

CHEMISTRY, F4, T1

REFERENCES: Secondary Chemistry students book 4 By KLB, Longhorn Secondary Chemistry Form 4 By Longhorn Publishers, Principles of Chemistry Form 4 By P. Muchiri (POC)

WK	LSN	TOPIC/S-TOPIC	OBJECTIVES	L/ACTIVITIES	L/T AIDS	REFERENCE	REMARKS
1	1-5	REPORTING AND REVISION OF LAST TERM'S EXAMINATIONS					
2	1	Energy changes in physical and chemical processes Exothermic and endothermic reactions	By the end of the lesson the learner should be able to:- Define exothermic and endothermic reactions using ΔH notations	Carrying out experiment table 2.1 (KLB Pg 33) Reading temperature changes ΔT Attempting exercise 2.1	Boiling tubes Thermometer Glass rod $\text{NH}_4\text{NO}_3(\text{g})$ H_2O	KLB BK 4 Pg 33-34 Longhorn Chem BK 4 Pg 47-52 Gateway Chem Rev. Pg 161-162 POC BK 4 Pg 65-68	
	2	Energy level diagrams Units for heat and energy and symbol	By the end of the lesson the learner should be able to:- Draw simple energy level diagrams for exothermic and endothermic processes	Drawing energy level diagrams for the processes in exothermic	Graph papers	KLB BK 4 Pg 34-35 Longhorn Chem BK 4 Pg 47-52 POC BK 4 Pg 69-71	
	3	Energy changes Molar heat of fusion and vaporization	By the end of the lesson the learner should be able to:- Relate joules (J) to KiloJoules (KJ) Explain fusion and vaporization as evidence of inter-particles forces	Carrying out an experiment Attempting self assessment exercises Discussing latent heat of fusion/vaporization	Stop watch Bunsen burner Thermometer Ice Wire gauze	KLB BK 4 Pg 36-40 Longhorn Chem BK 4 Pg 54-57 POC BK 4 Pg 72	
	4	Energy Changes in Chemical Processes	By the end of the lesson the learner should be able to:- Explain that heat energy changes in chemical reactions are due to bond formation and bond breaking	Discussing bond breaking and bond formation Bond energies $\Delta H_{\text{Products}} - \Delta H_{\text{Reactants}}$ Calculating enthalpy of formation of HCl using bond energies	Supervised Practice questions	KLB BK 4 Pg 41-45 Longhorn Chem BK 4 Pg 57-63 POC BK 4 Pg 76-80	
	5	Energy Changes in Chemical Processes	By the end of the lesson the learner should be able to:- Calculate the heat of reaction between methane and chlorine	Attempting revision exercise and worked examples	Beaker Thermometer Burner	KLB BK 4 Pg 33-34 Longhorn Chem BK 4 Pg 45-46 POC BK 4 Pg	
3	1	Energy changes in physical and chemical processes Types of heat changes	By the end of the lesson the learner should be able to:- Calculate the heat of reaction	Discussing and writing definitions for: Molar heat of fusion, neutralization,	Beaker Thermometer Burner	KLB BK 4 Pg 46-50 Longhorn Chem BK 4 Pg 65-70 POC BK 4 Pg 82	

			Define and explain various types of heat changes (standard enthalpy and standard conditions)	formation, displacement, combustion and solution			
	2	Determining enthalpies through experiment	By the end of the lesson the learner should be able to:- Determine molar enthalpy of: Displacement, Neutralization Writing correct simple thermo chemical equations	Working through examples Attempting self assessment exercise	Supervised practice Questions	KLB BK 4 Pg 50-54 Longhorn Chem BK 4 Pg 75 POC BK 4 Pg 85	
	3&4	Determining enthalpies through experiment	By the end of the lesson the learner should be able to:- Determine molar enthalpy of: Displacement, Neutralization Writing correct simple thermo chemical equations	Working through examples Attempting self assessment exercise	Supervised practice Questions	KLB BK 4 Pg 50-54 Longhorn Chem BK 4 Pg 75 POC BK 4 Pg 85	
	5	Revision	By the end of the lesson the learner should be able to:- Calculate enthalpies using experimental data and provided data	Working through examples Attempting self assessment exercise	Supervised practice	KLB BK 4 Pg 71-72 Longhorn Chem BK 4 Pg 74-84 POC BK 4 Pg 110	
4	1	Energy Changes Hess law of constant heat summation	By the end of the lesson the learner should be able to:- State Hess' law and carry out related calculations	Discussing the worked examples on thermo chemical cycles for formation of CO ₂ , CH ₄ , CH ₃ CH ₂ OH Relation between solution, hydration and lattice energy	Balance Thermometer Spirit lamp Draught shield Water Ethanol Tripod stand	KLB BK 4 Pg 60-63 Longhorn Chem BK 4 Pg 85-95 POC BK 4 Pg 93	
	2	Energy diagrams and activation energy	By the end of the lesson the learner should be able to:- Show graphically the activation energy for exothermic and endothermic reactions Define activation energy	Sketching energy level diagram for exothermic and endothermic reactions	Lagged beaker Thermometer Measuring cylinder Glass rod 1g Zn(s) powder 0.2M CUSO ₄	KLB BK 4 Pg 70-71 Longhorn Chem BK 4 Pg 83-84 POC BK 4 Pg 94	
	3	Relation between heat of solution, hydration and lattice energy	By the end of the lesson the learner should be able to:- Define the terms: Heat of solution Hydration energy Lattice energy	Drawing energy level diagrams and thermo chemical cycles Attempting calculations based on; $\Delta H_{\text{Soln}} = \Delta H_{\text{Latt}} + \Delta H_{\text{Hvd}}$	Worked example	KLB BK 4 Pg 68-70 Longhorn Chem BK 4 Pg 85-95 POC BK 4 Pg 101	

	4	Energy content of common fuels	By the end of the lesson the learner should be able to:- Name solid, liquid and gaseous fuels State criteria for choosing a fuel	Calculating the heating value of fuels	Charts in energy diagrams and thermo chemical cycles	KLB BK 4 Pg 95-98 Longhorn Chem BK 4 Pg 70-73 POC BK 4 Pg 105	
	5	Pollution of the environment by common fuels	By the end of the lesson the learner should be able to:- Name pollutants formed when hydrocarbon fuels are burnt	Discussing acid oxides, acid rain, stating the measures to reduce pollution	Writing summary notes	KLB BK 4 Pg 73-74 Longhorn Chem BK 4 Pg 94-98 POC BK 4 Pg 106	
5	1	Rates of Reaction and Reversible Reactions Introduction	By the end of the lesson the learner should be able to:- Define rate of reaction Describe some methods used to measure rates of reaction	Discussing observation used to measure rate of a reaction Volume of gas, mass of product Decrease in mass of reactants Change of colour	Charts Chemical equations	KLB BK 4 Pg Longhorn Chem BK 4 Pg 105-112 POC BK 4 Pg 118	
	2	Collision theory and activation energy	By the end of the lesson the learner should be able to:- Explain the term activation energy	Discussing activation energy, collision theory, review kinetic theory	Copies of KLB and Longhorn students books	KLB BK 4 Pg 85-89 Longhorn Chem BK 4 Pg 105-108 POC BK 4 Pg 120	
	3&4	Factors affecting rates of reaction	By the end of the lesson the learner should be able to:- Explain the effects of concentration of reactants (aqueous reactants), pressure (gaseous), temperature	Carrying out demonstrations Drawing graphs on rate representation	$\text{Na}_2\text{S}_2\text{O}_3$ Stop watch HCl, White paper Beakers Stirring rods	KLB BK 4 Pg 83 Longhorn Chem BK 4 Pg 112-114 POC BK 4 Pg 122	
	5	Factors affecting rates of reaction	By the end of the lesson the learner should be able to:- Explain the effects of temperature on rate of reaction Explain the effect of light on rate of reaction	Experiment Drawing graphs Class discussion	KBr AgNO_3 Large tubes	KLB BK 4 Pg 85-86 Longhorn Chem BK 4 Pg 108-112 POC BK 4 Pg 123	
6	1	Factors affecting rate of reaction	By the end of the lesson the learner should be able to:- Explain the effects of surface area on rate of reaction	Experiment Drawing graphs Class discussion	Conical flask, stop watch, balance, cotton wool, HCl, marble chips, marble powder	KLB BK 4 Pg 83-85 Longhorn Chem BK 4 Pg 114-117 POC BK 4 Pg 129	
	2	Factors affecting rates of reaction	By the end of the lesson the learner should be able to:- Explain the effect of catalyst and light on rate of reaction	Class experiment Self assessment exercise Class discussion	Conical flask, stop watch, balance, cotton wool, HCl, marble chips, marble powder	KLB BK 4 Pg 85-86 Longhorn Chem BK 4 Pg 117-121 POC BK 4 Pg 133-135	

	3	Introduction Reversible reactions	By the end of the lesson the learner should be able to:- State atleast 3 examples of reversible reactions Define chemical equilibrium	Experiment Attempting self assessment exercise © Education Plus Agencies	250cm ³ beaker White tile Stop watch Na ₂ S ₂ O ₃ 2M HCl Graph paper	KLB BK 4 Pg 93-95 Longhorn Chem BK 4 Pg 123-126 POC BK 4 Pg 137	
	4&5	Reversible reactions and equilibrium	By the end of the lesson the learner should be able to:- Describe equilibrium position Shifting the equilibrium position	Demonstration Attempting assessment exercise	Balance Conical flask Cotton wool Stop watch CaCO ₃	KLB BK 4 Pg 93-95 Longhorn Chem BK 4 Pg 122-126 POC BK 4 Pg 139	
7	1	Effects of changing pressure on equilibrium position Le Chatelier's principle	By the end of the lesson the learner should be able to:- Answer almost all questions in the exercise correctly State and explain effects of change in pressure on equilibrium position State Le chatelier's principle	Class discussion Writing equations	Boiling tubes 20V H ₂ O ₂ MnO ₂ powder Balance Filter paper and funnel	KLB BK 4 Pg 102-107 Longhorn Chem BK 4 Pg 130-136 POC BK 4 Pg 141	
	2	Electro-chemistry Introduction (Redox Reaction)	By the end of the lesson the learner should be able to:- Answer all/most questions in the exercises correctly	Writing summary notes Writing questions and answers to revision questions	Phenolphthalein solution 100cm ³ glass Beaker White tiles 2M NaOH	KLB BK 4 Pg 105-107 Longhorn Chem BK 4 Pg 72-74 POC BK 4 Pg 158-161	
	3&4	Electro-chemistry Introduction (Redox Reaction)	By the end of the lesson the learner should be able to:- Explain redox reaction in terms of gain and loss of electrons Identify changes in oxidation numbers during redox reactions	Determining oxidation numbers Writing rules on oxidation number Attempting assessment exercises	Group discussion	KLB BK 4 Pg 113-115 Longhorn Chem BK 4 Pg 147-150 POC BK 4 Pg	
	5	Displacement reaction and redox reaction	By the end of the lesson the learner should be able to:- Write balanced redox reactions Compare oxidizing and reducing power of ions	Writing redox reactions showing: Metal as reducing agent Non-metal as oxidizing agent	Chart showing redox equation Half reaction (ionic equation) for redox	KLB BK 4 Pg 113-115 Longhorn Chem BK 4 Pg 147-150 POC BK 4 Pg 167	
8	1	Electrochemical Cell	By the end of the lesson the learner should be able to:- Explain the working of an electrochemical cell in terms of	Demonstrating experiment Discussion redox in Zn/Cu cell diagram	2 beakers Filter paper Cotton wool Connecting wires	KLB BK 4 Pg 116-117 Longhorn Chem BK 4 Pg 150-155	

			electron transfer process and ion migration (salt bridge)	Writing cell representation and measuring e.m.f. of various cells	Voltmeter Cu/ZnFe and their respective sulphate	POC BK 4 Pg 170-174	
	2	Electrochemical Cell and standard electrode potential	By the end of the lesson the learner should be able to:- Describe the simple hydrogen electrode State the standard conditions	Writing a list of electrochemical series with corresponding electrodes potential	Chart on electrochemical series	KLB BK 4 Pg 118 Longhorn Chem BK 4 Pg 155-159 POC BK 4 Pg 175-177	
	3&4	Cell e.m.f. Simple calculation using standard electrode potential $E^{\ominus}$ values	By the end of the lesson the learner should be able to:- Calculate the e.m.f. of a cell using $E^{\ominus}$ value	Discussing worked examples of e.m.f. Calculating cell e.m.f. in self assessment	List of electrode potential and electrochemical series	Longhorn Chem BK 4 Pg 152 POC BK 4 Pg 179	
	5	Electrolysis	By the end of the lesson the learner should be able to:- Define electrolysis Explain the role of water in electrolysis	Carry out and experiment Attempting exercises	Dilute H_2SO_4 Ammeter Connecting wire Graphite	KLB BK 4 Pg 122 Longhorn Chem BK 4 Pg 162	
9	1	Preferential discharge of ions	By the end of the lesson the learner should be able to:- State and explain factors that affect preferential discharge of ions Write half ionic equations for reactions at electrodes	Discussing factors affecting preferential discharge of ions Writing a summary of electrolysis of aqueous solutions	Battery Carbon electrode Connecting wire Bulb Test tube	KLB BK 4 Pg 122 Longhorn Chem BK 4 Pg 168-172 POC BK 4 Pg 190	
	2	Quantity of electrolysis	By the end of the lesson the learner should be able to:- State faraday's 1 st law of electrolysis $Q = IT$	Calculating amounts of elements discharged in electrolytic processes	Worked example	KLB BK 4 Pg 123 Longhorn Chem BK 4 Pg 175 POC BK 4 Pg 199	
	3&4	Application of Electrolysis	By the end of the lesson the learner should be able to:- Describe the application of electrolysis Write electrode half ionic equation for the process	Describe uses of electrolysis	Charts on electro plating Mercury cell Diaphragm	KLB BK 4 Pg 155-156 Longhorn Chem BK 4 Pg 182	
	5	Revision Exercise	By the end of the lesson the learner should be able to:- Write correct answers to all/most questions in the revision exercises	Attempting revision exercises	Students textbooks	KLB BK 4 Pg 165 Longhorn Chem BK 4 Pg 187-189 POC BK 4 Pg 212	

10	1	Metals Occurrence of metal Chief ores of metals	By the end of the lesson the learner should be able to:- Name the chief ore of some metals (Al, Na, Fe, Zn, Cu)	Listing names of ores for the metals	Copies of tables	KLB BK 4 Pg 168-169 Longhorn Chem BK 4 Pg 195-197, 201, 204, 206 POC BK 4 Pg 219	
	2&3	Extraction of Sodium	By the end of the lesson the learner should be able to:- Describe a suitable method of extraction of sodium Describe and explain the extraction of sodium by Down's Cell using electrolysis process Name chief ore of sodium	Discussing groups of 3-5 and presenting Describing the extraction process of Na by electrolysis	Chart showing Down's cell	KLB BK 4 Pg 169-173 Longhorn Chem BK 4 Pg 195-196 POC BK 4 Pg 219-225	
	4	Physical and Chemical properties	By the end of the lesson the learner should be able to:- Describe the physical and chemical properties of sodium (M.P, B.P, density and thermal conductivity) Explain the chemical properties of sodium	Class discussion and presentation	Group work	KLB BK 4 Pg 197-198 Longhorn Chem BK 4 Pg 218-225 POC BK 4 Pg 226-228	
	5	Uses and environmental effects	By the end of the lesson the learner should be able to:- State the uses of Na Explain the environmental pollution brought about by Na metal and its by-products	Research and representation done by groups Summary notes taking	Flow charts	KLB BK 4 Pg 186-190 Longhorn Chem BK 4 Pg 218-225 POC BK 4 Pg 228-229	
11	1	Aluminium Extraction	By the end of the lesson the learner should be able to:- Describe the extraction method of Al State the chief ore (bauxite)	Group discussion Presentation of results Summary notes taking	Flow chart	KLB BK 4 Pg 171 Longhorn Chem BK 4 Pg 197-201 POC BK 4 Pg 229	
	2&3	Physical Properties	By the end of the lesson the learner should be able to:- Describe and explain physical properties of aluminium	Write the physical properties of aluminium, M.P, B.P, density and thermal conductivity	Table 5.9 (Longhorn)	KLB BK 4 Pg 182-183 Longhorn Chem BK 4 Pg 215 POC BK 4 Pg 232	

	4	Chemical Properties and uses of its alloys	By the end of the lesson the learner should be able to:- State and explain the various uses of aluminium	Listing atleast 3 major uses of aluminium and its alloys Relate uses of alloys to properties	Flow chart	KLB BK 4 Pg 186-190 Longhorn Chem BK 4 Pg 215-225 POC BK 4 Pg 234	
	5	Iron Extraction	By the end of the lesson the learner should be able to:- Describe the suitable method of extracting Iron Name the chief ore of iron	Group discussions and presentations	Charts showing blast furnace	KLB BK 4 Pg 169 Longhorn Chem BK 4 Pg 195	
12	1	Physical Properties	By the end of the lesson the learner should be able to:- Describe and explain the physical properties of iron	Writing the physical properties of iron; M.P, B.P, density	Table 5.9 (Longhorn)	KLB BK 4 Pg 215 Longhorn Chem BK 4 Pg 182-183 POC BK 4 Pg 239-242	
	2&3	Chemical Properties	By the end of the lesson the learner should be able to:- State and explain various uses of iron	Listing atleast 3 major uses of iron and its alloys Writing respective chemical equations Relate uses of alloys to properties	Teacher made flow chart	KLB BK 4 Pg 186-190 Longhorn Chem BK 4 Pg 218-228 POC BK 4 Pg 238	
	4	Environmental Pollution of Iron	By the end of the lesson the learner should be able to:- State and explain any environmental pollution caused by iron and its by products	Discussing environmental effects of iron and its by products	Group discussion and presentations	KLB BK 4 Pg 197 Longhorn Chem BK 4 Pg 226-227 POC BK 4 Pg 240	
	5	Zinc Extraction	By the end of the lesson the learner should be able to:- Describe the concentration of the ore by froth floatation Describe the reduction of the ore	Describe froth floatation and roasting Writing chemical equation for the extraction of zinc	Flow chart of zinc	KLB BK 4 Pg 177-178 Longhorn Chem BK 4 Pg 204 POC BK 4 Pg 249	
13	1&2	Physical and Chemical properties and uses	By the end of the lesson the learner should be able to:- Describe and explain physical properties of zinc State and explain various uses of zinc	Writing the physical properties of zinc; M.P, B.P, density, thermal conductivity List major uses of zinc and its alloys	Flow chart	KLB BK 4 Pg 186 Longhorn Chem BK 4 Pg 218 POC BK 4 Pg 252	

	3	Environmental Effects	By the end of the lesson the learner should be able to:- State and explain any environmental effects caused by zinc and its by-products	Discussing in groups and presenting findings in class	Group presentation	KLB BK 4 Pg 197 Longhorn Chem BK 4 Pg 226 POC BK 4	
	4	Copper Extraction	By the end of the lesson the learner should be able to:- Describe and explain the concentration of the ore by froth floatation Describe the reduction of the ore	Discuss froth floatation Write chemical equations for reactions in the reduction	Flow chart	KLB BK 4 Pg 181-182 Longhorn Chem BK 4 Pg 226 POC BK 4 Pg 244	
	5	Physical and Chemical Properties of Copper and uses	By the end of the lesson the learner should be able to:- Describe the physical properties of copper State and explain various uses of copper	Writing uses of copper, physical and chemical properties	Making notes	KLB BK 4 Pg 186 Longhorn Chem BK 4 Pg 218 POC BK 4 Pg 247	
14-15	1-5	KCSE Format: Emphasize on acids, bases and salts. Energy changes in physical and chemical processes Rates of reaction and electrochemistry	By the end of the lesson the learner should be able to:- Writing 3 exam papers Paper 1 (theory) Paper 2 (theory) Paper 3 (practical)	KCSE sample papers Top Mark Rev. Chem Gateway Chem. Rev Pg 261	Group discussion		

CHEMISTRY, F4, T2

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1	1-5	REPORTING AND REVISION OF LAST TERM'S EXAMINATIONS					
2	1	Metals Copper Pollution effects of copper Extraction process	By the end of the lesson the learner should be able to:- Describe the effects of the industrial production processes of copper on the environment	Writing notes on air pollution, water, land, noises Describe techniques on reducing pollution effects	Group presentation	KLB BK 4 Pg 197-198 Longhorn Chem BK 4 Pg 226- POC BK 4 Pg 249	
	2	Summary Notes Assessment test revision exercises	By the end of the lesson the learner should be able to:- Briefly describe concentration , reduction and purification	Writing own summary notes Answers to assessment tests, revision exercises	Group presentation	Use revision books Top Mark Gateway Chem Principles of Chem	
	3&4	Radioactivity Stability of Isotopes of Elements	By the end of the lesson the learner should be able to:- Define radioactivity, half-life, radio-isotopes and nuclides	Revising isotopes by giving examples Defining RAM. Nuclides and distinction between nuclides and isotopes	Class discussion Making notes	KLB BK 4 Pg Longhorn Chem BK 4 Pg 283 POC BK 4 Pg 325	
	5	Types of Radioactivity and Radiations	By the end of the lesson the learner should be able to:- State types of radioactivity Name the particles emitted during radioactive decay and state their properties	Class discussion on the types of radiations Emphasize on the change in mass and symbols of each types of radiation	Charts	KLB BK 4 Pg 210-212 Longhorn Chem BK 4 Pg 285-288 POC BK 4 Pg 322-325	
3	1&2	Radioactive Decay and half-life	By the end of the lesson the learner should be able to:- Carry out simple calculations involving half-life	Ensure the learner draws graphs Explain the exponential nature of the curve and determine half-life from curve	Graph papers	KLB BK 4 Pg 288-291 Longhorn Chem BK 4 Pg 289 POC BK 4 Pg 246	
	3	Nuclear reaction and radioactive decay series	By the end of the lesson the learner should be able to:- Write balanced nuclear equations	Write and balance nuclear equations	Textbooks	KLB BK 4 Pg 213 Longhorn Chem BK 4 Pg 292-295	
	4	Nuclear fission and fusion	By the end of the lesson the learner should be able to:-	Class discussion	Charts and pictures	KLB BK 4 Pg 243-245 Longhorn Chem	

			Distinguish between nuclear fission and fusion			BK 4 Pg 296 POC BK 4 Pg 325	
	5	Applications and dangers of radioactivity	By the end of the lesson the learner should be able to:- State the uses of radio-isotopes State dangers associated with radioactivity	Class discussion Group discussion	Manilla paper Felt pens	KLB BK 4 Pg 243 Longhorn Chem BK 4 Pg 300 POC BK 4 Pg 340-342	
4	1	Revision Questions	By the end of the lesson the learner should be able to:- Answer questions on the topic	Group work Revision questions	KCSE past papers Revision questions	KLB BK 4 Pg 243 Longhorn Chem BK 4 Pg 301 POC BK 4 Pg 340-342	
	2	Revision Identification of key revision areas	By the end of the lesson the learner should be able to:- Take part in identification of key revision areas	Form 4 key topics to be handled in revision Organic chemistry Electro chemistry Rates of reaction Energy changes	KCSE revision past papers Revision materials	KLB BK 4 Longhorn Chem BK 4 POC BK 4	
	3-5	Revision Organic Chemistry	By the end of the lesson the learner should be able to:- Revise through the topic both I and II	Class discussion and class presentations	Use of flow charts and revision papers	KLB BK 4 Pg 227 Longhorn Chem BK 4 Pg 249-253	
5	1-5	Revision Organic Chemistry	By the end of the lesson the learner should be able to:- Revise through the topic both I and II	Class discussion and class presentations	Use of flow charts and revision papers	KLB BK 4 Pg 227 Longhorn Chem BK 4 Pg 249-253	
6-7	1-5	Revision Electrochemistry	By the end of the lesson the learner should be able to:- Identify all areas of difficulty in the topic and be able to solve the questions involved	Writing questions and answers to revision exercises	Flow charts and revision papers	KCSE past papers Past papers (District Mock papers)	
8-9	1-5	Revision Rates of Reaction	By the end of the lesson the learner should be able to:- Identify all the areas of difficulty in the topic and be able to solve the difficult areas	Writing questions and answers to revision exercises	Revision papers	KCSE past papers Past papers (District Mock papers)	
10-11	1-5	Revision Energy Changes	By the end of the lesson the learner should be able to:- Identify problems in the topic Give possible solutions to the problems	Drawing energy level diagrams Practicals	Revision papers	KCSE past papers Past papers (District Mock papers)	
12	1-5	Revision Practicals	By the end of the lesson the learner should be able to:-	Class experiments		KCSE past papers	

			Carry out experiments to collect data and analyze it correctly (Titration, quantitative analysis)		Laboratory apparatus for respective experiment	Chemistry manual	
13-14		EXAMINATIONS					

CHEMISTRY, F4, T3

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WK	LSN	TOPIC/S-TOPIC	OBJECTIVES	L/ACTIVITIES	L/T AIDS	REFERENCE	REMARKS
1-2	1-5	Opening Revision of Form 1 Topics	By the end of the lesson the learner should be able to:- Revise through the form 1 syllabus in the preparation for KCSE	Class discussion	Past Papers Revision Books	KCSE Past Papers	
3-4	1-5	Revision of Form 2 Topics	By the end of the lesson the learner should be able to:- Revise through the form 2 syllabus in the preparation for KCSE	Class discussion Group discussion Practicals	KLB BK 2 Longhorn Chem BK 2 Principles of chem BK 2	KCSE Past Papers	
5-6	1-5	Revision of Form 3 Topics	By the end of the lesson the learner should be able to:- Revise through the form 3 syllabus in the preparation for KCSE	Class discussion Group discussion Practicals	KLB BK 3 Longhorn Chem BK 3	KCSE Past Papers Revision Books	
7-9	1-5	Revision of Form 4 Topics (Form 4 Work)	By the end of the lesson the learner should be able to:- Revise through the form 4 syllabus in the preparation for KCSE	Class discussion Group discussion Practicals	Past Papers Revision Books	KCSE Past Papers Revision Books	
		KCSE EXAMINATIONS					