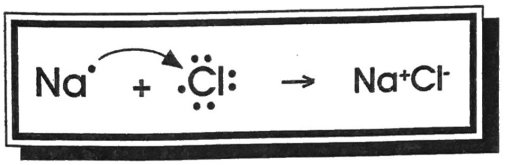
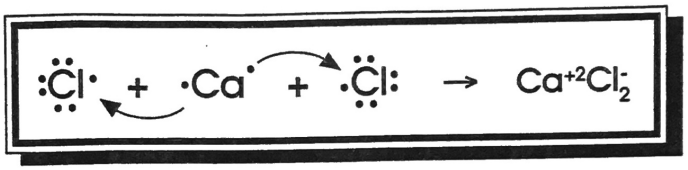
IONIC BONDING

Name _____

Ionic bonding occurs when a metal transfers one or more electrons to a nonmetal in effort to attain a stable octet of electrons. For example, the transfer of an electron fr sodium to chlorine can be depicted by a Lewis dot diagram.



Calcium would need two chlorine atoms to get rid of its two valence electrons.



* Draw Lewis Dot Structures and write Names / formulas for EVERY COMBINATION!

Show the transfer of electrons in the following combinations.

1. K + F

2. Mg + I

3. Be + S

4. Na + O

5. Al + Br

WRITING FORMULAS (CRISS-CROSS METHOD)

Name _____

*write Names and Formulas for EVERY COMPOUND!

	Cl^-	CO_3^{-2}	OH^-	SO_4^{-2}	PO_4^{-3}	NO_3^-
Na^+						
NH_4^+						
K^+						
Ca^{+2}						
Mg^{+2}						
Zn^{+2}						
Fe^{+3}						
Al^{+3}						
Co^{+3}						
Fe^{+2}						
H^+						

IONIC BONDING

Name _____

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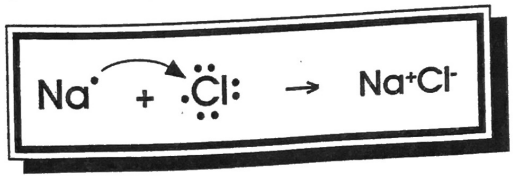
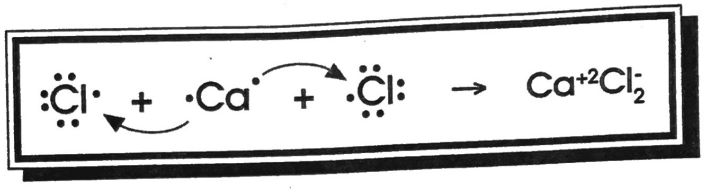
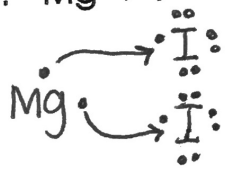
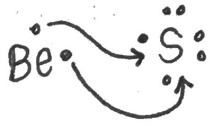
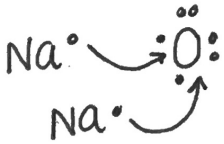
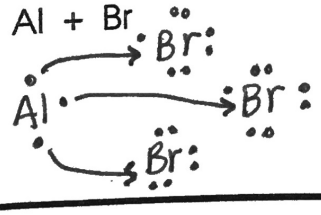


Calcium would need two chlorine atoms to get rid of its two valence electrons.



* Draw Lewis Dot Structures and write Names / formulas for EVERY COMBINATION!

Show the transfer of electrons in the following combinations.

1. K + F 	K^+	F^{-1}	KF	potassium fluoride
2. Mg + I 	Mg^{+2}	$2I^-$	MgI_2	magnesium iodide
3. Be + S 	Be^{+2}	S^{-2}	BeS	beryllium sulfide
4. Na + O 	$2Na^{+1}$	O^{-2}	Na_2O	Sodium oxide
5. Al + Br 	Al^{+3}	$3Br^{-1}$	$AlBr_3$	aluminum Bromide

WRITING FORMULAS (CRISS-CROSS METHOD)

Name _____

*write Names and Formulas for EVERY COMPOUND!

	Cl^-	CO_3^{-2}	OH^-	SO_4^{-2}	PO_4^{-3}	NO_3^-
Na^+	$NaCl$ Sodium chloride	Na_2CO_3 Sodium carbonate	$NaOH$ Sodium hydroxide	Na_2SO_4 Sodium Sulfate	Na_3PO_4 sodium phosphate	$NaNO_3$ Sodium Nitrate
NH_4^+	NH_4Cl ~~ammonium Sodium~~ chloride	$(NH_4)_2CO_3$ ammonium carbonate	NH_4OH ammonium hydroxide	$(NH_4)_2SO_4$ ammonium sulfate	$(NH_4)_3PO_4$ ammonium phosphate	NH_4NO_3 ammonium Nitrate
K^+	KCl potassium chloride	K_2CO_3 potassium carbonate	KOH potassium hydroxide	K_2SO_4 potassium sulfate	K_3PO_4 potassium phosphate	KNO_3 potassium Nitrate
Ca^{+2}	$CaCl_2$ calcium chloride	$CaCO_3$ calcium carbonate	$Ca(OH)_2$ calcium hydroxide	$CaSO_4$ calcium sulfate	$Ca_3(PO_4)_2$ calcium phosphate	$Ca(NO_3)_2$ calcium Nitrate
Mg^{+2}	$MgCl_2$ magnesium chloride	$MgCO_3$ magnesium carbonate	$Mg(OH)_2$ magnesium hydroxide	$MgSO_4$ magnesium sulfate	$Mg_3(PO_4)_2$ magnesium phosphate	$Mg(NO_3)_2$ magnesium Nitrate
Zn^{+2}	$ZnCl_2$ zinc (II) chloride	$ZnCO_3$ zinc (II) carbonate	$Zn(OH)_2$ zinc (II) hydroxide	$ZnSO_4$ zinc (II) sulfate	$Zn_3(PO_4)_2$ zinc (II) phosphate	$Zn(NO_3)_2$ zinc (II) Nitrate
Fe^{+3}	$FeCl_3$ iron (III) chloride	$Fe_2(CO_3)_3$ iron (III) carbonate	$Fe(OH)_3$ iron (III) hydroxide	$Fe_2(SO_4)_3$ iron (III) sulfate	$FePO_4$ iron (III) phosphate	$Fe(NO_3)_3$ iron (III) Nitrate
Al^{+3}	$AlCl_3$ aluminum chloride	$Al_2(CO_3)_3$ aluminum carbonate	$Al(OH)_3$ aluminum hydroxide	$Al_2(SO_4)_3$ aluminum sulfate	$AlPO_4$ aluminum phosphate	$Al(NO_3)_3$ aluminum Nitrate
Co^{+3}	$CoCl_3$ cobalt (III) chloride	$Co_2(CO_3)_3$ cobalt (III) carbonate	$Co(OH)_3$ cobalt (III) hydroxide	$Co_2(SO_4)_3$ cobalt (III) sulfate	$CoPO_4$ cobalt (III) phosphate	$Co(NO_3)_3$ cobalt (III) Nitrate
Fe^{+2}	$FeCl_2$ iron (II) chloride	$FeCO_3$ iron (II) carbonate	$Fe(OH)_2$ iron (II) hydroxide	$FeSO_4$ iron (II) Sulfate	$Fe_3(PO_4)_2$ iron (II) phosphate	$Fe(NO_3)_2$ iron (II) Nitrate
H^+	HCl	H_2CO_3	H_2O	H_2SO_4	H_3PO_4	HNO_3