**Lesson Plan Title: Ionic buddy Bonding**

**Teacher’s Name: Mr.Gomez Subject/Course: Chemistry**

**Unit: Bonding Grade Level: College Prep/Honors**

**Overview of and Motivation for Lesson:**

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| **Stage 1-Desired Results** | | |
| **Standard(s):**  HS-PS1-2. Use the periodic table model to predict and design simple reactions that result in two main classes of binary compounds, ionic and molecular. Develop an explanation based on given observational data and the electronegativity model about the relative strengths of ionic or covalent bonds. Clarification Statements: \* Simple reactions include synthesis (combination), decomposition, single displacement, double displacement, and combustion. \* Predictions of reactants and products can be represented using Lewis dot structures, chemical formulas, or physical models. \* Observational data include that binary ionic substances (i.e., substances that have ionic bonds), when pure, are crystalline salts at room temperature (common examples include NaCl, KI, Fe2O3); and substances that are liquids and gases at room temperature are usually made of molecules that have covalent bonds (common examples include CO2, N2, CH4, H2O, C8H18). | | |
| **Aim/Essential Question:**   * Why do chemical bonds tend to have a neutral charge? | | |
| **Understanding(s):**  *Students will understand that . . .*   * Chemical compounds need to cancel out its charge with equal parts | | |
| **Content Objectives:**  *Students will be able to . . .*   * Build the ionic compound | | **Language Objectives:**  ELD Level 3 *Students will be able to . . . in English*   * Discuss in groups the correct chemical formula of Ionic compounds   ELD Level 3 *Students will be able to . . . in English*   * Justify their chemical formula of an ionic compound |
| **Key Vocabulary**   * Polyatomic * Ions * Cation * Anion * Metals | | |
| **Stage 2-Assessment Evidence** | | |
| **Performance Task or Key Evidence**   * Students will successfully attempt each problem and answer the worksheet | | |
| **Key Criteria to measure Performance Task or Key Evidence**   * none | | |
| **Stage 3- Learning Plan** | | |
| **Learning Activities:**  Do Now/Bell Ringer/Opener: Students will go to their folder and get plicker card and answer two questions:  What is the chemical formula for Cesium Carbonate?  What is the chemical compound for Al(OH)3?  Learning Activity 1:  Students will get into groups and start building the compounds that the activity requires  Learning Activity 2:  None  Application  **Scientists want to make sure everything is accounted for in chemical compounds**  Summary/Closing  **Recap what Ionic bonding entails and ask what the students think covalent bonding naming involves**  **Multiple Intelligences Addressed:**   |  |  |  |  | | --- | --- | --- | --- | | Linguistic | Logical-Mathematical | Musical | Bodily-kinesthetic | | Spatial | Interpersonal | Intrapersonal | Naturalistic |   **Student Grouping**  Whole Class  Small Group  Pairs  Individual  **Instructional Delivery Methods**  Teacher Modeling/Demonstration  Lecture  Discussion  Cooperative Learning  Centers  Problem Solving  Independent Projects | | |
| **Accommodations**  None | **Modifications**  None | |
| **Homework/Extension Activities:**  None | | |
| **Materials and Equipment Needed:**   * Envelopes * Cuts out of cations and anions | | |

**Adapted from Grant Wiggins and Jay McTighe-*Understanding by Design***