DOYEN PUBLISHERS

HIGH SCHOOL SCHEMES OF WORK

CHEMISTRY FORM 3

(Term 1, 2 & 3)

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CHEMISTRY FORM 3 SCHEMES OF WORK – TERM 1

WEEK	LESSON	TOPIC	SUB - TOPIC	OBJECTIVES	LEARNING/TEACHING ACTIVITIES	LEARNING/TEACHING RESOURCES	REFERENCES	REMARKS
1	**1-2**	Gas Law	Boyle's' Law	By the end of the lesson, the learner should be able to (i) State Boyles' law (ii) Carry out an experiment to investigate Boyle's law	• Demonstration to verify Boyle's law recording observations • Discussions based on observations • Drawing of pagenist and- against i/p graphs	• Bourn on gauge • Pump • Scale strip • Delivery tubes with connections • Graph papers • Panels	• Comprehensive secondary chemistry students book 3 pages 1-4 • Comprehensive chemistry teachers book 3 pages 4-5 • Longhorn secondary chemistry book 2 pages 206 • Secondary chemistry-KLB students book 3 page 1 • Secondary chemistry form 3 Patel page 5	
	3-4	Gas laws	Charles' Law	By the end of the lesson, the learner should be able to (i) State Charles' law	• Demonstration to verify Charles law • Recording observations • Discussions based on observations • Representing Charles law graphically	• Concentrated Sulphuric acid • Water and ice • Thermometer • Capillary tube • 250cm^3 beaker • Bunsen burner • Tripod stand • Wire gauge	• Comprehensive secondary chemistry students book 3 pages 4-6 • Comprehensive chemistry teachers book 3 pages 6-8 • Longhorn secondary chemistry book 2 pages 8 • Secondary chemistry-KLB students book 3 page 6 • Secondary chemistry form 3 Patel page 7	

	5	Gas Laws	Combined gas law	By the end of the lesson, the learner should be able to (i) Use the combined gas laws to carry out calculations	• Discussion on combined gas laws • Calculating sums involving combined gas laws	• Charts showing steps involved in the use of combined gas law	• Comprehensive secondary chemistry students book 3 pages 6-7 • Comprehensive chemistry teachers book 3 pages 6-9 • Longhorn secondary chemistry book 2 pages 11 • Secondary chemistry-KLB students book 3 page 13 • Secondary chemistry form 3 Patel page 9	
2	**4-5**	Gas Law	Movement of particles of diffusion in gases	By the end of the lesson, the learner should be able to (i) Explain diffusion in liquids in terms of kinetic theory	• Carrying out experiments of diffusion of gases • Listing the real-life situations where concept of diffusion is applied	• Perfume • Chart showing applications of diffusion in real life situation	• Comprehensive secondary chemistry students book 3 pages 12-13 • Comprehensive chemistry teachers book 3 pages 11 • Longhorn secondary chemistry book 2 pages 14 • Secondary chemistry-KLB students book 3 page 16 • Secondary chemistry form 3 Patel	
3	**1-2**	Gas law	Grahams' Law of diffusion	By the end of the lesson, the learner should be able to relate the note of diffusion to relative molecular mass of a gas	• Demonstration on diffusion of ammonia and hydrogen chloride • Recording observations • Discussion based on the observations	• Concentrated ammonia • Concentrated hydrochloric acid • Glass tube • 2 stands and clamps • Stop-watch	• Comprehensive secondary chemistry students book 3 pages 13-16 • Comprehensive chemistry teachers book 3 pages 11	

						• Cotton-wool • Meter note	• Longhorn secondary chemistry book 2 pages 14 • Secondary chemistry-KLB students book 3 page 16 • Secondary chemistry form 3 Patel page 11	
	3-4	Gas law	Grahams' Law of diffusion	By the end of the lesson, the learner should be able to (i) Relate the rate of diffusion to the relative molecular of mass of a gas	• Discussion based on the mathematical aspect of Grahams Law of diffusion • Calculating sum involving Graham's law of diffusion	• Chart showing calculation that relate to Grahams' law of diffusion	• Comprehensive secondary chemistry students book 3 pages 13-16 • Comprehensive chemistry teachers book 3 pages 11 • Longhorn secondary chemistry book 2 pages 14 • Secondary chemistry-KLB students book 3 page 16 • Secondary chemistry form 3 Patel page 17-19	
	5	Gas law	Grahams' Law of diffusion	By the end of the lesson, the learner should be able to (i) Carry out calculations involving Grahams' law of diffusion	• Discussion based on Grahams' law of diffusion • Calculating grahams' law of diffusion	• Chart showing relationship between diffusion with density and time	• Comprehensive secondary chemistry students book 3 pages 13-16 • Comprehensive chemistry teachers book 3 pages 11 • Longhorn secondary chemistry book 2 pages 14 • Secondary chemistry-KLB students book 3 page 16	

							• Secondary chemistry form 3 Patel page 12-13	
4	**1-2**	The mole, formulae and chemical equations	The mole	By the end of the lesson, the learner should be able to (i) Define the mole	• Defining the term mole • Calculations and discussion on the mole	• Measuring cylinder • Electronic balance • Stop-watch • Thermometer	• Comprehensive secondary chemistry students book 3 pages 20-22 • Comprehensive chemistry teachers book 3 pages 18-19 • Longhorn secondary chemistry book 2 pages 27 • Secondary chemistry-KLB students book 3 page 29 • Secondary chemistry form 3 Patel page 21	
	3	The mole, formulae and chemical equations	The relative atomic mass	By the end of the lesson, the leaner should be able to (i) Relate the mole to relative atomic mass	• Discussion based on the relative atomic mass • Calculating sum on relative atomic mass	• Periodic table having relative atomic masses of elements	• Comprehensive secondary chemistry students book 3 pages 25-26 • Comprehensive chemistry teachers book 3 pages 18-19 • Longhorn secondary chemistry book 2 pages 33 • Secondary chemistry-KLB students book 3 page 28 • Secondary chemistry form 3 Patel page 22-23	
	4-5	The mole, formulae and	Molar mass	By the end of the lesson, the learner should be able to	• Calculations involving moles and masses	• The periodic table • Chart showing large triangle of	• Comprehensive secondary chemistry students book 3 pages 23-25	

		chemical equations		(i) Convert mass into moles and vice versa	• Calculating the relative molecular masses of elements	the relationship between mass, molecular mass and mole	• Comprehensive chemistry teachers book 3 pages 18-19 • Longhorn secondary chemistry book 2 pages 31 • Secondary chemistry-KLB students book 3 page 42 • Secondary chemistry form 3 Patel page 23-24	
5	**1-2**	The mole, formulae and chemical equations	Empirical formulae	By the end of the lesson, the learner should be able to (i) Determine experimentally the empirical formulae of a given compound	• Demonstration on empirical formulae of magnesium oxide • Recording and discussing observations • Calculating the empirical formulae of magnesium oxide	• Magnesium ribbon dry crucible with lod • Pipe clay triangle • A pair of tongs • Bunsen burner	• Comprehensive secondary chemistry students book 3 pages 26-27 • Comprehensive chemistry teachers book 3 pages 19-20 • Longhorn secondary chemistry book 2 pages 64 • Secondary chemistry-KLB students book 3 page 35 • Secondary chemistry form 3 Patel page 23-28	
	3-4	The mole, formulae and chemical equations	Empirical formulae	By the end of the lesson, the learner should be able to (i) Determine experimentally empirical formulae of substance	• Demonstration on formulae of a hydrated salt • Discussion based on observations • Calculating empirical formulae	• $CuSO_4$ • Cobalt (II) • Chloride paper • Aluminum foil • Cotton wool • Ruler • Beaker of water • Bunsen burner	• Comprehensive secondary chemistry students book 3 pages 29-31 • Comprehensive chemistry teachers book 3 pages 19-20 • Longhorn secondary chemistry book 2 pages 64	

							• Secondary chemistry-KLB students book 3 page 35 • Secondary chemistry form 3 Patel page 30-31	
	5	The mole, formulae and chemical equations	Empirical formulae	**B**y the end of the lesson, the learner should be able to (i) determine the empirical formulae of a given data	• discussion based on enyzerical formulae • calculating empirical formulae of a given data	• charts showing how the enyzerical formulae of substances are calculated	• Comprehensive secondary chemistry students book 3 pages 31-32 • Comprehensive chemistry teachers book 3 pages 19-20 • Longhorn secondary chemistry book 2 pages 64 • Secondary chemistry-KLB students book 3 page 35 • Secondary chemistry form 3 Patel page 31-33	
6	**1-2**	The mole, formulae and chemical equations	Molecular formulae	By the end of the lesson, the learner should be able to (i) Determine the molecular formulae of substances from given data	• Discussion based on molecular formulae • Calculating molecular formulae	• Chart showing the calculations of molecular formulae	• Comprehensive secondary chemistry students book 3 pages 32-33 • Comprehensive chemistry teachers book 3 pages 19-20 • Longhorn secondary chemistry book 2 pages 43 • Secondary chemistry-KLB students book 3 page 73	

							• Secondary chemistry form 3 Patel page 34-35	
	3	The mole, formulae and chemical equations	Molecular formulae	By the end of the lesson, the learner should be able to (i) Determine the molecular formulae of substances from a given data	• Discussion based on the molecular formulae • Calculating molecular formulae	• Charts showing the calculations of molecular formulae	• Comprehensive secondary chemistry students book 3 pages 32-33 • Comprehensive chemistry teachers book 3 pages 19-20 • Longhorn secondary chemistry book 2 pages 73 • Secondary chemistry-KLB students book 3 page 43 • Secondary chemistry form 3 Patel page 34-36	
	4-5	The mole, formulae and chemical equations	Mole solutions	By the end of the lesson, the learner should be able to (i) Explain the term concentration molarity and dilution of a solution	• Carrying out experiments on molar solutions • Naming of apparatus used in preparing molar solutions • Calculating sums covering molar solutions	• Dropper • Volumetric flask • Beaker • Wash bottle • Electronic balance • Distilled water	• Comprehensive secondary chemistry students book 3 pages 33 • Comprehensive chemistry teachers book 3 pages 20 • Longhorn secondary chemistry book 2 pages 75 • Secondary chemistry-KLB students book 3 page 46 • Secondary chemistry form 3 Patel page 34-39	

7	**1-2**	The mole, formulae and chemical equations	Molar solutions	By the end of the lesson, the learner should be able to (i) Define and prepare molar solutions	• Carrying out experiments to prepare molar solutions of sodium hydroxide • Recording observations • Discussion based on observations	• Sodium hydroxide • Distilled water in a wash bottle • Volumetric flask • Clean 250cm^3 beaker • Filter funnel • Electronic balance • Glass rod	• Comprehensive secondary chemistry students book 3 pages 33-34 • Comprehensive chemistry teachers book 3 pages 20 • Longhorn secondary chemistry book 2 pages 75 • Secondary chemistry-KLB students book 3 page 46 • Secondary chemistry form 3 Patel page 42-43	
	3-4	The mole, formulae and chemical equations	Calculations involving molar solutions	By the end of the lesson, the learner should be able to (i) Carry out calculations involving molar solutions	• Discussion based on chemical equation • Writing of chemical equations	• Charts showing calculations of concentrations and dilutions	• Comprehensive secondary chemistry students book 3 pages 35-40 • Comprehensive chemistry teachers book 3 pages 20 • Longhorn secondary chemistry book 2 pages 78 • Secondary chemistry-KLB students book 3 page 47 • Secondary chemistry form 3 Patel page 56	
	5	The mole formulae and chemical equations	Chemical equations	By the end of the lesson, the learner should be able to (i) Write correct formulae of reactions with	• Discussion based on chemical equations • Writing of chemical equations	• Charts showing chemical equations with the state symbols	• Comprehensive secondary chemistry students book 3 pages 40-46 • Comprehensive chemistry teachers book 3 pages 21	

				the correct state symbols			• Longhorn secondary chemistry book 2 pages 87 • Secondary chemistry-KLB students book 3 page 54 • Secondary chemistry form 3 Patel page 42-43-44	
8	**1-2**	The mole, formulae and chemical equations	Balanced chemical equations	By the end of the lesson, the learner should be able to (i) Write correct formulae and ionic equations of reactions with state symbols		• Charts showing equations with the correct state symbols	• Comprehensive secondary chemistry students book 3 pages 40-46 • Comprehensive chemistry teachers book 3 pages 21 • Longhorn secondary chemistry book 2 pages 87 • Secondary chemistry-KLB students book 3 page 58-63 • Secondary chemistry form 3 Patel page 44	
	3-4	The mole, formulae and chemical equations	Acid-base titration	By the end of the lesson, the learner should be able to (i) Carry out acids based on titrations	• Naming of different apparatus used in titration processes • Carry out acid base titrations • Reading the meniscus of a burette correctly	• Pipette • Burette • Conical flask • Dropper • White • Filter funnel • Indicator	• Comprehensive secondary chemistry students book 3 pages 53-54 • Comprehensive chemistry teachers book 3 pages 22-24 • Longhorn secondary chemistry book 2 pages 104 • Secondary chemistry-KLB students book 3 page 58-63	

							• Secondary chemistry form 3 Patel page 64	
9	**1-2**	The mole, formulae and chemical equation	Acid-base titration	By the end of the lesson, the learner should be able to (i) Carry out titration and calculations involving solutions	• Carrying out experiments on HCL (aq) • Recording observations • Discussions based on the observations • Calculating acid-base titration	• Hydrochloric acid • 1M Na_sCo_3 • Methyl orange • Distilled water • Burette • Pipette • Clamp and stands • Beaker	• Comprehensive secondary chemistry students book 3 pages 55-56 • Comprehensive chemistry teachers book 3 pages 22-24 • Longhorn secondary chemistry book 2 pages 104 • Secondary chemistry-KLB students book 3 page 64 • Secondary chemistry form 3 Patel page 54	
	3-4	The mole, formulae and chemical equations	Redox titration	By the end of the lesson, the learner should be able to (i) Carry out titration and related calculations	• Carrying out experiments in redox reaction • Recording observations • Discussions based on the observations • Calculating sums related to titration	• Potassium manganate (VII) • Iron (II) ammonium sulphate • Burette • Pipette • Conical flask • Volumetric flask • Electronic balance	• Comprehensive secondary chemistry students book 3 pages 56-58 • Comprehensive chemistry teachers book 3 pages 24-26 • Longhorn secondary chemistry book 2 pages 114 • Secondary chemistry-KLB students book 3 page 75 • Secondary chemistry form 3 Patel page 56	
	5	The mole, formulae and charcoal equations	Redox reaction	By the end of the lesson, the learner should be able to (i) Carry out redox	• Carrying out experiments in redox reaction • Recording observations	• Potassium dichromate (VI) • Iron (II) ammonium sulphate • Distilled water	• Comprehensive secondary chemistry students book 3 pages 59-60	

				titration and related calculations	• Discussions based on observations • Calculating sums related to titration	• Diphenylamine indicator	• Comprehensive chemistry teachers book 3 pages 24-26 • Longhorn secondary chemistry book 2 pages 114 • Secondary chemistry-KLB students book 3 page 75 • Secondary chemistry form 3 Patel page 58	
10	**1-2**	The mole, formulae and chemical equations	Molar gas volume	By the end of the lesson, the learner should be able to (i) Define molar gas volume and carry out related calculations	• Discussion on the last gas volume • Calculating sums related to molar gas volume	• Charts showing calculations of molar gas volume	• Comprehensive secondary chemistry students book 3 pages 61-62 • Comprehensive chemistry teachers book 3 pages26 • Longhorn secondary chemistry book 2 pages 120 • Secondary chemistry-KLB students book 3 page 79 • Secondary chemistry form 3 Patel page 59	
	3-4	The mole, formulae and chemical equations	Molar gas volume	By the end of the lesson, the learner should be able to (i) Carry out titration and calculations involving molar solutions	• Discussion on molar gas volume • Calculating sums related to molar gas	• Charts showing calculation of molar gas volume	• Comprehensive secondary chemistry students book 3 pages 61-62 • Comprehensive chemistry teachers book 3 pages26 • Longhorn secondary chemistry book 2 pages 120	

							• Secondary chemistry-KLB students book 3 page 79 • Secondary chemistry form 3 Patel page 60-61	
	5	The formulae and chemical equations	Atomicity of gases	By the end of the lesson, the learner should be able to (i) Carry out titration and calculations involving molar solutions	• Explaining atomicity of different gases • Discussion based on atomicity of gases • Calculating sums related to molar solutions	• Charts showing atomicity of gases	• Comprehensive secondary chemistry students book 3 pages 62-63 • Comprehensive chemistry teachers book 3 pages26 • Longhorn secondary chemistry book 2 pages 126 • Secondary chemistry-KLB students book 3 page 79 • Secondary chemistry form 3 Patel page 64-65	
11	**1-2**	The mole, formulae and chemical equations	Avogadro's' law and the related calculations	By the end of the lesson, the learner should be able to (i) Avogadro's law and carry out related calculation	• Discussions based on Avogadro's law • Calculating sums related to Avogadro's law	• Chart showing calculations involving Avogadro's law	• Comprehensive secondary chemistry students book 3 pages 64-65 • Comprehensive chemistry teachers book 3 pages26 • Longhorn secondary chemistry book 2 pages 130 • Secondary chemistry-KLB students book 3 page 31	

							• Secondary chemistry form 3 Patel page 59-62	
	3-4	The mole, formulae and chemical equations	• Gay Lussac's law and related calculations	By the end of the lesson, the learner should be able to state Gay Lussac's law and carry out related calculations	• Calculation of sums related to Gay Lussac's law • Discussions based on Gay Lussac's law	• Charts showing calculations involving Gay Lussac's law	• Comprehensive secondary chemistry students book 3 pages 64-65 • Comprehensive chemistry teachers book 3 pages26 • Longhorn secondary chemistry book 2 pages 127 • Secondary chemistry-KLB students book 3 page 84-85 • Secondary chemistry form 3 Patel page 59-64	
	5	The mole, formulae and chemical equation	Gay Lussac's law and related calculations	By the end of the lesson, the learner should be able to (i) State Gay Lussac's law and carry our related calculations	• Discussions based on Gay Lussac's law • Calculating sums related to Gay Lussac's law	• Charts showing calculations involving Gay Lussac's law	• Comprehensive secondary chemistry students book 3 pages 64-65 • Comprehensive chemistry teachers book 3 pages26 • Longhorn secondary chemistry book 2 pages 127 • Secondary chemistry-KLB students book 3 page 84-85 • Secondary chemistry form 3 Patel page 65-66	

CHEMISTRY FORM 3 SCHEMES OF WORK – TERM 2

WEEK	LESSON	TOPIC	SUB - TOPIC	OBJECTIVES	LEARNING/TEACHING ACTIVITIES	LEARNING/TEACHING RESOURCES	REFERENCES	REMARKS
1	**1-2**	Hydro carbons	Introduction	By the of the lesson, the learner should be able (i) Define a hydro-carbon (ii) Name and draw the structure of single hydrocarbon	• Defining hydrocarbon • Drawing the structure of hydro carbonates • Assigning names of alkaline molecules	• Ball and stick models of alkaline • Chart on hydrocarbons	• Comprehensive secondary chemistry students book 3 pages 68-69 • Comprehensive chemistry teachers book 3 pages 32-34 • Longhorn secondary chemistry book 2 pages 135 • Secondary chemistry-KLB students book 3 page 92 • Secondary chemistry form 3 Patel page 74	
	3	hydrocarbons	Alkaline	By the end of the lesson, the learner should be able to (i) State the features of alkenes as a homologous series	• Drawing simple alkaline molecules • Listing features of homologous series	• Ball and stick models of alkaline • Charts showing the features of a homologous series	• Comprehensive secondary chemistry students book 3 pages 69-71 • Comprehensive chemistry teachers book 3 pages 34-37 • Longhorn secondary chemistry book 2 pages 135 • Secondary chemistry-KLB students book 3 page 93 • Secondary chemistry form 3 Patel page 75	

	4-5	Hydrocarbons	General formulae of alkaline occurrence of alkenes	By the end of the lesson, the learner should be able to (i) Write the general formulae of alkanes (ii) Explain the occurrence of alkane (iii) Describe the fractional of distillation of crude oil	• Writing the general formulae of alkaline • Explaining the occurrence of alkaline • Describing the fractional distillation of crude oil	• Thermometer • Boiling tube • Test tube with side arm • Measuring cylinder • Bunsen burner • 4 test tubes with stoppers • 400 cm^3 beaker • Spatula • Stand with clamp	• Comprehensive secondary chemistry students book 3 pages 70-76 • Comprehensive chemistry teachers book 3 pages 35-37 • Longhorn secondary chemistry book 2 pages 135 • Secondary chemistry-KLB students book 3 page 93 • Secondary chemistry form 3 Patel page 76	
2	**1-2**	Hydrocarbons	Nomenclature of alkaline	By the end of the lesson, the learner should be able to (i) Name and draw simple alkalines	• Drawing simple alkaline molecules • Assigning names of alkaline molecules	• Ball and stick models of alkanes • Diagrams of alkanes on a chart	• Comprehensive secondary chemistry students book 3 pages 76-82 • Comprehensive chemistry teachers book 3 pages 35-37 • Longhorn secondary chemistry book 2 pages 135 and138 • Secondary chemistry-KLB students book 3 page 98 • Secondary chemistry form 3 Patel page 77-78	
	3	hydrocarbons	Isomerism in alkanes	By the end of the lesson, the learner should be able to (i) Name and draw isomers of alkanes	• Drawing isomers of different alkanes • Assigning names to different isomers of alkanes	• Ball and stick models of alkanes • Diagrams of different isomers on a chart	• Comprehensive secondary chemistry students book 3 pages 83-84 • Comprehensive chemistry teachers book 3 pages 36	

							• Longhorn secondary chemistry book 2 pages 141 • Secondary chemistry-KLB students book 3 page 101 • Secondary chemistry form 3 Patel page 79	
	4-5	hydrocarbons	Alkanes-preparation of methane	By the end of the lesson, the learner should be able to (i) Describe the general methods of preparing alkanes	• Carrying out experiments to prepare methane • Recording observations • Discussions based on observations	• An hydrous sodium ethane • Soda line • Bromine water • Blue cobalt chloride paper • Measuring cylinder • Separating funnel • Hard test tubes	• Comprehensive secondary chemistry students book 3 pages 91-92 • Comprehensive chemistry teachers book 3 pages 38-39 • Longhorn secondary chemistry book 2 pages 146 • Secondary chemistry-KLB students book 3 page 103 • Secondary chemistry form 3 Patel page 80-81	
3	**1-2**	hydrocarbons	Physical properties of alkanes	By the end of the lesson, the learner should be able to (i) Explain physical properties of alkanes	• Carrying out experiments on stability of alkanes • Recording observations • Discussions on the physical properties of alkanes	• Pentane • Diethyl ether • Water • Measuring cylinder • Separating funnel • Stand & clamp	• Comprehensive secondary chemistry students book 3 pages 88-93 • Comprehensive chemistry teachers book 3 pages 37-38 • Longhorn secondary chemistry book 2 pages 148 • Secondary chemistry-KLB students book 3 page 105	

							• Secondary chemistry form 3 Patel page 81	
	3-4	hydrocarbons	Chemical properties of alkaline	By the end of the lesson, the learner should be able to (i) Explain the chemical properties of alkaline	• Carrying out experiments on reactions of alkaline • Recording observations on the chemical properties of alkaline	• Borate • Lime water • Blue cobalt (II) chloride paper • Bromine water • Methane measuring cylinder • Wooden splint	• Comprehensive secondary chemistry students book 3 pages 91-92 • Comprehensive chemistry teachers book 3 pages 38-39 • Longhorn secondary chemistry book 2 pages 149 • Secondary chemistry-KLB students book 3 page 106 • Secondary chemistry form 3 Patel page 82	
4	**1-2**	Hydrocarbons	Use of alkaline	By the end of the lesson, the learner should be able to (i) State uses of alkaline	• Discussion on alkaline • Listing uses of alkaline	• Vaseline • Lubricants • Gloss paints • Chart showing uses of alkaline	• Comprehensive secondary chemistry students book 3 pages 95-96 • Comprehensive chemistry teachers book 3 pages 40-41 • Longhorn secondary chemistry book 2 pages 154 • Secondary chemistry-KLB students book 3 page 110 • Secondary chemistry form 3 Patel page 83	
	3	Hydrocarbons	Nomenclature of alkaline	By the end of the lesson, the learner should be able to (i) State the features of	• Drawing structures of alkenes • Listing the feature of alkene as homologous series	• Ball and stick model of alkenes • Diagram of alkenes on a chart	• Comprehensive secondary chemistry students book 3 pages 97-100	

				alkanes as a homologous series		• Chart showing the features of alkenes as a homologous series	• Comprehensive chemistry teachers book 3 pages 41-42 • Longhorn secondary chemistry book 2 pages 155 • Secondary chemistry-KLB students book 3 page 110 • Secondary chemistry form 3 Patel page 84	
	4-5	hydrocarbon	Isomerism of alkenes	By the end of the lesson, the learner should be able to (i) Draw and name isomers of alkenes	• Drawing structures of different isomers alkenes • Assigning names to isomers of alkenes	• Ball and stick model of alkenes • Chart showing isomers of different molecules	• Comprehensive secondary chemistry students book 3 pages 103-107 • Comprehensive chemistry teachers book 3 pages 43-44 • Longhorn secondary chemistry book 2 pages 161 • Secondary chemistry-KLB students book 3 page 113 • Secondary chemistry form 3 Patel page 84-85	
5	**1-2**	hydrocarbon	Preparation of alkenes	By the end of the lesson, the learner should be able to (i) Describe the preparation of alkenes	• Demonstration, preparation and properties of ethane • Recording observations • Discussion on preparation of alkenes • Writing chemical equations	• Concentrated Sulphuric acid • Ethanol • Concentrated potassium hydroxide • Gas jar • Conical flask • Round-bottomed flask	• Comprehensive secondary chemistry students book 3 pages 103-107 • Comprehensive chemistry teachers book 3 pages 43-44 • Longhorn secondary chemistry book 2 pages 161	

							• Secondary chemistry-KLB students book 3 page 113 • Secondary chemistry form 3 Patel page 84-85	
	3	hydrocarbons	Physical properties of alkenes	By the end of the lesson, the learner should be able to (i) Explain the chemical properties of alkenes	• Carrying out experiments to investigate solubility of alkenes • Recording observations • Discussion on physical properties of alkanes	• Chart showing the physical properties of alkenes • Pent-l-ene water • Stand and clamp • Methylbenzene • Separating funnel	• Comprehensive secondary chemistry students book 3 pages 109-111 • Comprehensive chemistry teachers book 3 pages 46 • Longhorn secondary chemistry book 2 pages 165 • Secondary chemistry-KLB students book 3 page 117 • Secondary chemistry form 3 Patel page 82	
	4-5	hydrocarbon	Chemical properties of alkenes	By the end of the lesson, the learner should be able to (i) Explain the chemical properties of alkenes	• Carrying out experiments on combustion and vaporization o alkenes • Recording observations • Discussion on chemical properties of alkenes		• Comprehensive secondary chemistry students book 3 pages 109-111 • Comprehensive chemistry teachers book 3 pages 46 • Longhorn secondary chemistry book 2 pages 165 • Secondary chemistry-KLB students book 3 page 117 • Secondary chemistry form 3 Patel page 82	

6	**1**	hydrocarbon	Uses of alkenes	By the end of the lesson, the learner should be able to (i) State the uses of alkenes	• Discussions on uses of alkenes • Listing the uses of alkenes	• Charts showing the uses of alkenes • Plastic proof wear • Plastic hand-bag • Plastic suit cases	• Comprehensive secondary chemistry students book 3 pages 112-113 • Comprehensive chemistry teachers book 3 pages 48 • Longhorn secondary chemistry book 2 pages 170 • Secondary chemistry-KLB students book 3 page 121 • Secondary chemistry form 3 Patel page 83	
	2-3	hydrocarbons	Alkynes	By the end of the lesson, the learner should be able to (i) Name and draw the structure of alkynes	• Drawing the structures of alkynes • Assigning names of alkynes molecules	• Ball and stick models of alkynes • Diagrams of alkynes on a chart	• Comprehensive secondary chemistry students book 3 pages 113-115 • Comprehensive chemistry teachers book 3 pages 48 • Longhorn secondary chemistry book 2 pages 171 • Secondary chemistry-KLB students book 3 page 122 • Secondary chemistry form 3 Patel page 87-88	
	4-5	hydrocarbons	Preparation and properties of alkynes	By the end of the lesson, the learner should be able to (i) Describe the general methods of	• Carrying out experiment to prepare ehtyne • Recording of observation • Discussion based on observation	• Calcium carlide • Phenolphthalein indicator • Bromine water • Acidified potassium manganate (VII)	• Comprehensive secondary chemistry students book 3 pages 116-119 • Comprehensive chemistry teachers book 3 pages 49	

				preparing alkynes (ii) Explain the physical and chemical properties of alkynes	• Explaining the physical and chemical properties of alkynes	• Round bottomed flask • Water trough • Spatula • Stand on clamp • 4 gas jars	• Longhorn secondary chemistry book 2 pages 178 • Secondary chemistry-KLB students book 3 page 125-127 • Secondary chemistry form 3 Patel page 88-89	
7	**1-2**	hydrocarbon	Isomerism in alkynes	By the end of the lesson, the learner should be able to (i) Draw and name isomers of alkynes	• Draw isomers of different alkynes • Assign names of isomers of alkynes	• Ball and stick models of alkynes • Diagrams of alkynes on charts	• Comprehensive secondary chemistry students book 3 pages 115 • Comprehensive chemistry teachers book 3 pages 48 • Longhorn secondary chemistry book 2 pages 176 • Secondary chemistry-KLB students book 3 page 124 • Secondary chemistry form 3 Patel page 88	
	3	hydrocarbon	Uses of alkynes	By the end of the lesson, the learner should be able to (i) Describe and explain the uses of alkynes	• Discussion on uses of alkynes • Listing uses of alkynes	• Charts showing uses of alkynes • Sample of polyvinyl chloride (PVC) pipes	• Comprehensive secondary chemistry students book 3 pages 119-120 • Comprehensive chemistry teachers book 3 pages 50 • Longhorn secondary chemistry book 2 pages 183 • Secondary chemistry-KLB students book 3 page 130	

							• Secondary chemistry form 3 Patel page 90	
	4-5	Nitrogen and its compound	Introduction: isolation of nitrogen from air	By the end of the lesson, the learner should be able to (i) Describe the isolation of nitrogen from air	• Carrying out experiments on the isolation of nitrogen • Recording and observation • Discussion on isolation of Nitrogen from air • Writing relevant chemical equations	• 2M sodium hydroxide • Silica tube • Copper turnings • Clamp and stand • Bycyde pump • Bee hive shelf • Gas jar	• Comprehensive secondary chemistry students book 3 pages 123-124 • Comprehensive chemistry teachers book 3 pages 61-64 • Longhorn secondary chemistry book 2 pages 186 • Secondary chemistry-KLB students book 3 page 135 • Secondary chemistry form 3 Patel page 92	
8	**1-2**	Nitrogen and its compound	Laboratory preparation of nitrogen and its properties	By the end of the lesson, the learner should be able to (i) Describe the laboratory preparations of nitrogen and its properties	• Demonstration on the preparation of Nitrogen gas • Recording observation • Discussion • Laboratory preparation of nitrogen • Writing chemical equations • Explaining properties of nitrogen	• Sodium nitrate • Ammonium chloride • Distilled water • Round bottomed flask • Delivery tube • Bunsen burner • Measuring cylinder • Gas jars • Stand and clamp	• Comprehensive secondary chemistry students book 3 pages 125-127 • Comprehensive chemistry teachers book 3 pages 64 • Longhorn secondary chemistry book 2 pages 189 • Secondary chemistry-KLB students book 3 page 136 • Secondary chemistry form 3 Patel page 93	
	3	Nitrogen and its compounds	Uses of nitrogen	By the end of the lesson, the learner should be able to (i) State the uses of nitrogen	• Discussion on the uses of nitrogen • Drawing the nitrogen cycle • Listing uses of nitrogen	• Chart showing the nitrogen cycle • Chart showing uses of nitrogen	• Comprehensive secondary chemistry students book 3 pages 127-128	

							• Comprehensive chemistry teachers book 3 pages 65 • Longhorn secondary chemistry book 2 pages 193 • Secondary chemistry-KLB students book 3 page 139 • Secondary chemistry form 3 Patel page 95	
	4-5	Nitrogen and its compounds	Preparation and properties of nitrogen (i) oxide	By the end of the lesson, the learner should be able to (i) Explain the preparation of nitrogen (ii) State the properties of nitrogen (I) oxide	• Demonstration on the preparation of nitrogen (I) oxide • Recording observations • Discussion based on observations • Writing related chemical equations • Explaining properties of nitrogen (I) oxide	• Ammonium sulphate • Sodium nitrate • Round-bottomed flask • Water trough • Stand and clamp • Gas jar • Bunsen burner • Red and blue litmus papers	• Comprehensive secondary chemistry students book 3 pages 129-131 • Comprehensive chemistry teachers book 3 pages 65-66 • Longhorn secondary chemistry book 2 pages 195 • Secondary chemistry-KLB students book 3 page 139 • Secondary chemistry form 3 Patel page 96	
9	**1-2**	Nitrogen and its compound	Preparation and properties of nitrogen (II) oxide	By the end of the lesson the learner should be able to (i) State the properties of nitrogen (ii) oxide	• Demonstration on the preparation of nitrogen (II) oxide • Recording observations • Discussion based on observations • Writing chemical equations • Explaining properties of nitrogen (II) oxide	• Concentrated nitric acid • Distilled water • Copper forms • Round-bottomed flask • Thistle funnel • Gas jars • Measuring cylinder • Delivery tube	• Comprehensive secondary chemistry students book 3 pages 131-134 • Comprehensive chemistry teachers book 3 pages 66-67 • Longhorn secondary chemistry book 2 pages 201	

							• Secondary chemistry-KLB students book 3 page 139 • Secondary chemistry form 3 Patel page 96	
	3	Nitrogen and its compounds	Test and uses of N_2O and NO	By the end of the lesson, the learner should be able to (i) State the uses of nitrogen (I) oxide and nitrogen (II) oxide	• Discussion on the test of N_2O and NO • Listening the uses of N_2O and NO	• Charts showing the difference between N_2O and NO • Chart showing the uses of N_2O and NO	• Comprehensive secondary chemistry students book 3 pages 134 • Comprehensive chemistry teachers book 3 pages 66-67, 73 • Longhorn secondary chemistry book 2 pages 200 and 202-203 • Secondary chemistry-KLB students book 3 page 141 • Secondary chemistry form 3 Patel page 99-102	
	4-5	Nitrogen and its compound	Laboratory preparation and properties of Nitrogen (IV) oxide (NO_2) and its uses	By the end of the lesson, the learner should be able to (i) State properties of nitrogen (IV) oxide (ii) Explain its uses	• Demonstration on the preparation of nitrogen (IV) oxide • Recording observations • Discussion based on observation • Writing of chemical equations • Explaining properties and uses of nitrogen (IV) oxide (NO_2)	• Concentrated nitric acid • Copper turnings • Thistle funnel/with tap • Round bottomed flask • Stand with clamp • Gas jars with glass corner • spatulas	• Comprehensive secondary chemistry students book 3 pages 134-136 • Comprehensive chemistry teachers book 3 pages 66-67, 73 • Longhorn secondary chemistry book 2 pages 200 and 204 • Secondary chemistry-KLB students book 3 page 142	

							• Secondary chemistry form 3 Patel page 100-102	
10	**1-2**	Nitrogen and its compounds	Laboratory preparation and physical properties of ammonia	By the end of the lesson, the learner should be able to (i) Describe the laboratory preparation of ammonia and state its physical properties	• Demonstration on the preparation of ammonia • Recording observations • Writing of chemical equations • Explaining the physical properties of ammonia	• Ammonia chloride • Calcium hydroxide • Quick lime • Round-bottomed flask • Gas jar • Lime water • Wire gauze	• Comprehensive secondary chemistry students book 3 pages 137-138 • Comprehensive chemistry teachers book 3 pages 69 • Longhorn secondary chemistry book 2 pages 212 • Secondary chemistry-KLB students book 3 page 147 • Secondary chemistry form 3 Patel page 103	
	3-4	Nitrogen and its compounds	Chemical properties of ammonia	By the end of the lesson, the learner should be able to (i) State the chemical properties of ammonia	• Demonstrations on oxidation of ammonia by Copper (IV) oxide • Recording observations • Discussion based on observations • Listing chemical properties of ammonia	• Copper (II) oxide • Ammonia gas • Blue Cobalt (II) chloride • Anhydrous Copper (II) Sulphate • Combustion tube • Stand and clamp • Bunsen burner	• Comprehensive secondary chemistry students book 3 pages 138-142 • Comprehensive chemistry teachers book 3 pages 69-71 • Longhorn secondary chemistry book 2 pages 215 • Secondary chemistry-KLB students book 3 page 150 • Secondary chemistry form 3 Patel page 107-108	
	5	Nitrogen and its compounds	Uses of ammonia	By the end of the lesson, the learner should be	• Discussion on uses of ammonia	• Chart showing the uses of ammonia	• Comprehensive secondary chemistry	

				(i) Able to state uses of ammonia	• Listing uses of ammonia		students book 3 pages 144-146 • Comprehensive chemistry teachers book 3 pages 73 • Longhorn secondary chemistry book 2 pages 226 • Secondary chemistry-KLB students book 3 page 161 • Secondary chemistry form 3 Patel page 113	
11	**1-2**	Nitrogen and its compounds	Properties of ammonia gas and aqueous ammonia	By the end of the lesson, the learner should be able to (i) Explain the differences in chemical reactions of ammonia gas and its aqueous solutions	• Carrying out experiments on reactions of aqueous ammonia with cation • Recording observations • Discussion on reactions of ammonia gas and its aqueous solutions	• Solutions having Ca^{2+}, Fe^{2+},Cu^{2+}, Pb^{2+}, Al^{3+}, Zn^{2+} • Aqueous ammonia • Distilled water • Water bottle	• Comprehensive secondary chemistry students book 3 pages 142-143 • Comprehensive chemistry teachers book 3 pages 69-71 • Longhorn secondary chemistry book 2 pages 214 • Secondary chemistry-KLB students book 3 page 153-159 • Secondary chemistry form 3 Patel page 111	

	3-4	Nitrogen and its compounds	Industrial manufacture of ammonia (harber process)	By the end of the lesson, the learner should be able to (i) Describe the industrial manufacture of ammonia	• Discussion on the industrial manufacture of ammonia • Drawing the flow diagram of the harber process	• Chart showing steps involved in the harber process	• Comprehensive secondary chemistry students book 3 pages 143-144 • Comprehensive chemistry teachers book 3 pages 73 • Longhorn secondary chemistry book 2 pages 225 • Secondary chemistry-KLB students book 3 page 159 • Secondary chemistry form 3 Patel page 111	
	5	Nitrogen and its compounds	Fertilizers	By the end of the lesson, the learner should be able to 9i) calculate the percentage of nitrogen in nitrogen containing fertilizers	• Discussion on fertilizers • Calculations involving the percentage of nitrogen in the fertilizers	• Chart showing different nitrogen containing fertilizers • Samples of ammonium phosphate fertilizers	• Comprehensive secondary chemistry students book 3 pages 145-146 • Comprehensive chemistry teachers book 3 pages 73 • Longhorn secondary chemistry book 2 pages 227 • Secondary chemistry-KLB students book 3 page 161 • Secondary chemistry form 3 Patel page 114	

12	**1-2**	Nitrogen and its compound	Nitric (v) acid	By the end of the lesson, the learner should be able to (i) Describe the preparation of nitric (v) acid	• Demonstration on the preparation of nitric (v) acid • Recording observations • Discussion of nitric (V) acid • Writing relevant chemical equations	• Concentrated Sulphuric acid • Potassium nitrate • Clamp and stand • Round bottomed flask • Conical flask • Spatula • Measuring cylinder	• Comprehensive secondary chemistry students book 3 pages 147-148 • Comprehensive chemistry teachers book 3 pages 71 • Longhorn secondary chemistry book 2 pages 231 • Secondary chemistry-KLB students book 3 page 162 • Secondary chemistry form 3 Patel page 118	
	3-4	Nitrogen and its compound	Physical and chemical properties of Nitric (V) acid	By the end of the lesson, the learner should be able to (i) Describe and explain the reactions of both dilute and Concentrated nitric (V) acid	• Carrying out experiments on reactions of nitric acid • Recording observations • Discussion based on reactions of nitric acid • Writing relevant chemical equations	• Magnesium ribbon • Concentrated and dilute nitric (V) acid • Wooden splint • Copper turnings • Zinc granules • Sulphure powder • Bar iron • Nitrate solution • Iron (Vi) sulphate • Dilute sulphuric acid	• Comprehensive secondary chemistry students book 3 pages 148-150 • Comprehensive chemistry teachers book 3 pages 71-72 • Longhorn secondary chemistry book 2 pages 235 • Secondary chemistry-KLB students book 3 page 165 • Secondary chemistry form 3 Patel page 119	
	5	Nitrogen and its compounds	Industrial manufacture of nitric (V) acid and its uses	By the end of the lesson, the learner should be able to (i) Describe and explain the industrial	• Explaining the manufacture of nitric (V) acid • Discussion on the uses of nitric (V) acid	• Chart showing the flow diagram for nitric (V) acid manufacture	• Comprehensive secondary chemistry students book 3 pages 148-151 • Comprehensive chemistry teachers book 3 pages 73	

				manufacture of nitric (V) acid (ii) State the uses of nitric (V) acid	• Writing relevant chemical equations		• Longhorn secondary chemistry book 2 pages 234 • Secondary chemistry-KLB students book 3 page 164 • Secondary chemistry form 3 Patel page 119	
13	**1-2**	Nitrogen and its compound	Effects of heat on nitrates	By the end of the lesson, the learner should be able to (i) Identify the product formed when different nitrates are heated	• Carrying out experiments to investigate the products formed when nitrates are heated • Recording observations • Discussion based on observations • Writing relevant chemical equations	• Solid sodium nitrate • Potassium nitrate • Copper (II) nitrate • Lead (II) nitrate • Silver nitrate • 5 test tubes • Test tube rack • Bunsen burner • Wooden splint	• Comprehensive secondary chemistry students book 3 pages 152 • Comprehensive chemistry teachers book 3 pages 72 • Longhorn secondary chemistry book 2 pages 241 • Secondary chemistry-KLB students book 3 page 171 • Secondary chemistry form 3 Patel page 123	
	3	Nitrogen and its compound	Test for nitrates	By the end of the lesson, the learner should be able to (i) Describe the test for nitrates	• Carrying out experiment to test for nitrates • Discussion based on observations of experiment	• Any nitrate • Iron (II) sulphate solution • Test tubes • Sulphuric acid (concentrated)	• Comprehensive secondary chemistry students book 3 pages 153 • Comprehensive chemistry teachers book 3 pages 72-73 • Longhorn secondary chemistry book 2 pages 243 • Secondary chemistry-KLB students book 3 page 172	

							• Secondary chemistry form 3 Patel page 124	
	4-5	Nitrogen and its compounds	Environmental pollution by nitrogen compounds	By the end of the lesson, the learner should be able to (i) Explain the effects of pollution by nitrogen compound in the environment	• Discussion on environmental pollution by nitrogen compounds • Drawing a flow diagram on environmental pollution by nitrogen compounds	• Samples of nitric (V) acid • Distilled water • Article and photographs from scientific journals and magazines	• Comprehensive secondary chemistry students book 3 pages 154-155 • Comprehensive chemistry teachers book 3 pages 72-73 • Longhorn secondary chemistry book 2 pages 244 • Secondary chemistry-KLB students book 3 page 174 • Secondary chemistry form 3 Patel page 125	
REVISION AND EXAMINATIONS								

CHEMISTRY FORM 3 SCHEMES OF WORK – TERM 3

WEEK	LESSON	TOPIC	SUB - TOPIC	OBJECTIVES	LEARNING/TEACHING ACTIVITIES	LEARNING/TEACHING RESOURCES	REFERENCES	REMARKS
1	**1-2**	Sulphuric and its compounds	Occurrence and extraction of sulphur	By the end of the lesson, the learner should be able to describe the occurrence and extraction of sulphur	• Identifying the position of sulphur in the periodic table	• The periodic table • A chart showing the diagram of the Frisch process	• Comprehensive secondary chemistry students book 3 pages 160-161 • Comprehensive chemistry teachers book 3 pages 80-82 • Longhorn secondary chemistry book 2 pages 249 • Secondary chemistry-KLB students book 3 page 153-159 • Secondary chemistry form 3 Patel page 128	
	3-4	Sulphur and its compounds	Allotropes of sulphur	By the end of the lesson, the learner should be able to (i) Describe the allotropes of sulphur	• Demonstration of experiment on preparation of rhombic sulphur • Recording observations • Discussion on rhombic sulphur • Drawing rhombic sulphur	• Powdered sulphur • Carbon disulphide • Filter paper • 200cm^2 beaker • Watch glass • Spatula • Hand-lens	• Comprehensive secondary chemistry students book 3 pages 161-162 • Comprehensive chemistry teachers book 3 pages 82-83 • Longhorn secondary chemistry book 2 pages 250 • Secondary chemistry-KLB students book 3 page	

							• Secondary chemistry form 3 Patel page 129	
	5	Sulphur and its compounds	Allotropes of sulphur	By the end of the lesson, the learner should be able to (i) Describe the allotropes of sulphur	• Demonstration on the process of preparation of monochromic sulphur • Recording observations • Discussion on monochromic sulphur • Drawing monochromic sulphur	• Powdered sulphur • Methylbenzene • Large beaker • Small beaker • Spatula • Thermometer • Glass rod • Bunsen burner	• Comprehensive secondary chemistry students book 3 pages 162-165 • Comprehensive chemistry teachers book 3 pages 82-83 • Longhorn secondary chemistry book 2 pages 250 • Secondary chemistry-KLB students book 3 page • Secondary chemistry form 3 Patel page 130-131	
2	**1-2**	Sulphur and its compounds	Physical and its chemical properties of sulphur	By the end of the lesson, the learner should be able to (i) State the physical and chemical properties of sulphur	• Carrying out experiments on reactions of Sulphur • Recording observations • Discussion on properties of sulphur • Writing chemical equations	• Roll of sulphur • Oxygen gas • Distilled water • Red and blue litmus • Iron fillings • Stand and clamp • Test tube • Bunsen burner • Concentrated sulphuric and nitric acids	• Comprehensive secondary chemistry students book 3 pages 166-169 • Comprehensive chemistry teachers book 3 pages 84-85 • Longhorn secondary chemistry book 2 pages 256 • Secondary chemistry-KLB students book 3 page • Secondary chemistry form 3 Patel page 131	

	3	Sulphur and its compounds	Uses of sulphur	By the end of the lesson, the learner should be able to (i) State the uses of sulphur	• Discussion based on the uses of sulphur • Listing uses of sulphur	• Safety matches • Sodium thic sulphate • Sulphuric acid • Vulcanized rubber	• Comprehensive secondary chemistry students book 3 pages 169-171 • Comprehensive chemistry teachers book 3 pages 85 • Longhorn secondary chemistry book 2 pages 258 • Secondary chemistry-KLB students book 3 page • Secondary chemistry form 3 Patel page 132	
	4-5	Sulphur and its compounds	Preparation and properties of Sulphur (iv) oxide	By the end of the lesson, the learner should be able to (i) Describe the preparation and properties of sulphur (iv) oxide	• Demonstration on the preparation of sulphur (iv) oxide • Recording observations • Discussion on properties of sulphur (iv) oxide • Writing chemical equations	• Sodium sulphate • Dilute Sulphuric acid • Concentrated sulphuric acid • Round bottomed flask • Thistle funnel • Conical flask • Bunsen burner • Flower petals	• Comprehensive secondary chemistry students book 3 pages 171-175 • Comprehensive chemistry teachers book 3 pages 86-90 • Longhorn secondary chemistry book 2 pages 259 • Secondary chemistry-KLB students book 3 page • Secondary chemistry form 3 Patel page 132	
3	**1-2**	Sulphur and its compounds	Properties of Sulphur (iv) oxide	By the end of the lesson, the learner should be able to (i) Describe the oxidizing action of	• Carrying out experiments to investigate the oxidizing action of sulphur (iv) oxide • Recording observations	• Sulphur (iv) oxide gas • Iron (II) sulphide • Dilute hydrochloric acid	• Comprehensive secondary chemistry students book 3 pages 176-178 • Comprehensive chemistry teachers book 3 pages 86-90	

				sulphur (iv) oxide	• Discussion on properties of sulphur (iv) oxide and sulphur (vi) oxide • Writing chemical equations	• Thistle funnel • Stand and clamp • Spatula • Conical flask • Magnesium ribbon • Source of heat	• Longhorn secondary chemistry book 2 pages 262 • Secondary chemistry-KLB students book 3 page • Secondary chemistry form 3 Patel page 124-137	
	3	Sulphur and its compounds	Uses of sulphur (iv) oxide gas	By the end of the lesson, the learner should be able to (i) State the uses of Sulphur (iv) oxide	• Discussion on uses of sulphur (iv) oxide • Listing the uses of sulphur (iv) oxide	• Calcium hydrogen sulphide • Sodium hydrogen sulphite • Wool • sponges	• Comprehensive secondary chemistry students book 3 pages 179-180 • Comprehensive chemistry teachers book 3 pages 90 • Longhorn secondary chemistry book 2 pages 270 • Secondary chemistry-KLB students book 3 page • Secondary chemistry form 3 Patel page 139	
	4-5	Sulphur and its compounds	Test for sulphate and sulphite ions	By the end of the lesson, the learner should be able to (i) Carry out tests to distinguish between sulphites (SO_3^{2-}), and Sulphite (SO_4^{2-}) ions	• Carrying out experiments to test SO_3^{2-} and SO_4^{2-} • Recording observations • Discussion on test for the ions based on observations • Write relevant chemical equations	• Baron chloride • Lead (II) nitrate • Sodium sulphate • Dilute nitric acid • Filter paper soaked in acidified potassium dichloride (VI) • Distilled water • Test tubes • Test tube racks	• Comprehensive secondary chemistry students book 3 pages 178-179 • Comprehensive chemistry teachers book 3 pages 91 • Longhorn secondary chemistry book 2 pages 268 • Secondary chemistry-KLB students book 3 page	

							• Secondary chemistry form 3 Patel page 139	
4	**1-2**	Sulphur and its compounds	Manufacture of sulphuric (iv) acid	By the end of the lesson, the learner should be able to (i) Explain the preparation and manufacture of Sulphuric (iv) acid	• Discussion on the manufacture of Sulphuric (vi) acid • Drawing the flow diagram of the contact process • Writing relevant chemical equations	• Chart showing the flow diagram of the contact process of Sulphuric (Vi) acid	• Comprehensive secondary chemistry students book 3 pages 180-182 • Comprehensive chemistry teachers book 3 pages 92 • Longhorn secondary chemistry book 2 pages 274 • Secondary chemistry-KLB students book 3 page • Secondary chemistry form 3 Patel page 140	
	3	Sulphur and its compounds	Uses of Sulphric (VI) acid	By the end of the lesson, the learner should be able to (i) State the uses of sulphuric (VI) acid	• Discussion on uses of Sulphuric (VI) acid • Listing uses of Sulphuric (VI) acid •	• Chart showing uses of Sulphuric (VI) acid	• Comprehensive secondary chemistry students book 3 pages 182 • Comprehensive chemistry teachers book 3 pages 92 • Longhorn secondary chemistry book 2 pages 288 • Secondary chemistry-KLB students book 3 page • Secondary chemistry form 3 Patel page 142	

	4-5	Sulphur and its compounds	Properties of concentrated Sulphuric (VI) acid	By the end of the lesson, the learner should be able to (i) Describe the reactions of dilute and concentrated Sulphuric (VI) acid	• Demonstration on the reactions of concentrated Sulphuric (VI) acid • Recording observations • Discussion on reactions of concentrated Sulphuric (VI) acid • Writing relevant chemical equations	• Concentrated and dilute sulphuric acids • Copper turnings • Dichromate (VI) carbon • Lime water • Sulphur • Iron fillings • Sodium carbonate • Test tubes • Test tube racks	• Comprehensive secondary chemistry students book 3 pages 183-186 • Comprehensive chemistry teachers book 3 pages 92-94 • Longhorn secondary chemistry book 2 pages 279 • Secondary chemistry-KLB students book 3 page • Secondary chemistry form 3 Patel page 145-146	
5	**1-2**	Sulphur and its compounds	Properties of dilute sulphuric acid	By the end of the lesson, the learner should be able to (i) Describe reactions of dilute sulphuric (VI) acid (ii) Distinguish between the reactions of dilute and concentrated sulphuric (VI) acid	• Carrying out experiments on reactions of dilute sulphuric (VI) acid • Recording observations • Discussion on dilute sulphuric acid • Writing relevant chemical equations • Comparing reactions of dilute acid and concentrated acids	• Iron filings • Dilute sulphuric acid • Sodium carbonate • 2m sodium hydroxide • 2M potassium hydroxide • Magnesium oxide • Test tube • Test tube racks	• Comprehensive secondary chemistry students book 3 pages 186-188 • Comprehensive chemistry teachers book 3 pages 82-83 • Longhorn secondary chemistry book 2 pages 285 • Secondary chemistry-KLB students book 3 page • Secondary chemistry form 3 Patel page 145-146	
	3-4	Sulphur and its compounds	Hydrogen sulphide	By the end of the lesson, the learner should be able to (i) Describe the preparation of	• Demonstration on preparation of hydrogen Sulphide • Discussion on physical properties of hydrogen sulphide	• Charts showing physical properties of Sulphide • Iron (II) Sulphide	• Comprehensive secondary chemistry students book 3 pages 189-191 • Comprehensive chemistry teachers book 3 pages 95	

				hydrogen sulphide (ii) State the physical properties of hydrogen Sulphide	• Writing relevant chemical equations	• Dilute hydrochloric acid • Round-bottomed flask • Filter paper • Conical flask • Thistle funnel	• Longhorn secondary chemistry book 2 pages 289 • Secondary chemistry-KLB students book 3 page • Secondary chemistry form 3 Patel page 147-149	
	5	Sulphur and its compounds	Chemical properties of hydrogen Sulphide	By the end of the lesson, the learner should be able to (i) Explain the chemical properties of hydrogen sulphide	• Explaining the chemical properties of hydrogen sulphide • Writing relevant chemical equations	• Chart showing chemical properties of hydrogen Sulphide	• Comprehensive secondary chemistry students book 3 pages 191-192 • Comprehensive chemistry teachers book 3 pages 95 • Longhorn secondary chemistry book 2 pages 291 • Secondary chemistry-KLB students book 3 page • Secondary chemistry form 3 Patel page 148	
6	**1**	Sulphur and its compounds	Pollution by Sulphur containing compounds	By the end of the lesson, the learner should be able to (i) Explain the environments pollution caused by sulphur containing compounds	• Discussion on pollution caused by sulphur containing compounds • Writing relevant chemical equations	• Chart showing the list of sulphur pollutants • Calcium carbonate • Dilute sulphuric acids	• Comprehensive secondary chemistry students book 3 pages 192 • Comprehensive chemistry teachers book 3 pages 92-96 • Longhorn secondary chemistry book 2 pages 293 • Secondary chemistry-KLB students book 3 page	

							• Secondary chemistry form 3 Patel page 149	
	2-3	Chlorine and its compound	Preparation of chlorine gas	By the end of the lesson, the learner should be able to (i) Describe and explain the laboratory preparation of chlorine gas	• Demonstration on the preparation of chlorine gas • Recording observations • Discussion on preparation of Chlorine • Writing relevant chemical equations	• Manganese (IV) Oxide • Concentrated sulphuric acid • Concentrated hydrochloric acid • Bunsen burner • Delivery tubes • Gas jar • Round bottomed flask	• Comprehensive secondary chemistry students book 3 pages 109-201 • Comprehensive chemistry teachers book 3 pages 106-109 • Longhorn secondary chemistry book 2 pages 298 • Secondary chemistry-KLB students book 3 page • Secondary chemistry form 3 Patel page 133	
	4-5	Chlorine and its compounds	Reaction of chlorine with • Hydrogen • Metals • Non-metals	By the end of the lesson, the learner should be able to (i) State and explain the preparations of chlorine	• Demonstration on reactions of chlorine with hydrogen, metals and non-metals • Recording observations • Discussion on reactions of chlorine • Writing relevant chemical equations	• Zinc granules • Dilute hydrochloric acid • Aluminum metal • Magnesium metal • Iron • Phosphorous • Source of chlorine	• Comprehensive secondary chemistry students book 3 pages 201-204 • Comprehensive chemistry teachers book 3 pages 106-109 • Longhorn secondary chemistry book 2 pages 301 • Secondary chemistry-KLB students book 3 page • Secondary chemistry form 3 Patel page 154	

7	**1**	Chlorine and its compounds	Reaction of chlorine with • Sulphates • hydrocarbons	By the end of the lesson, the learner should be able to (i) state and explain the properties of chlorine	• demonstrate on the reactions of chlorine with sulphides and hydrocarbons • recording observations • discussion on reactions of chlorine • writing relevant chemical equations	• concentrated ammonia solutions containing sulphates • boiling tube • stand and clamp • delivery tube • spatula	• Comprehensive secondary chemistry students book 3 pages 204-207 • Comprehensive chemistry teachers book 3 pages 109-110 • Longhorn secondary chemistry book 2 pages 301 • Secondary chemistry-KLB students book 3 page • Secondary chemistry form 3 Patel page 154	
	2-3	Chlorine and its compounds	Reaction of chlorine with water, alkalis, bromine, chlorine and iodine	By the end of the lesson, the learner should be able to (i) State and explain the properties of chlorine	• Demonstrations on the reactions of chlorine with water, alkalis and chlorine • Recording observations • Discussion on reactions of chlorine • Writing relevant chemical equations	• Sodium hydroxide • Potassium bromide • Potassium iodine • Distilled water • Source of chlorine • Measuring cylinder • Beaker • Wooden splint	• Comprehensive secondary chemistry students book 3 pages 207-212 • Comprehensive chemistry teachers book 3 pages 111-113 • Longhorn secondary chemistry book 2 pages 310 • Secondary chemistry-KLB students book 3 page • Secondary chemistry form 3 Patel page 154-158	
	4-5	Chlorine and its compounds	Uses of chlorine	By the end of the lesson, the learner should be able to	• Discussion on uses of chlorine • Listing the uses of chlorine	• Chart showing the uses of chlorine • PVC pipes • Chloroform	• Comprehensive secondary chemistry students book 3 pages 213-214	

				(i) State the uses of chlorine		• Hydrogen chloride	• Comprehensive chemistry teachers book 3 pages 116-117 • Longhorn secondary chemistry book 2 pages 320 • Secondary chemistry-KLB students book 3 page • Secondary chemistry form 3 Patel page 160	
8	**1-2**	Chlorine and its compounds	Preparation of hydrogen chlorine gas	By the end of the lesson, the learner should be able to (i) Describe and explain the laboratory preparation of hydrogen chloride gas	• Demonstration on the preparation of hydrogen chloride gas • Recoding observations • Discussion on the preparation of hydrogen chloride gas • Writing relevant chemical equations	• Concentrated Sulphuric (IV) acid • Sodium chloride • Round-bottomed flask • Source of heat • Gas jar with cover • Thistle funnel • Delivery tubes • Stand and clamp	• Comprehensive secondary chemistry students book 3 pages 216-217 • Comprehensive chemistry teachers book 3 pages 114 • Longhorn secondary chemistry book 2 pages 323 • Secondary chemistry-KLB students book 3 page • Secondary chemistry form 3 Patel page 161	
	3	Chlorine and its compounds	Physical properties of hydrogen chloride gas	By the end of the lesson, the learner should be able to (i) Explain the physical properties of hydrogen chloride gas	• Explaining the physical properties of hydrogen chloride gas	• Chart showing physical properties of hydrogen chloride gas	• Comprehensive secondary chemistry students book 3 pages 217 • Comprehensive chemistry teachers book 3 pages 114-116	

							• Longhorn secondary chemistry book 2 pages 325 • Secondary chemistry-KLB students book 3 page • Secondary chemistry form 3 Patel page 162	
	4-5	Chlorine and its compounds	Physical properties of hydrogen Chloride gas	By the end of the lesson, the learner should be able to (i) Explain the physical properties of hydrogen chloride gas	• Demonstration on the reactions of hydrogen chloride with ammonia gas, ammonia and silver nitrate • Recording observations • Discussion on reactions of hydrogen chloride • Writing relevant chemical equations	• Hydrogen chloride gas • Dilute nitric acid • Silver nitrate • Beaker • Gas jar with covers • Ammonia • 2 gas jars	• Comprehensive secondary chemistry students book 3 pages 217-218 • Comprehensive chemistry teachers book 3 pages 114-115 • Longhorn secondary chemistry book 2 pages 325 • Secondary chemistry-KLB students book 3 page • Secondary chemistry form 3 Patel page 162-163	
9	**1-2**	Chlorine and its compounds	Effects of solvent into properties of hydrogen chloride gas	By the end of the lesson, the learner should be able to explain the effects of a solvent on the properties of hydrogen chloride gas	• Demonstration on the properties of hydrogen chloride • Recording observations • Discussion on properties of hydrogen chloride gas • Writing relevant chemical equations	• Hydrogen chloride gas • Distilled water • Methylbenzene • Zinc granules • Magnesium metal • Iron metal • Sodium hydroxide • Red and blue litmus paper	• Comprehensive secondary chemistry students book 3 pages 219 • Comprehensive chemistry teachers book 3 pages 115-116 • Longhorn secondary chemistry book 2 pages 328	

							• Secondary chemistry-KLB students book 3 page • Secondary chemistry form 3 Patel page 165-166	
	3	Chlorine and its compounds	Uses of hydrogen chloride gas	By the end of the lesson, the learner should be able to (i) State uses of hydrogen chloride gas	• Discussion on uses of hydrogen chloride gas • Listing uses of hydrogen chloride gas	• Chart showing the uses of hydrogen chloride gas • Sodium chloride • Hydrochloric acid	• Comprehensive secondary chemistry students book 3 pages 220 • Comprehensive chemistry teachers book 3 pages 115-116 • Longhorn secondary chemistry book 2 pages 331 • Secondary chemistry-KLB students book 3 page • Secondary chemistry form 3 Patel page 166-167	
	4-5	Chlorine and its compounds	Industrial manufacture of hydrochloric acid and its uses	By the end of the lesson, the learner should be able to (i) Describe the industrial manufacture of hydrochloric acid (ii) State the uses of hydrochloric acid	• Drawing a flow chart to explain the manufacture of hydrochloric acid • Writing relevant chemical equation • Listing the uses of hydrochloric acid	• Chart showing the steps involved in manufacture of hydrochloric acid • Hydrochloric acid	• Comprehensive secondary chemistry students book 3 pages 220-221 • Comprehensive chemistry teachers book 3 pages 116 • Longhorn secondary chemistry book 2 pages 332 • Secondary chemistry-KLB students book 3 page	

							• Secondary chemistry form 3 Patel page 168	
10	**1-2**	Chlorine and its compounds	Environmental pollution by chlorine containing compounds	By the end of the lesson, the learner should be able to (i) Explain the environmental pollution caused by chlorine and chlorine containing compounds	• Explaining the effects of the accumulation of CFCs in the atmosphere	• Samples of aerosols such as indectricides and perfumes • Articles and photographs from scientific journals	• Comprehensive secondary chemistry students book 3 pages 220-221 • Comprehensive chemistry teachers book 3 pages 116 • Longhorn secondary chemistry book 2 pages 332 • Secondary chemistry-KLB students book 3 page • Secondary chemistry form 3 Patel page 168	
	2-3	Chlorine and its compounds	Chlorine and its compounds Revision	By the end of the lesson, the learner should be able to (i) Answer all revision questions given	• Supervised practice • Discussing corrections to questions	• Sample test papers • Revision exercise	• Comprehensive secondary chemistry students book 3 pages 221-221 • Comprehensive chemistry teachers book 3 pages 116-117 • Longhorn secondary chemistry book 2 pages 339 • Secondary chemistry-KLB students book 3 page • Secondary chemistry form 3 Patel page 169	