converts **carbonate ores into oxides** in limited air.
- Electrolytic refining of copper uses **impure copper as anode and pure copper as cathode**.
- Rust is **hydrated ferric oxide**.
- Galvanisation means **coating iron or steel with zinc**.
- Stainless steel is an alloy of **iron, chromium and nickel**.
- **Wrought iron** is the purest form of iron; **pig iron** is the least pure.



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