



Essential Resources
Spiraled TEKS

District Resources to Teach 100% of the TEKS: eCourse, Apex, Discovery Education

Scientific Investigations & Reasoning C.1 A, B & C, C.2 A, B, C, D, E, F, G, H & I, C.3 A, B, C, D, E & F

Previous Courses

* High school science courses are considered "stand alone" and any common content or process skills needed as foundational learning were taught with fidelity in the 2019-20 school year.

Timeline		1st Quarter Aug 24 - Oct 16, 2020 (38 Instructional Days)	2nd Quarter Oct 19 - Dec 18, 2020 (40 Instructional Days)
Big Idea	Current Grade	Physical/Chemical Changes and Properties Classifying Matter Energy, Frequency, and Wavelength of Light Atomic Mass Atomic Theory	Using the Periodic Table Properties of Chemical Families Chemical Bonding Chemical Formulas Chemical Reactions
	TEKS Current Grade	C.1 A, B & C C.2 F, G & H C.4 A, B, C & D C.6 A, B, C & D LAB SAFETY, EQUIPMENT & BASIC TECHNIQUES: Demonstrate safe practices during laboratory and field investigations, know specific hazards of chemical substances, and demonstrate an understanding of the use and conservation of resources and proper disposal. MEASUREMENT AND CALCULATIONS: Collect data and make measurements with accuracy and precision, express and manipulate chemical quantities using scientific conventions and mathematical procedures, organize, analyze, evaluate, and make inferences, and predict trends from data. MATTER: Differentiate between physical and chemical changes and properties, identify extensive and intensive properties, compare solids, liquids, and gases, and classify matter as pure substances or mixtures. BASIC ATOMIC STRUCTURE & ELECTRONS IN ATOMS: Describe the experimental design and conclusions used in the development of modern atomic theory, describe the mathematical relationships between energy, frequency and wavelength of light using electromagnetic spectrum, calculate average atomic mass of an element using isotopic composition, and express the arrangement of electrons in atoms.	C.5 A, B & C C.7 A, B, C & D C.8 E, F CHEMICAL PERIODICITY: Explain the use of chemical and physical properties in the historical development of the Periodic Table, identify & explain the properties of chemical families using the Periodic Table, and interpret Periodic Table trends. BASIC BONDING AND NOMENCLATURE: Name ionic compounds containing main group or transition metals, covalent compounds, acids, and bases using IUPAC rules, write the chemical formulas of common polyatomic ions, ionic compounds containing main group or transition metals, covalent compounds, acids, construct electron dot formulas to illustrate ionic and covalent bonds, and describe the nature of metallic bonding and apply the theory to explain metallic properties. CHEMICAL REACTIONS: Use the law of conservation of mass to write and balance chemical equations and differentiate types of chemical reactions.
Timeline		3rd Quarter Jan 4 - March 12, 2021 (48 Instructional Days)	4th Quarter March 22 - May 27, 2021 (48 Instructional Days)
Reporting Category			
Big Idea	Current Grade	Mole Concept Stoichiometry Lewis Structures Molecular Geometry	Energy in Chemical Reactions Kinetic Molecular Theory Ideal Gases Solutions Solubilities Acids and Bases Radioactivity Nuclear Decay
	TEKS Current Grade	C.8 A, B, C, D, G & H C.7 D & E CHEMICAL QUANTITIES & STOICHIOMETRY: Define and use the concept of a mole, calculate the number of atoms or molecules in a sample of material using Avogadro's number, calculate percent composition of compounds and perform stoichiometric calculations, including determination of mass and gas volume relationships between reactants and products, calculation of limiting reagents, and percent yield. ADVANCED BONDING: Describe metallic bonding and explain metallic properties such as thermal and electrical conductivity, malleability, and ductility, and classify molecular structure for molecules with linear, trigonal planar, and tetrahedral electron pair geometries using Valence Shell Electron Pair Repulsion (VSEPR) theory.	C.11 A, B, C & D C.9 A & B C.10 A, B, C, D, E, F, G & H C.12 A & B THERMOCHEMISTRY: Describe energy and its forms, describe the law of conservation of energy and the processes of heat transfer in terms of calorimetry, classify reactions as exothermic or endothermic and represent energy changes that occur in chemical reactions using thermochemical equations or graphical analysis, perform calculations involving heat, mass, temperature change, and specific heat. GAS LAWS: Describe and calculate the relations, describe the postulates of kinetic molecular theory. SOLUTIONS, ACIDS AND BASES: Describe the unique role of water solutions of polarity, apply general rules regarding solubility, calculate the concentration of solutions in units of molarity, calculate the dilutions of solutions using molarity, distinguish among types of solutions, investigate factors that influence solid and gas solubilities and rates of dissolution, define acids and bases and distinguish between Arrhenius and Bronsted-Lowry definitions, define pH and use the hydrogen or hydroxide ion concentrations to calculate the pH of a solution. NUCLEAR CHEMISTRY: Describe the characteristics of alpha, beta, and gamma radiation, describe radioactive decay process in terms of balanced nuclear equations, and compare fission and fusion reactions.