OGUN STATE GOVERNMENT

CREATIVE SCHEME OF WORK

SUBEJCT: CHEMISTRY **CLASS: SS1** **TERM: 1ST TERM**

WEEKS	TOPIC	ACTIVITIES OF EACH DAY	STARTER	OUTCOMES OF EACH DAY	SOFT SKILLS	PRACTICAL APPROACHES
WEEK 1	Introduction to chemistry	Lesson1: Nature of chemistry	Provide chart on scientific method and pictures of scientists carrying out researches in the laboratory	List chemical changes around us	Creative, Analytical and reflective thinking	Students go to chemistry laboratory to see activities in the laboratory
		Lesson2: Meaning of chemistry		State meaning of chemistry and chemistry in life		
		Uses of chemistry		List chemical changes around us		
		Lesson3: Adverse of chemistry		State adverse effect of chemistry		
WEEK 2	Introduction to chemistry	Lesson1: laboratory rules and regulations Safety signs	Provide poster showing pictures of some safety signs	State laboratory rules and regulations	Creative, Analytical and reflective thinking	Students taking to the laboratory to identify laboratory apparatus

		Lesson2: Careers prospect tied to chemistry		List careers in chemistry		
		Laboratory apparatus and uses		Identify laboratory apparatus and uses		
		Lesson3: Laboratory apparatus and uses		Identify laboratory apparatus and uses		
WEEK 3	Nature of matter ii	Leson1: Meaning and states of matter		State meaning of matter	Creative, Analytical and reflective thinking	Addition of water to table salt and burning of paper
		Lesson2: Properties of matter		States properties of matter		
		Physical and chemical changes	Students add water to table salt in a beaker	Identify some physical and chemical changes		
		Lesson3: Differences between physical and chemical changes		List differences between physical and chemical change		
WEEK 4	Nature of matter ii	Lesson1: Definition of element Symbols of elements	Chart showing elements and symbols	List elements and their symbols	Creative, Analytical and reflective thinking	
		Lesson2: Meaning of mixtures and examples		State meaning of mixtures		Addition of water to oil
		Meaning of compound and examples		List examples of compounds		
		Lesson3: Differences between mixtures and		States differences between mixture and		

		compounds		compound		
WEEK 5	Separation technique i	Lesson1: Principle behind choice of separation technique	Provide a chart or poster showing diagrams of some separation techniques	States principle of selecting separation technique	Creative, Analytical and reflective thinking	Separation of mixtures using filteration, evaporation, separating funnel and sublimation
		Lesson2: Sieving, magnetization and sublimation		List some separation techniques		
		Decantation, filtration and centrifugation		List separation techniques		
		Lesson3: Evaporation to dryness, crystallization and fractional crystallization				
WEEK 6	Separation technique ii	Lesson1: Precipitation, distillation and fractional distillation	Provide chart on separating funnel and chromatography	List apparatus use for distillation	Creative, Analytical and reflective thinking	Use of separating funnel to separate mixture of water and oil
		Lesson2: Use of separating funnel		List apparatus use for separating funnel		
		Chromatographic separation		List apparatus for chromatographic separation		
		Lesson3: Test for purity				

WEEK 7	Particulate nature of matter i	Lesson1: Elementary particles of matter: atoms, molecules and ions		List elementary particles of matter		
		Lesson 2: Relative atomic mass and molecular mass	Teacher explains relative atomic mass and molecular mass	Calculate relative molecular mass of compounds	Creative, Analytical and reflective thinking	
		Percentage by mass of elements in a compound		Calculate the percentage by mass of element in a compound		
		Lesson3: Moles and molar mass				
WEEK 8	Particulate nature of matter ii	Lesson1: Laws of chemical combination: conservation of matter and definite proportion	Provide chart showing verification of law conservation of mass	State the law of aconservation of mass	Creative, Analytical and reflective thinking	Verify law of conservation of mass using solutions of $AgNO_3$ and NaCl
		Lesson2: Laws of multiple proportion and reciprocal proportion	Provide a chart showing law of multiple proportion	Solve question on law of multiple proportion		
		Meaning of valency and chemical formula		State meaning of valency		
		Lesson3: Balancing Chemical equations		Balance chemical equations		
WEEK 9	Atomic structure	Lesson1: Dalton's atomic theory and modification	Explain Dalton's atomic theory			

		Lesson2: Atomic structures. Sub particles of atoms	Provide chart showing shapes of p and s orbitals	State the sub particles of atoms	Creative, Analytical and reflective thinking	
		The four quatum numbers, atomic orbital and electronic structure		List the four quantum numbers		
		Lesson3: Atomic number, mass number and isotopy		State meaning of isotopy		
WEEK 10	Symbols and formulae	Lesson1: Naming of compounds using IUPAC	Provide chart showing symbols and formulae	Write names if compound	Creative, Analytical and reflective thinking	
		Lesson2: Concept of oxidation number		Calculate oxidation number of elements in compounds		
		Empirical formula		Calculate empirical formula		
		Lesson3: Molecular formular		Calculate molecular formula		

OGUN STATE GOVERNMENT

CREATIVE SCHEME OF WORK

SUBEJCT: CHEMISTRY **CLASS: SS1** **TERM: 2ND TERM**

WEEKS	TOPIC	ACTIVITIES OF EACH DAY	STARTER	OUTCOMES OF EACH DAY	SOFT SKILLS	PRACTICAL APPROACHES
ONE	Chemical combination	Lesson1: Electronic structures using energy level K,L,M,N…….	Provide chart on electrovalent combination and covalent combination	Draw electronic structures of elements	Creative, Analytical and reflective thinking	Use of models to explain combination of carbon
		Lesson2: Brief explanation on period and group of element.		State period and group of elements		
		Types of chemical combination: electrovalent or ionic bond		State types of chemical bond		
		Lesson3: Covalent bond		Give examples of covalent compounds		
TWO	Chemical combination i	Lesson1: Dative bond or co ordinate covalent bond	Provide chart on co-ordinate combination	Give examples of dative compounds	Creative, Analytical and reflective thinking	
		Lesson2: Differences between ionic and covalent		State differences between ionic and		

		compound		covalent compounds		
		Binding forces: metallic and van der Waals forces		State examples of compounds with van der Waals forces		
		Lesson2: Binding forces: hydrogen bond		Give examples of compounds with hydrogen bonds		
THREE	Kinetic theory of matter and Gas laws	Lesson1: Kinetic theory of matter	Provide chart showing the states of matter	State kinetic theory of matter	Creative, Analytical and reflective thinking	Heating of iodine crystal or ammonium chloride
		Lesson2: States of matter		List the states in matter exist		
		Change of state		State why matter changes state		
		Lesson3: Phenomena supporting kinetic theory.		List phenomena supporting kinetic energy		
FOUR	Kinetic theory of matter and Gas laws	Lesson1: Assumption of the kinetic theory of gases	Provide chart on Boyle's and Charles' laws	States the assumption of kinetic theory of gases	Creative, Analytical and reflective thinking	
		Lesson2: Boyle's law and Charles' law and how kinetic theory explain them		State Boyle's law		
		Gay Lussac's law and Graham's law of diffusion		State Charles' law		
		Lesson3: Avogadro's law , Dalton law of partial		State Dalton's law of		

		pressure		partial pressure		
FIVE	Mole concept	Lesson1: Avogadros number and number of atoms,molecules and ions		Calculations on number of particles	Creative, Analytical and reflective thinking	
		Lesson2: Molar volume of gases		Calculations on molar volume		
		Nature of molecules				
		Lesson3: Vapour density and relative molecular mass		Calculation on vapour density		
SIX	Acids and bases	Lesson1: Definitions, classes and strength of acids	Learners to explain what they feel after tasting unripe fruits	States meaning of acid	Creative, Analytical and reflective thinking	Concentrated acids is pour on paper to show is corrosiveness
		Lesson 2: Properties of acids and uses of acids		States properties of acids		
		Bases and alkalis		List examples of alkalis/bases		
		Lesson3: Properties and uses of alkali/bases		State properties of alkalis		
SEVEN	Acids and bases	Lesson1: Measurement of acidity and alkalinity	Provide chart on pH meter and pH Scale	List substances use to measure acidity and alkalinity	Creative, Analytical and reflective thinking	Use indicator to identify solutions of acids and bases
		Lesson2: Calculations on pH		Calculations on pH		

		Acid-base indicators		List acid- base indicator		
		Lesson3: Buffer solutions: definition, examples and importance		State meaning of buffer solution		
EIGHT	Salts	Lesson1 : Types of salts	Explain preparation of salts	List types of salts	Creative, Analytical and reflective thinking	
		Lesson2: Preparation of soluble salts		List methods of soluble preparing salts		
		Preparation of insoluble salts		List methods of preparing insoluble salts		
		Lesson3: Salts hydrolysis		Give examples each of salts acidic ,basic or neutral		
NINE	Salts	Lesson1: Water of crystallization	Explain efflorescent, deliquescent and hygroscopic	Give examples of salts with water of crystallization Solve calculation problems on water of crystallization.	Creative, Analytical and reflective thinking	Use of desssicator
		Lesson2: Efflorescent, deliquescent and hygroscopic substances		Give examples each of efflorescent, deliquescent and hygroscopic		
		Drying agents		Give examples of drying agents		

		Lesson3: Ionic reactions and equations		Write ionic equation		
TEN						

OGUN STATE GOVERNMENT

CREATIVE SCHEME OF WORK

SUBEJCT: CHEMISTRY **CLASS: SS1** **TERM: 3RD TERM**

WEEKS	TOPIC	ACTIVITIES OF EACH DAY	STARTER	OUTCOMES OF EACH DAY	SOFT SKILLS	PRACTICAL APPROACHES
ONE	Carbon and its compounds	Lesson1: Structure and occurrence of carbon	Provide chart showing structures of diamond and graphite	State the occurrence of carbon	Creative, Analytical and reflective thinking	Models of carbon
		Lesson2: Allotropes of carbon		State the allotropes of carbon		
		Properties of carbon		State properties of carbon		
		Lesson3: Combustion of carbon		State the products of combustion of carbon		
TWO	Carbon and its compounds (oxides of carbon)	Lesson1: Destructive distillation of coal	Provide poster on laboratory preparation of carbon(iv)oxide	List products of destructive distillation of coal	Creative, Analytical and reflective thinking	Prepare carbon(iv)oxide using $CaCO_3$ and dil. HCl
		Lesson2: Preparation of carbon (iv) oxide		Identify reagents for preparation of carbon(iv) oxide		
		Properties of carbon (iv)		State properties of		

		oxide		carbon(iv) oxide		
		Lesson3: Test for carbon(iv) and uses		Test for carbon(iv) oxide		Test for CO_2 using lime water
THREE						
		Lesson1: Preparation of carbon(ii) oxide	Provide chart of laboratory preparation of carbon(ii) oxide	Identify reagents for preparing carbon(ii) oxide in the laboratory	Creative, Analytical and reflective thinking	Preparation of carbon(II)oxide
		Lesson2: Properties and uses of carbon(ii) oxide		List properties of carbon(ii) oxide		
		Trioxocarbonates(iv)		Identify soluble and insoluble trioxocarbonates(iv)		
		Lesson3: Gaseous fuels: Producer gas and Water gas		Identify consistuents of gaseous fuels		
FOUR	Hydrocarbon	Lesson1: Meaning and sources of hydrocarbon	Provide poster and pictures of refineries and fractionating column	State sources of hydrocarbon	Creative, Analytical and reflective thinking	Display of petroleum products like petrol, kerosene diesel
		Lesson2: Crude oil refining		Indentify technique for refining petroleum		
		Fractions of petroleum		List fraction of petroleum		
		Lesson3: Cracking , reforming and petrochemicals		List important of cracking and reforming		

FIVE	Industrial chemistry	Lesson1: Development of the chemical industry	Provide pictures of chemical industry	Meaning of chemical industry	Creative, Analytical and reflective thinking	A visit to nearest chemical industry
		Lesson2: Important raw materials		List raw materials for chemical industry		
		Division of chemical industry		List division of chemical industry		
		Lesson3: Division of chemical industry		List division of chemical industry		
SIX	Industrial chemistry	Lesson1: Economics of industrial processes		State use of by-products and recycling	Creative, Analytical and reflective thinking	Visit to chemical industry
		Lesson2: Importance of industrial chemistry.		State importance of chemical industry		
		Lesson3: Factors to consider in siting chemical industry		List factors to consider in siting chemical industry		
SEVEN	Shapes of molecules	Lesson1: Polar and non polar molecules	Provide chart of shapes of ammonia, water and methane	Give examples of polar and non-polar liquids	Creative, Analytical and reflective thinking	Drawing the shapes of simple molecules

		Lesson2: Shapes of simple covalent molecules		State shapes of methane, water		
		Shapes of simple covalent molecules		State shapes of ammonia and carbon(iv)oxide		
		Lesson3: Types of crystalline solids		List types of crystalline solids		
Eight	Periodic table	Lesson1: Periodic table and periodic law	Provide a chart of periodic table	States periodic law	Creative, Analytical and reflective thinking	Learners fill blank periodic table with appropriate elements
		Lesson2: Electronic configuration of atoms		Write electronic structures of elements		
		Groups and periods		Identify elements in the same group and period		
		Lesson3: Metals, metalloid and non metals		Give examples each of metals, non-metals and metalloids		
NINE	Periodic table	Lesson1: Block elements	Provide a chart of periodic table	List example of block elements	Creative, Analytical and reflective thinking	Periodic table
		Lesson2: Periodic table and atomic properties		List properties of element in the same group		
		Variation in physical properties		List properties which across the periods and down the group		

		Lesson3: Variation in chemical properties		List properties which across the periods and down the group		
TEN	Periodic table	Lesson1: Families of elements	Provide a chart of periodic table	Identify families of elements	Creative, Analytical and reflective thinking	Make chart of periodic table
		Lesson2: Families of elements		Identify families of elements		
		Lesson2: Brief explanation on transition elements		List transition elements		
		Lesson3: Lanthanides and actinides elements		Identify lanthanide and actinide elements		