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| **Unit 1: Properties of Matter** | **Unit 6: Chemical Reactions** |
| * Lab Safety / Science Practices * Math Review (Metrics, Dimensional Analysis, Scientific Notation, etc.) * Mass, Volume, Density | * Evidence of Chemical Change * Writing and Balancing Chemical Equations * Law of Conservation of Mass * Types of Chemical Reactions * Predicting Products of Chemical Reactions * Net Ionic Equations * Factors Affecting Reaction Rates * Chemical Equilibrium (Le Chatlier’s Principle) |
| **Unit 2: Atom Theory** | **Unit 7: Stoichiometry** |
| * Pure Substance vs. Mixtures * Atomic Models * Subatomic Particles * Neutral Atoms * Isotopes * Nuclear Particles * Nuclear Reactions * Radioactive Decay * Half Lives | * Mole Ratios * Stoichiometric Conversions * Theoretical Yield * Percent Yield * Limiting and Excess Reactants * Heat Stoichiometry * Endothermic vs. Exothermic Reactions |
| **Unit 3: Electrons and Atom Behavior** | **Unit 8: Solutions** |
| * Periodic Table Basics * Electron Configurations * Electrons and Light (Bohr Model) * Periodic Trends: Ionization Energy, Atomic Radius, Electronegativity, Reactivity | * Solution Basics * Factors that Affect Solubility * Solubility Curves * Concentration: Molarity * Dilutions * Properties of Acids and Bases * pH , pOH, [H+], and [OH-] * Titration and Neutralization |
| **Unit 4: Chemical Bonding - Compounds** | **Unit 9: Energy** |
| * Ions * Characteristics of Ionic and Covalent Compounds * Naming / Writing Formulas for Ionic, Covalent, and Acid Compounds (Nomenclature) * VSEPR Theory * Intermolecular Forces | * Specific Heat Capacity * States of Matter and Energy (Kinetic Molecular Theory) * Temperature and Heat * Phase Diagrams   Heating and Cooling Curves |
| **Unit 5: Counting Particles Too Small to See**  **(The Mole Concept)** | **Unit 10: Gas Laws** |
| * Formula Mass * Percent Composition * The Mole Concept * Mole Conversions * Empirical Formulas * Molecular Formulas | * Kinetic Molecular Theory Revisited * Dalton’s Law of Partial Pressure * PVT Gas Laws * Ideal Gas Law |