

**Chemistry - Mrs. Bauck, PHUHS**  
Unit 4: Periodic Table - Chapter 5  
State Standards (\*\* = Chem 1H only)

**Topic 1: Introduction and Layout**

**Topic 2: Periodic Trends**

SC.912.P.8.5 Relate properties of atoms and their position in the periodic table to the arrangement of their electrons.

4.0	Extensions/Applications	<p>Students will be able to:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Give practical uses for select common alkali metals, alkaline earth metals, chalcogens, transition metals, inner transition metals, halogens, and noble gases.</li> <li><input type="checkbox"/> Give the non-English name for element symbols such as Na, K, Fe, Ag, Au, Sn, Sb, Pb, W, Hg.</li> <li><input type="checkbox"/> Describe the predicted properties of relatively newly discovered elements such as Fl, Lv, Ts, and Og.</li> </ul>
3.0	Learning Goal (Derived from State Standard)	<p>Students will be able to:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Explain the arrangement of elements on the periodic table according to periodic law and the octet rule.</li> <li><input type="checkbox"/> Determine an atom's location on the periodic table based on its electron configuration (and vice versa). (CHAPTER 5)</li> <li><input type="checkbox"/> Locate the following groups on the periodic table: alkali metals, alkaline earth metals, transition metals, inner transition metals, metalloids, chalcogens, halogens (halides), and noble gases.</li> <li><input type="checkbox"/> Explain periodicity-- Explain what happens to an atom's radius, electronegativity, and ionization energy going across a period or down a group of the periodic table based on nuclear charge and shielding electrons.</li> <li><input type="checkbox"/> Contrast an ion's radius to its atom's radius.</li> <li><input type="checkbox"/> Contrast different elements' reactivity based on their positions in the periodic table.</li> <li><input type="checkbox"/> Explain the concept of valence.</li> </ul>
2.0	Required Skills or Background Knowledge to accomplish Learning Goal	<p>Students will be able to:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Give the names of common elements 1-36.</li> <li><input type="checkbox"/> Explain basic atomic structure – protons, neutrons, electrons</li> <li><input type="checkbox"/> Demonstrate what a radius is with respect to a circle.</li> </ul>
1.0	With help from the teacher, student has partial success with the goal	<p>Students will be able to:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Achieve partial success with 2.0 and/or 3.0.</li> </ul>
0.0	Even with help, the student has no success with the goal	<ul style="list-style-type: none"> <li><input type="checkbox"/> Even with help, student is unable to understand or complete any of the skills in scales 1.0 through 4.0.</li> </ul>