

UNIT TITLE	CORE TOPICS (Key Concepts & Real World Contexts)	UNIT BENCHMARKS	SUGGESTED ASSESSMENT	POSSIBLE RESOURCES
MEASUREMENTS IN SCIENCE	Temperature, significant digits, dimensional analysis, density, classification of matter.	I.1.HS.3 II.1.HS.5		
ATOMS, MOLECULES, AND IONS	<ul style="list-style-type: none"> ▪ Dalton's Atomic Theory ▪ Law of Conservation of mass ▪ Law of Conservation of energy ▪ Law of Conservation of mass-energy ▪ Naming components ▪ Writing formulas 	IV.1.HS.3 IV.2.HS.2		
STOICHIOMETRY	<ul style="list-style-type: none"> ▪ Atomic masses ▪ Moles ▪ Molar mass ▪ Percent compositions of compound ▪ Balancing chemical equations ▪ Limiting reagents 			
TYPES OF CHEMICAL REACTIONS	<ul style="list-style-type: none"> ▪ Precipitation reactions ▪ Acid-base reactions ▪ Oxidation-reduction reactions 			
PHYSICAL PROPERTIES OF GASES	<ul style="list-style-type: none"> ▪ Ideal gas equation ▪ Gas stoichiometry ▪ Dalton's Law of partial pressures, kinetic molecular theory 			
THERMOCHEMISTRY	<ul style="list-style-type: none"> ▪ Enthalpy and calorimetry ▪ Hess's Law ▪ Standard Enthalpies of formation ▪ New energy sources and present ones 	IV.2.HS.5		
ATOMIC STRUCTURE AND PERIODICITY AND BONDING	<ul style="list-style-type: none"> ▪ Quantum numbers ▪ Electronegativity ▪ Lewis Structures ▪ Octet Rule ▪ Periodic trends ▪ Resonance 	IV.2.HS.1		

AP CHEMISTRY/CHEMISTRY II

Eleventh Grade

UNIT TITLE	CORE TOPICS (Key Concepts & Real World Contexts)	UNIT BENCHMARKS	SUGGESTED ASSESSMENT	POSSIBLE RESOURCES
COVALENT BONDING	<ul style="list-style-type: none"> ▪ Hybridization in chemical bonding ▪ Localized electron model 			
LIQUIDS AND SOLIDS	<ul style="list-style-type: none"> ▪ Intermolecular forces ▪ Structure and types of solids ▪ Phase diagrams ▪ Vapor pressure 			
PROPERTIES OF SOLUTIONS	<ul style="list-style-type: none"> ▪ Factors affecting solubility ▪ Boiling point elevation ▪ Freezing point depression ▪ Colloids ▪ Tyndall effects 			
CHEMICAL KINETICS	<ul style="list-style-type: none"> ▪ Reaction rates ▪ Rate laws ▪ Determining form of rate law ▪ Integrated rate laws ▪ Reaction mechanisms, catalysis 			
CHEMICAL EQUILIBRIUM	<ul style="list-style-type: none"> ▪ Equilibrium expressions and problems ▪ Lechâtelier's Principle 			
ACIDS AND BASES	<ul style="list-style-type: none"> ▪ Acid strength ▪ pH scale ▪ Calculating pH of strong and weak acid solutions 			