

## SL & HL Questions on Ionic bonding and structure

1. State the formula of:
  - i. sodium carbonate
  - ii. aluminium phosphate
  - iii. calcium hydrogencarbonate
  - iv. chromium(III) hydroxide
  - v. copper(I) nitrate
  - vi. ammonium sulfate
  - vii. caesium iodide
2. The formula of an oxide of iron is FeO. State the formula of **(a)** the nitrate and **(b)** the chloride of iron with the same oxidation state.
3. Explain why sulfur forms ionic compounds containing the  $S^{2-}$  ion.
4. Use sodium chloride as an example to explain what is meant by *ionic bonding*.
5. Explain why the oxide of sodium,  $Na_2O$ , is ionic whereas the oxide of chlorine,  $Cl_2O$ , is covalent.
6. Explain why aluminium fluoride and aluminium oxide are ionic whereas aluminium chloride is covalent.

