Chemical Bonds – Ionic Bonds

1. **Identify the *Number of Valence Electrons* and *Draw the Lewis Dot Structure***

   Notes: Scientists use *Lewis Dot Structures* to show the valence electrons of an element as dots. Since bonding involves the valence shell electrons only, it is only necessary to illustrate those outer electrons.

Element	Bohr Diagram	Group Number (PT)	# of Valence Electrons	Lewis Dot Structure
Calcium				
Carbon				
Hydrogen				
Helium				
Oxygen				
Fluorine				
Neon				
Sodium				
Aluminum				

Determining the Ionic Charge

Element	Property	Before Making an Octet	After Making an Octet
Li	electron config		
	# protons		
	#electrons		
	charge		
	Bohr Diagram		
	Lewis Dot Structure		
Be	electron config		
	# protons		
	#electrons		
	charge		
	Bohr Diagram		
	Lewis Dot Structure		
B	electron config		
	# protons		
	#electrons		
	charge		
	Bohr Diagram		
	Lewis Dot Structure		

Skip Carbon

N	**electron config**		
	# protons		
	#electrons		
	charge		
	Bohr Diagram		
	Lewis Dot Structure		
O	**electron config**		
	# protons		
	#electrons		
	charge		
	Bohr Diagram		
	Lewis Dot Structure		
F	**electron config**		
	# protons		
	#electrons		
	charge		
	Bohr Diagram		
	Lewis Dot Structure		
Ne	**electron config**		
	# protons		
	#electrons		
	charge		
	Bohr Diagram		
	Lewis Dot		

Making Ions – Ionic Bonds are made of Ions. A strong understanding of Ions is needed.

Notes: Remember that Metals tend to lose their electrons, falling back to their inner octet, becoming smaller, forming positive "cations". Nonmetals tend to gain electrons, filling up their current energy levels, becoming larger, forming negative "anions". *Complete the chart below*.

Element	Lewis Dot	# of Valance e-	Gain/Lose ___ e-	Valance Charge
Na		1	L 1	+1
Be				
Cl				
S				
Al				
Ne				
K				
N				
O				
Ca				
P				
B				
Mg				