

THE PRESIDENT’S OFFICE-
REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT

SCHEME OF WORK

NAME OF SCHOOL: MWASAMBA SEKONDARY SCHOOL

TEACHER'S NAME: MAHANDE MAGWALA MASUNGA

SUBJECT: CHEMISTRY

CLASS: FORM TWO

TERM: 1st & 2nd TERM

YEAR: 2025

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COMPETENCE	GENERAL OBJECTIVE			MAIN TOPIC	SUB-TOPIC	P E R I O D S	TEACHING ACTIVITIES	LEARNING ACTIVITIES	T/L MATERIALS	REFERENCES	ASSESSMENT	REMARKS	
Preparing and testing properties of simple gases in the laboratory.	To explain the preparation and properties of simple gases.	J A N U A R Y	3	OXYGEN	1.1Preparation and properties of Oxygen	4	i) Guiding students on preparation of Oxygen from Hydrogen peroxide ii) Guiding students to carry out the characteristic test for Oxygen gas. iii) Leading a discussion on the physical and chemical properties of oxygen	i) Carrying out an experiment to prepare Oxygen from H ₂ O ₂ or by heating KClO ₃ ii) Burning metals and some non-metals to oxygen. iii) In groups, to discuss the risks of using KMnO ₄ and HgO to prepare oxygen in laboratory.	H ₂ O ₂ , KClO ₃ , MnO ₂ , flat bottomed flask, beehive shelve, delivery tube, troughs, gas jar, water, thistle funnel, freshly prepared O ₂ , P, litmus paper, candle, combustion spoon, Mg ribbon, C, S, Ca granules, wooden splint, KMnO ₄ .		Students to prepare and collect a sample of oxygen gas in the laboratory. to perform simple experiments on physical and chemical properties of oxygen has. to explain properties of oxygen.		
			4		1.2 Uses of oxygen	4	i) Guiding students in groups to discuss daily life uses of oxygen. ii) Guiding students to discuss the relationship between uses of oxygen and properties.	i) Discussing about uses of oxygen ii) Discussing about the relationship between uses of oxygen and properties.	Wall charts, flip charts, pictures showing uses and properties of oxygen in the mentioned process.		i) to list the uses of oxygen in daily life. ii) to relate some uses of oxygen to its properties.		
			1		HYDROGEN	2.1 Preparation and properties of Hydrogen.	2	i) Demonstration on the preparation of a small sample of hydrogen using Zinc and dilute HCl ii) Demonstrating an experiment on ‘pop’ sound test for hydrogen. iii) Carrying out an experiment on reduction of CuO using H ₂ gas. iv) Guiding a discussion on the physical and chemical properties of H ₂ gas.	i) Observing the demonstration on the preparation of sample of hydrogen using Zinc and dilute HCl. ii) Demonstrating an experiment on ‘pop’ sound test for hydrogen. iii) Discussing on the physical and chemical properties of H ₂ gas.	Zinc granules, dil. HCl, trough, thistle funnel, beehive shelves, flat bottomed flask, test tube, wooden splints, CuO, PbO, litmus paper, CoCl, paper, combustion tubes, source of heat, anhydrous CaCl ₂ , wall chart showing physical and chemical properties of H ₂ .		Students to i) Explain the preparation of a sample H ₂ in the laboratory. ii) to explain properties of H ₂ gas.	
						2.2 Uses of Hydrogen	2	i) Leading discussion on the uses of Hydrogen industrially to manufacture margarine and ammonia. ii) Leading discussion on the relationship between uses and properties of hydrogen.	i) Discussing in groups the daily life uses of hydrogen. ii) Discussing on the relationship between the uses and properties of hydrogen.	Wall chart, flip charts, pictures showing the production of ammonium fertilizers, margarine, uses of hydrogen, properties of hydrogen.		students i) to state the uses of hydrogen gas in daily life. ii) to relate some uses of hydrogen to its properties.	

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chemical properties of

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Using fuels efficiently and sustainably with environmental consideration.	(i) To importance in efficiency and sustainability in using fuels. (ii) To promoting the use of fuels with environmental consideration.	MARCH	2	FUELS AND ENERGY	4.1 Fuel sources	4	i) Leading a discussion of different sources of fuels found I Tanzania. ii) Leading a discussion and summarizing the process of making charcoal in small scale.	i) Discussing the different sources of fuels found in Tanzania. ii) Discussing the process of making charcoal.	Kerosene, fire wood, charcoal, petrol, heating gas, diesel, wall charts showing process of making charcoal.	i) Chemistry for secondary schools, form1&2, Oxford. ii) O-level CHEMISTRY Form 2, BEN.	students i) to identify different sources of fuels. ii) to describe methods of obtaining fuels from locally available materials.	
			3		4.2 Categories of fuels	4	i) Summarizing the classification of fuels according to their states. ii) Leading students to discuss the efficiency of different kind of fuels. iii) Supervising students to burn different fuels and determine their calorific values.	i) Listing fuels according to their states. ii) Discussing the efficiency of different kind of fuels. iii) Burning different fuels and determine their calorific values.	Heating gas, charcoal, fire wood, kerosene, piece of wood.		students i) to classify fuels according to their states. ii) to classify fuels according to efficiency.	
Using fuels efficiently and sustainably with environmental consideration.	(i) To explain the importance in efficiency and sustainability in using fuels (ii) To promote the use of fuels with environmental consideration.	MARCH	4	FUELS AND ENERGY	4.3 Uses of fuels	4	i) Leading a discussion on uses of fuels in daily life and environmental effects of depending on fire wood and charcoal as sources of fuel. ii) Leading a discussion on deforestation, vegetation, and alternative sources of fuels.	i) Discussing the uses of fuels in daily life and environmental effects. ii) Discussing deforestation, vegetation, and alternative sources of fuels.	Wall charts showing uses of fuels, disadvantages of deforestation and alternative sources of fuels.		students i) to list uses of fuels. ii) to assess the environmental effect of charcoal and fire wood as sources of fuels.	
					4.4 Conservation of energy	4	i) Leading students to discuss the impossibility of destroying or creating energy. ii) Guiding students to perform experiments on the conservation of energy from one form to another and to discuss the results obtained.	i) Discussing the impossibility of destroying or creating energy.(law of conservation of energy) ii) Performing experiments on the conservation of energy from one form to another and to discuss the results.	Wall charts showing energy change, voltaic cell, electric cell, bar magnets, iron fillings, water, source of heat, Cu foil, H ₂ SO ₄ (1M), lamp bulb, beaker, Mg ribbon, Abrasive paper, Fe fillings.		students i) to explain the law of conservation of energy. ii) to performing experiments on the conservation of energy from one form to another.	

MIDTERM TEST

MIDTERM BREAK 11TH APRIL– 21ST APRIL 2025

		M A Y	1		4.5 Renewable Energy(Biogas)	4	i) Leading a discussion on the working mechanism of a biogas plant. ii) Assisting students to construct a model of a biogas plant. iii) Guiding students to discuss the applications of biogas in daily life use of biogas as environmental friendly type of fuel.	i) Discuss the working mechanism of a biogas plant. ii) Construct a model of a biogas plant. iii) Discuss the applications of biogas in daily life use of biogas as environmental friendly type of fuel.	Wall charts and pictures showing biogas plant, biogas plant model, water pipes, concrete, sewage, cow dung, and wall chart showing uses of biogas.		students i) to explain the working mechanism of biogas plant. ii) to construct a simple biogas plant. iii) to explain the use of biogas with environmental conservation.	
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Applying periodicity to explain characteristic of elements.	To explain the structure of an atom and periodic trend.			ATOMIC STRUCTURE	5.1 The Atom	2	i) Leading students to discuss Dalton's contribution to the structure of an atom. ii) Leading students to discuss the modern concept of Dalton's atomic structure.	i) Dividing a solid substance into fine indivisible particles and discussing Dalton's contribution to structure of an atom. ii) Analysing the Dalton's atomic theory.	Pieces of chalks, marble chips, pestle, mortar, paper, wall charts showing Dalton's atomic theory, modern periodic table.		students i) to explain Dalton's contribution to atomic structure. ii) Ability to explain the modern concept of Dalton's atomic structure.	
					5.2 Subatomic particles	2	i) Guiding students to identify the position of sub-atomic particles. ii) Guiding students to discuss the properties of each particle in an atom.	i) Identifying the position of sub-atomic particles. ii) Explaining the properties of each particle in an atom.	Pictures/models of an atom, atomic diagrams.		students i) to identify subatomic particles. ii) to explain properties of each sub-atomic particle.	
					5.3 Electronic arrangement	4	i) Guiding students to establish the maximum number of electrons in the shell. ii) Guiding students to draw energy shell diagrams of common atoms. iii) Summarizing energy shell diagrams.	i) Establishing the maximum number of electrons in the shell. ii) Drawing energy shell diagrams of common atoms.	Atomic diagrams, wall charts showing energy shell diagrams.		students i) to establish the maximum number of electrons in the shells. ii) to draw energy shell diagrams.	
		MAY	2		5.4 Atomic number, mass number and isotopy.	8	i) Guiding students to discuss the relationship between the atomic number and number of protons and the role played in relating the atomic number and protons. ii) Guiding students on how to obtain mass number. iii) Leading students to discuss the concept of isotopy.	i) Discussing the relationship between the atomic number and number of protons and the role played in relating the atomic number and protons. ii) Obtaining mass number. iii) Discussing the concept of isotopy.	Models/charts, pictures showing the atomic number of elements, playing cards, wall charts showing the number of protons and neutrons of elements, wall charts showing isotopes of C, Cl, O and H.		students i) to relate atomic number with number of protons. ii) to the mass number of an atom from number of protons and neutrons. iii) to explain the concept of isotopy.	
			3	PERIODIC CLASSIFICATION	6.1 Periodicity	4	Leading a discussion on the concept of periodicity.	Explaining periodicity.	Wall chart displaying the modern periodic table.		to explain the concept of periodicity.	
					6.2 General trends	4	i) Guiding students to discuss the change of properties across the period. ii) Guiding students to discuss the change of properties down the group. iii) Guiding students to write electronic configurations of 1 st 20 elements.	i) Listing down the changes of properties across the period. i) Listing down the changes in properties down the group. i) Writing the electronic configurations of 1 st 20 elements.	Modern periodic table and atomic models.		students i) to explain changes in properties of elements across the periods and down the groups. ii) to use electronic configurations	

			4	FORMULA, BONDING AND NOMENCLATURE	7.1 Valence and chemical formulae	4	i) Guiding students to discuss the concept of valency. ii)Using questions and answers in writing simple formula of binary compounds. iii) Leading discussion on the concept of empirical and molecular formula. iv) Summarizing students' activities on empirical and molecular formula.	i) Discussing the concept of valency. i) Writing simple formulae of binary compounds. i) Discussing and interpreting the information given the empirical and molecular formula. v) Calculating the empirical and molecular formulae of various compounds.	Modern periodic table, valence cards, Styrofoam spheres, models/wall charts/pictures showing molecular and empirical formulae.	i) Chemistry for secondary schools, form1 &2, Oxford.	students i) to explain valency. ii)Ability to write simple formulae of binary compounds. iii) to explain and calculate the empirical and molecular formulae.		
TERMINAL EXAMINATIONS													
TERMINAL LEAVE 06TH JUNE - 07TH JULY 2025													
		J U L Y	2 & 3		7.2 Oxidation states	4	i) Leading discussion and summarizing the concepts of oxidation states. ii) Providing activities on valence and oxidation states.	i) Discussing the concept of oxidation states. ii) Performing activities on valence and oxidation states.	Modern periodic table, wall charts showing oxidation state and valence.		Students to explain the oxidation states and to differentiate oxidation state from valence.		
			4		7.3 Radicals	4	i) Leading questions on names and formulae of radicals. ii) Illustrating the writing of the chemical formulae of common compounds.	i) Practicing writing and naming formulae of common radicals. ii) Practicing writing of chemical formulae of common compounds.	Modern periodic table, wall charts showing common radicals.		students i) to explain the concept of radicals. ii) to write chemical formulae of compounds.		
		A U G U S T	1 & 2		7.4 Covalent bonding	4	i) Guiding the discussion on the concept of covalent bonding. ii) Guiding students to draw electron diagram to show covalent bonding in binary molecules. iii) Guiding students to discuss the properties of covalent compounds. iv) Guiding students to perform experiments on covalent compounds	i) Discussing the concept of covalent bonding. ii) Drawing electron diagram to show covalent bonding in binary molecules. iii)Discussing the properties of covalent compounds. iv) Performing experiments on covalent compounds.	Modern periodic table, wall charts showing covalent compounds, O2, H2, kerosene, diesel, water, bulb, connecting wires, carbon electrodes and beaker.		Students i) to explain the covalent bonding. ii) to state the properties of covalent bonding. Students v) To Discuss the properties of covalent compounds. vi) To Performing experiments on covalent compounds.		
		A U G U S T	3 & 4		7.5 Electrovalent bonding	6	i) Leading discussion on electrovalent bonding. ii) Guiding students to draw electro diagrams to show electrovalent bonding. iii) Guiding students to discuss the properties of electrovalent compounds. iv) Guiding students to perform experiments on ionic compounds.	i) Discussing the concept of electrovalent compounds. ii) Drawing electron diagrams to ionic bonding. iii)Discussing the properties of electrovalent compounds. iv) Performing simple experiments on ionic bonding.	Modern periodic table, wall charts showing electrovalent compounds, table salt, H2O, KCl, bulb, ammeter, connecting wires, carbon electrodes, and beakers.		students i) to explain the ionic bonding. ii) to state the properties of ionic compounds.		
				MIDTERM TEST & BREAK 29 TH AUGUST - 14 TH SEPTEMBER 2025									
				FROM 15 TH SEPTEMBER TO NOVEMBER, REVISIONS & F 2 NATIONAL ASSESSMENT EXAMINATIONS									

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