

- 1) Write the ions that can form from the following elements and the names. An example is given in the first row.

| | |
|------------------|-------------|
| Na ⁺ | Sodium ion |
| Fe ²⁺ | |
| | Calcium ion |
| Cr ⁶⁺ | |

| | |
|---------|-----------------|
| iodide | I ⁻ |
| | P ³⁻ |
| Oxide | |
| Hydride | |

- 2) Write the names or give the formulas of the following polyatomic ions.

| | |
|------------------------------|--------------|
| OH ⁻ | |
| | Phosphate |
| NO ₃ ⁻ | |
| | Ammonium ion |

| | |
|-------------------------------|-----------|
| | Carbonate |
| | |
| | Hydroxide |
| SO ₄ ²⁻ | |

- 3) Classify the following as covalent or ionic compounds

| | | |
|-------------------------------|-------------------|------------------|
| P ₂ O ₅ | Iron (II) Oxide | Sodium oxide |
| Calcium chloride | NO ₃ | CO ₂ |
| BaO | AlCl ₃ | MnS ₂ |

- 4) Give four diatomic compounds with the same name as their element name.

- 5) Identify and name the polyatomic ions in the following compounds.

| | | |
|---|---------------------------------|---------------------|
| Na ₂ SO ₄ | KNO ₃ | NH ₄ Cl |
| Ca ₃ (PO ₄) ₂ | NH ₄ NO ₃ | Sr(OH) ₂ |

6) Give the names or formulas of the following compounds.

| | |
|-------------------|--|
| K_3N | |
| SO_2 | |
| $Pb(SO_4)_2$ | |
| $Fe(NO_3)_3$ | |
| $Al(CN)_3$ | |
| $Mn_2(SO_3)_3$ | |
| $SnSe_2$ | |
| $Be(HCO_3)_2$ | |
| $CuOH$ | |
| NH_4Cl | |
| Cu_3P | |
| $Ca(C_2H_3O_2)_2$ | |
| $FePO_4$ | |
| $NaBr$ | |
| P_2O_5 | |
| $Zn(NO_2)_2$ | |
| | |

| | |
|--------------------------------|--|
| silver bromide | |
| silicon dioxide | |
| carbon tetrachloride | |
| lead (II) nitride | |
| tin (II) nitrite | |
| cobalt (III) oxide | |
| chromium (III) hydroxide | |
| titanium (II) acetate | |
| magnesium sulfate heptahydrate | |
| potassium carbonate | |
| diboron tetrabromide | |
| lithium iodide | |
| silver acetate | |
| manganese (II) phosphate | |
| chromium (VI) phosphate | |
| vanadium (V) sulfide | |
| nickel (III) sulfide | |