



MOUNT NOTRE DAME

Empowering Young Women

Chemistry CPX and Honors Summer Assignment

Welcome to Chemistry at MND!

Chemistry has its own language in symbols and formulas. It is important that you memorize these element and ion's names and symbols listed in the tables below as they will be used throughout the school year. You will encounter quizzes early in the year based on this study sheet. You should be able to give the correct spelling given the symbol or the correct symbol including charges if required given the name.

You might make flashcards to help you memorize the proper spelling of the elements and ions and their correct formulas with proper charges. Study with a friend or family member. Learning is easier when you say it out loud and write it down often. Make a list of the ions or elements and see if you can get all the symbols correct. Then make a list of the symbols and see if you can spell their names correctly. The more often you work the list, the easier it will be to memorize them all.

To help you memorize the charges of the various ions, refer to periodic table provided that illustrates how elements within a given group in the periodic table all have the same charge. Trends exist in the relationship between the location of an element within the periodic table (specifically its group number) and the charge of an ion formed from that element. These trends are based on the principles of valence electrons and the octet rule, both of which you will learn more about in Chemistry class. Exceptions to this trend include the transition metals, elements in Group 14, as well as hydrogen.

If you have any questions concerning this assignment email any of the Chemistry teachers below.

Have a good summer. We look forward to having you in class.

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Common Elements

Aluminum	Al	Lead	Pb
Argon	Ar	Lithium	Li
Barium	Ba	Magnesium	Mg
Beryllium	Be	Manganese	Mn
Boron	B	Mercury	Hg
Bromine	Br	Neon	Ne
Cadmium	Cd	Nickel	Ni
Calcium	Ca	Nitrogen	N
Carbon	C	Oxygen	O
Chlorine	Cl	Phosphorus	P
Chromium	Cr	Potassium	K
Cobalt	Co	Silicon	Si
Copper	Cu	Silver	Ag
Fluorine	F	Sodium	Na
Helium	He	Strontium	Sr
Hydrogen	H	Sulfur	S
Iodine	I	Tin	Sn
Iron	Fe	Zinc	Zn

Common Monoatomic Ions

$1+$ hydrogen, H^+ lithium, Li^+ potassium, K^+ silver, Ag^+ sodium, Na^+	$2+$ barium, Ba^{2+} magnesium, Mg^{2+} cadmium, Cd^{2+} manganese(II), Mn^{2+} calcium, Ca^{2+} cobalt (II), Co^{2+} nickel (II), Ni^{2+}		copper (II), Cu^{2+} strontium, Sr^{2+} iron (II), Fe^{2+} tin(II), Sn^{2+} lead (II), Pb^{2+} zinc, Zn^{2+}
$3+$ aluminum, Al^{3+} chromium (III), Cr^{3+} iron (III), Fe^{3+}	$4+$ lead (IV), Pb^{4+} tin (IV), Sn^{4+}		
$1-$ bromide, Br^- chloride, Cl^- fluoride, F^- hydride, H^-	$2-$ oxide, O^{2-} sulfide, S^{2-}	$3-$ phosphide, P^{3-} nitride, N^{3-}	



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Ions and the Periodic Table

Ions and the Periodic Table																		
H ⁺ Hydrogen H ⁻ hydride																		
Li ⁺ lithium	Be ²⁺ beryllium													N ³⁻ nitride	O ²⁻ oxide	F ¹⁻ fluoride		
Na ⁺ sodium	Mg ²⁺ magnesium											Al ³⁺ aluminium		P ³⁻ phosphide	S ²⁻ sulfide	Cl ¹⁻ chlorine		
K ⁺ potassium	Ca ²⁺ calcium				Cr ³⁺ chromium III	Mn ²⁺ manganese II	Fe ²⁺ iron II Fe ³⁺ iron III	Co ²⁺ cobalt III	Ni ²⁺ nickel II	Cu ²⁺ copper II	Zn ²⁺ zinc					Br ¹⁻ bromide		
	Sr ²⁺ strontium									Ag ⁺ silver	Cd ²⁺ cadmium		Sn ²⁺ tin II Sn ⁴⁺ tin IV			I ¹⁻ iodide		
	Ba ²⁺ barium												Pb ²⁺ lead II Pb ⁴⁺ lead IV					