

NAME:

HONORS CHEMISTRY

SECTION:

POLYATOMIC IONS

For the rest of the year, you are responsible for knowing the names and formulas of the following polyatomic ions. Make flash cards and review them regularly!

Negative Charge	Ion name and formula
1-	Acetate ion $\text{C}_2\text{H}_3\text{O}_2^-$ Chlorate ion ClO_3^- Chlorite ion ClO_2^- Hypochlorite ClO^- Perchlorate ion ClO_4^- Cyanide ion CN^- Hydroxide ion OH^- Nitrate ion NO_3^- Nitrite ion NO_2^- Permanganate ion MnO_4^- Hydrogen sulfate HSO_4^- Hydrogen carbonate ion HCO_3^- Dihydrogen phosphate ion H_2PO_4^-
2-	Carbonate ion CO_3^{2-} Chromate ion CrO_4^{2-} Dichromate ion $\text{Cr}_2\text{O}_7^{2-}$ Hydrogen phosphate ion HPO_4^{2-} Peroxide ion O_2^{2-} Sulfate ion SO_4^{2-} Sulfite ion SO_3^{2-}
3-	Phosphate ion, PO_4^{3-}

Positive charge	Ion name and formula
1+	Ammonium ion NH_4^+
+2	Mercury(I) ion or dimercury(I) Hg_2^{2+}

Hint: If you know the polyatomic ions listed in bold type, you can use patterns to figure out the names and formulas of the remaining ions!

For example: ions that end in “-ite” have the same charge as the corresponding “-ate” ion, but with one fewer oxygen

Compare nitrate and nitrite

For example: the hydrogen-containing ions have an additional H atom and a charge 1 less than the corresponding “-ate” ion

Compare phosphate ion and hydrogen phosphate