

Grade 9- Chemistry
Term 1 Plan- 2021-2022

Date	Topics	Tests/CW
September		
9-10	<p>Synchronous Activity: Get to meet the class, discuss term plan</p> <p style="text-align: center;">ASYNCHRONOUS ACTIVITY</p> <p>share lab rules, identification of lab apparatus documents with class and parts of the Bunsen</p> <p>List of the equipment</p> <p>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</p>	
13-17	<p style="text-align: center;">Synchronous Activity:</p> <p>Quiz on lab rules, identification of lab apparatus documents and parts of the Bunsen. (MCQ) go through misconceptions and questions with a low percentage of people getting it correct</p> <p>Discussion of the functions of the lab apparatus, how to use and construct line diagrams</p> <p style="text-align: center;">ASYNCHRONOUS ACTIVITY</p> <p>Bunsen Burner parts and their function</p> <ul style="list-style-type: none"> • Safety rules when lighting • Steps in lighting the Bunsen burner (virtual lab) • Types of Bunsen burner flames (safe/ luminous and heating/ non-luminous) 	
20-24	Synchronous Activity:	

	<p>Quiz on: Bunsen burner:</p> <ul style="list-style-type: none"> • Parts and their function • Safety rules when lighting • Steps in lighting the Bunsen burner (virtual lab) • Types of Bunsen Burner flames (safe/ luminous and heating/ non-luminous)(MCQ) go through misconceptions and questions with a low percentage of people getting it correct <p style="text-align: center;">ASYNCHRONOUS ACTIVITY</p> <p style="text-align: center;">States of Matter, Particulate nature</p> <ul style="list-style-type: none"> • 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. 	
OCTOBER		
27-01	<p style="text-align: center;">Synchronous Activity:</p> <p>Quiz on : States of Matter, Particulate nature</p> <ul style="list-style-type: none"> • 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. <p style="text-align: center;">ASYNCHRONOUS ACTIVITY</p> <p style="text-align: center;">Phase Changes, Heating and Cooling Curves</p> <ul style="list-style-type: none"> • Explain phase change/ change in state • Define key terms (melting, freezing, boiling/evaporating, condensation, sublimation). 	
04-08	<p style="text-align: center;">Synchronous Activity:</p> <p style="text-align: center;">Discussion of Phase Changes, Heating and Cooling Curves</p> <ul style="list-style-type: none"> • Explain phase change/ change in state • Define key terms (melting, freezing, boiling/evaporating, condensation, sublimation). <p>Students will be sharing definitions and explanations with class and discuss misconceptions.</p> <p style="text-align: center;">ASYNCHRONOUS ACTIVITY</p>	<p>3 Week summary quiz</p> <ul style="list-style-type: none"> - lab apparatus -Bunsen burner -states of matter

	<p>Explain how a substance changes from one state to the next with examples.</p> <ul style="list-style-type: none"> • 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) 	
11-15	<p style="text-align: center;">Synchronous activity</p> <p>Quiz- Phase Changes - heating and cooling curves - explain misconceptions.</p> <ul style="list-style-type: none"> • Explain how a substance changes from one state to the next with examples. • 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) <p style="text-align: center;">ASYNCHRONOUS ACTIVITY</p> <p>Label areas on heating and cooling curve that represent:</p> <ul style="list-style-type: none"> • 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 	
October 18-22	<p style="text-align: center;"><u>MID TERM</u></p> <p style="text-align: center;">ASYNCHRONOUS ACTIVITY</p> <p style="text-align: center;">Physical and Chemical Changes</p> <ul style="list-style-type: none"> • 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) 	

25-29	SIX WEEK TESTS Content of the six-week test will be content covered in synchronous activity only	
NOVEMBER		
1-5	<p style="text-align: center;">Synchronous Activity:</p> <p>Start off with Quiz or formative assessment on</p> <p style="text-align: center;"><u>Phase Changes, Heating and Cooling Curves</u></p> <p>Label areas on heating and cooling curve that represent:</p> <ul style="list-style-type: none"> • 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 <p>Using video examples have students identify physical and chemical changes and give points used for differentiation of the two.</p> <p style="text-align: center;">ASYNCHRONOUS ACTIVITY</p> <ul style="list-style-type: none"> • Differentiate among atoms, molecules, elements, compounds, mixtures and ions. • Discuss the composition of an atom (sub-atomic particles) and their characteristics. 	
8-12	<p style="text-align: center;">Synchronous Activity:</p> <p>Quiz -Differentiate among atoms, molecules, elements, compounds, mixtures and ions.</p> <ul style="list-style-type: none"> • Discuss the composition of an atom (subatomic particles) and their characteristics and discussion of misconceptions. <p style="text-align: center;">ASYNCHRONOUS ACTIVITY</p> <ul style="list-style-type: none"> • Draw and label the structures of atoms, note the number of electrons held on the first 4 shells. • Demonstrate how atomic number and mass number can be used to determine atomic structure of atoms. • Periodic table and trends 	

<p>15-19</p>	<p style="text-align: center;">Synchronous activity</p> <p>Quiz and discussion § Draw and label the structures of atoms, note the number of electrons held on the first 4 shells.</p> <p>§ Demonstrate how atomic number and mass number can be used to determine atomic structure of atoms.</p> <p>Periodic table and trends (how the elements are arranged in periodic table)</p> <p style="text-align: center;">ASYNCHRONOUS ACTIVITY</p> <p>§ Review of the periodic table and the first 20 elements (names and symbols)</p> <p>§ Define groups and periods</p> <p>§ Label groups 1-8/0 and periods 1-4 on the periodic table</p> <p>§ Recognize important groups in the periodic table and their characteristics (noble gases, alkali metals, alkaline earth metals, halogens).</p> <p>§ Explain how the first 20 elements are arranged in the periodic table.</p>	
<p>22-26</p>	<p style="text-align: center;">Synchronous activity</p> <p>Review of the periodic table and the first 20 elements (names and symbols)</p> <p>§ Define groups and periods</p> <p>§ Label groups 1-8/0 and periods 1-4 on the periodic table</p> <p>§ Recognize important groups in the periodic table and their characteristics (noble gases, alkali metals, alkaline earth metals, halogens).</p> <p>§ Explain how the first 20 elements are arranged in the periodic table.</p> <p style="text-align: center;">ASYNCHRONOUS ACTIVITY</p> <p style="text-align: center;">Properties of Metals and Non-Metals</p> <p>§ Define metal and non-metal</p> <p>§ Locate the position of the metals and non-metals in the periodic table</p> <p>§ 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).</p> <p>§ State the properties and uses of some common metals and non-metals</p>	<p style="text-align: center;">Summary Quiz</p> <ul style="list-style-type: none"> • Phase changes • Atomic structure <p>Periodic table</p>

<p>29 Nov. - 3 Dec</p>	<p style="text-align: center;">Synchronous activity</p> <p style="text-align: center;">Properties of Metals and Non-Metals</p> <ul style="list-style-type: none"> • Define metal and non-metal • Locate the position of the metals and non-metals 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). • State the properties and uses of some common metals and non-metals <p style="text-align: center;">ASYNCHRONOUS ACTIVITY</p> <ul style="list-style-type: none"> • Define alloy • State the general properties/ positive attributes of alloys. • Name and state the composition and use of popular alloys. • worksheet and hand out 	
December		
6-9	<p>SIX WEEK TESTS</p> <p>On all synchronous topics</p>	
<p>13-17</p>	<p style="text-align: center;">Synchronous activity</p> <p style="text-align: center;">Properties of Metals and Non-Metals</p> <ul style="list-style-type: none"> • Define metal and non-metal • Locate the position of the metals and non-metals 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). • State the properties and uses of some common metals and non-metals • Define alloy • State the general properties/ positive attributes of alloys. • Name and state the composition and use of popular alloys. 	

	<p style="text-align: center;">ASYNCHRONOUS ACTIVITY</p> <p style="text-align: center;">Videos and handouts on types of ions and types of bonding</p> <p style="text-align: center;">Simple bonding worksheet</p>	