GRADE 9 CHEMISTRY TERM PLAN

2024– 2025

TERM ONE: September 2- December 19, 2024

DATES	WEEK	THEORY	LABS/QUIZ/TESTS
SEPTEMBER			
September 2-6	**WEEK 1** **0-1 Session**	**INTRODUCTION** ● Class rules ● Expectations ● Quizzes, Homework and Assignments ● Test ● Subject Topics or Term Plan	Assign the PHET simulation on atomic structure and the students must use this to record the number of protons,electrons and neutrons for the first ten elements
September 9-13	**WEEK 2** **3 Sessions**	**ATOMIC STRUCTURE** ● Differentiate among atoms, molecules,elements, compounds, mixtures and ions. ● Discuss the composition of an atom (subatomic particles) and their characteristics. ● Draw and label the atomic structures of the first 20 elements, note the electronic configurations. ● Demonstrate how atomic number and mass number can be used to determine atomic structure. ● Periodic table and trends (how the elements are arranged in periodic table) ● Review of the periodic table and the first 20 elements (names and symbols)	Use a worksheet that represents elements compound and mixtures using objects to differentiate between the three of them. **COURSEWORK #1** The students will be given an element from the first 20 elements on the periodic table individually to draw the structure. for each element the following must be present: ● the location of the protons and neutrons ● the region in which the protons

		● Define groups and periods ● Label groups 1-8/0 and periods 1-4 on the periodic table ● Recognize important groups in the periodic table and their characteristics (noble gasses, alkali metals, alkaline earth metals, halogens).	and neutrons are located ● the total number of electron ● the number of electrons on each shell must be correct ● before the electrons are paired each corner of the shell must have at least one electron Each drawing will be worth 5 marks each. assignment total = **100 marks**
September 16-20	**WEEK 3** **3 Sessions**	**PROPERTIES OF METAL AND NONMETAL** ● Define metal and non-metal ● Locate the position of the metals and nonmetals in the periodic table ● Differentiate between the physical properties of metals and non-metals (appearance, hardness and strength, density, malleability, ductility, state of matter, melting and boiling point, conduction of heat, conduction of electricity, magnetism). ● Simple properties of Group I, II, III, VII & VIII states, metals/non-metals (location)	**FORMATIVE ASSESSMENT BY EACH TEACHER**

September 23-27	**WEEK 4** **3** **Sessions**	**ALLOYS** ● Define Alloys ● Identify their physical properties ● Connect their physical properties and uses to their composition	**Quizizz on Alloys**
OCTOBER			
September 30- October 4	**WEEK 5** **3** **Sessions**	**BONDING** ● Bonding- Ionic, Covalent, Metallic ● Metallic bonding (Using diagrams to demonstrate the metallic bonding in metals of groups 1,2 and 3. ● Ionic Bonding- Formation of cations from group 1,2,&3 ● Electronic configuration of the element vs the electronic configuration of cations ● Formation of cations from group 5,6&7 ● Electronic configuration of the element vs the electronic configuration of anions ● Exchange of electrons between metals and nonmetals and the naming of ions, ionic compounds and formula writing. ● Properties of Ionic Compounds ● Name and write the formula for ionic compounds	**COURSEWORK #2 -** Write the cations and anions for the respective elements and the electronic configurations.

October 7-11	**WEEK 6** **3** **Sessions**	**BONDING** ● Covalent bonding definition ● Properties of Covalent Compounds ● Bonding between diatomic molecules (O_2, H_2, Cl_2, F_2) ● Name and write the formula for covalent compounds	**Revision for first standardized test** **LAB-** Differentiating between ionic and covalent compounds
Oct 14-16	**WEEK 7** **1-3** **Sessions**	**STATES OF MATTER** ● Define matter ● Name and describe the composition of the four states of matter (solid, liquid, gas, plasma ● Explain the characteristics/properties of each state of matter ● Demonstration or examples of some changes in state. Condensation Melting Boiling Freezing (use water and ice to demonstrate these phase changes)	
October 17 - 21 **MID TERM BREAK**			
1st Standardized Test **Oct 22 - 28** **Week 8**			
October 29 -November 1	**WEEK 9** **3** **Sessions**	**HEATING AND COOLING CURVES** ● Explain what a heating curve is and how it is constructed ● Explain what a cooling curve is and how it is constructed ● Differentiate between a heating and a cooling curve (appearance and phase change process)	**REVIEW OF TEST AND FEEDBACK**

		● Label areas on heating and cooling curve that represent: ➔ each state of matter ➔ the point on the graph where each phase change starts and ends ➔ points on the graph where melting/freezing and evaporation/condensation takes place	
NOVEMBER			
November 4-8	**WEEK 10** **3 Sessions**	**PHYSICAL AND CHEMICAL CHANGES** ● Define physical versus chemical change ● Characteristics of a physical change ● Characteristics of a chemical change ● Tabulate the differences between a physical and a chemical change. ● Examples of physical and chemical changes (experiments) ● Identifying types of Chemical Reactions	**COURSEWORK # 3 –** States of Matter, Phase Changes and Heating and Cooling Curves
November 11-15	**WEEK 11** **3 Sessions**	**WRITING CHEMICAL EQUATIONS** ● Writing worded equations ● Converting worded equations to formula equations ● Solubility of different compounds	**Worksheet-** Writing Chemical Equations

		• State symbols	
November 18-22	**WEEK 12 3 Sessions**	**WRITING CHEMICAL EQUATIONS** • Balancing chemical equations	**COURSE WORK # 4-** Physical and Chemical Changes and Writing Chemical Equations
Nov 25-29	**WEEK 13 3 Sessions**	**WRITING CHEMICAL EQUATIONS** • Balancing chemical equations	.**HomeWork-** Balancing Chemical Equations
DECEMBER			
December 2-6	**WEEK 14 3 Sessions**	**WRITING CHEMICAL EQUATIONS** • Balancing chemical equations	**Revision for Standardized test 2**
2nd Standardized Test Dec 9-13 Week 15			
December 16-19	**WEEK 16 1-3 Sessions**	**LAB RULES AND SAFETY LIST AND IDENTIFY APPARATUS, EQUIPMENT AND THEIR USES** Beaker, conical flask, test-tube, test-tube holder, test tube rack, crucible, filter funnel, dropper, spatula, evaporating dish, petri dish, round bottom flask, measuring cylinder, volumetric flask, balance, ring stand and ring clamp, safety goggles, wire gauze, tongs, forceps, watch glass, wash bottle, thermometer, pipette, rubber stopper, pipette filler, pipette bulb, stirring rod, burette, wire brush, mortar and pestle, tripod, white tile and Bunsen burner	

		PARTS OF A BUNSEN BURNER **TYPES OF FLAMES** ● (safe/ luminous and heating/ non-luminous) VIDEO – showing the Bunsen Burner different types of flames	
END OF TERM **December 19, 2023**			