Semester: 1 **2025 – 2026**

Grade Level	12	**Subject: Ap Chemistry**
Teacher(s) Name	Rabab Faour	
Textbook	Chang- College board	

Week #	**Dates**		**Lesson Title / Pages**	**CCSS / NGSS Code / MOE**
1	Aug.25th	Aug.29th	**Revise** the concept of naming chemical compounds, ions formations , and organic compounds .	
2	Sept. 1st	Sept. 5th	**Unit-1: Atomic Structure and properties** 1.1 Moles and Molar Mass 1.2 Mass Spectroscopy of Elements 1.3 Elemental Composition of Pure Substances 1.4 Composition of Mixtures	BIG IDEA 1 BIG IDEA 2 **SPQ-1** The mole allows different units to be compared

3	Sept.8th	Sept.12th	**Unit-1: Atomic Structure and properties** 1.5 Atomic Structure and Electron Configuration 1.6 Photoelectron Spectroscopy 1.7 Periodic Trends 1.8 Valence Electrons and Ionic Compounds	BIG IDEA 1 BIG IDEA 2 **SPQ-1** The mole allows different units to be compared
4	Sept. 15th	Sept.19th	**Unit 2: Molecular and Ionic Compound Structure and Properties** **2**.1 Types of Chemical Bonds 2.2 Intramolecular Force and Potential Energy 2.3 Structure of Ionic Solids 2.4 Structure of Metals and Alloys	BIG IDEA 1 BIG IDEA 2 **SAP-1** Atoms and molecules can be identified by their electron distribution and energy. Structure and Properties SAP
5	Sept.22nd	Sept.26th	**Unit 2: Molecular and Ionic Compound Structure and Properties** 2.5 Lewis Diagrams 2.6 Resonance and Formal Charge 2.7 VSEPR and Bond Hybridization	BIG IDEA 1 BIG IDEA 2 **SAP-1** Atoms and molecules can be identified by their electron distribution and energy. Structure and Properties SAP

6	Sept. 29th	Oct.3rd	**UNIT 3: Intermolecular Forces and Properties** 3.1 Intermolecular Forces 3.2 Properties of Solids 3.3 Solids, Liquids, and Gases 3.4 Ideal Gas Law	BIG IDEA 1 BIG IDEA 2 **SAP-7** Gas properties are explained macroscopically—using the relationships among pressure, volume, temperature, moles, gas constant—and molecularly by the motion of the gas.
7	Oct.6th	Oct.10th	**UNIT 3: Intermolecular Forces and Properties** 3.5 Kinetic Molecular Theory 3.6 Deviation from Ideal Gas Law 3.7 Solutions and Mixtures 3.8 Representations of Solutions 3.9 Separation of Solutions and Mixtures Chromatography	BIG IDEA 1 BIG IDEA 2 **SAP-7** Gas properties are explained macroscopically—using the relationships among pressure, volume, temperature, moles, gas constant—and molecularly by the motion of the gas.
8	Oct.13th	Oct.17th	**UNIT 3: Intermolecular Forces and Properties** 3.10 Solubility	BIG IDEA 1 BIG IDEA 2 **SAP-7**

			3.11 Spectroscopy and the Electromagnetic Spectrum 3.12 Photoelectric Effect 3.13 Beer-Lambert Law	Gas properties are explained macroscopically—using the relationships among pressure, volume, temperature, moles, gas constant—and molecularly by the motion of the gas.
9	Oct.20th	Oct.24th **Oct 24 End of Quarter 1**	**Unit 4:Chemical reactions** **4**.1 Introduction for Reactions 4.2 Net Ionic Equations 4.3 Representations of Reactions 4.4 Physical and Chemical Changes	BIG IDEA 1 BIG IDEA 2 **TRA-2** A substance can change into another substance through different processes, and the change itself can be classified by the sort of processes.
10	Oct.27th	Oct.31st	**Unit 4:Chemical reactions** 4.5 Stoichiometry 4.6 Introduction to Titration 4.7 Types of Chemical Reactions	BIG IDEA 1 BIG IDEA 2 **TRA-2** A substance can change into another substance through different processes, and the change itself can be classified by the sort of processes.

11	Nov.3rd	Nov.7th	**Unit 4:Chemical reactions** 4.8 Introduction to Acid-Base Reactions 4.9 Oxidation-Reduction (Redox) Reactions	BIG IDEA 1 BIG IDEA 2 **TRA-2** A substance can change into another substance through different processes, and the change itself can be classified by the sort of processes.
12	Nov.10th	Nov.14th	**Unit 5: Reaction kinetics** 5.1Reaction Rates 5.2 Introduction to Rate Law 5.3 Concentration Changes Over Time 5.4 Elementary Reactions	BIG IDEA-3 **TRA-4** There is a relationship between the speed of a reaction and the collision frequency of particle collisions **TRA-5** Many chemical reactions occur through a series of elementary reactions.
13	Nov.17th	Nov.21st	**Unit 5: Reaction kinetics** 5.5 Collision Model 5.6 Reaction Energy Profile 5.7 Introduction to Reaction Mechanisms 5.8 Reaction Mechanism and Rate Law	BIG IDEA-3 **TRA-4** There is a relationship between the speed of a reaction and the collision frequency of particle collisions **TRA-5** Many chemical reactions occur through a series of elementary reactions.

14	Nov. 24th	Nov.28th	**Unit 5: Reaction kinetics** 5.9 Steady-State Approximation 5.10 Multistep Reaction Energy Profile	BIG IDEA-3 **TRA-4** There is a relationship between the speed of a reaction and the collision frequency of particle collisions
15	Dec.1st	Dec.5th	5.11 Catalysis	**TRA-5** Many chemical reactions occur through a series of elementary reactions.
16	Jan 5th	Jan 9th	**Unit 6: Thermodynamics** 6.1 Endothermic and Exothermic Processes 6.2 Energy Diagrams 6.3 Heat Transfer and Thermal Equilibrium 6.4 Heat Capacity and Calorimetry 6.5 Energy of Phase Changes	**BIG IDEA 4** **ENE-2** Changes in a substance's properties or change into a different substance requires an exchange of energy.
17	Jan 12th	Jan 16th	**Unit 6: Thermodynamics** 6.6 Introduction to Enthalpy of Reaction 6.7 Bond Enthalpies 6.8 Enthalpy of Formation 6.9 Hess's Law	**BIG IDEA 4** **ENE-2** Changes in a substance's properties or change into a different substance requires an exchange of energy.
18	Jan 19th	Jan 23rd	**Unit 7: Equilibrium**	BIG IDEA 1

			7.1 Introduction to Equilibrium 7.2 Direction of Reversible Reactions 7.3 Reaction Quotient and Equilibrium Constant 7.4 Calculating the Equilibrium Constant	BIG IDEA 3
19	Jan 26th	Jan 30th	Semester 1 Exams: Jan 22nd to Jan 30th	
Winter Break for Students: Dec 8 to Jan 4				