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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
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