

## Scope and Sequence

Subject/Title of Unit	Grade	6 Weeks	Estimated Time Frame (# of days)
Chemistry Unit 9 – Kinetics and Equilibrium	10 – 12	4 <sup>th</sup> cycle	8 days
TEKS/Student Expectations		Examples/Specifications:	
<p>15A - verify the law of conservation of energy by evaluating the energy exchange that occurs as a consequence of a chemical reaction</p> <p>15B - relate the rate of a chemical reaction to temperature, concentration, surface area, and presence of a catalyst</p> <p>13C - measure and compare the rates of reaction of a solid reactant in solutions of varying concentration</p> <p>5A - identify changes in matter, determine the nature of the change, and examine the forms of energy involved</p> <p>11A - identify common elements and compounds using scientific nomenclature</p> <p>11B - demonstrate the use of symbols, formulas, and equations in describing interactions of matter such as chemical and nuclear reactions</p> <p>11C - explain and balance chemical and nuclear equations using number of atoms, masses, and charge</p> <p>1A - demonstrate safe practices during field and laboratory investigations.</p> <p>1B - make wise choices in the use and conservation of resources and the disposal or recycling of materials.</p> <p>2A - plan and implement investigative procedures including asking questions, formulating testable hypotheses, and selecting equipment and technology</p>	<p>15A – interpret potential energy diagrams and describe the kinetics of reactions.</p> <p>15B &amp; 13C – investigate the rate of reaction as impacted by temperature, concentration, particle size and catalysts through lab study.</p> <p>5A – describe chemical equilibrium and use LeChatelier’s principle to predict shifts in an equilibrium system both in theory and lab.</p> <p>11A, B, &amp; C – interpret equilibrium equations.</p> <p>1A &amp; B – conduct lab experiments safely and follow instructor guidelines regarding appropriate disposal of materials.</p> <p>2A – use the scientific method when planning a controlled experiment, including the identification and selection of appropriate equipment, and the development of a suitable hypothesis.</p> <p>2B &amp; C– using the metric system, measure quantities to the correct number</p>		

<p>2B - collect data and make measurements with precision</p> <p>2C - express and manipulate chemical quantities using scientific conventions and mathematical procedures such as dimensional analysis, scientific notation, and significant figures</p> <p>2D - organize, analyze, evaluate, make inferences, and predict trends from data</p> <p>2E - communicate valid conclusions</p>	<p>of significant digits using scientific notation as appropriate. Convert between units as needed and round to the correct number of digits when reporting a calculated answer.</p> <p>2D &amp; E – apply the steps of the scientific method to lab investigations.</p>
<p><b>Language of Instruction:</b></p>	
<p>Equilibrium  Activation energy  Heat of reaction  Catalyst  Enzyme  Inhibitor  LeChatelier's principle</p>	<p><b>Instructional Resources/Textbook Correlations:</b></p> <p>Glencoe Chemistry: Concepts and Applications – chapter 6.3 and 20.1  Equilibrium lab  Rate of reaction lab</p> <p><b>Weblinks/Other Resources:</b></p>
<p><b>Evaluation/External Assessment/Local Assessment:</b></p>	
<p>TAKS test (1.1A, 1.2A-D, 4.8A)  Teacher-designed test  Laboratory reports and performance  Quizzes  Daily work  Homework</p>	<p><b>Best Instruction Timeline:</b></p> <p>3 days – equilibrium and lab  3 days – rate of reaction, graph interpretation and lab  2 days – review and assessment</p>

