

Li_3N Lithium + Nitrogen

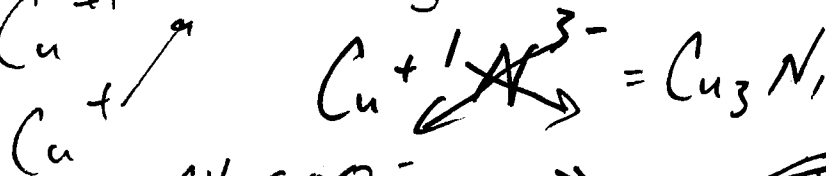
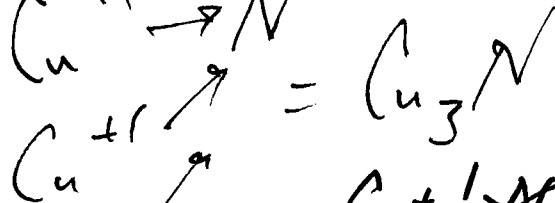
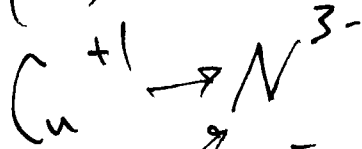
1a) Lithium Nitride

SEPT. 29th
NOTES

1b) Magnesium Bromide

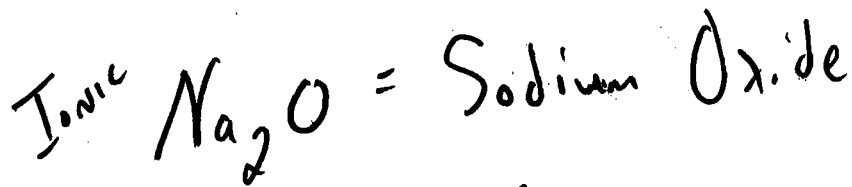
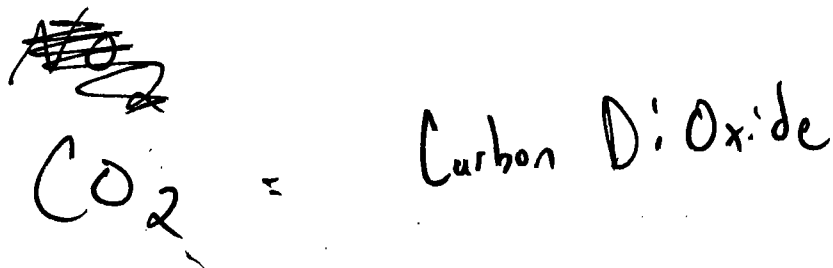
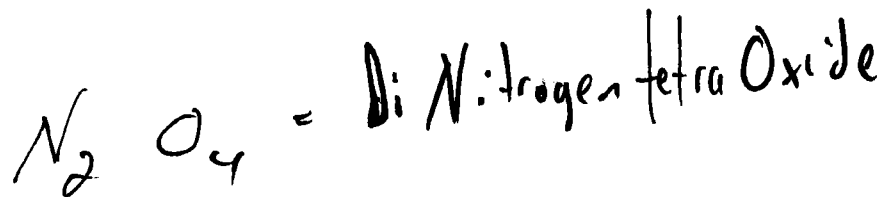
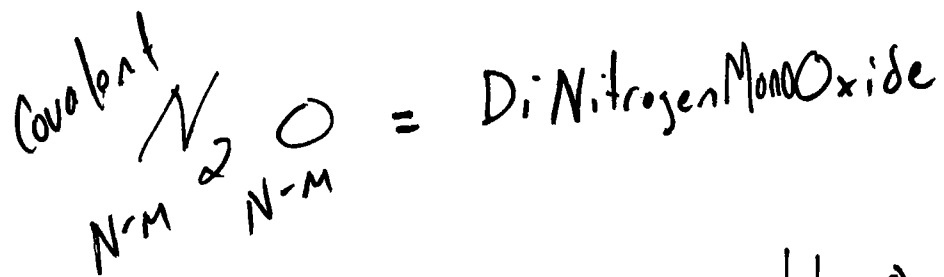
1a) Copper(I) Nitride

giving $1e^-$ ↑

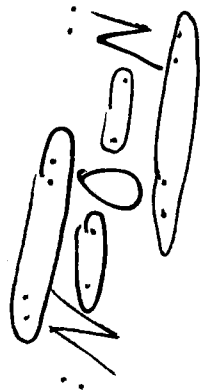


1a) Potassium CH_3COO^- Acetate = ~~Potassium Acetate~~

e) Aluminum Hydroxide
 $\text{Al}(\text{OH})_3$



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Matching Challenge: Compounds, Ions, and Molecules

Match each word or phrase on the left with the phrase on the right that best describes it.

- | | |
|-----------------------------|--|
| ___ 1. chemical bond | (a) bond resulting from a sharing of valence electrons |
| ___ 2. molecule | (b) a compound containing a metal and a non-metal |
| ___ 3. phase | (c) physical force that joins atoms together |
| ___ 4. valence shell | (d) paired atom, such as N_2 |
| ___ 5. ion | (e) total positive charge equals total negative charge |
| ___ 6. covalent bonding | (f) illustrates the elements in a compound and their proportions |
| ___ 7. ionic compound | (g) found in the valence shell |
| ___ 8. ionic bonding | (h) an element with more than one possible ion charge |
| ___ 9. chemical formula | (i) compound containing only non-metals |
| ___ 10. polyatomic ion | (j) a group of atoms bonded together that acts as a single ion |
| ___ 11. ion charge balance | (k) gas, liquid, or solid |
| ___ 12. valence electron | (l) the outermost electron shell of an atom |
| ___ 13. multivalent element | (m) neutral particle with two or more atoms covalently bonded |
| ___ 14. diatomic molecule | (n) a charged atom |
| ___ 15. covalent compound | (o) bond resulting from a transfer of valence electrons |

Chapter 7 Quiz

Part A: Multiple Choice

Circle the letter beside the answer that best answers the question.

- The chemical formula for glucose, a sugar, is $C_6H_{12}O_6$. Which of the following is true about glucose?
 - Glucose is an ionic compound.
 - There are 6 atoms in one molecule of glucose.
 - The formula for glucose can also be written as CH_2O .
 - There are 6 atoms of carbon in a molecule of glucose.
- CO_3^{2-} is an example of which of the following?
 - polyatomic ion
 - ionic compound
 - covalent compound
 - multivalent element
- What is the charge on Cu in copper(I) chloride?

A. +1	C. 0
B. -1	D. 2
- Which of the following is true about compounds?
 - They are not pure substances.
 - They have properties similar to the elements that make them up.
 - They can be physically separated into the elements that make them up.
 - They are made by chemically combining two or more elements in fixed proportions.
- Which of the following statements is true about ionic and covalent bonds?
 - Both types of bonds involve the transfer of electrons.
 - Ionic bonds form compounds that have low melting points.
 - Ionic bonds involve the transfer of electrons but covalent bonds involve sharing electrons.
 - Ionic bonds are formed between two non-metals and covalent bonds are formed between two metals.
- What particles in an atom are responsible for bonding?

A. protons	C. neutrons
B. nucleus	D. electrons

Chapter 7 Quiz (continued)**Part B: Chemical Formulas and Naming**

7. Determine if the following compounds are binary ionic, ionic with multivalent elements, ionic with polyatomic ions, or molecular. Then, write the chemical name.

- A. KNO_3 _____
 B. CaBr_2 _____
 C. CuCl_2 _____
 D. Si_3N_4 _____
 E. $\text{Pb}(\text{CrO}_4)_2$ _____

8. Determine if the following compounds are binary ionic, ionic with multivalent elements, ionic with polyatomic ions, or molecular. Then, write the chemical formula.

- A. dichlorine heptoxide _____
 B. iron(II) oxide _____
 C. aluminum iodide _____
 D. lead(II) nitrate _____
 E. carbon dioxide _____

Part C: Short Answer

9. You test an unknown compound and find out it conducts electricity when dissolved in water.

a. What type of compound is it?

b. What are two other properties you would expect this compound to exhibit? Why?

10. Both CaCl_2 and NaCl contain chloride ions. Explain why two chloride ions are needed to make the compound CaCl_2 , while only one chloride ion is needed to make the compound NaCl .
