

Year at a Glance Chemistry 2022-2023  
**Readiness, Supporting, Process TEKS**



1 <sup>st</sup> Grading Period	2 <sup>nd</sup> Grading Period
<p><b>Matter</b></p> <ul style="list-style-type: none"> <li>Review Lab Safety (TEKS C.1A - C.1C)</li> <li>Math Basics Review (metrics, dimensional analysis, sig figs, scientific notation) (C.1G)</li> <li>Kinetic Theory, Matter vs Energy (TEKS C.9B)</li> <li>States of Matter in terms of compressibility, structure, shape, and volume (TEKS C.4C)</li> <li>Phys/Chem Properties and Changes (TEKS C.4A)</li> <li>Intensive/Extensive properties (TEKS C.4B)</li> <li>Mixtures/Pure substances (TEKS C.4D)</li> </ul> <p><b>Atoms</b></p> <ul style="list-style-type: none"> <li>Atomic theory: Dalton, Thomson, Rutherford, Bohr (TEKS C.6A), (TEKS C.3F)</li> <li>Calculate average atomic mass using Isotopes (TEKS C.6C)</li> <li>Define mole (TEKS C.8A)</li> <li>Calculate number of atoms/moles in sample (TEKS C.8B, TEKS C.2G)</li> </ul> <p><b>Periodic Table</b></p> <ul style="list-style-type: none"> <li>History of Periodic Table (TEKS C.5A), (TEKS C.3F)</li> <li>Families on Periodic Table: alkali metals, alkaline earth metals, halogens, noble gases, transition metals, (TEKS C.5B)</li> <li>Trends of Periodic Table: atomic radii, electronegativity, ionization energy (TEKS C.5C)</li> <li>Atomic arrangement in Lewis dot structures (TEKS C.6D)</li> <li>Electron configuration (TEKS C.6D)</li> <li>Electromagnetic Spectrum with relationship to energy, frequency, and wavelength (TEKS C.6B)</li> </ul>	<p><b>Ionic Compounds</b></p> <ul style="list-style-type: none"> <li>Bonding: properties of ionic and metallic compounds (TEKS C.7C, TEKS C.7D)</li> <li>Electron dot structures to illustrate ionic bonding (TEKS C.7C)</li> <li>Name ionic compounds (TEKS C.7A)</li> <li>Write ionic formulas (TEKS C.7B)</li> </ul> <p><b>Covalent Compounds</b></p> <ul style="list-style-type: none"> <li>Bonding: properties of covalent compounds (TEKS C.7C)</li> <li>Electron dot structures to illustrate covalent bonding (TEKS C.7C)</li> <li>VESPR: linear, trigonal planar, tetrahedral (TEKS C.7E)</li> <li>Name covalent compounds (TEKS C.7A)</li> <li>Write covalent formulas (TEKS C.7B)</li> </ul> <p><b>Chemical Quantities</b></p> <ul style="list-style-type: none"> <li>Mole (review) and Molar Mass (TEKS C.8A, TEKS C.8B, TEKS C.2G)</li> <li>Empirical formula (TEKS C.8D)</li> <li>Percent composition (TEKS C.8C)</li> </ul>
District Semester Exam	

3 <sup>rd</sup> Grading Period	4 <sup>th</sup> Grading Period
<p><b>Reactions</b></p> <ul style="list-style-type: none"> <li>Balance equations/Law of Conservation of Mass <b>(TEKS C.8E)</b></li> <li>Types of Reactions <b>(TEKS C.8F)</b> <ul style="list-style-type: none"> <li>Double Replacement</li> <li>Redox Reactions: Synthesis, Decomposition, Single Replacement &amp; Combustion</li> </ul> </li> </ul> <p><b>Stoichiometry</b></p> <ul style="list-style-type: none"> <li>Stoichiometric calculation <b>(TEKS C.8G)</b></li> <li>Mass relationships between reactants and products <b>(TEKS C.8G)</b></li> <li>Limiting reagents <b>(TEKS C.8H)</b></li> <li>Percent yield <b>(TEKS C.8G)</b></li> </ul> <p><b>Solutions in Chemistry</b></p> <ul style="list-style-type: none"> <li>Role of water in solutions (polarity) <b>(TEKS C.10A)</b></li> <li>Solubility Rules <b>(TEKS C.10B)</b></li> <li>Types of solutions: electrolyte, nonelectrolyte, saturated, unsaturated, super saturated <b>(TEKS C.10E)</b></li> <li>Rate of dissolving <b>(TEKS C.10F)</b></li> <li>Calculate Molarity of solutions <b>(TEKS C.10C)</b></li> <li>Use molarity to calculate dilutions <b>(TEKS C.10D)</b></li> <li>Identify precipitation reactions <b>(TEKS C.8F)</b></li> </ul> <p><b>Acids and Bases</b></p> <ul style="list-style-type: none"> <li>Acids/Bases <b>(TEKS C.10G)</b> <ul style="list-style-type: none"> <li>Definitions</li> <li>Arrhenius</li> <li>Bronsted-Lowry</li> </ul> </li> <li>Define and calculate pH <b>(TEKS C.10H)</b></li> <li>Name acid/base compounds <b>(TEKS C.7A)</b></li> <li>Write formulas for acids and bases <b>(TEKS C.7B)</b></li> <li>Identify acid-base reactions <b>(TEKS C.7F)</b></li> <li>Predict products in acid-base reactions that form water <b>(TEKS C.10G)</b></li> </ul>	<p><b>Gas Laws</b></p> <ul style="list-style-type: none"> <li>Kinetic theory <b>(TEKS C.9B)</b></li> <li>Ideal Gas vs Non Ideal gas <b>(TEKS C.9A)</b></li> <li>Boyle's, Charles', Gay-Lussac's, Avogadro's, Dalton's Laws and Ideal Gas calculations <b>(TEKS C.9A)</b></li> <li>Gas Stoichiometry <b>(TEKS C.8G)</b></li> </ul> <p><b>Thermochemistry and Reaction Rates</b></p> <ul style="list-style-type: none"> <li>Types of Energy <b>(TEKS C.11A)</b></li> <li>Law of Conservation of Energy/Heat transfer <b>(TEKS C.11B)</b></li> <li>Identify and measure energy in chemical reactions/ Endothermic and exothermic <b>(TEKS C.11C)</b></li> <li>Calculations: specific heat equation &amp; calorimetry <b>(TEKS C.11D)</b></li> </ul> <p><b>Nuclear Chemistry</b></p> <ul style="list-style-type: none"> <li>Nuclear energy <b>(TEKS C.12A)</b> <ul style="list-style-type: none"> <li>Alpha radiation</li> <li>Beta radiation</li> <li>Gamma radiation</li> </ul> </li> <li>Fission and Fusion <b>(TEKS C.12B)</b></li> <li>Radioactive decay/Balance equations <b>(TEKS C.12A)</b></li> </ul> <p><b>Review/Semester Exam/Final Project</b></p>