

## Year at a Glance

Chemistry I—Regular Level

**Readiness, Supporting, and Process TEKS**

All Process TEKS C.1 –C.3 are taught throughout the year

| 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> <p>Review and Midterm Exam</p> |

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

Process TEKS will be taught throughout the entire year.