

Year at a Glance Chemistry APA 2020-2021
Readiness, Supporting, Process TEKS



1 st Grading Period	2 nd Grading Period
<p>Classroom Procedures, Introductions, Get to Know You Activities, Safety Protocols, Capturing Kids Hearts Activities (TEKS C.1A - C.1C)</p> <p>Matter review from elem and JH</p> <ul style="list-style-type: none"> • Solid, Liquid, Gas review • Review the definition of a mixture and name examples of mixtures • Review the definition of a pure substance and name examples • Identify if a chemical change or a physical change occurred <p>Matter</p> <ul style="list-style-type: none"> • Matter vs. Energy (TEKS C.9B) • Kinetic Theory / States: Solid, liquid, gas in terms of compressibility, structure, shape, and volume (TEKS C.9B, TEKS C.4C) • Phys/Chem. Properties and Changes (TEKS C.4A) • Intensive/Extensive properties (TEKS C.4B) • Mixtures/pure substances (TEKS C.4D) • Energy and phase change (ENE-2) <p>Atomic History and Periodic Table</p> <ul style="list-style-type: none"> • History of Periodic Table (TEKS C.5A), (TEKS C.3F) • Families on Periodic Table: alkali metals, alkaline earth metals, halogens, noble gases, transition metals, (TEKS C.5B) • Atomic theory: Dalton, Thomson, Rutherford, Bohr (TEKS C.6A), (TEKS C.3F) • Calculate average atomic mass using Isotopes (TEKS C.6C) <p>The Electrons and Periodic Table</p> <ul style="list-style-type: none"> • Trends of Periodic Table: atomic radii, electronegativity, ionization energy (TEKS C.5C) • Atomic arrangement in Lewis dot structures (TEKS C.6D) • Electron configuration of atoms (TEKS C.6D) of ions (SAP-1.A) • Electromagnetic Spectrum with relationship to energy, frequency, and wavelength (TEKS C.6B) • Aufbau principle (SAP-1.A) 	<p>Nomenclature</p> <ul style="list-style-type: none"> • Name ionic and covalent compounds, acids and bases (TEKS C.7A) • Write ionic and covalent formulas, acids and bases (TEKS C.7B) <p>Compounds</p> <ul style="list-style-type: none"> • Bonding: properties of ionic, covalent, and metallic compounds (TEKS C.7C, TEKS C.7D) • Electron dot structures to illustrate ionic and covalent bonding (TEKS C.7C) • VESPR: linear, trigonal planar, tetrahedral (TEKS C.7E) • Compare and contrast ionic and covalent bonding (SAP-3.A) <p>The Mole</p> <ul style="list-style-type: none"> • Define mole (TEKS C.8A) • Calculate number of moles, molecules and atoms of solids, liquids, and gases (TEKS C.8B, TEKS C.2G, C.8G, SPQ-1.A) • Percent composition (TEKS C.8C) • Empirical formula vs Molecular formula (TEKS C.8D) <p>District Semester Exam</p>

3 rd Grading Period	4 th Grading Period
<p>Reactions</p> <ul style="list-style-type: none"> • Types of Reactions (TEKS C.8F) <ul style="list-style-type: none"> ➤ Double Replacement ➤ Redox Reactions: Synthesis, Decomposition, Single Replacement & Combustion • Predict products in acid-base reactions that form water (TEKS C.10G) <p>Stoichiometry</p> <ul style="list-style-type: none"> • Balance equations/Law of Conservation of Mass (TEKS C.8E) • Stoichiometric calculation (TEKS C.8G) • Mass relationships between reactants and products (TEKS C.8G) • Limiting reagents (TEKS C.8H) • Percent yield (TEKS C.8G) <p>Gas Laws</p> <ul style="list-style-type: none"> • Kinetic theory (TEKS C.9B) • Ideal Gas vs Non Ideal gas (TEKS C.9A) • Boyle's, Charles', Gay-Lussac's, Avogadro's, Dalton's Laws and Ideal Gas calculations (TEKS C.9A) • Gas Stoichiometry (TEKS C.8G) <p>Solutions and Kinetics</p> <ul style="list-style-type: none"> • Role of water in solutions (polarity) (TEKS C.10A) • Solubility Rules (TEKS C.10B) • Types of solutions: electrolyte, nonelectrolyte, saturated, unsaturated, super saturated (TEKS C.10E) • Rate of dissolving (TEKS C.10F) • Calculate Molarity of solutions (TEKS C.10C) • Use molarity to calculate dilutions (TEKS C.10D) • Identify precipitation reactions (TEKS C.8F) • Factors that influence rate of a reaction (TRA-3.A) • Determine the order of a reaction when given the rate law equation (TRA-3.B) • Identify rate law expression using concentration vs time data (TRA-3.C) 	<p>Acids and Bases and Equilibrium</p> <ul style="list-style-type: none"> • Acids/Bases (TEKS C.10G) <ul style="list-style-type: none"> • Definitions • Arrhenius • Bronsted-Lowry • Define and calculate pH and pOH (TEKS C.10H, SAP-9.B) • Identify acid-base reactions (TEKS C.8F) • Relationship between pH and pOH in a solution of a monoprotic weak acid or base (SAP-9.C) • Use a reversible reaction to explain equilibrium (TRE-6.A) • Define and investigate LeChatelier's Principle (TRA-8.A) <p>Thermochemistry and Reaction Rates</p> <ul style="list-style-type: none"> • Types of Energy (TEKS C.11A) • Law of Conservation of Energy/Heat transfer (TEKS C.11B) • Identify and measure energy in chemical reactions/ Endothermic and exothermic (TEKS C.11C) • Calculations: specific heat equation & calorimetry (TEKS C.11D) • Define entropy (ENE-4.A) • Calculate ΔG°, when given ΔH°, ΔS°, and the temperature (ENE-4.C) <p>Nuclear Chemistry</p> <ul style="list-style-type: none"> • Nuclear energy (TEKS C.12A) <ul style="list-style-type: none"> • Alpha radiation • Beta radiation • Gamma radiation • Fission and Fusion (TEKS C.12B) • Radioactive decay/Balance equations (TEKS C.12A) <p>Review/Semester Exam/Final Project</p>

Process TEKS will be taught throughout the entire year.