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

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| Elements ofa 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:IndividualBellwork: name Thomson’s model of the atom and label the positive and negative partsActivity: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 permits7/8 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 guideSmall 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 atomGroups will present answers to class | Individual:Test about archaic and modern model of the atom, and the scientists who contributed to theseStudents 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 diagramsGroup 2:Define valence electronExplain 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 electronsb) list the number of protons, electrons, and valence electrons*Hunting the Elements*, as time permits | IndividualBellwork: 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
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| Evaluation | 1st/2nd periods: Correct models of atoms7/8 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 workGroup 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