***Lesson Plans for the Week of: 11/14/16 Teacher: Hough Course: Physical Science Period: 1,2,7/8***

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| Elements of  a Lesson | **Monday** | **Tuesday** | **Wednesday** | **Thursday** | **Friday** |
| Objective/  Focus/  Essential  Question | PS.3b,4a  --create model of atom for a specified element, with the correct number of protons, electrons, and valence electrons (# neutrons given), placing all particles in the correct location in the atom | PS.2b;3a,b; 4a,b  --Review for test | PS.2b;3a,b; 4a,b  --Scientist and Atom Test | PS.3b; 4a and preliminary to 4c  --identify the number of valence electrons in a specified element | PS.1j,m;2b;3a;4c  --differentiate between atoms and ions  --determine the number of valence electrons in an element, given the element name and a periodic table |
| Lesson/Act.  Type of Presentation | 1st/2nd periods:  Individual  Bellwork: name Thomson’s model of the atom and label the positive and negative parts  Activity:  Given the periodic table, two or three elements, and the number of neutrons for each element, students will draw the correct number of protons, neutrons, and electrons on a model of an atom of that element with the correct number of  Group:  *Hunting the Elements*, as time permits  7/8 period:  Complete the lesson plan from Friday about metals, nonmetals, and metalloids on the periodic table | Individual:  Bellwork: students will answer radiation, conduction, and convection questions on review guide  Small groups:  Practice sample test questions including selecting the locations for p,n,e; selecting the charges of p,n,e; using periodic table to determine element based on number of atoms, electrons; scientists and their models of the atom  Groups will present answers to class | Individual:  Test about archaic and modern model of the atom, and the scientists who contributed to these  Students will work on Science World supplemental worksheet: | Individual:  Bellwork: How many electrons in one atom of helium? (review from last week)  2 groups:  Group 1: Use atom builder Gizmo to complete part B about electrons, valence electrons, and Lewis dot diagrams  Group 2:  Define valence electron  Explain and demonstrate how to count the number of valence electrons (for many of the elements).  Atoms want a full outer layer of electrons (usually 8 electrons)  Clarify the relationship between electrons and valence electrons: use Bohr model of electron and examples of lithium, calcium, oxygen  The number of valance electrons determines some of an element’s properties.  Individual:  Classwork: For specified elements, teacher will model the following, and students will:  a) list the number of valence electrons  b) list the number of protons, electrons, and valence electrons  *Hunting the Elements*, as time permits | Individual  Bellwork: How many valence electrons do atoms want to have? (review from previous day)  Whole group:  Notes:  Ions are formed when atoms gain or lose valence electrons. Define positive and negative ions.  Individual:  Student classwork:   1. Differentiate between atom and ion. 2. Determine charge on an ion |
| Evaluation | 1st/2nd periods: Correct models of atoms  7/8 period: Answers to classwork questions about metals, nonmetals, and metalloids on the period ic table | Teacher observation; student questions; student responses to questions |  | Group 1: accuracy of work  Group 2: Correct counting of valence electrons, plus protons and total electrons | teacher observation of activity; student responses to classwork |
| Extension/  Homework |  |  |  | The next lesson is an extension of this concept: the ion | No homework |

MATERIALS:

Monday: colored pencils, templates, video: Hunting the Elements; teacher made review sheet

Tuesday: teacher made review sheets

Wednesday: Teacher-made test; supplemental worksheet from Science World:

Thursday: Teacher-made notes and classwork; copies of periodic table: Phet simulation <https://phet.colorado.edu/en/simulations/category/chemistry> ; YouTube schoolhouse rock “8 is a Magic Number”

Friday: Teacher-made notes and classwork; copies of periodic table