


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



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

**Changes of Matter Review**


<ol style="list-style-type: none"> <li>1. Transition Metals</li> <li>2. Noble Gases</li> <li>3. Metals</li> <li>4. Nonmetals</li> <li>5. Ionic</li> <li>6. Covalent</li> </ol>	<ol style="list-style-type: none"> <li>A. Become positive ions.</li> <li>B. Gain electrons, becoming negative ions.</li> <li>C. Compounds formed when electrons are shared.</li> <li>D. Do not have consistent oxidation numbers.</li> <li>E. Do not combine into compounds.</li> <li>F. Compounds formed between positively and negatively charged atoms.</li> </ol>	<ol style="list-style-type: none"> <li>1. Oxidation #s</li> <li>2. Octet Rule</li> <li>3. Diatomic Molecule</li> <li>4. Electrolyte</li> <li>5. Valence Electrons</li> </ol>	<ol style="list-style-type: none"> <li>A. Tells you that atoms are more stable with 8 valence electrons.</li> <li>B. A molecule of two atoms of the same element.</li> <li>C. When dissolved in water, a compound that allows electricity to pass.</li> <li>D. How many electrons are gained or lost.</li> <li>E. Outermost electrons of an atom.</li> </ol>
<p><i>Give the symbol and atomic number of these elements.</i></p> <p>Oxygen (O) <u>8</u>                      Boron ( ) _____</p> <p>Nitrogen ( ) _____              Bromine ( ) _____</p> <p>Helium ( ) _____                  Iron ( ) _____</p> <p>Sodium ( ) _____                  Mercury ( ) _____</p>		<p><i>Give symbols and number of valence electrons for these:</i></p> <p>Aluminum (Al) <u>13</u>                  Beryllium ( ) _____</p> <p>Neon ( ) _____                      Sodium ( ) _____</p> <p>Chlorine ( ) _____                  Calcium ( ) _____</p> <p>Boron ( ) _____                      Sulfur ( ) _____</p>	
<p><i>Give the symbol and number of protons for these elements</i></p> <p>Aluminum (Al) <u>13</u>                  Lithium ( ) _____</p> <p>Phosphorus ( ) _____              Magnesium _____</p> <p>Argon ( ) _____                      Silver ( ) _____</p> <p>Copper ( ) _____                      Gold ( ) _____</p>		<p><i>Give these elements with oxidation # in ion notation</i></p> <p>Oxygen <u>O<sup>2-</sup></u>                              Boron _____</p> <p>Nitrogen _____                      Bromine _____</p> <p>Helium _____                          Potassium _____</p> <p>Carbon _____                          Hydrogen _____</p>	
<p>How many Aluminums in Al<sub>2</sub>O<sub>3</sub>? _____</p> <p>How many Magnesiums in MgCl<sub>2</sub>? _____</p> <p>How many Sodiums in Na<sub>3</sub>N? _____</p> <p>How many Oxygens in Li(NO<sub>3</sub>)? _____</p>		<p>How many total atoms in Al<sub>2</sub>O<sub>3</sub>? _____</p> <p>How many total atoms in MgCl<sub>2</sub>? _____</p> <p>How many total atoms in Na<sub>3</sub>N? _____</p> <p>How many total atoms in Li(NO<sub>3</sub>)? _____</p>	
<p><i>How many electrons are gained or lost?</i></p> <p>K<sup>1+</sup> <u>Lost 1</u>                                  Fe<sup>2+</sup> _____</p> <p>B<sup>3+</sup> _____                                  F<sup>1-</sup> _____</p> <p>S<sup>2-</sup> _____                                  N<sup>3-</sup> _____</p> <p>He<sup>0</sup> _____                                  Si<sup>4+</sup> _____</p>		<p><i>How many electrons will be gained or lost by:</i></p> <p>K <u>Lost 1</u>                                      Ar _____</p> <p>Al _____                                      Br _____</p> <p>O _____                                      Ca _____</p> <p>Be _____                                      H _____</p>	
<p><i>Draw the Lewis Dot Diagrams for the following.</i></p>			
Carbon	Lithium	Sulfur	Argon
Aluminum	Nitrogen	Magnesium	Chlorine
<p><i>Draw 3 different Lewis Dot Diagrams for Aluminum.</i></p>			
<p><i>Use Electron Arrows to Combine Magnesium and Fluorine</i></p>			

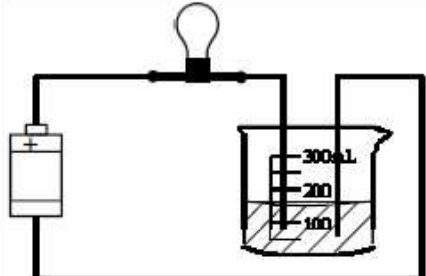

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	<i>Ionic, Covalent, or Polyatomic?</i>	<i>Use Prefixes?</i>	<i>Compound Name</i>	<i>Metal or Non-metal?</i> 	
1. Al <sub>2</sub> O <sub>3</sub>	<u>Ionic</u>	<u>No</u>	<u>Aluminum Oxide</u>	___ Cobalt (___)	
2. O <sub>2</sub> F <sub>2</sub>	_____	_____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

<p><i>Write the balanced ionic compounds for the following:</i></p> <p>Li<sup>2+</sup> and O<sup>2-</sup>: _____ K<sup>1+</sup> and S<sup>2-</sup>: _____</p> <p>Na<sup>1+</sup> and N<sup>3-</sup>: _____ Li<sup>1+</sup> and F<sup>1-</sup>: _____</p> <p>Al<sup>3+</sup> and O<sup>1-</sup>: _____ Ca<sup>2+</sup> and P<sup>3-</sup>: _____</p> <p>Mg<sup>2+</sup> and Cl<sup>1-</sup>: _____ Al<sup>3+</sup> and (NO<sub>3</sub>)<sup>1-</sup>: _____</p>	<p><i>Write the balanced ionic formulas for the following:</i></p> <p>Li and Cl: _____</p> <p>Mg and O: _____</p> <p>Al and S: _____</p> <p>Mg and N: _____</p> <p>K and (CrO<sub>4</sub>) _____</p>
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<p>Draw the Lewis Dot Diagram for molecular Fluorine (F<sub>2</sub>).</p> <p style="text-align: center;">Short hand</p> 	<p style="text-align: center;">— C —</p> <p># of electrons: _____</p> <p style="text-align: center;">N ≡</p> <p># of electrons: _____</p>	<p><i>Using shorthand, make Oxygen Dichloride</i></p>
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	<p>For the light to come on, what kind of compound would need to be dissolved: ionic or covalent?</p> <p>What do we call a compound that will allow electricity to flow?</p>	<p>Are these Electrolytes: yes or no? </p>
	<p>NaCl _____ Li<sub>2</sub>S _____</p> <p>CO<sub>2</sub> _____ Al<sub>2</sub>O<sub>3</sub> _____</p> <p>MgCl<sub>2</sub> _____ SeO _____</p> <p>NBr<sub>3</sub> _____ FeO _____</p> <p>BeO _____ Li(NO<sub>3</sub>) _____</p>	