

Name: \_\_\_\_\_

Period: \_\_\_\_\_

<b>Changes of Matter Review</b>
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1. Transition Metals 2. Noble Gases 3. Metals 4. Nonmetals 5. Ionic 6. Covalent	A. Become positive ions. B. Gain electrons, becoming negative ions. C. Compounds formed when electrons are shared. D. Do not have consistent oxidation numbers. E. Do not combine into compounds. F. Compounds formed between positively and negatively charged atoms.	1. Oxidation #s 2. Octet Rule 3. Diatomic Molecule 4. Electrolyte 5. Valence Electrons	A. Tells you that atoms are more stable with 8 valence electrons. B. A molecule of two atoms of the same element. C. When dissolved in water, a compound that allows electricity to pass. D. How many electrons are gained or lost. E. Outermost electrons of an atom.
<i>Give the symbol and atomic number of these elements.</i> Oxygen (O) <u>8</u> Boron ( ) _____ Nitrogen ( ) _____                Bromine ( ) _____ Helium ( ) _____                    Iron ( ) _____ Sodium ( ) _____                  Mercury ( ) _____		<i>Give symbols and number of valence electrons for these:</i> Aluminum (Al) <u>13</u> Beryllium ( ) _____ Neon ( ) _____                      Sodium ( ) _____ Chlorine ( ) _____                  Calcium ( ) _____ Boron ( ) _____                      Sulfur ( ) _____	
<i>Give the symbol and number of protons for these elements.</i> Aluminum (Al) <u>13</u> Lithium ( ) _____ Phosphorus ( ) _____                Magnesium _____ Argon ( ) _____                      Silver ( ) _____ Copper ( ) _____                      Gold ( ) _____		<i>Give these elements with oxidation # in ion notation</i> Oxygen <u>O<sup>2-</sup></u> Boron _____ Nitrogen _____                        Bromine _____ Helium _____                            Potassium _____ Carbon _____                            Hydrogen _____	
How many Aluminums in Al <sub>2</sub> O <sub>3</sub> ? _____ How many Magnesiums in MgCl <sub>2</sub> ? _____ How many Sodiums in Na <sub>3</sub> N? _____ How many Oxygens in Li(NO <sub>3</sub> )? _____		How many total atoms in Al <sub>2</sub> O <sub>3</sub> ? _____ How many total atoms in MgCl <sub>2</sub> ? _____ How many total atoms in Na <sub>3</sub> N? _____ How many total atoms in Li(NO <sub>3</sub> )? _____	
<i>How many electrons are gained or lost?</i> K <sup>1+</sup> <u>Lost 1</u> Fe <sup>2+</sup> _____ B <sup>3+</sup> _____                                F <sup>1-</sup> _____ S <sup>2-</sup> _____                                N <sup>3-</sup> _____ He <sup>0</sup> _____                                Si <sup>4+</sup> _____		<i>How many electrons will be gained or lost by:</i> K <u>Lost 1</u> Ar _____ Al _____                                    Br _____ O _____                                    Ca _____ Be _____                                    H _____	
<i>Draw the Lewis Dot Diagrams for the following.</i>			
Carbon	Lithium	Sulfur	Argon
Aluminum	Nitrogen	Magnesium	Chlorine
<i>Draw 3 different Lewis Dot Diagrams for Aluminum.</i>			
<i>Use Electron Arrows to Combine Magnesium and Fluorine</i>			

	<i>Ionic, Covalent, or Polyatomic?</i>	<i>Use Prefixes?</i>	<i>Compound Name</i>	<i>Metal or Non-metal?</i>
1. Al <sub>2</sub> O <sub>3</sub>	<u>Ionic</u>	<u>No</u>	<u>Aluminum Oxide</u>	___ Cobalt (___) ___ Sodium (___) ___ Fluorine (___) ___ Argon (___) ___ Magnesium (___) ___ Nickel (___)
2. O <sub>2</sub> F <sub>2</sub>	_____	_____	_____	<p><i>Give the total charge</i></p> <p>Ca<sub>3</sub><sup>2+</sup>      <u>+6</u></p> <p>Ca<sup>2+</sup> O<sup>2-</sup>      _____</p> <p>Mg<sup>2+</sup> F<sup>1-</sup>      _____</p> <p>Na<sup>1+</sup> F<sub>2</sub><sup>1-</sup>      _____</p> <p>Al<sup>3+</sup> S<sub>2</sub><sup>2-</sup>      _____</p> <p>Al<sup>3+</sup> O<sub>2</sub><sup>2-</sup>      _____</p> <p>O<sub>3</sub><sup>2-</sup>      _____</p> <p>Mg<sup>2+</sup> (NO<sub>3</sub>)<sup>1-</sup>      _____</p>
3. BeF <sub>2</sub>	_____	_____	_____	
4. K <sub>2</sub> (CO <sub>3</sub> )	_____	_____	_____	
5. N <sub>2</sub> F <sub>3</sub>	_____	_____	_____	
6. SF <sub>6</sub>	_____	_____	_____	
7. Al <sub>2</sub> (CrO <sub>4</sub> ) <sub>3</sub>	_____	_____	_____	
8. P <sub>4</sub> S <sub>3</sub>	_____	_____	_____	
9. NaN <sub>3</sub>	_____	_____	_____	
10. MgO	_____	_____	_____	
11. PF <sub>3</sub>	_____	_____	_____	
12. CO <sub>2</sub>	_____	_____	_____	

*Write the balanced ionic compounds for the following:*

Li<sup>2+</sup> and O<sup>2-</sup> : \_\_\_\_\_      K<sup>1+</sup> and S<sup>2-</sup> : \_\_\_\_\_

Na<sup>1+</sup> and N<sup>3-</sup> : \_\_\_\_\_      Li<sup>1+</sup> and F<sup>1-</sup> : \_\_\_\_\_

Al<sup>3+</sup> and O<sup>1-</sup> : \_\_\_\_\_      Ca<sup>2+</sup> and P<sup>3-</sup> : \_\_\_\_\_

Mg<sup>2+</sup> and Cl<sup>1-</sup> : \_\_\_\_\_      Al<sup>3+</sup> and (NO<sub>3</sub>)<sup>1-</sup> : \_\_\_\_\_

*Write the balanced ionic formulas for the following:*

Li and Cl: \_\_\_\_\_

Mg and O: \_\_\_\_\_

Al and S: \_\_\_\_\_

Mg and N: \_\_\_\_\_

K and (CrO<sub>4</sub>): \_\_\_\_\_

Draw the Lewis Dot Diagram for molecular Fluorine (F<sub>2</sub>).

Short hand

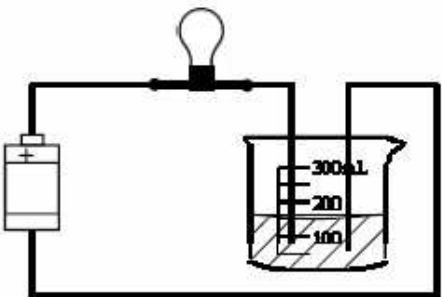
— C —

# of electrons: \_\_\_\_\_

N ≡

# of electrons: \_\_\_\_\_

*Using shorthand, make Oxygen Dichloride*



For the light to come on, what kind of compound would need to be dissolved: ionic or covalent?

What do we call a compound that will allow electricity to flow?

Are these Electrolytes: yes or no?

NaCl	_____	Li <sub>2</sub> S	_____
CO <sub>2</sub>	_____	Al <sub>2</sub> O <sub>3</sub>	_____
MgCl <sub>2</sub>	_____	SeO	_____
NBr <sub>3</sub>	_____	FeO	_____
BeO	_____	Li(NO <sub>3</sub> )	_____