**JMS Lesson Plan**

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| **Teacher:** | Shelly Vincent | | **Subject:** | | Science | |
| **Date:** | **Beginning:** 10/9/2017**Ending:**  10/13/2017 | | **Grades:** | | 8th | |
| **Learning**  **Targets:** | I can describe atomic structure and how the structure determines an element’s identity.  I can recognize where atoms of some common elements are found and how they are named.  I can classify elements as metals, nonmetals, and metalloids.  I can identify groups of elements. | | **Connects with:** | | **Math – Pie charts/Circle graphs**  **Math – Scientific Notation**  **Math – graphing calculators (accelerated content)** | |
| **Standard(s):** | S8P1 – f. Recognize that there are more than 100 elements and some have similar properties as shown on the Periodic Table of Elements.  S8P1 - g. Identify and demonstrate the Law of Conservation of Matter. | | | | | |
| **DOK Level** | **Activities / Assignments / Questions** | | | **Assessment** | | |
| **­­**  **Remediation** | The word ***element*** is related to elementary which means “basic.” | | | Formative | | Selected Response -  Constructed Response -  Verbal  Rubric  Other – Entrance ticket  Other – Lab |
| **Acceleration** | Radioactivity – model how quickly atoms of radioactive elements can change (pg. 159) | | | Formative | |  |
| **2** | Explore: The size of Atoms (pg. 137 activity How small can you cut paper?)  In terms of percentages, which has more oxygen, Earth’s crust or a human body?  ISN notes – diagram of the atomic structure  What happens when an atom forms an ion?  Where on Earth can you find noble gases?  How can an element change into an atom of a different element? | | | Formative  Summative | | Selected Response -  Constructed Response –  Verbal  Rubric  Other – lab  Other – |
| **3** | Analyze: When determining the mass of an atom, the electrons are not considered. Why can scientist disregard the electrons? Cite your evidence.  Why do you think the noble gases were among the last of the naturally occurring elements to be discovered? Cite your evidence.  Activity – Button activity (sort, classify and form a table to show how they are arranged) | | | Formative  Summative | | Selected Response  Constructed Response –  Verbal  Rubric  Other –  Other – |
| **4** | | Investigation- Modeling Atomic Masses  This investigation will give you some sense of how scientists determined the mass of all atoms: You will compare the masses of different film can “atoms.” You will predict the number of washers in each film can “atom.” Infer – hydrogen has only a single proton in its nucleus, apply your results to determine the next four elements. Extend: find the masses of the next two elements (how many washers are needed for each model?) | | Formative  Summative | | Selected Response  Constructed Response -  Verbal  Rubric  Other –  Other – |
| **Resources:** | Classzone.com – size of an atom slide show  Textbook – Physical Science (McDougal Littell) | | | | | |

**Monday-** Atoms are the smallest form of elements. (Activity – Explore the size of atoms) ISN notes on atomic structure.

**Tuesday-** Elements make up the periodic table (Button Activity – Explore similarities and differences of objects) ISN notes on reading the periodic table

Video – Introduction to atomic structure

**Wednesday** – The periodic table is a map of the elements (misconception-appearance of single atoms do not have the same properties of the same atom in bulk)’

ISN notes – periodic table worksheet

**Thursday** – Scientific Notation pg. 161 (Numbers with Many Zeros) / Graphing slope on the x and y axis pg. 159 (Radioactivity)

Video - How big is an atom?

**Friday** – CLOZE Reading (Atomic Structure and The Periodic Table of Elements) and Study Guide

**NOTES:**

<https://www.youtube.com/watch?v=EMDrb2LqL7E> (Video -Introduction to atomic structure)

<https://www.youtube.com/watch?v=N-FfVLOBccI> (Video – How big is an atom?)

**ANCHOR ACTIVITIES:**

Videos for Google classroom:

<https://www.youtube.com/watch?v=kBgIMRV895w> (How protons, neutrons, and electrons were discovered)

<https://www.youtube.com/watch?v=F2d4Hq1CBdg> (Can you touch an atom?)

<https://www.youtube.com/watch?v=3-IreD_G944> (Seeing is believing, the Atomic Knife)

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