

3. Metallic and non metallic character.

| Metals | Non-metals | Metalloids |
|---|--|--|
| <ul style="list-style-type: none"> • Typically shiny solid • Moderate-high mpt. • Conduct heat and electricity • Lose e^- to non-metal | <ul style="list-style-type: none"> • Typically not shiny. • Low mpt. • Poor conductors of heat and electricity • Gain e^- from metals | <ul style="list-style-type: none"> • Have intermediate properties |

Metallic character \propto Electropositivity.

i.e. easier is it for an element to lose electron, more is its metallic character.

Across a period from left to right metallic character decrease because it becomes more difficult to lose an electron, as protonic pull increases.

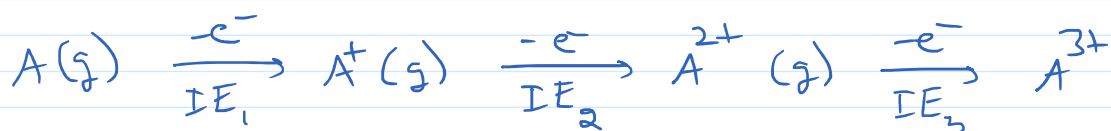
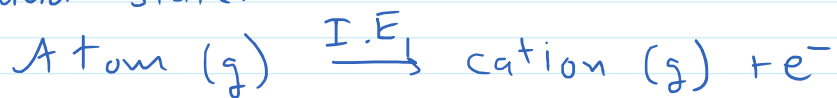
In a group from top to bottom metallic character increases because it is easier to remove electron as it moves farther away from the nucleus

4. Ionisation energy

It is minimum amount of energy required to remove the most loosely held e^- from the outermost shell of an isolated gaseous atom in its



ground state.



$$\text{IE}_3 > \text{IE}_2 > \text{IE}_1$$

Across a period from left to right ionisation energy increase because protonic pull increase which makes it difficult to remove electron

Down the group ionisation energy decreases because as more shells are added electron is more loosely held and easier to remove.