**Yr 11 VALENCY**

Students should be able to recognise and write the formula of the following ions and molecules:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Ion name** | **Formula** |  | **Ion name** | **Formula** |
| ammonium | $$NH\_{4}^{+}$$ |  | bromide | $$Br^{-}$$ |
| caesium  | $$Cs^{+}$$ |  | chloride  | $$Cl^{-}$$ |
| hydrogen | $$H^{+}$$ |  | cyanide  | $$CN^{-}$$ |
| lithium  | $$Li^{+}$$ |  | dihydrogenphosphate | $$H\_{2}PO\_{4}^{-}$$ |
| potassium  | $$K^{+}$$ |  | ethanoate (acetate) | $$CH\_{3}COO\_{}^{-}$$ |
| rubidium  | $$Rb^{+}$$ |  | fluoride | $$F^{-}$$ |
| silver  | $$Ag^{+}$$ |  | hydrogencarbonate  | $$HCO\_{3}^{-}$$ |
| sodium  | $$Na^{+}$$ |  | hydrogensulfate | $$HSO\_{4}^{-}$$ |
| barium  | $$Ba^{2+}$$ |  | hydroxide  | $$OH^{-}$$ |
| calcium | $$Ca^{2+}$$ |  | iodide  | $$I^{-}$$ |
| cobalt(II)  | $$Co^{2+}$$ |  | nitrate  | $$NO\_{3}^{-}$$ |
| copper(II)  | $$Cu^{2+}$$ |  | nitrite  | $$NO\_{2}^{-}$$ |
| iron(II)  | $$Fe^{2+}$$ |  | permanganate | $$MnO\_{4}^{-}$$ |
| lead(II)  | $$Pb^{2+}$$ |  | carbonate  | $$CO\_{3}^{2-}$$ |
| magnesium | $$Mg^{2+}$$ |  | chromate  | $$CrO\_{4}^{2-}$$ |
| manganese(II) | $$Mn^{2+}$$ |  | dichromate  | $$Cr\_{2}O\_{7}^{2-}$$ |
| nickel(II)  | $$Ni^{2+}$$ |  | hydrogenphosphate  | $$HPO\_{4}^{2-}$$ |
| strontium  | $$Sr^{2+}$$ |  | oxalate  | $$C\_{2}O\_{4}^{2-}$$ |
| zinc  | $$Zn^{2+}$$ |  | oxide  | $$O^{2-}$$ |
| aluminium | $$Al^{3+}$$ |  | sulfate  | $$SO\_{4}^{2-}$$ |
| chromium(III)  | $$Cr^{3+}$$ |  | sulfide | $$S^{2-}$$ |
| iron(III)  | $$Fe^{3+}$$ |  | sulfite  | $$SO\_{3}^{2-}$$ |
|  |  |  | nitride  | $$N\_{}^{3-}$$ |
|  |  |  | phosphate  | $$PO\_{4}^{3-}$$ |

 **Common molecules that have non-systematic names:**

|  |  |
| --- | --- |
| **Molecule name** | **Formula** |
| ammonia | $$NH\_{3}$$ |
| water | $H\_{2}$O |
| hydrogen peroxide | $$H\_{2}O\_{2}$$ |
| ethanoic acid | $$CH\_{3}COOH$$ |
| hydrochloric acid | $$HCl$$ |
| nitric acid | $$HNO\_{3}$$ |
| carbonic acid | $$H\_{2}CO\_{3}$$ |
| sulfuric acid | $$H\_{2}SO\_{4}$$ |
| sulfurous acid | $$H\_{2}SO\_{3}$$ |
| phosphoric acid | $$H\_{3}PO\_{4}$$ |