

Chemistry 11 – Unit 8—Atoms, Periodic Table and Bonding
Unit Outline

Topic	Activity
Historical Development of Atomic Models	Brief class introduction to the models of the atom proposed by the ancient Greeks, Dalton, Thomson, Rutherford and Bohr. Read pages 139-144 in SW. Early Atomic Models Power Point
Protons, Neutrons, and Electrons in Atoms and Ions	Class explanation of nuclear notation of isotopes and how to determine the number of protons, neutrons and electrons given nuclear notation or nuclear notation given numbers of P's , N's and e ⁻ 's. See pages 144-148 in SW. Do Ex. 15(a-f), 16(a-e), 17(a-d), 19, 22(a-e) (change “Atomic Mass” to “Mass Number” in 19 & 22!) on pages 146-149 of SW.
Isotope Abundances and Atomic Mass	Class Explanation of how Atomic Mass is calculated given relative natural abundances of isotopes. See p. 150 in SW. Do Ex. 23(a-d) on page 150 of SW.
Electronic Structure of the Atom	Class Explanation of the Wave Mechanical or Quantum Mechanical Model of the Atom. See p. 151-158 in SW. Videos on Bohr-Rutherford Models and the Wave Mechanical Model. Do Hand-In Assignment # 12—Electronic Structure of the Atom. (You will also need pages 287-300 in Heath Chemistry Text to help you with this assignment.) Video on the Atom
Early History of the Periodic Table	Brief class introduction to early ordering of elements and Mendeleev's Periodic Table. Do Ex. 30 on page 160 of SW.
The Modern Periodic Table	Class Explanation of “Atomic Mass discrepancies” and how Atomic Number solved the problem.

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The Modern Periodic Table	<p>Class Introduction to the Major Divisions within the Periodic Table. See pages 161-164 of SW.</p> <p>Do Ex. 31-39 on pages 162-164 of SW.</p>
Trends on the Periodic Table	<p>Do Experiment on Trends in Reactivity of Elements.</p> <p>Do In-Class Activity on Trends on the Periodic Table</p>
Noble Gas Stability and Ion Formation	<p>Do Hand-In Assignment #13—Electron Arrangement and Ion Formation</p>
Chemical Families	<p>Do In-Class “Web-Elements” Computer Activity.</p> <p>See Video on the Periodic Table</p>
Chemical Bonding	<p>Class Explanation of Valence Electrons and Electron-Dot Diagrams (Lewis Structures) for Atoms. Draw Electron Dot Structures for a variety of atoms.</p> <p>Class Explanation of Electronegativity and the nature of Ionic Bonding. See p. 172-175 of SW. Do Ex. 57 & 60-64 on p.172-175 of SW.</p> <p>Class Explanation of Covalent Bonding. See p. 176-179 of SW. Do Ex. 69-72 on p. 178-179 of SW. Class Explanation of Polar Covalent Bonding (like in a water molecule). Brief Class Explanation of London Forces. See p. 179-181 in SW.</p> <p>Class Explanation of Drawing Electron-Dot Diagrams for simple ionic and covalent compounds, including some with double and triple bonds.</p> <p>See Video on Chemical Bonding</p> <p>Do Hand-In Assignment #14—Chemical Bonding</p>
Summary and Test	<p>Do a Brief Class Review of Unit 8</p> <p>Test on Unit 8</p>