



Chemistry Curriculum Bundle # 4

Title	 	Suggested Dates
Chemical Nomenclature		10/25 – 11/12 (14.5 days)

Big Idea/Enduring Understanding	Guiding Questions
Atoms combine and recombine to form different compounds. These combinations and recombinations are made possible through the exchange of energy. Atoms form bonds to acquire a stable arrangement of electrons.	<p>What does the name of a compound tell us about its composition?</p> <p>How can so many compounds be formed from just a few elements?</p>

The resources included here provide teaching examples and/or meaningful learning experiences to address the District Curriculum. In order to address the TEKS to the proper depth and complexity, teachers are encouraged to use resources to the degree that they are congruent with the TEKS and research-based best practices. Teaching using only the suggested resources does not guarantee student mastery of all standards. Teachers must use professional judgment to select among these and/or other resources to teach the district curriculum.

Knowledge & Skills with Student Expectations	District Specificity/Examples	Suggested Resources (See note above)
<p>Chem.7 Science concepts. The student knows how atoms form ionic, metallic, and covalent bonds. The student is expected to:</p> <p>7A name ionic compounds containing main group or transition metals, covalent compounds, acids, and bases, using International Union of Pure and Applied Chemistry (IUPAC) nomenclature rules;</p> <p>7B write the chemical formulas of common polyatomic ions, ionic compounds containing main group or transition metals, covalent compounds, acids, and bases;</p>	<p>Characterize ionic bonds, metallic bonds, and covalent bonds. Describe the properties of metals and ionic and covalent compounds. CCRS</p> <p><i>a. Draw Lewis dot structures for simple molecules, including simple hydrocarbons.</i></p> <p><i>b. Use Valence Shell Electron Pair Repulsion (VSEPR) model to predict molecular shapes.</i></p> <p><i>c. Describe nonpolar and polar covalent bonds. Use a chart of electronegativities to determine bond polarity.</i></p> <p><i>d. Determine if a molecule is polar (contains a dipole moment). CCRS</i></p> <p>Know formulas for ionic compounds. CCRS</p> <p><i>a. Name and write formulas for binary and ternary ionic compounds, using Group A (representative) metals and Group B (transition) metals, including those containing common polyatomic ions, (e.g., nitrate, sulfate, carbonate, ammonium, phosphate, hydroxide). CCRS</i></p> <p>Know formulas for molecular compounds. CCRS</p> <p><i>a. Name and write formulas for binary molecular compounds and acids.</i></p> <p><i>b. Categorize a compound as ionic or molecular. CCRS</i></p> <p>Including</p> <ul style="list-style-type: none"> • Use the periodic table to determine oxidation numbers 	<p>Fun and Games in Chemistry Claudia Wallace and Jane Smith Writing Chemical Names and Formulas http://cast2007.smithwallace.googlepages.com/home</p> <p>Dice Game-Cation Cards See chemistry resource folder</p> <p>Dice Game-Anions Cards See chemistry resource folder</p> <p>Dice Game-Blank Cards See chemistry resource folder</p> <p>Chemistry Around the House Project See chemistry resource folder</p> <p>Chemistry Around the House Rubric See chemistry resource folder</p>

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	<ul style="list-style-type: none"> • Name and write formulas for ionic compounds and polyatomic ions • Name and write formulas for molecular compounds • Name and write formulas for binary and oxyacids 	
<p>7D describe the nature of metallic bonding and apply the theory to explain metallic properties such as thermal and electrical conductivity, malleability, and ductility; and</p>	<p>Including</p> <ul style="list-style-type: none"> • Describe ionic bonding and properties • Describe metallic bonding and properties <p>Hydrogen bonding Dipole-dipole</p> <ul style="list-style-type: none"> • London dispersion 	<p>To share or not share-Ionic and Covalent Lab See chemistry resource folder</p> <p>Ionic vs. Covalent Lab See chemistry resource folder</p> <p>Chemical Bonding by Vision learning http://www.visionlearning.com/library/module_viewer.php?mid=55</p> <p>Ionic vs Covalent Bonding flash animation http://www.emu.dk/gsk/fag/fys/ckf/fase1/1fokv/kemisk_binding/ion_kovalent_polaer_kovalent_binding.swf</p> <p>Difference between ionic and covalent compounds http://www.usoe.k12.ut.us/curr/science/core/plans/ionic.html</p> <p>Effect of Bonding on Covalent and Ionic compounds http://www.jghs.edu.ky/Departments/Chemistry/chwsbopr.htm</p>