

Scope and Sequence

Subject/Title of Unit	Grade	6 Weeks	Estimated Time Frame (# of days)
Chemistry Unit 14 – Phases of Matter	10 – 12	5 th cycle	12 days
TEKS/Student Expectations		Examples/Specifications:	
<p>4B - analyze examples of solids, liquids, and gases to determine their compressibility, structure, motion of particles, shape, and volume</p> <p>5A - identify changes in matter, determine the nature of the change, and examine the forms of energy involved</p> <p>5C - measure the effects of the gain or loss of heat energy on the properties of solids, liquids, and gases</p> <p>7A - describe interrelationships among temperature, particle number, pressure, and volume of gases contained within a closed system</p> <p>3A - analyze, review, and critique scientific explanations, including hypotheses and theories, as to their strengths and weaknesses using scientific evidence and information</p> <p>3C - evaluate the impact of research on scientific thought, society, and the environment</p> <p>3E - research and describe the history of chemistry and contributions of scientists</p> <p>7B - illustrate the data obtained from investigations with gases in a closed system and determine if the data are consistent with the Universal Gas Law</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>4B – determine the properties of solids, liquids, and gases through lab investigation.</p> <p>5A & C – relate temperature/pressure changes to phase changes and interpret graphs of phase changes. Create a heating/cooling curve in lab.</p> <p>7A – using the Kelvin temperature scale and metric pressure measurements, calculate changes in gas volume. Demonstrate changes in lab investigation.</p> <p>3A, C, & E – describe the contributions to understanding gas phase behavior made by Boyle, Charles, Gay-Lussac, and Avogadro.</p> <p>7B – use the universal gas law to predict gas behavior.</p> <p>1A & B – conduct lab experiments safely and follow instructor guidelines regarding appropriate disposal of materials.</p>		

<p>2A - plan and implement investigative procedures including asking questions, formulating testable hypotheses, and selecting equipment and technology</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>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 & C– using the metric system, measure quantities to the correct number 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 & E – apply the steps of the scientific method to lab investigations.</p>
Language of Instruction:	
<p>Absolute zero Boiling point Condensation Crystal lattice Diffusion Evaporation Freezing point Gas Kelvin scale Kinetic theory Liquid Melting point Plasma</p>	<p>Pressure Solid Sublimation Deposition Temperature Vapor pressure Vaporization Barometer Kilopascal STP</p>
Evaluation/External Assessment/Local Assessment:	
<p>TAKS test (1.1A, 1.2A-D, 4.7A, 4.8A) Teacher-designed test Laboratory reports and performance Quizzes Daily work Homework</p>	<p>Instructional Resources/Textbook Correlations:</p> <p>Glencoe Chemistry: Concepts and Applications – chapter 10 & 11 Phases of matter activity Boyle’s law lab Charles’ law lab Phase change lab</p> <p>Weblinks/Other Resources:</p> <p>Best Instruction Timeline:</p> <p>2 days – phases of matter activity and temperature/pressure measurement 3 days – phase changes and graph interpretation 5 days – gas laws and labs 2 days – review and assessment</p>