**Chemistry**

*“I can accept failure, everyone fails at something. But I can’t accept not trying.” – Michael Jordan*

**Packet#6**

***Unit#6: Ionic Bonding***

***and Ionic Compounds***

***Edmodo Group Code:*** *ozm60q* (http://www.edmodo.com)

***Class Website:*** http://mrgchem.weebly.com

***Mr. Gutierrez’s email:*** gutierrezbr@elizabeth.k12.nj.us

Text Messaging Reminders: Text @aofchem to 23559



*Note: You are expected to work on this packet during the allotted class practice time.*

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| **Packet Points** |
| /35 | Completed Class Notes |
| /35 | Completed Classwork |
| /5 | **Writing Name on Every Page** |
| /25 | Handed Packet in on Time  |
| / | Homework |
| / | Followed Classroom Policies |
| / | Classwork Participation |
| / | TOTAL POINTS |

Name of Chemist:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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

***DUE \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_***

\*All Class Notes + Questions MUST be finished for HOMEWORK if not done in class.

**Unit#6: Ionic Compounds**

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| **Topic** | **Pages** | **Textbook Pages** | **Supplementary Materials** **(Video or Notes)**  |
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| Writing Names of Ionic Compounds | 9 - 11 | 223 |  |
| Writing Names of Ionic Compounds using the Stock System | 12 - 15 | 224 |  |

**ANNOUNCEMENTS**

* When **emailing work** to me, it is YOUR RESPONSIBILITY to make sure that it was sent. You MUST write In the SUBJECT FIELD:
* TITLE OF THE ASSIGNMENT

p3 if you’re in period 3

p4 if you’re in period 4

p6 if you’re in period 6

 Points will be deducted if you don’t.

**Additional Resources:**

**\*Tutoring with Mr. Gutierrez:** Meet Mr. Gutierrez in student cafeteria after school or during 9th or 10th period.

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| **Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_****Objectives: 1) SWBAT explain why ionic compounds form. 2) SWBAT write the chemical formulas of binary ionic compounds.** |

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| **Class Notes** |
| **IONIC COMPOUNDS**

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| **Compound** | A chemical \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is composed of two or more types of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. |
| **Ionic Compound** | An \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is made up of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ ions.* Usually contains a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Held by strong \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ interactions
 |
| **Properties of Ionic Compounds** | * \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* When dissolved in water, ionic compounds are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
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| **CHEMICAL FORMULA OF BINARY IONIC COMPOUNDS** |
| A \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ indicates the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ amount of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of each kind in a chemical compound.

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| **How to Write a Chemical Formula of Binary Ionic Compounds**Sample#1: Write the chemical formula of the compound formed by calcium ion and a phosphorus ion. |
| STEPS | EXAMPLE |
| 1. Write the symbols of the ions next to each other.

*The positive ion should ALWAYS be written first.* |  |
| 1. IGNORE THE CHARGES. Cross over the numbers on **top** and make them the **subscripts**.
 |  |
| 1. If necessary, simplify the ratios of the atoms.
 |  |

 |

Sample#2: Write the chemical formula of the compound formed by nickel ion and an oxygen ion.

**Writing Chemical Formulas of Ionic Compounds –**

**GUIDED PRACTICE**

*Example#1:*

Write the chemical formula of the compound formed by a Beryllium ion and fluorine ion.

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| STEPS | EXAMPLE |
| 1. Write the symbols of the ions next to each other.

*The positive ion should ALWAYS be written first.* |  |
| 1. IGNORE THE CHARGES. Cross over the numbers on **top** and make them the **subscripts**.
 |  |
| 1. If necessary, simplify the ratios of the atoms.
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*Example#2:*

Write the chemical formula of the compound formed by a Scandium ion and sulfur ion.

**Once you are finished, have Mr. Gutierrez check your work before continuing to the next page.**

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| **Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_****Objectives: 1) SWBAT explain why ionic compounds form. 2) SWBAT write the chemical formulas of binary ionic compounds.** |

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| **Class WORK*****Class Work (Independent Practice*) Directions*:*** Finish as many questions as you can during class. Refer to your notes and ask at least three classmates before asking me for help. If you do not finish these questions in class, you must finish them for homework.  |
| *Write the chemical formula of the ionic compounds formed by the following ions.*1. Sodium ion and nitrogen ion
2. Calcium ion and sulfur ion
3. Rubidium ion and chlorine ion
4. Sodium ion and sulfur ion
5. Lithium ion and chlorine ion
6. Potassium ion and phosphorus ion
7. Magnesium ion and iodine ion
8. Barium ion and fluorine ion
9. Potassium ion and bromine ion
10. Calcium ion and sulfur ion
11. Scandium ion and chlorine ion
12. Yttrium ion and fluorine ion
13. Zirconium ion and bromine ion
14. Palladium ion and bromine ion
15. Cadmium ion and selenium ion
16. Manganese ion and iodine ion
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| **Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_****Objectives: 1) SWBAT name binary ionic compounds. 2) SWBAT write the chemical formula of a binary ionic compound from the compound name.**  |

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| **Class Notes** |
| **NOMENCLATURE OF IONIC COMPOUNDS**

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| **Ionic Compound** | An **ionic compound** is made up of **positive and negative ions.*** Usually contains a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
 |
| **Naming** | 1. Write the name of the cation.
2. Write the name of the anion. Replace the –*ine* with ide and *–gen* with ide.

Sample#1Al2O3Sample#2CaCl2 |

**WRITING CHEMICAL FORMULAS FROM NAMES**Sample#1: Write the chemical formula of potassium chloride.Sample#2: Write the chemical formula of scandium phosphide.Sample#3: Write the chemical formula of calcium bromide. |

**Once you are finished, have Mr. Gutierrez check your work before continuing to the next page.**

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| **Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_****Objectives: 1) SWBAT name binary ionic compounds. 2) SWBAT write the chemical formula of a binary ionic compound from the compound name.**  |

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| **Class WORK*****Class Work (Independent Practice*) Directions*:*** Finish as many questions as you can during class. Refer to your notes and ask at least three classmates before asking me for help. If you do not finish these questions in class, you must finish them for homework.  |
| *Part A. Write the names of the chemical compounds below.*1. Ca2C
2. CaS
3. RbCl
4. Na2S
5. LiCl
6. K3P
7. MgI2
8. BaF2

*Part B. Write the names of the chemical formulas of the compounds below.*1. Potassium bromide
2. Calcium sulfide
3. Sodium oxide
4. Yttrium oxide
5. Manganese phosphide
6. Aluminum phosphide
7. Calcium iodine
8. Lithium chloride
9. Titanium silicide
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| **Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_****Objectives: 1) SWBAT name binary ionic compounds using the Stock System of Nomenclature. 2) SWBAT write the chemical formula of a binary ionic compound from the compound name using the Stock System of nomenclature.** |

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| **Class Notes** |
| **STOCK NOMENCLATURE SYSTEM**

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| **Stock System** | Certain elements in the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ form different types of ions. |
| **Naming** | 1. Check the chart on the next page to see if the cation forms more than one type of ion.
2. Swap the subscripts and make them superscripts.
3. Write the name of the cation and in parentheses write the charge of the ion in roman numerals.
4. Write the name of the anion.

Sample#1V2O3Sample#2Fe2O3 |

**STOCK SYSTEM WRITING CHEMICAL FORMULAS FROM NAMES**Sample#1: Write the chemical formula of chromium (III) phosphideSample#2: Write the chemical formula of chromium (II) phosphide.Sample#3: Write the chemical formula of vanadium (III) sulfide. |

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| **Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_****Objectives: 1) SWBAT name binary ionic compounds using the Stock System of Nomenclature. 2) SWBAT write the chemical formula of a binary ionic compound from the compound name using the Stock System of nomenclature.** |

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| **Class WORK*****Class Work (Independent Practice*) Directions*:*** Finish as many questions as you can during class. Refer to your notes and ask at least three classmates before asking me for help. If you do not finish these questions in class, you must finish them for homework.  |
| *Part A. Write the names of the chemical compounds below using the stock system of nomenclature.*1. V2O4
2. CuO
3. Fe3P2
4. CoP
5. Co3P2
6. Ag3P
7. SnI4

*Part B. Write the chemical formulas of the chemical compounds below.*1. Chromium (III) phosphide
2. Iron (II) bromide
3. Iron (III) sulfide
4. Cobalt (IV) nitride
5. Cobalt (II) oxide
6. Tin (IV) chloride
7. Copper (I) bromide
8. Lead (IV) chloride
9. Lead (II) oxide
 |

Make sure Mr. Gutierrez stamps/signs this by the end of the period. You CANNOT get the stamp/signature for a day later on. It is your responsibility to remind Mr. Gutierrez. You will NOT receive a stamp if you did not follow all classroom policies or actively work on the practice problems during the allotted class time.A stamp means you received all 10 points. No stamps means you’ve received zero points. If you completed some work, I may give you partial credit based on my discretion. ***If you are absent, write the date on the day you were absent and write the word “Absent.” DO NOT LOSE THIS SHEET!!!*** (If you lose this sheet, you will lose all of your participation points. NO EXCEPTIONS.)

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| **Day of Week** | **Followed All Classroom Policies** (Respectful, on time, prepared, engaged…) | **Class work Participation** | **Homework** |
| *Monday* | /10 | /10 | /10 |
| *Tuesday* | /10 | /10 | /10 |
| *Wednesday* | /10 | /10 | /10 |
| *Thursday* | /10 | /10 | /10 |
| *Friday* | /10 | /10 | /10 |

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| **Classroom Policy Violation Codes**P = PhoneC = CursingT = TalkingL = Late to classO.T. = Off TaskN.iP = Did not bring iPadUnp = Unprepared |

**Teacher Comments:**