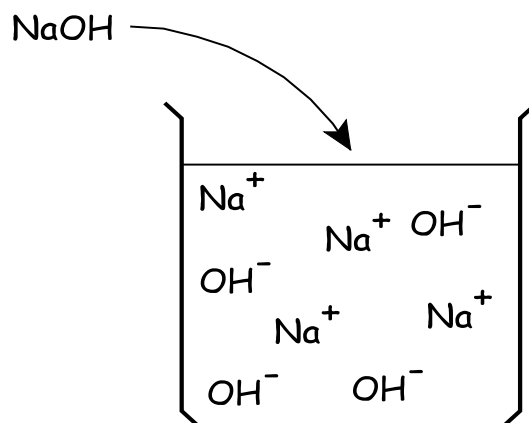


DYK? (Did You Know?)

Polyatomic compounds are pure substances that involve combinations of metals with polyatomic ions. Polyatomic ions are groups of atoms that tend to stay together and carry an overall ionic charge. An example of a polyatomic ion is the hydroxide ion (OH^-). When a compound containing this ion, such as sodium hydroxide (NaOH), is dissolved in water, the positive metal ion Na^{1+} and the hydroxide ion (OH^-) separate from each other, but the hydroxide ion itself stays together as a unit surrounded by water molecules.



POLYATOMIC COMPOUNDS

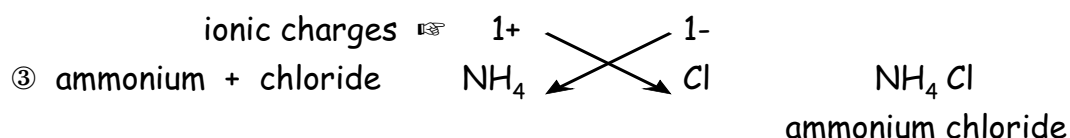
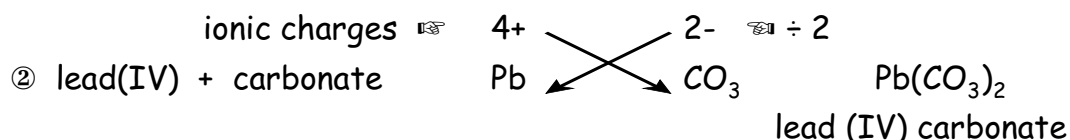
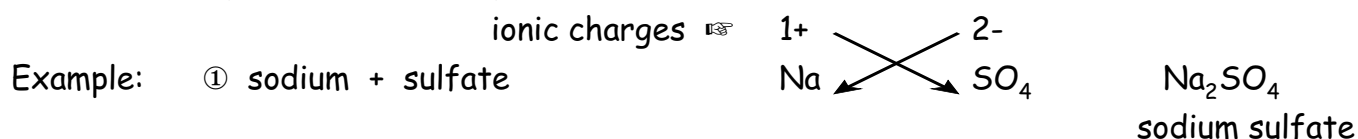
- involve combinations of metals with polyatomic ions
- 1 special group of polyatomic ions are the oxoacids. These are covered later.

POLYATOMIC IONS

- groups of atoms that stay together & carry a charge
- there is only 1 common polyatomic cation (+ve) the ammonium ion (NH_4^{1+})

WRITING FORMULAS FOR POLYATOMIC COMPOUNDS

- ① Same rules as ionic compounds except brackets are used when more than 1 polyatomic ion group is needed (example ②)



NAMING POLYATOMIC COMPOUNDS

- ① Polyatomic Compound names are simply a combination of:
the name of the metal & the name of the polyatomic ion.

1. Write the chemical formulas BESIDE each of the following compounds...write small!

- | | |
|--------------------------|----------------------------|
| (a) magnesium sulfate | (g) copper(I) chlorate |
| (b) sodium chlorate | (h) magnesium hydroxide |
| (c) aluminum nitrate | (i) phosphoric acid (omit) |
| (d) lithium phosphate | (j) lead(II) nitrate |
| (e) sodium bicarbonate | (k) sulfuric acid (omit) |
| (f) copper(II) hydroxide | (l) calcium sulfate |

2. Write the chemical names BESIDE each of the following compounds [any multivalent cations?]

- | | | |
|----------------------------------|----------------------------------|-----------------------------|
| (a) $\text{Al}(\text{HCO}_3)_3$ | (e) CuSO_4 | (i) NaOH |
| (b) $\text{Mg}_3(\text{PO}_4)_2$ | (f) $\text{Fe}(\text{ClO}_3)_3$ | (j) H_2CO_3 |
| (c) K_2SO_4 | (g) $\text{Pb}_3(\text{PO}_4)_2$ | (k) CuNO_3 |
| (d) $\text{Al}(\text{OH})_3$ | (h) $\text{Sn}(\text{ClO}_3)_2$ | (l) FeSO_4 |