

# FORMULAS



Name ..... Form .....

## Elements

Monatomic	Simple molecular	Ionic	Metallic	Giant covalent
helium neon argon krypton xenon radon	hydrogen nitrogen oxygen fluorine chlorine bromine iodine phosphorus sulfur	There are no ionic elements!!	The formula is just the symbol, e.g.  magnesium iron sodium nickel	The formula is just the symbol  diamond graphite silicon

## Compounds

Monatomic	Simple molecular	Ionic	Metallic	Giant covalent
There are no monatomic compounds!!	Some common molecular compounds: carbon dioxide carbon monoxide nitrogen monoxide nitrogen dioxide sulfur dioxide sulfur trioxide ammonia methane hydrogen sulfide	These have to be worked out using ion charges – you have to know these at AS/A level!  LEARN them ASAP.  Note these acids: hydrochloric acid sulfuric acid nitric acid	There are no metallic compounds!!	silicon dioxide

Positive ions		Negative ions	
Group 1 ions: lithium sodium potassium  Group 2 ions: magnesium calcium barium	Group 3 ions: aluminium  Other common ions silver zinc ammonium hydrogen	Group 7 ions: fluoride chloride bromide iodide  Group 6 ions: oxide sulfide	Other common ions nitrate sulfate carbonate hydrogencarbonate hydroxide hydride

### Writing formulas – exercise 1 – ionic formulas

- |                                  |                                  |
|----------------------------------|----------------------------------|
| 1) silver bromide .....          | 9) lead (II) oxide .....         |
| 2) sodium carbonate .....        | 10) rubidium carbonate .....     |
| 3) potassium oxide .....         | 11) zinc hydrogencarbonate ..... |
| 4) iron (III) oxide .....        | 12) ammonium sulphate .....      |
| 5) chromium (III) chloride ..... | 13) gallium hydroxide .....      |
| 6) calcium hydroxide .....       | 14) strontium selenide .....     |
| 7) aluminium nitrate .....       | 15) radium sulfate .....         |
| 8) sodium sulfate .....          | 16) sodium nitride .....         |

### Writing formulas – exercise 2

- |                            |                               |
|----------------------------|-------------------------------|
| 1) lead (IV) oxide .....   | 11) barium hydroxide .....    |
| 2) copper .....            | 12) tin (IV) chloride .....   |
| 3) sodium .....            | 13) silver nitrate .....      |
| 4) ammonium chloride ..... | 14) iodine .....              |
| 5) ammonia .....           | 15) nickel .....              |
| 6) sulfur .....            | 16) hydrogen sulfide .....    |
| 7) sulfuric acid .....     | 17) titanium (IV) oxide ..... |
| 8) neon .....              | 18) lead .....                |
| 9) silica .....            | 19) strontium sulfate .....   |
| 10) silicon .....          | 20) lithium .....             |

### Writing formulas – exercise 3

- |                                 |                                |
|---------------------------------|--------------------------------|
| 1) silver carbonate .....       | 11) barium hydroxide .....     |
| 2) gold .....                   | 12) ammonia .....              |
| 3) platinum (II) fluoride ..... | 13) hydrochloric acid .....    |
| 4) nitric acid .....            | 14) fluorine .....             |
| 5) ammonia .....                | 15) silicon .....              |
| 6) silicon (IV) hydride .....   | 16) calcium sulfide .....      |
| 7) phosphorus .....             | 17) rubidium .....             |
| 8) diamond .....                | 18) germanium (IV) oxide ..... |
| 9) vanadium (V) oxide .....     | 19) magnesium astatide .....   |
| 10) cobalt (II) hydroxide ..... | 20) nitrogen oxide .....       |