

Year at a Glance Chemistry I 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 (1 week) (TEKS C.1A - C.1C)</p> <p>Matter review from elem and JH (1 week)</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"> • Kinetic Theory, Matter vs Energy (TEKS C.9B) • States of Matter in terms of compressibility, structure, shape, and volume (TEKS C.4C) • Phys/Chem Properties and Changes (TEKS C.4A) • Intensive/Extensive properties (TEKS C.4B) • Mixtures/Pure substances (TEKS C.4D) <p>Atoms</p> <ul style="list-style-type: none"> • Atomic theory: Dalton, Thomson, Rutherford, Bohr (TEKS C.6A), (TEKS C.3F) • Calculate average atomic mass using Isotopes (TEKS C.6C) • Define mole (TEKS C.8A) • Calculate number of atoms/moles in sample (TEKS C.8B, TEKS C.2G) <p>Periodic Table (1 week in 1st grading period and 1.5 weeks in 2nd grading period)</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) • Trends of Periodic Table: atomic radii, electronegativity, ionization energy (TEKS C.5C) • Atomic arrangement in Lewis dot structures (TEKS C.6D) • Electron configuration (TEKS C.6D) • Electromagnetic Spectrum with relationship to energy, frequency, and wavelength (TEKS C.6B) 	<p>Periodic Table continued</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) • Trends of Periodic Table: atomic radii, electronegativity, ionization energy (TEKS C.5C) • Atomic arrangement in Lewis dot structures (TEKS C.6D) • Electron configuration (TEKS C.6D) • Electromagnetic Spectrum with relationship to energy, frequency, and wavelength (TEKS C.6B) <p>Ionic Compounds</p> <ul style="list-style-type: none"> • Bonding: properties of ionic and metallic compounds (TEKS C.7C, TEKS C.7D) • Electron dot structures to illustrate ionic bonding (TEKS C.7C) • Name ionic compounds (TEKS C.7A) • Write ionic formulas (TEKS C.7B) <p>Covalent Compounds</p> <ul style="list-style-type: none"> • Bonding: properties of covalent compounds (TEKS C.7C) • Electron dot structures to illustrate covalent bonding (TEKS C.7C) • VESPR: linear, trigonal planar, tetrahedral (TEKS C.7E) • Name covalent compounds (TEKS C.7A) • Write covalent formulas (TEKS C.7B) <p>District Semester Exam</p>

3rd Grading Period

Chemical Quantities

- Mole (review) and Molar Mass (TEKS C.8A, TEKS C.8B, TEKS C.2G)
- Empirical formula (TEKS C.8D)
- Percent composition (TEKS C.8C)

Reactions

- Balance equations/Law of Conservation of Mass (TEKS C.8E)
- Types of Reactions (TEKS C.8F)
 - Double Replacement
 - Redox Reactions: Synthesis, Decomposition, Single Replacement & Combustion

Stoichiometry

- Stoichiometric calculation (TEKS C.8G)
- Mass relationships between reactants and products (TEKS C.8G)
- Limiting reagents (TEKS C.8H)
- Percent yield (TEKS C.8G)

Solutions in Chemistry

- 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)

4th Grading Period

Acids and Bases

- Acids/Bases (TEKS C.10G)
 - Definitions
 - Arrhenius
 - Bronsted-Lowry
- Define and calculate pH (TEKS C.10H)
- Name acid/base compounds (TEKS C.7A)
- Write formulas for acids and bases (TEKS C.7B)
- Identify acid-base reactions (TEKS C.7F)
- Predict products in acid-base reactions that form water (TEKS C.10G)

Gas Laws

- 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)

Thermochemistry

- 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)

Nuclear Chemistry

- Nuclear energy (TEKS C.12A)
 - Alpha radiation
 - Beta radiation
 - Gamma radiation
- Fission and Fusion (TEKS C.12B)
- Radioactive decay/Balance equations (TEKS C.12A)

Review/Semester Exam/Final Project

Process TEKS will be taught throughout the entire year.