

Unit 5 – Ionic Bonding Test Project

Use the color code diagram below to color each ion. Then cut out the ion shapes and combine the positive cations with the negative anions to create a balanced ionic bond. Glue each cation and anion combination onto the construction paper provided by your teacher. Write the formula and name under each compound.

Criteria for Test Grade:

- You must create at least **20 different ionic compounds**.
 - Combine the cations and anions so that the **net charge is zero**
 - write the **chemical formula** for every ionic bond created
 - write the **chemical name** for every ionic bond created
- You may create as many of each type as you like, as long as you:
 - include all oxidation numbers: **+1, -1, +2, -2, +3, -3, and +4**
 - include at least **6 different polyatomic ions** in your project
 - include at least **3 different transition metals** in your project

This project is due on _____ at the end of class.

Students will lose 10 points for each day it is late.

Periodic Table of the Elements
For Assessments Based on the 2010 Chemistry Standards of Learning

Periodic Table of the Elements

Atomic mass: 28.0855
Symbol: Si
Atomic number: 14
Name: Silicon

Polyatomic Ions

OH ⁻¹	ClO ⁻¹
NO ₃ ⁻¹	NO ₂ ⁻¹
CN ⁻¹	C ₂ H ₃ O ₂ ⁻¹
CO ₃ ⁻²	HCO ₃ ⁻¹
SO ₄ ⁻²	PO ₄ ⁻³
CrO ₄ ⁻²	NH ₄ ⁺¹

Name _____

Block _____

Unit 5 – Ionic Bonding Test Project Rubric

Criteria	Grading Scale			
Appropriate Use of Time <i>Playing on cell phones, talking without working on project, or gaming on computers will result in a score of 0 for this section. Parents will be notified immediately.</i>	10 Excellent – Focused on getting the project done. Always on task. Helped clean up.	7.5 Good - Focused on getting the project done. Mostly on task. Helped clean up.	5 Satisfactory - Got the project done but was off task at times. Did not help clean up.	2.5 Needs Improvement Did not use class time appropriately. Did not help clean up.
Color Code Ions were colored in based on color coding chart provided in the project criteria.	15 Excellent – All ions were colored according to the chart given in the instructions.	10 Good – Most ions were colored according to the chart given in the instructions. Only 1-2 errors were found.	5 Satisfactory – Some ions were colored according to the chart given in the instructions. Only 2-3 errors were found.	2.5 Needs Improvement - Needs Improvement - Ions were not colored according to the instructions. Contained 4 or more errors.
Ionic Bonding Project included 20 different ionic bonds, including 6 with polyatomic ions and 3 with transition metals.	25 Excellent – All ionic bonds were balanced and all ion combinations were included in the project.	15 Good – All ionic bonds were balanced but 1 ion combination was missing from the project.	10 Satisfactory – All ionic bonds were balanced but 2 ion combinations were missing from the project.	5 Needs Improvement - Some ionic bonds were not balanced and/or 3 or more ion combination were missing from the project.
Chemical Formula Ionic formulas were written using IUPAC rules.	25 Excellent – All ionic formulas were written according to the IUPAC rules.	15 Good – Most ionic formulas were written according to the IUPAC rules. Only 1 error was found.	10 Satisfactory – Some ionic formulas were written according to the IUPAC rules. Only 2 errors were found.	5 Needs Improvement - Ionic formulas were not written according to the IUPAC rules. Three or more errors were found.
Chemical Name Ionic names were written based on IUPAC rules.	25 Excellent – All ionic names were written according to the IUPAC rules.	15 Good – Most ionic names were written according to the IUPAC rules. Only 1 error was found.	10 Satisfactory – Some ionic names were written according to the IUPAC rules. Only 2 errors were found.	5 Needs Improvement - Ionic names were not written according to the IUPAC rules. Three or more errors were found.

Total Score: _____ / 100

Comments:
