**Lesson Plan Title: Waves & light**

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

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

**Overview of and Motivation for Lesson:**

**Scientists use light to help identify an element**

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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 some reasons that there are multiple colors of lights? | | |
| **Understanding(s):**  *Students will understand that . . .*   * Light has wavelike properties * Humans can only see visible light   The higher frequency, shorter wavelength and vice versa | | |
| **Content Objectives:**  *Students will be able to . . .*   * Identify properties of a wave * Identify Electromagnetic spectrum | | **Language Objectives:**  ELD Level 1 *Students will be able to . . . in English*   * Describe properties of waves   ELD Level 4 *Students will be able to . . . in English*   * Differentiate between different types of waves on Electromagnetic spectrum |
| **Key Vocabulary**   * Electromagnetic Radiation * Electromagnetic spectrum * Wavelength * Photon * E=hv * C=v\* lambda | | |
| **Stage 2-Assessment Evidence** | | |
| **Performance Task or Key Evidence**   * Identify characteristics of a wave correctly | | |
| **Key Criteria to measure Performance Task or Key Evidence**   * Hand in POGIL and be able to apply rules to electron configuration being taught next week | | |
| **Stage 3- Learning Plan** | | |
| **Learning Activities:**  Do Now/Bell Ringer/Opener: Get into groups from Fridays and Finish up POGIL  Learning Activity 1:  Go outside in the hall with a spring and demonstrate characteristics of a wave  Learning Activity 2:  Properties of Light and waves notes  Application  Click here to enter text.  Summary/Closing  **Refer to the essential question and ask it to students**  **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**  If period 1 finishes early then they can start the hw | |
| **Homework/Extension Activities:**  Read pg 100 -103 & do a 3-2-1 which will be checked for a grade tomorrow | | |
| **Materials and Equipment Needed:**   * Spring * Projector | | |

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