# Appendix 2

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

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Ion name** | **Formula** |  | **Ion name** | **Formula** |
| ammonium |  |  | bromide |  |
| caesium |  |  | chloride |  |
| hydrogen |  |  | cyanide |  |
| lithium |  |  | dihydrogenphosphate |  |
| potassium |  |  | ethanoate (acetate) |  |
| rubidium |  |  | fluoride |  |
| silver |  |  | hydrogencarbonate |  |
| sodium |  |  | hydrogensulfate |  |
| barium |  |  | hydroxide |  |
| calcium |  |  | iodide |  |
| cobalt(II) |  |  | nitrate |  |
| copper(II) |  |  | nitrite |  |
| iron(II) |  |  | permanganate |  |
| lead(II) |  |  | carbonate |  |
| magnesium |  |  | chromate |  |
| manganese(II) |  |  | dichromate |  |
| nickel(II) |  |  | hydrogenphosphate |  |
| strontium |  |  | oxalate |  |
| zinc |  |  | oxide |  |
| aluminium |  |  | sulfate |  |
| chromium(III) |  |  | sulfide |  |
| iron(III) |  |  | sulfite |  |
|  |  |  | nitride |  |
|  |  |  | phosphate |  |

Common molecules that have non-systematic names:

|  |  |
| --- | --- |
| **Molecule name** | **Formula** |
| ammonia |  |
| water | O |
| hydrogen peroxide |  |
| ethanoic acid |  |
| hydrochloric acid |  |
| nitric acid |  |
| carbonic acid |  |
| sulfuric acid |  |
| sulfurous acid |  |
| phosphoric acid |  |

**This page is recommended to learn:**

**Table 1**

**Symbols and names of monoatomic ions**.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **1+** |  | **2+** |  | **3+** |  | **4+** |  |
| gold(I) | Au+ | mercury(II) tin(II) cadmium(II) | + Hg2+ Sn2+ Cd2+ | gold(III) | Au3+ | tin(IV) lead(IV) | Sn4+ Pb4+ |

|  |  |
| --- | --- |
| **1-** |  |
| hydride | H- |

**Table 2**

**Formulae and names of polyatomic ions.**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **1-** |  | **2-** |  | **3-** |  |
| dihydrogenphosphate perchlorate chlorate chlorite hypochlorite | H2PO4- ClO4- ClO3- ClO2- ClO- | peroxide | O22- |  |  |
| **1+** |  | **2+** |  |  |  |
| ammonium | NH4+ | mercury(I) | Hg22+ |  |  |

**Table 3**

**Formulae and names of molecular substances**

**Elements**  **Compounds**

hydrogen H2 carbon monoxide CO

nitrogen N2 carbon dioxide CO2

oxygen O2 sulfur dioxide SO2

fluorine F2 sulfur trioxide SO3

chlorine Cl2 hydrogen sulfide H2S

bromine Br2 hydrogen fluoride HF

iodine I2 hydrogen chloride HCl

phosphorus P4 hydrogen bromide HBr

sulfur S8 hydrogen iodide HI

nitrogen monoxide NO (nitric oxide)

nitrogen dioxide NO2

dinitrogen monoxide N2O (nitrous oxide)

dinitrogen tetraoxide N2O4

hypochlorous acid HClO