

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

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|----------------------------------|----------------------------------|
| 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

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|----------------------------|-------------------------------|
| 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

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|---------------------------------|--------------------------------|
| 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 |