Writing Ionic Formulas
(Acids, Bases and Salts)

1. Salts

These formulas include a **positive ion** (other than hydrogen) and a **negative ion** (other than hydroxide)
So far we have learned how to write formulas for three different kinds of salts.

A) Simple formulas

Tips:
* Always write the metal first, then the non-metal
* Metal name doesn't change
* Non-metal name changes to ____ide.

ex.	NaCl	sodium chloride
	MgF_2	magnesium fluoride

B) Multivalent

Tips:
* Be able to recognize metals that are multivalent (have more than one combining capacity)
* All of the multivalent metals you'll need to know for your test can be found in your data booklet
* The Roman numerals (in brackets) tell you the combining capacity of the metal
* Follow the rules for writing simple formulas
* ALWAYS indicate which "form" of the metal you are using ie. Tin (II) or Tin (IV)

ex.	PbI_4	lead (IV) iodide
	Fe_2O_3	iron (III) oxide

C) Polyatomic Ions

Tips:
* If there are **more than two** elements in a formula, you are dealing with a polyatomic
* All of the polyatomics you need to know can be found in your data booklet
* Treat a polyatomic as if it were a single element ion
* The name of the polyatomic doesn't change

ex.	$Na\ HCO_3$	sodium bicarbonate
	$Mg(NO_3)_2$	magnesium nitrate

Some formulas will include both multivalent metals and polyatomic ions

ex.	$CuClO_3$	copper (I) chlorate
	HgSO4	mercury (II) sulphate

2. Bases

These formulas include a **positive ion** plus a **hydroxide ion (OH^-)**

ex.	NaOH	sodium hydroxide
	$Ba(OH)_2$	barium hydroxide

3. Acids

These formulas include the **hydrogen ion** plus **any negative ion**

Naming acids **depends on the kind of negative ion** involved

A) **Singular Negative Ions**

* Drop the ending of the second element
* Add the prefix "hydro" and the suffix "ic"
* Ends with the word acid

ex.	HCl	hydrochloric acid
	HF	hydrofluoric acid

B) **Negative Polyatomic Ions**

* If the polyatomic ion has an "___ate" ending, drop the "ate" and add "ic"

ex.	(hydrogen and sulphate)	
	H_2SO_4	sulphuric acid

* If the polyatomic has an "___ite" ending, drop the "ite" and add "ous"

ex.	(hydrogen and nitrite)	
	HNO_2	nitrous acid