

Grade 10:

Learning the ions during the summer is *optional*. Students will be given the opportunity to learn them over a 7-week period one chart at a time.

POLYATOMIC ION CHARTS

Quiz for weeks 3 & 4

Name	Formula	Name	Formula
Nitrate	NO_3^-	Hypochlorite	ClO^-
Nitrite	NO_2^-	Chlorite	ClO_2^-
Thiocyanate	SCN^-	Chlorate	ClO_3^-
Cyanide	CN^-	Perchlorate	ClO_4^-
Acetate	$\text{C}_2\text{H}_3\text{O}_2^-$ or CH_3COO^-		
Hydroxide	OH^-	Ammonium	NH_4^+
Dihydrogen phosphate	H_2PO_4^-		
Permanganate	MnO_4^-	Bromite	BrO_2^-
Hydrogen carbonate or (bicarbonate)	HCO_3^-	Bromate	BrO_3^-
Hydrogen sulfite	HSO_3^-	Hypoiodite	IO^-
Hydrogen sulfate	HSO_4^-	Iodite	IO_2^-
		Iodate	IO_3^-

Quiz for weeks 5 & 6 will include all ions from chart above and below

Name	Formula	Name	Formula
Thiosulfate	$\text{S}_2\text{O}_3^{2-}$		
Carbonate	CO_3^{2-}	Chromate	CrO_4^{2-}
Peroxide	O_2^{2-}	Dichromate	$\text{Cr}_2\text{O}_7^{2-}$
dihydrogen phosphate	H_2PO_4^-	Oxalate	$\text{C}_2\text{O}_4^{2-}$
Sulfate	SO_4^{2-}	Arsenate	AsO_4^{3-}
Sulfite	SO_3^{2-}	Arsenite	AsO_3^{3-}
Hydrogen phosphate	HPO_4^{2-}	Mercury I (dimercury)	Hg_2^{2+}
Phosphate	PO_4^{3-}		
Phosphite	PO_3^{3-}		

Monatomic Ions - Quizzes for week 7 – 18 will include all tables above.

Students will be shown how to use the periodic table to determine the charges for all elements in group 1, 2, 13, 15,16,17,& 18. *Students will be allowed to use the periodic table on all test and quizzes except the first symbol quiz.*

All group 1 metals	1+	Tin	Sn^{2+} or Sn^{4+}
All group 2 metals	2+	Zinc	Zn^{2+}
All group 13 metals	3+	Silver	Ag^+
All group 16 nonmetals	2-	Copper	Cu^+ or Cu^{2+}
All group 17 nonmetals	1-	Cobalt	Co^{2+} , Co^{3+} , Co^{6+}
All group 15 nonmetals except bismuth	3-	Scandium	Sc^{3+}
	Bi^{3+} or Bi^{5+}		
Iron	Fe^{2+} or Fe^{3+}	Nickel	Ni^{2+} or Ni^{3+}
Chromium	Cr^{3+} , Cr^{2+} , Cr^{6+}	Manganese*	Mn^{2+} or Mn^{3+} or Mn^{4+} or Mn^{6+} or Mn^{7+}
Mercury II	Hg^{2+}	Mercury I (dimercury)	Hg_2^{2+}
Titanium	Ti^{3+} or Ti^{4+}	Vanadium	V^{2+} or 3+ or 4+ or 5+
Antimony	Sb^{+5} or Sb^{3+}	Lead	Pb^{2+} or Pb^{4+}

