SCIENCES DEPARTMENT
SCHEMES OF WORK

FORM TWO CHEMISTRY SCHEMES OF WORK
SUBJECT: CHEMISTRY
TERM 1 – 2025

GENERAL OBJECTIVES

By the end of the year the learner should be able to:

1) Select and handle appropriate apparatus for use in experimental work;

2) Make accurate measurements, observations and draw logical conclusions from experiments;

3) Observe and appreciate the need for safety precautions during experimental investigations;

4) Understand and appreciate the use of chemical symbols and formulae in writing equations;

5) Use appropriate chemical terms in describing physical and chemical processes

6) Identify patterns in the physical and chemical behaviour of substances.

7) Apply the knowledge acquired to promote positive environmental and health practices.

8) Use the knowledge and skills acquired to solve problems in everyday life.

9) Apply principles and skills acquired in technological and industrial development.

10) Acquire adequate knowledge in chemistry for further education and for training.

REFERENCE

1. **KLB BOOK II**
2. **KLB TEACHERS' GUIDE**
3. **TEACHER'S PREPARED NOTES**

WK NO.	L/ NO	TOPIC/ SUBTOPIC	LESSON / SPECIFIC OBJECTIVES	TEACHING / LEARNING ACTIVITIES	MATERIALS / RESOURCES	REFERENCES	REMARKS
1	1	**THE STRUCTURE OF THE ATOM & THE PERIODIC TABLE** Atomic and mass numbers.	**By the end of the lesson, the learner should be able to**: Name the subatomic particles in an atom. Define atomic number and mass number of an atom. Represent atomic and mass numbers symbolically.	Exposition on new concepts; Probing questions; Brief discussion.		K.L.B. BOOK II PP. 1-3	
	2	First twenty elements of the periodic table.	List the first twenty elements of the periodic table. Write chemical symbols of the first twenty elements of the periodic table.	Expository approach: referring to the periodic table, teacher exposes the first twenty elements. Writing down a list of first twenty elements of the periodic table.	Periodic table.	K.L.B. BOOK II PP. 1-3	
	3 &	Isotopes.	Define isotopes. Give examples of isotopes.	Exposition of definition and examples of isotopes. Giving examples of isotopes.	Periodic table.	K.L.B. BOOK II P. 4	

	4	Electronic configuration.	Represent isotopes symbolically. Define an energy level. Describe electronic configuration in an atom.	Exposition – teacher exposes new concepts about electronic configuration. Written exercise.		PP. 5-8	
2	1	Electronic configuration in diagrams.	Represent electronic configuration diagrammatically.	Supervised practice; Written exercise.		K.L.B. BOOK II PP. 5-8	
	2	Periods of the periodic table.	Identify elements of the same period.	Exposition – Definition of a period. Q/A: Examples of elements of the same period.	Periodic table.	P. 9	
	3	Groups of the periodic table.	Identify elements of the same period.	Exposition – definition of a group. Q/A: examples of elements of the same group.	Periodic table.	P. 9	
	4	R.M.M. and isotopes.	Calculate RMM from isotopic composition. To describe relative abundance of isotopes of an element.	Teacher exposes definition of R.M.M. Worked examples.		PP. 11-13	

3	1	R.M.M. and isotopes.	Calculate R.M.M. from isotopic composition.	Supervised practice involving calculation of RMM from isotopic composition.		PP. 11-13	
	2	Positive ions and ion formation.	To define an ion and a cation.	Teacher gives examples of stable atoms. Guided discovery that metals need to lose one, two or three electrons to attain stability. Examples of positive ions.		PP 14-15	
3	3	Positive ions representation.	To represent formation of positive ions symbolically.	Diagrammatic representation of cations.	Chart – ion model.	P 16	
	4	Negative ions and ion formation.	To define an anion. To describe formation of negative ions symbolically.	Teacher gives examples of stable atoms. Guided discovery of formation of negative ions. Diagrammatic representation of anions.	Chart – ion model.	P 17	
4	1	Valencies of metals.	Recall valencies of metals among the first twenty elements in the periodic table.	Q/A to review previous lesson; Exposition; Guided discovery.	Periodic table.	P 17	

	2	Valencie of non-metals.	Recall valencies of non-metals among the first twenty elements in the periodic table.	Q/A to review previous lesson; Exposition; Guided discovery.	Periodic table.	P 17	
	3	Valencies of radicals.	Define a radical. Recall the valencies of common radicals.	Exposition – teacher defines a radical, gives examples of radicals and exposes their valencies. Students draw a table of radicals and their valencies.		P 18	
	4	Oxidation number.	Define oxidation number. Predict oxidation numbers from position of elements in the periodic table.	Q/A: Valencies. Expose oxidation numbers of common ions. Students complete a table of ions and their oxidation numbers.	The periodic table.	P 18	
5	1	Electronic configuration, ion formed, valency and oxidation number	Relate electronic configuration, ion formed, valency and oxidation number of different elements.	Written exercise; Exercise review.		P 18	
	2	Chemical formulae of compounds. - Elements of equal valencies.	To derive the formulae of some compounds involving elements of equal valencies.	Discuss formation of compounds such as NaCl, MgO.		PP 19-20	

	3	Chemical formulae of compounds. -Elements of unequal valencies.	To derive the formulae of some compounds involving elements of unequal valencies.	Discuss formation of compounds such as $MgCl_2$ Al $(NO_3)_3$		PP 19-20	
	4	Chemical formulae of compounds. -Elements of variable valencies.	To derive the formulae of some compounds involving elements of variable valencies.	Discuss formation of compounds such as -Copper (I) Oxide. -Copper (II) Oxide. -Iron (II) Sulphate. -Iron (III) Sulphate.		P 20	

Note that:
We have used various books including KLB, JKF, Tusome, Oxford, Longhorn, Moran Publishers, Mountain Top, NPPE, New Beginning (I.R.E), EAEP, Queenex, Kiswahili Mufti, Dadisi, Trendy, Inventor and many more.