**CHEMISTRY SCHEMES OF WORK**

**FORM ONE 2016**

**TERM I**

**REFERENCES:**

1. Secondary Chemistry Students Book 1 By KLB (2nd Edition)
2. Secondary Chemistry Students Book 2 By KLB (2nd Edition)
3. Comprehensive Secondary Chemistry Book 1 and 2 (CSC)
4. Principles of Chemistry Form 1 and 2 By P. Muchiri and V.W. Maina (POC)
5. Explore Chemistry Form 1 and 2 (Revised Syllabus), By Longman Kenya

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| **WK** | **LSN** | **TOPIC/S-TOPIC** | **OBJECTIVES** | **L/ACTIVITIES** | **L/T AIDS** | **REFERENCE** | **REMARKS** |
| 1-4 | 1-5 | **REPORTING** | | | | |  |
| 5 | 1&2 | Introduction to Chemistry | **By the end of the lesson the learner should be able to:-**  Recall the subjects and topics taught in primary level science  Name the branches in science  Define chemistry  Explain its role in society | Discussion  Notes taking  Explaining the role of chemistry in society and careers related to chemistry | Flowchart on braches of chemistry  Pictures and charts on applications and chemical processes | KLB BK 1 Pg 1-2  CSC BK 1 Pg 1-2  Explore BK 1 Pg 1-2  POC Pg 1-2 |  |
|  | 3 | Matter  States of matter  Properties of matter  Conductors and non-conductors | **By the end of the lesson the learner should be able to:-**  State the three states of matter  State and explain the properties of matter  Define the terms conductor and non-conductor  Give examples of conductors and non-conductors | Discussion  Notes taking | Water in a beaker  Balloon  Pieces of wood | KLB BK 1 Pg 1-2  CSC BK 1 Pg 1-2  Explore BK 1 Pg 3-4  POC Pg 2-7, 9 |  |
|  | 4&5 | Mixtures  Drug and drug abuse | **By the end of the lesson the learner should be able to:-**  Define mixture  State the properties of mixtures  Define drug and drug abuse  Give examples of drugs commonly abused and their effects | Question answer method  Discussion  Notes taking | Maize, beans  Sand, water  Chart on different types of drugs | KLB BK 1 Pg 2  CSC BK 1 Pg 2  Explore BK 1 Pg 4-5  POC Pg 7-12 |  |
| 6 | 1&2 | Chemistry Laboratory  Apparatus used for studying chemistry | **By the end of the lesson the learner should be able to:-**  Define the term laboratory and state its functions | Discussion  Demonstration of some apparatus  Notes taking | Chemistry laboratory apparatus | KLB BK 1 Pg 3  CSC BK 1 Pg  Explore BK 1 Pg 7  POC Pg 14 |  |
|  | 3 | The Bunsen Burner | **By the end of the lesson the learner should be able to:-**  Name the parts and functions of the Bunsen Burner  Name the parts of the luminous flame  Name the parts of a non-luminous flame | Discussion  Drawing parts of the Bunsen burner  Drawing parts of luminous and non-luminous flame | Bunsen burner  Chart showing parts of the Bunsen burner | KLB BK 1 Pg 3-9  CSC BK 1 Pg  Explore BK 1  Pg 11-13  POC Pg 14-21 |  |
|  | 4&5 | Apparatus for Measuring  Volume  Temperature  Mass  Time | **By the end of the lesson the learner should be able to:-**  Name and draw some chemistry laboratory apparatus | Discussion  Drawing apparatus | Chemistry laboratory apparatus  Thermometer | KLB BK 1 Pg 9-12  CSC BK 1 Pg  Explore BK 1  Pg 7-10  POC Pg 23-31 |  |
| 7 | 1&2 | Other Apparatus and their uses | **By the end of the lesson the learner should be able to:-**  State the uses of different types of apparatus used in the chemistry laboratory | Discussion  Motes taking  Question answer method | Glassware  Spatula  Deflagrating spoon  Crucible  Wire gauze | KLB BK 1 Pg 12-13  CSC BK 1 Pg  Explore BK 1  Pg 7-10  POC Pg 31-34 |  |
|  | 3 | Chemistry Laboratory and Safety Rules | **By the end of the lesson the learner should be able to:-**  List atleast five laboratory rules | Discussion  Motes taking  Question answer method | School laboratory rules  Chart on safety rules | KLB BK 1 Pg 14-15  Explore BK 1 Pg 5-6  POC Pg 34-36 |  |
|  | 4&5 | Simple Classification of Substances  Separation of mixtures | **By the end of the lesson the learner should be able to:-**  Define the term mixture  Classify mixtures into miscible and immiscible liquids  List several methods of separating mixtures | Observation and discussion  Demonstration of separation of several mixtures | Sugar/sand  Water/paraffin | KLB BK 1 Pg 17  CSC BK 1 Pg  Explore BK 1  Pg 15-17  POC Pg 37-41 |  |
| 8 | 1&2 | Separation of Soluble and Insoluble Mixtures | **By the end of the lesson the learner should be able to:-**  Define soluble and insoluble solids  Explain how a soluble solid can be separated from an insoluble solid | Discussion  Notes taking | Beaker, Sand/salt  Conical flask  Filter paper  Separating funnel  Evaporating dish | KLB BK 1 Pg 18  CSC BK 1 Pg  Explore BK 1 Pg 17  POC Pg 41 |  |
|  | 3 | Solid liquid mixture  Decantation and filtration | **By the end of the lesson the learner should be able to:-**  Separate immiscible liquids using the appropriate methods | Carrying out experiment to separate mixtures  Class discussion  Drawing | Paraffin  Sea water  Tap water  Flasks | KLB BK 1 Pg 18  Explore BK 1  Pg 17-20  POC Pg 41-45 |  |
|  | 4&5 | Crystallization  Sublimation | **By the end of the lesson the learner should be able to:-**  Define the term crystallization  Prepare copper (II) sulphate crystals or sodium chloride | Demonstration on crystallization  Discussion on preparation of copper (II) sulphate | Beaker  Sodium chloride  Stirring rod  Water  Copper (II) sulphate | KLB BK 1 Pg 23  CSC BK 1 Pg  Explore BK 1  Pg 20-21  POC Pg 47-51 |  |
| 9 | 1&2 | Application of Crystallization | **By the end of the lesson the learner should be able to:-**  Define a saturated solution  Explain how salt is formed in Lake Magadi | Discussion  Notes taking  Explain salt formation in Lake Magadi | Salt, stirring rod  Beaker, water  Burner  Chart on salt formation in lake Magadi | KLB BK 1 Pg 24  CSC BK 1 Pg  Explore BK 1  Pg 29-30  POC Pg 50 |  |
|  | 3 | Sublimation | **By the end of the lesson the learner should be able to:-**  Define sublimation  Give examples of salts that sublime  Explain how one can separate a salt that sublimes from salts which do not sublime | *© Education Plus Agencies*  Defining sublimation  Demonstration on sublimation | NH4Cl  NaCl  Burner  Sand  Iodine  Boiling tubes  Test tube holder | KLB BK 1 Pg 25  CSC BK 1 Pg  Explore BK 1  Pg 25-26  POC Pg 61-63 |  |
|  | 4&5 | Liquid-Liquid Mixture  Fractional Distillation | **By the end of the lesson the learner should be able to:-**  Name the parts and the functions of distillation apparatus  Assemble distillation apparatus  Explain stages of fractional distillation  Differentiate between simple and fractional distillation  Explain atleast two applications of fractional distillation | Demonstration on fractional distillation  Drawing diagrams of fractional distillation  Discussion  Notes taking | Round bottomed flask  Condenser  Burner  Thermometer  Ethanol  Water  Fractional column | KLB BK 1 Pg 28-30  CSC BK 1 Pg  Explore BK 1  Pg 21-25  POC Pg 51-56 |  |
| 10 | 1&2 | Chromatography and Solvent Extraction | **By the end of the lesson the learner should be able to:-**  Define chromatography  Demonstrate the process of chromatography  Explain how chromatography is used | Carrying out experiments to show chromatography  Discussion  Notes taking | Filter paper, Funnel  Ethanol, Propanone  Flowers  Dropper, Ink  Chart | KLB BK 1 Pg 30-33  CSC BK 1 Pg  Explore BK 1  Pg 26-29  POC Pg 58-61 |  |
|  | 3 | Application of chromatography and solvent extraction  Removal of stains | **By the end of the lesson the learner should be able to:-**  Give one application of chromatography  Explain how oil can be extracted from nuts  Identify how stains can be removed from fabrics | Discussion  Explaining how oil can be extracted from nuts  Notes taking  Demonstration on stain removal | Pestle, mortar  Nut seeds  Propanone,  White paper  Stains of blood, fats, washing soda  Paraffin, ammonia | KLB BK 1 Pg 30-33  CSC BK 1 Pg  Explore BK 1  Pg 29-30  POC Pg 61 |  |
|  | 4&5 | Evaporation and Condensation | **By the end of the lesson the learner should be able to:-**  Define evaporation and condensation  Explain the steps involved in evaporation and condensation  Assemble distillation apparatus | Class discussion  Drawing diagrams on distillation apparatus | Thermometer  Lietig condenser  Flasks | KLB BK 1 Pg  CSC BK 1 Pg  Explore BK 1 Pg  POC Pg 45-47 |  |
| 11 | 1&2 | Use of a separating funnel | **By the end of the lesson the learner should be able to:-**  Use a separating funnel to separate immiscible liquids  Give examples of immiscible liquids | Question answer method  Demonstration using a separating funnel  Discussion | Separating funnel  Water  Paraffin | KLB BK 1 Pg  CSC BK 1 Pg  Explore BK 1 Pg  POC Pg 57-59 |  |
|  | 3 | Criteria for Purity | **By the end of the lesson the learner should be able to:-**  Determine the melting point for ice  Determine the boiling point of water | Discussion on melting and boiling point  Carry out experiments to show the melting and boiling point of substances | Thermometer  Solid ice  Water  Burner  Beaker | KLB BK 1 Pg 43  CSC BK 1 Pg  Explore BK 1  Pg 30-32  POC Pg 69 |  |
|  | 4&5 | Criteria for Purity | **By the end of the lesson the learner should be able to:-**  Explain the effects of impurities on melting and boiling points | Discussion  Demonstration on effects of impurities on melting and boiling points | Thermometer  Solid ice, water  Burner, Beaker  NaCl | KLB BK 1 Pg  Explore BK 1  Pg 30-32  POC Pg 71-75 |  |
| 12 | 1&2 | Effects of heat on substances | **By the end of the lesson the learner should be able to:-**  Name the three states of matter  State the kinetic theory of matter  Explain the properties of the three states of matter | Discussion  Question answer method  Explaining the properties of the states of matter | Chart showing properties of the three states of matter | KLB BK 1 Pg 35-36  CSC BK 1 Pg  Explore BK 1  Pg 34-35  POC Pg 76-78 |  |
|  | 3 | Effects of heat on substances | **By the end of the lesson the learner should be able to:-**  Investigate what happens when ice is heated to boiling point  Use a graph to illustrate changes of state of matter and temperature | Carrying out an experiment to investigate the effects of heat on ice  Observation  Discussion | Beaker  Thermometer  Tripod stand  Wire gauze  Burner  Ice cubes | KLB BK 1 Pg 39-42  CSC BK 1 Pg  Explore BK 1 Pg 36  POC Pg 78-80 |  |
|  | 4&5 | Effects of heat on substances | **By the end of the lesson the learner should be able to:-**  Explain the melting and boiling points in terms of kinetic theory | Discussion  Notes taking | Chart on properties of matter in each state  Illustrative graph on melting and boiling point | KLB BK 1 Pg 37  CSC BK 1 Pg  Explore BK 1  Pg 37  POC Pg 80-85 |  |
| 13 | 1&2 | Permanent and Temporary Changes | **By the end of the lesson the learner should be able to:-**  Define permanent change  Define temporary change  Distinguish between permanent and temporary changes | Discussion  Question answer method  Notes taking  Carrying out experiment on chemical and temporary changes | Burner  Ice  NH4Cl  Mg metal  Cu metal  Carbon | KLB BK 1 Pg 43-48  CSC BK 1 Pg  Explore BK 1  Pg 37-39  POC Pg 85-96 |  |
|  | 3 | Elements, atoms, molecules and compounds | **By the end of the lesson the learner should be able to:-**  Define an element, atom, molecule and a compound  Give at least 3 examples of each  State the symbols of common elements | Discussion  Identifying and writing chemical symbols of common elements  Notes taking | Charts on the definitions | KLB BK 1 Pg 48  CSC BK 1 Pg  Explore BK 1  Pg 39-42  POC Pg 96-104 |  |
|  | 4&5 | Symbols of Elements  Word Equations | **By the end of the lesson the learner should be able to:-**  Name at least five elements  Give the symbols of at least 5 elements using Latin or English names  Give simple word equations of chemical processes | Naming and wring correct symbols of elements  Writing variety of simple word equations | The periodic table  Chart on word equations | KLB BK 1 Pg 49-51  CSC BK 1 Pg  Explore BK 1  Pg 42-45  POC Pg 104-107 |  |
| 14-15 | 1-5 | **REVISION AND END OF TERM EXAMINATION**  **CLOSING FOR APRIL HOLIDAY** | | | | |  |

**CHEMISTRY SCHEMES OF WORK**

**FORM ONE 2016**

**TERM II**

**REFERENCES:**

1. Secondary Chemistry Students Book 1 By KLB (2nd Edition)
2. Secondary Chemistry Students Book 2 By KLB (2nd Edition)
3. Comprehensive Secondary Chemistry Book 1 and 2 (CSC)
4. Principles of Chemistry Form 1 and 2 By P. Muchiri and V.W. Maina (POC)
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| 1 | 1-5 | **OPENING FOR TERM TWO, REVISION AND CAT 1** | | | | |  |
| 2 | 1&2 | Structure of the atom and the periodic table  Structure of the atom | **By the end of the lesson the learner should be able to:-**  Define an atom  Name the sub atomic particles  Describe the structure of the atom  Draw the structure of the atom  State the location of the sub atomic particles in an atom  State the properties of the sub atomic particles | Explain the meaning of atom  Draw the structure of the atom  Define proton, neutron and electron | Chart on models of atom  The periodic table  Improvised model of the atom | KLB BK 2 Pg  CSC BK 2 Pg 1-4  Explore BK 2 Pg 3-8 |  |
|  | 3 | Atomic Number and Atomic Mass | **By the end of the lesson the learner should be able to:-**  Define atomic number and atomic mass  Do simple calculations involving mass number and atomic mass | Discussion  Notes taking  Calculations | Chart | KLB BK 2 Pg 2-3  CSC BK 2 Pg 6-8  Explore BK 2  Pg 9-10 |  |
|  | 4&5 | Isotopes | **By the end of the lesson the learner should be able to:-**  Define isotopes  List some elements which exhibit isotopy | Question answer method  Notes taking | Chart | KLB BK 2 Pg 4  CSC BK 2 Pg 8-9  Explore BK 2  Pg 10-12 |  |
| 3 | 1&2 | Energy Level and Electron Arrangement | **By the end of the lesson the learner should be able to:-**  Describe the energy levels  Write the electron arrangement of the first 20 elements of the periodic table | Describing the structure of the atom | Chart on the model of the atom  Periodic table  Model of atoms  Notes taking | KLB BK 2 Pg 4-7  CSC BK 2 Pg 4  Explore BK 2  Pg |  |
|  | 3 | Development of the periodic table | **By the end of the lesson the learner should be able to:-**  Build the periodic table for the first 20 elements  Explain the position of an element in the periodic table in terms of electron arrangement  Position and element in the periodic table | Class discussion  Notes taking | Manilla paper  Plasticine  Ruler  Felt pen | KLB BK 2 Pg  CSC BK 2 Pg 11-12  Explore BK 2  Pg 13-17 |  |
|  | 4&5 | Relative atomic mass and isotopes | **By the end of the lesson the learner should be able to:-**  Define relative atomic mass  Calculate the RAM from atomic compositions | Discussion  Notes taking  Calculation |  | KLB BK 2 Pg 10  CSC BK 2 Pg 9-11  Explore BK 2  Pg |  |
| 4 | 1&2 | Valency and Ion formation  Oxidation numbers | **By the end of the lesson the learner should be able to:-**  Define valency and oxidation numbers  Describe formation of simple ions (cations and anions)  Define ionization energy and electron affinity  Write electron arrangement of ions formed from atoms  Predict type of ion formed from the arrangement of an atom | Discussion  Notes taking  Drawing ions | Chart on ions | KLB BK 2 Pg 12-15  CSC BK 2 Pg 13-20  Explore BK 2  Pg 19-24 |  |
|  | 3 | Chemical formula | **By the end of the lesson the learner should be able to:-**  State names and formulae of common radicals  Derive the formulae of simple compounds from valencies of elements and radicals | Discussion  Notes taking  Question answer method |  | KLB BK 2 Pg 16-19  CSC BK 2 Pg 21-22  Explore BK 2  Pg 25-26 |  |
|  | 4&5 | Chemical formula | **By the end of the lesson the learner should be able to:-**  Write simple balance equations | Discussion  Notes taking |  | KLB BK 2 Pg 20-24  CSC BK 2 Pg 23-24  Explore BK 2 Pg 26 |  |
| 5 | 1&2 | Acids, Bases and Indicators | **By the end of the lesson the learner should be able to:-**  Name acidic substances  Name the acids in these substances | Listing organic and mineral acids  Class discussion  Demonstration | Oranges  Lemons  Sour milk  Vinegar | KLB BK 2 Pg 55  CSC BK 2 Pg  Explore BK 2 Pg 48  POC Pg 112 |  |
|  | 3 | Bases | **By the end of the lesson the learner should be able to:-**  Name basic substances  Name bases in these substances | Listing of basic substances  Notes taking | NaOH  NH4OH  CaO  Beaker  water | KLB BK 2 Pg 55-56  CSC BK 2 Pg  Explore BK 2  Pg 49  POC Pg 113 |  |
|  | 4&5 | Indicators  Plant extracts | **By the end of the lesson the learner should be able to:-**  Prepare plant extracts as indicators  Use the extracts as acid-base indicators  State the advantages and disadvantages of the extracts as indicators | Class experiment on the extraction of juice from flowers  Using extracts as indicators  Notes taking | Mortar  Pestle  Flower petals  Propanone  Ethanol  Water | KLB BK 2 Pg 56-57  CSC BK 2 Pg  Explore BK 2  Pg 49-50  POC Pg 114-115 |  |
| 6 | 1&2 | Commercial indicators | **By the end of the lesson the learner should be able to:-**  State the colour of commercial indicators in acids and bases  State the advantages of commercial indicators over the flower extracts | Class discussion  Class demonstration  Notes taking | Methyl/orange  Phenolphthalein  HCl  NaOH | KLB BK 2 Pg 57-58  CSC BK 2 Pg  Explore BK 2  Pg 50-52  POC Pg 116-119 |  |
|  | 3 | Universal indicator and PH scale | **By the end of the lesson the learner should be able to:-**  Define universal indicator and PH scale  Classify solutions into acids, bases or neutral | Determine the PH of solutions using universal indicators and the PH chart  Notes taking | PH chart, Universal indicator, Dropper, Ethanoic acid, Lemon juice, Dil. H2SO4  Soap solution  Water | KLB BK 2 Pg 58-60  CSC BK 2 Pg  Explore BK 2  Pg 52-54  POC Pg 119-121 |  |
|  | 4&5 | Properties of acids and bases | **By the end of the lesson the learner should be able to:-**  Define neutralization  Write word equations involving neutralization  Identify products | Class discussion  Teacher demonstration  Notes taking | Dilute NaOH  Dilute HCl  Universal indicator  PH chart | KLB BK 2 Pg 121  CSC BK 2 Pg  Explore BK 2  Pg 54  POC Pg 121 |  |
| 7 | 1&2 | Reaction of acids with metals | **By the end of the lesson the learner should be able to:-**  State the products of acid-metal reactions  Write word equations for acid-metal reactions  Describe the test fro hydrogen gas | Teacher demonstration  Class discussion  Notes taking | Mg ribbon  Iron filings  Dilute HCl  Test tubes | KLB BK 2 Pg 61-62  CSC BK 2 Pg  Explore BK 2  Pg 55  POC Pg 123 |  |
|  | 3 | Reaction of acids with carbonates and hydrogen carbonates | **By the end of the lesson the learner should be able to:-**  State the products of the reactions of acids and CO32- and HCO3-  Write word equations  Describe the test for carbon (IV) oxide | Discussion  Notes taking  Teacher demonstration on the test for CO2 | Dilute HCl  CaCO3  Lime water  Test tubes  Delivery tubes | KLB BK 2 Pg 63-65  CSC BK 2 Pg  Explore BK 2  Pg 56-58  POC Pg 124 |  |
|  | 4&5 | Simple properties of bases | **By the end of the lesson the learner should be able to:-**  Name basic hydroxides and oxides  Distinguish between basic oxides and alkalis | Class discussion  Teacher demonstration | Test tubes  ZnO  CaO  NaOH  Water | KLB BK 2 Pg 67-68  CSC BK 2 Pg  Explore BK 2  Pg 58  POC Pg 128 |  |
| 8 | 1&2 | Uses of acids and bases | **By the end of the lesson the learner should be able to:-**  List uses of acids  List uses of bases | Class discussion  Notes taking | Chart on applications of bases and acids | KLB BK 2 Pg 69  Explore BK 2  Pg 59-60  POC Pg 129-130 |  |
|  | 3 | Air and Combustion  Active part of air  Percentage composition of air | **By the end of the lesson the learner should be able to:-**  List constituents of air  Calculate the percentage composition by volume of oxygen from experimental results  State the approximate amount of oxygen in air | Class discussion  Class experiment  Notes taking | Trough  Beehive stand  Water  Candle  Syringe  Match box | KLB BK 2 Pg 72-76  CSC BK 2 Pg  Explore BK 2  Pg 62  POC Pg 133 |  |
|  | 4&5 | Burning substances in air  Oxidation  Basic and acidic oxides | **By the end of the lesson the learner should be able to:-**  Explain the change in mass when Mg burns in air  Define oxidation as chemical addition of oxygen to a substance  Classify oxides as basic or acidic | Discussion  Notes taking  Teacher demonstration | Mg ribbon  Pair of tongs  Na, CuO, Sulphur  Water  Litmus | KLB BK 2 Pg 77-79  CSC BK 2 Pg  Explore BK 2  Pg 68  POC Pg 134-139 |  |
| 9 | 1&2 | Pollution | **By the end of the lesson the learner should be able to:-**  Define pollution  State pollution effects due to burning of substances in air  Describe green house effects, acid rain and other effects of air pollution | Class discussion  Notes taking | Charts  Periodicals from UNEP, NEMA | KLB BK 2 Pg 98  CSC BK 2 Pg  Explore BK 2  Pg 80  POC Pg 146 |  |
|  | 3 | Rusting | **By the end of the lesson the learner should be able to:-**  Investigate conditions necessary for rusting  State the composition of rust | Class experiment  Class discussion | Test tubes, Cotton wool, Nails, Oil, Sand paper, Water, Source of heat, NaCl | KLB BK 2 Pg 82-84  CSC BK 2 Pg  Explore BK 2  Pg 70-71  POC Pg 139-142 |  |
|  | 4&5 | Prevention of rusting | **By the end of the lesson the learner should be able to:-**  State the advantages and disadvantages of rusting  State and explain methods of preventing rusting | Class discussion  Notes taking |  | KLB BK 2 Pg 84  CSC BK 2 Pg  Explore BK 2  Pg 72  POC Pg 142-144 |  |
| 10 | 1&2 | Preparation, drying and collection of gases in the laboratory | **By the end of the lesson the learner should be able to:-**  Name common drying agents of gases in the laboratory  State the criteria for choosing the appropriate drying agent for a given gas | Discussion  Notes taking  Class demonstration | Gas jars  Delivery tubes  CaCl2  Concentrated H2SO4 | KLB BK 2 Pg 144  CSC BK 2 Pg  Explore BK 2  Pg 73  POC Pg |  |
|  | 3 | Preparation of Oxygen Gas | **By the end of the lesson the learner should be able to:-**  Describe the preparation of oxygen gas  Describe the test for oxygen gas | Teacher demonstration on preparation of oxygen gas  Notes taking | H2O, MnO2, B.H shelfs  Gas jars, Splint  Match box | KLB BK 2 Pg 84-88  Explore BK 2  Pg 73-74  POC Pg 148-151 |  |
|  | 4&5 | Industrial preparation of oxygen | **By the end of the lesson the learner should be able to:-**  Explain how oxygen is distilled from liquid air by fractional distillation | Discussion on preparation of oxygen by fractional distillation | Flow chart | KLB BK 2 Pg 81  CSC BK 2 Pg  Explore BK 2  Pg 69-70  POC Pg 163 |  |
| 11 | 1&2 | Competition for combined oxygen | **By the end of the lesson the learner should be able to:-**  List metals in order of their reactivity with oxygen  Define oxidation and reduction  Write simple chemical and word equations | Discussion  Notes taking  Writing word equations | Charts | KLB BK 2 Pg 92  CSC BK 2 Pg  Explore BK 2  Pg 77-78  POC Pg 157-160 |  |
|  | 3 | Application of reactivity series of metals | **By the end of the lesson the learner should be able to:-**  Define ore  Relate reduction to extraction of metals | Discussion  Notes taking  Write word equations | Chart showing reactivity series | KLB BK 2 Pg 97  Explore BK 2  Pg 79-80  POC Pg 160-162 |  |
|  | 4&5 | Uses of Oxygen | **By the end of the lesson the learner should be able to:-**  Give at least three uses of oxygen | Explaining uses of oxygen |  | KLB BK 2 Pg 98 |  |
| 12 | 1-5 | Revision | **By the end of the lesson the learner should be able to:-**  Identify and explain concepts learnt | Answering questions  Doing revision exercises  Class discussion | Answering questions |  |  |
| 13  &  14 | 1-5 | **REVISION**  **END TERM EXAMS**  **CLOSING FOR AUGUST HOLIDAY** | | | | |  |

**CHEMISTRY SCHEMES OF WORK**

**FORM ONE 2016A**

**TERM III**

**REFERENCES:**

1. Secondary Chemistry Students Book 1 By KLB (2nd Edition)
2. Secondary Chemistry Students Book 2 By KLB (2nd Edition)
3. Comprehensive Secondary Chemistry Book 1 and 2 (CSC)
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| 1 | 1-5 | **OPENING FOR TERM TWO, REVISION AND CAT 1** | | | | |  |
| 2 | 1&2 | Water And Hydrogen  Sources of water | **By the end of the lesson the learner should be able to:-**  State sources of water  Explain the importance of water  State the sources of water pollution | Discussion  Notes taking | Charts  Photographs showing polluted rivers | KLB BK 1 Pg 101  CSC BK 1 Pg  Explore BK 2 Pg 85  POC Pg 167-168 |  |
|  | 3 | Water as a product of burning organic matter | **By the end of the lesson the learner should be able to:-**  Collect and test the products of burning candle  Define a hydrocarbon  Describe the chemical test for water | Carrying out an experiment on a burning candle and collect products formed  Observation  Discussion | Candle, beaker, test tubes, anhydrous CuSO4, Ca(OH)2, ice cold water, funnel, delivery tube | KLB BK 1 Pg 101  CSC BK 1 Pg  Explore BK 1  Pg 86  POC Pg 170-171 |  |
|  | 4&5 | Water and an oxide of hydrogen | **By the end of the lesson the learner should be able to:-**  Describe an experiment to show that water contains hydrogen  Test for the purity of water | Teacher demonstration  Question answer method |  | KLB BK 1 Pg 101  CSC BK 1 Pg  Explore BK 1 Pg  POC Pg 171-173 |  |
| 3 | 1&2 | Reaction of metals with cold water | **By the end of the lesson the learner should be able to:-**  Explain observations when metals react with cold water  State the products of reactions of cold water with different metals | Carrying out experiments to show reaction of water with metals  Discussion | Sodium, calcium, magnesium, cold water, trough, water, splints, gas jar, funnel | KLB BK 1  Pg 102-105  CSC BK 1 Pg 73-75  Explore BK 1  Pg 87-89  POC Pg 174-177 |  |
|  | 3 | Reaction of metals with cold water | **By the end of the lesson the learner should be able to:-**  Write word equations when metals react with cold water | Carrying out experiments to show reaction of water with metals  Discussion | Sodium, calcium, magnesium, cold water, trough, water, splints, gas jar, funnel | KLB BK 1  Pg 102-105  CSC BK 1 Pg 73-75  Explore BK 1  Pg 87-89  POC Pg 174-177 |  |
|  | 4&5 | Reaction of metals with steam | **By the end of the lesson the learner should be able to:-**  Explain the observations when metals react with steam  State the products of reactions of steam with different metals  Write word equations when metals react with steam | Carrying out experiments to show reaction of steam with metals  Discussion | Magnesium ribbon, boiling tube, trough, gas jar, delivery tube | KLB BK 1  Pg 105-107  CSC BK 1 Pg 75-76  Explore BK 1  Pg 90  POC Pg 177-180 |  |
| 4 | 1&2 | Reactivity series of metals with water | **By the end of the lesson the learner should be able to:-**  Arrange metals in order of their reactivity with water in ascending order | Discussion  Drawing summary table showing reactivity series | Chart | KLB BK 1 Pg 108  CSC BK 1 Pg 77  Explore BK 1 Pg 91 |  |
|  | 3 | Hydrogen  Laboratory preparation of hydrogen gas | **By the end of the lesson the learner should be able to:-**  Assemble the apparatus used to prepare hydrogen gas in the laboratory  Give the chemical test for hydrogen gas | Teacher demonstration on the preparation and test for hydrogen gas  Discussion  Notes taking | Flat bottomed flask, thistle funnel, cork, delivery tube, trough, gas jar, splint, water, zinc granules, Dil. HCl | KLB BK 1  Pg 108-111  CSC BK 1 Pg 78-79  Explore BK 1 Pg 93  POC Pg 181-183 |  |
|  | 4&5 | Properties of Hydrogen Gas | **By the end of the lesson the learner should be able to:-**  Give at least three physical and chemical properties of hydrogen gas | Class discussion  Notes taking |  | KLB BK 1  Pg 108-111  CSC BK 1 Pg 78-79  Explore BK 1 Pg 93  POC Pg 181-183 |  |
| 5 | 1&2 | Chemical properties of hydrogen gas | **By the end of the lesson the learner should be able to:-**  Investigate the reduction property of hydrogen gas | Class discussion  Teacher demonstration  Drawing | Hydrogen generator, source of heat, CuO, anhydrous CuSO4, combustion tube | KLB BK 1 Pg 114  CSC BK 1 Pg 81-82  Explore BK 1  Pg 94-95  POC Pg 183-188 |  |
|  | 3 | Oxidation and Reduction | **By the end of the lesson the learner should be able to:-**  Define oxidation, reduction and redox in terms of hydrogen  Explain using equations how hydrogen is a reducing agent  Use equations to explain redox | Defining oxidation and reduction  Writing equations  Class discussion |  | KLB BK 1 Pg 113  CSC BK 1 Pg 78-79  Explore BK 1 Pg 96 |  |
|  | 4&5 | Uses of Hydrogen | **By the end of the lesson the learner should be able to:-**  Explain at least three uses of hydrogen | Discussion on uses of hydrogen  Notes taking | Chart | KLB BK 1 Pg 115  CSC BK 1 Pg 82-83  Explore BK 1 Pg 97  POC Pg 189-192 |  |
| 6 | 1-5 | Project  Identification of common pollutants of water from local sources and suggest their control | **By the end of the lesson the learner should be able to:-**  Identify the common water pollutants  Suggest their control measures | Discussion |  |  |  |
| 7&8 |  | **REVISION**  **END YEAR EXAMS**  **CLOSING FOR DECEMBER HOLIDAYS** | | | | |  |