

**Chemistry – Grades 11-12**  
**District 2853**

Month	Content	Performance Standards Addressed	Skills for Student Achievement	Assessment
September (3 Weeks)	· Fundamental Concepts	Physical Science IA, IB, IIA	· Identify matter and energy · Characterize phases of matter · Description of scientific method · Classification of matter as elements, compounds and mixtures · Introduction to periodic table · Discussion of measurement and units · Problem solving using units	· Guided practice in classroom · Laboratory activities · Written test
September and October (3 Weeks)	· Language and Nomenclature	Physical Science IIB	· Description of Dalton's Atomic Theory and Experiments · More recent views of atomic theory · Use of symbols and formulas to represent substances · Preliminary discussion of covalent and ionic bonding · Writing and balancing chemical equations · Naming inorganic component	· Guided practice in classroom · Laboratory activities · Written test
October and November (3 Weeks)	· Stoichiometry	Physical Science IB, IIB	· Calculation of atomic formula and molecular mass · Introduction to the mole concept · Calculation of molar masses · Calculations of related amounts of reactants and products · Discussion and calculations of percentage composition and chemical formulas	· Guided practice in classroom · Laboratory activities · Written descriptions for problem solving · Written test
December and January	· Thermochemistry	Physical Science IIB, IIC	· Description and measurement of thermal energy and temperature · Introduction to enthalpy	· Guided practice in classroom · Laboratory activities · Written test
January to Mid-February	· Atomic Spectrum · Atomic Structure	Physical Science IIA	· Discussion of mathematical models for the atom	· Guided practice in classroom · Laboratory activities · Written test
February and March (3 Weeks)	· Introduction to Chemical Bonding	Physical Science IIA	· Introduction to ionic bonding and lattice energy · Introduction to covalent bonding	· Guided practice in classroom · Laboratory activities · Written test

			<ul style="list-style-type: none"> <li>· Representation of molecules using Lewis electron</li> <li>· Dot structures</li> <li>· Calculation of oxidation numbers and formal charge</li> </ul>	
March to Mid-April		Physical Science IIA	<ul style="list-style-type: none"> <li>· Discussion of molecular structure</li> <li>· Use of Valence Shell Electron Pair Repulsion Theory</li> <li>· Introduction to Valence Bond Theory and Molecular Orbital Theory</li> </ul>	<ul style="list-style-type: none"> <li>· Guided practice in classroom</li> <li>· Laboratory activities</li> <li>· Written test</li> </ul>
April		Physical Science IIB	<ul style="list-style-type: none"> <li>· Classification of chemical reactions</li> <li>· Prediction of products for chemical reactions</li> </ul>	<ul style="list-style-type: none"> <li>· Guided practice in classroom</li> <li>· Laboratory activities</li> <li>· Written test</li> </ul>
May (2 Weeks)			<ul style="list-style-type: none"> <li>· Introduction to naming organic compounds</li> <li>· Families of organic compounds</li> </ul>	<ul style="list-style-type: none"> <li>· Guided practice in classroom</li> <li>· Laboratory activities</li> <li>· Written test</li> </ul>
May (2 Weeks)		Physical Science IIA	<ul style="list-style-type: none"> <li>· Introduction to macroscopic behavior of gases</li> <li>· Gas Laws</li> </ul>	<ul style="list-style-type: none"> <li>· Guided practice in classroom</li> <li>· Laboratory activities</li> <li>· Written test</li> </ul>