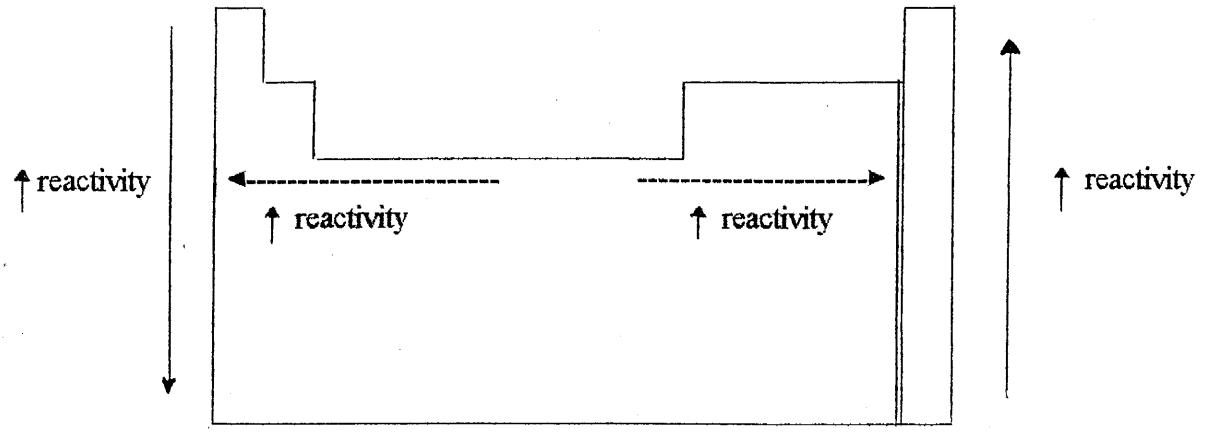
The Activity Series of Metals

- metals differ in their reactivity



- metals can be arranged by their reactivity. Call this the **Activity Series**.
- arranged by activity with oxygen

* a metal will displace any other metal from a compound if the other metal is below it in the activity series

Guidelines

1) Use the activity series to determine if the reaction will occur. If metal is unable to displace the metal in the compound, write **no reaction**.
2) Write the word equation and find the expected products if there is a reaction.
3) Write the chemical formulas using oxidation numbers
4) Balance the chemical formula

e.g. zinc + copper (II) sulphate —> zinc sulphate + copper

$$Zn_{(s)} + CuSO_{4\,(aq)} \longrightarrow ZnSO_{4\,(aq)} + Cu_{(s)}$$

∴ Zinc replaces copper because zinc is more reactive

e.g. zinc + lead (II) nitrate —>

e.g. nickel + aluminum chloride —>

e.g. fluorine + sodium bromide —>