**Lesson Plan Title: Electron Configuration Rules**

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

**Unit: Electron Configuration & Periodicity Grade Level: College Prep/Honors**

**Overview of and Motivation for Lesson:**

**The rules help scientists write electron configuration correctly**

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| **Stage 1-Desired Results** | | |
| **Standard(s):**   * HS-PS1-1. Use the periodic table as a model to predict the relative properties of main group elements, including ionization energy and relative sizes of atoms and ions, based on the patterns of electrons in the outermost energy level of each element. Use the patterns of valence electron configurations, core charge, and Coulomb’s law to explain and predict general trends in ionization energies, relative sizes of atoms and ions, and reactivity of pure elements. Clarification Statement: \* Size of ions should be relevant only for predicting strength of ionic bonding. State Assessment Boundary: \* State assessment will be limited to main group (s and p block) elements. | | |
| **Aim/Essential Question:**   * What are similarities with elements with same electron Configuration endings? | | |
| **Understanding(s):**  *Students will understand that . . .*   * There are three rules that govern electron configuration * Electrons fill in different levels with different spins * lowest orbitals are filled in first * Top spins are filled in first | | |
| **Content Objectives:**  *Students will be able to . . .*   * Write Electron Configuration for elements 1-20 * Use the Electron Configuration rules to properly draw an electron configuration diagram | | **Language Objectives:**  ELD Level 3 *Students will be able to . . . in English*   * Summarize the Three rules that need to be followed in electron configuration   ELD Level 5 *Students will be able to . . . in English*   * Justify electron configuration of an element by using the three rules |
| **Key Vocabulary**   * Aufbau principle * Pauli Exclusion Principle * Hund’s Rule | | |
| **Stage 2-Assessment Evidence** | | |
| **Performance Task or Key Evidence**   * Practice Problems on applying the rules to write electron configuration for elements. | | |
| **Key Criteria to measure Performance Task or Key Evidence**   * Write four electron configurations correctly | | |
| **Stage 3- Learning Plan** | | |
| **Learning Activities:**  Do Now/Bell Ringer/Opener: Plickers on orbital shapes  Learning Activity 1:  PowerPoint on Electron Configuration Rules and examples of electron configuration  Model Rules through students  Learning Activity 2:  Practice problems of writing electron configuration and Bohr’s Model in groups. Go over some on the board  Application  **Scientist use electron configuration to help determine valence electrons in bonding**  Summary/Closing  **Look at the essential question and discuss about it**  **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:**   * Whtieboards | | |

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