Dubai International School-Al Quoz
Science Department (Grades 9-12)
Curriculum Annual Plan
Grade: __10_____ Subject: _Chemistry____2024-2025

TERM-I

PE Code	DCIs	Unit	Topic	Learning Objectives	Week No. & Date	No. of Lessons
				QUARTER- I		
				Revision and diagnostic test	26/08/2024-30/08/2024	
HS-PS1-1.	**PS1.A**	Unit 1: Structure and Properties of Matter INSPIRE Chemistry Book	Module 2 Matter properties and changes 2.1 Properties and matter	• **Distinguish** between physical and chemical properties • **Classify** changes as physical or chemical • **Explain** gas, liquid, and solid states in terms of particles Mixture vs Pure Substance • **Explain** how the law of conservation of energy applies to changes of matter	02-06/09/2024	4
HS-PS1-1	PS1.A	Unit 1: Structure and Properties of Matter INSPIRE Chemistry Book	Module 2 Matter properties and changes 2.3 Elements and compounds	• **Define** elements. • **Identify** elements on the periodic table. • **Illustrate** different elements based on information from the periodic table. • **Predict** the relative properties of elements based on the patterns of electrons in the outermost energy level of atoms	09-13/09/2024	4

HS-PS1-3	PS1.A	Unit 1: Structure and Properties of Matter INSPIRE Chemistry Book	Module 2 Matter properties and changes 2.4 Using scientific measurements	• **Determine** the number of significant figures in measurements • **Distinguish** between accuracy and precision. • **Distinguish** between inversely and directly proportional relationships • **Convert** measurements into scientific notation • **Discover** how much, and accuracy of data needed to produce reliable measurements and consider limitations on the precision of the data • **Perform** mathematical operations involving significant figures.	16-20/09/2024	4
HS-PS1-7	PS1.B	Unit 1: Structure and Properties of Matter INSPIRE Chemistry Book	Module 3 The structure of an atom 3.3 Counting atoms	• **Describe** *atomic number* and *mass number*, and **describe** how they apply to isotopes. • **Determine** for a nuclide its number of protons, neutrons, and electrons • **Explain** what isotopes are.	23-27/09/2024	4
HS-PS1-7	PS1.B	Unit 1: Structure and Properties	Module 3 The structure of an atom	• **Explain** *mole, Avogadro's number,* and *molar mass,* and **state** how all three are related.	30-04/10/2024	4

		s of Matter INSPIRE Chemistry Book	3.3Counting atoms	• **Apply** problems involving mass in grams, amount in moles, and number of atoms of an element.		
HS-PS1-2 HS-PS1-7	PS1.A	Unit 1: Structure and Properties of Matter INSPIRE Chemistry Book	Module 4 Electrons in atoms 4.2 Quantum theory and the atoms	• **Discuss** Louis de Broglie's role in the development of the quantum model of the atom. • **Compare and contrast** the Bohr model and the quantum model of the atom.	07-11/10/2024	4
HS-PS1-2 HS-PS1-7	PS1.A	Unit 1: Structure and Properties of Matter INSPIRE Chemistry Book	Module 4 Electrons in atoms 4.2 Quantum theory and the atoms	• **Describe** the four quantum numbers and **Explain** their significance. • **Relate** the number of sublevels corresponding to each of an atom's main energy levels, the number of orbitals per sublevel, and the number of orbitals per main energy level.	14-18/10/2024	4
HS-PS1-4	PS1.B	Unit 1: Structure and Properties of Matter	Module 4 Electrons in atoms 4.3Electron configuration	• **Discover** the total number of electrons needed to fully occupy each main energy level. • **Apply** the *Aufbau principle*, the *Pauli exclusion principle*, and *Hund's rule.*	21-25/10/2024	4

		INSPIRE Chemistry Book				
END OF QUARTER-I						

PE Code	DCIs	Module Unit	Topic	Learning Objectives	Week Date	No. of Lessons
QUARTER- II						
HS-PS1-4	PS1.B	Unit 1: Structure and Properties of Matter INSPIRE Chemistry Book	Module 4 Electrons in atoms 4.3 Electron Configuration	**Describe** the electron configurations for the atoms of any element **Apply** *orbital notation, electron-configuration notation,* and, when appropriate, *noble-gas notation methods*	28/10/2024-01/11/2024	4
HS-PS1-1		Unit 1: Structure and Properties of Matter INSPIRE Chemistry Book	Module 5 The periodic table and periodic law 5.1 Development of the modern periodic table	• **Describe** the modern periodic table. • **Illustrate** how the elements belonging to a group • **Explain** the roles of Mendeleev and Moseley in the development of the periodic table.	04-08/11/2024	4

				• **Explore** how the periodic law can be used to predict the physical and chemical properties of elements of the periodic table are interrelated in terms of atomic number.		
HS-PS1-1 HS-PS1-7		Unit 1: Structure and Properties of Matter INSPIRE Chemistry Book	Module 5 The periodic table and periodic law 5.2 classification of the elements	• **Locate** and **Explain** the four blocks of the periodic table. Explain the reasons for these names. • **Analyze** the relationship between electrons in sublevels and the length of each period of the periodic table. •	11-15/11/2024	4
HS-PS1-1 HS-PS1-7		Unit 1: Structure and Properties of Matter INSPIRE Chemistry Book	Module 5 The periodic table and periodic law 5.2 classification of the elements	• **Describe and classify** the locations in the periodic table and the general properties of the alkali metals, the alkaline-earth metals, the halogens, and the noble gases. • **Explore** the relationship between group configurations and group numbers. •	18-22/11/2024	4
HS-PS1-1 HS-PS1-2 HS-PS1-3.		Unit 1: Structure and Properties of Matter	Module 5 The periodic table and periodic law 5.3 Periodic trends	• **Explain** the siginificance of *atomic* and *ionic radii, ionization energy, electron affinity,* and *electronegativity.* • **Discover** how the variation in periodic trends affect atomic radii, ionization energy, and electronegativity	25/11-29/12/2024	4

		INSPIRE Chemistry Book				
HS-PS1-1 HS-PS1-2. HS-PS1-3.		Unit 1: Structure and Properties of Matter INSPIRE Chemistry Book	Module 5 The periodic table and periodic law 5.3 Periodic trends	**Compare** the atomic radii, ionization energies, and electronegativities of the *d*-block elements with those of the main-group elements **Explain** *valence electrons concept* , and **discover** the relation between valence number sand group's number	02-06/12/2024	4
HS-PS1-1. **HS-PS1-2**	PS1.A:	Unit 2: Chemical Bonding and Reactions Inspire Chemistry book	Module 6 Ionic compounds and metals 6.1 Ion formation	• **Explore** the relation between valence electrons and formation of chemical bonds . **Explain** the formation of positive ions **Explain** the formation of negative ions	09-13/12/2024	4
Winter Break 16 Dec-5 Jan						
HS-PS1-3	PS1.A	Unit 2: Chemical Bonding and Reactions Inspire Chemistry book	Module 6 Ionic compounds and metals 6.2 ionic bonds and ionic compounds	• **Name and form** binary ionic compounds • **Explain** the formation and the properties of crystals • **Explain and Explore** the relation between energy and ionic compounds	6-10/-1/2025	4

					09-10/01/2025(Revision for grades from 4-12) **Jan 13-21 semester one final exam** **Jan 22 make-up for absent students.**	
END OF QUARTER-II						