

TOPIC S/ SUBJ. COMP'NCES | LANG. COMP'NCES | METHODS **ACTIVITIES** INST. **CONTENT** IND. OF REF. RE K D **TOPIC** L.S.V MAT. M

I ——							l	L		1		
			IUMAN BO									
TC	PIC	: MUSC	CULOSKEL	ETAL SYSTEM								
1	1	Musc	The	Musculoskeletal	The learner:	The learner:	Discussion	Defining	Logical	Human	Intro	
		ulosk	skeleto	System	* Defines skeleton	* Pronounces,	Demonstr	skeleton	thinking	skeleton	duct	
		eletal	n	\Rightarrow This is a group of	* Mentions the	spells, reads,	ation.	Stating			ion	
		syste		organs and tissues	types of skeleton	writes and	Observati	types of	Decision		to	
		m		that hold body of	* States	demonstrates	on	skeleton	making		Biolo	
				an animal and	importance of	the meaning of	Discovery	Stating the			gy	
				supports it upright.	the skeleton	words;	method.	importanc			p.	
				Skeleton		exoskeleton,		e of the			119	
				\Rightarrow A skeleton is the		endoskeleton,		skeleton.	Responsi			
				rigid structure that		hydrostatic,			bility			
				supports the body		muscular, axial,						
				of an animal.		cranium,						
				Importance of skeleton		appendicular,			Appreci			
				\Rightarrow The skeleton		coccyx, humerus			ation			
				supports the body		related to the						
				of an organism.		musculoskeletal						
				\Rightarrow The skeleton gives		system.			Care			
				the body shape.		* Reads, writes						
				Types of skeleton		and writes texts						
				1. Endoskeleton		and questions on			Effective			
				2. Exoskeleton		musculoskeletal			commun			
				3. Hydrostatic		system			ication			
				skeleton.								
1	2	Musc	Types	Types and	The learner:	The learner:	Discussion	Mentioning	Logical	Human	Intro	
		ulosk	and	examples of each	* Mentions the	* Pronounces,	Demonstr	the types	thinking	skeleton	duct	
		eletal	exampl	type of skeleton	types of skeleton	spells, reads,	ation.	of skeleton.			ion	

		syste	es of	1. Exoskeleton	* States the	writes and	Observati		Decision		to
		m	each	\Rightarrow This is the type of	examples of	demonstrates	on		making		Biolo
			type of	skeleton formed on	each type of	the meaning of	Discovery				gy
			skeleto	the outside part of	the types of	words;	method.	States the			p.
			n	the body.	skeleton	exoskeleton,		examples			119
				\Rightarrow It is common to		endoskeleton,		of each	Responsibilit		
				most arthropods		hydrostatic,		type of the	У		
				like; insects and		muscular, axial,		types of			
				crustaceans.		cranium,		skeleton			
				2. Endoskeleton		appendicular,			Appreciatio		
				\Rightarrow This is the type of		coccyx, humerus			n		
				skeleton found		related to the					
				inside the body of		musculoskeletal					
				an animal.		system.					
				3. Hydrostatic		* Reads, writes					
				skeleton		and writes texts			Care		
				\Rightarrow This is type of		and questions on					
				skeleton made up		musculoskeletal					
				fluid under pressure		system			Effective		
				inside body					communica		
				cavities.					tion		
1	3	Musc	Structur	Structure of the human	The learner:	The learner:	Discussion	Describing	Logical	Human	Intro
		ulosk	e of the	skeleton	* Describes the	* Pronounces,	Demonstr	the	thinking	skeleton	duct
		eletal	human		structure the	spells, reads,	ation.	structure			ion
		syste	skeleto	Functions of the	human of	writes and	Observati	the human	Decision		to
		m	n	skeletal bones system	skeleton	demonstrates	on	of skeleton	making		Biolo
				 Protection of 	* States the	the meaning of	Discovery	States the			gy
				delicate body	functions of	words;	method.	functions			
				organs for instance;	parts of the	exoskeleton,		of the			
				- The vertebrae	human skeleton	endoskeleton,		human	Responsibilit		
				protect the spinal		hydrostatic,		skeleton	У		
				cord.		muscular, axial,					
				2. The skeleton gives		cranium,			Appreciatio		

	ı	1									
				support to the body		appendicular,			n		
				and holds it upright.		coccyx, humerus					
				Bones provide sites for		related to the			Care		
				muscle attachment		musculoskeletal					
						system.					
						* Reads, writes			Effective		
						and writes texts			communica		
						and questions on			tion		
						musculoskeletal					
						system					
1 4	4	Musc	Muscul	Musculoskeletal	The learner:	The learner:	Discussion	Defining	Logical	Human	Intro
		ulosk	oskelet	system Bones	* Defines bones.	* Pronounces,	Demonstr	bones.	thinking	skeleton	duct
		eletal	al	⇒ Bones are calcified	* Describes the	spells, reads,	ation.				ion
		syste	system	supportive	types of bones	writes and	Observati		Decision		to
		m	3,3.3	structures in the	with relevant	demonstrates	on	Describing	making		Biolo
				bodies of	examples.	the meaning of	Discovery	the types	making		gy
				vertebrates	CXCITIPICS.	words related to	method.	of bones			
				Types of bones			memoa.	with			p. 119
				1		the types of			De se e esileilit		119
				1. Long bones,		bones.		relevant	Responsibilit		
				metacarpals,		* Reads, writes		examples.	У		
				phalanges.		and writes texts					
				2. Short bones e.g.		and questions					
				carpals		related to the			Appreciatio		
				3. Flat bones -e.g.		types of bones.			n		
				pelvis.							
				4. Irregular bones –							
				e.g. sacrum					Care		
				5. Sesamoid bones-							
				are bones that							
				completely					Effective		
				surrounded by					communica		
				tendons e.g.					tion		
				patella.							

						<u> </u>
1 5		Disease The lear		The learner:	Human	Intro
	ulosk		es bones.	* Pronounces,	skeleton	duct
	eletal	disorder * Descri	bes the			ion
	syste	s of				to
	m	bones				Biolo
						gy
						p.
						119
		#CREATIVE PR	RINTE.	RS 0785681207 / 0703745068		
1 6	Musc					Intro
	ulosk					duct
	eletal					ion
	syste					to
	m					Biolo
						gy
						New
						foun
						t.
						Sci.
		\Rightarrow Some joints in the				pbk
		body have synovial				7.
		fluid which helps to				
		reduce friction.				

				Structure of a synovial joint					communica tion		Mk int. Sci pbk 7
2	1	Musc ulosk eletal syste m	Types of joints	Types of joints ⇒ There are five major types of joints which are movable while others are immovable. ⇒ Movable joints allow movement of the bones that make them while immovable joints do not allow movements of the bones that make them. 1. Hinge joints e.g. knee, Ball and socket joint- e.g. hip 2. Gliding joint- e.g. wrist/ ankle 3. Pivot joint e.g. the neck. 4. Suture joints in the skull	The learner: * Describes the types of joints. * Gives the examples of each types of joint.	The learner: * Pronounces, spells, reads, writes and demonstrates the meaning of words related to types of joints. * Reads, writes and writes texts and questions related to types of joints.	Discussion Demonstr ation. Observati on Discovery method.	Describing the types of joints. Giving the examples of each types of joint.	Logical thinking Decision making Responsibility Appreciation Care Effective communication	Structure of different types of synovial joints joint.	Intro duct ion to Biolo gy New foun t. Sci. pbk 7. Mk int. Sci pbk 7
2	2	Musc	Muscles	• Muscles	The learner:	The learner:	Discussion	Defining	Logical	Structure	Intro
		ulosk		⇒ A muscle is an	* Defines muscles.	* Pronounces,	Demonstr	muscles.	thinking	of	duct
<u></u>		eletal		elastic fibrous tissue		spells, reads,	ation.			different	ion

	syste	that contracts to	types of	to	
	m	cause movement.	muscles	Biolo	
				gy	
				New	
				foun	
				t.	
				Sci.	
				pbk 7.	
		#CREATIVE PRINTERS 0785681207 / 0703745068		/.	
				Mk	
				int.	
				Sci	
				pbk 7	
2 3	Musc		Structure	Intro	
	ulosk		of	duct	
	eletal		antagoni	ion	
	syste		stic	to	
	m	* Give the	muscles.	Biolo	
		examples of ⇒ Antagonistic antagonistic		gy	
		muscles are found muscles.			
		opposite bones.		New	
		⇒ Antagonistic * States how * Reads, writes		foun	
		muscles are made antagonistic and writes texts		t.	
		of antagonistic muscles work. and questions pairs called flexors related to		Sci. pbk	
		and extensor.		7.	
		Examples of muscles			
	•			•	

				antagonistic muscles include 1. Biceps (flexor) 2. Triceps (extensor				c muscles work.	communica tion		Mk int. Sci pbk 7
2	4	Musc ulosk eletal syste m	Functio ns of muscle s	Functions of muscles 1. Muscles enable the body to move. 2. Muscles are sites in the body where respiration occurs. Diseases and Disorders of muscles. a) Muscular cramp b) Strain/muscle pull. Diseases of the muscles. a) Tetanus caused by bacteria, spread through fresh cuts and wounds. b) Leprosy caused by bacterium leprosy bacilli, its highly contagious.	* States the functions of muscles. * Describes the diseases and disorders of the muscles.	* Pronounces, spells, reads, writes and demonstrates the meaning of words related to muscles * Reads, writes and writes texts and questions related to muscles	Discussion Demonstr ation. Observati on Discovery method.	Stating the functions of muscles. Describing the diseases and disorders of the muscles.	Logical thinking Decision making Responsibilit y Appreciatio n Care Effective communication	Chalkbo ard illustration . A chart showing a person suffering from tetanus and leprosy.	Intro duct ion to Biolo gy New foun t. Sci. pbk 7. Mk int. Sci pbk 7
2	5	Musc	CARIN	CARING FOR MUSCLES	The learner:	The learner:	Discussion	Stating	Logical	Chalkbo	Intro
		ulosk eletal	G FOR MUSCLE	Prevention of diseases and disorders of	* States the ways of caring for	* Pronounces, spells, reads,	Demonstr ation.	ways of caring for	thinking	ard illustration	duct ion
		syste m	S	muscles a) Prepare and eat a balanced diet.	muscles. * Mentions health habits to keep	writes and demonstrates the meaning of	Observati on Discovery	muscles. Mentioning health	Responsibilit y	A chart	to Biolo gy

#CREATIVE PRINTERS 0785681207 / 0703745068 Musc ulosk eletal term posture. spells, reads, * Illustrates the writes and syste correct body demonstrates m posture for the knowledge of every activity the meaning of ure. we do. words related to * States the body posture * Reads, writes benefits of correct body and internalizes Importance of correct posture. texts and posture questions related ⇒ Prevents body to body posture. aches. Life styles to keep muscular skeletal system ⇒ Having regular

				exercises. Benefits of physical exercises to musculoskeletal system ⇒ Exercises make bones thicker and harder thereby minimizing fractures.							Sci pbk 7
			ER AND EN	NERGY		<u> </u>		I			
				D MAGNETSIM	Γ	Τ	Γ	T =	T	ъ ::	T T
3	1	Electri city and Magn etism	Electricity	Electricity ⇒ Electricity is a form of energy produced by presence of charges. Types of electricity 1. Current electricity 2. Static electricity. Current electricity ⇒ This is the type of electricity which involves the flow of electrons through a conductor. Sources of current electricity 1. Cells 2. Fast flowing water 3. The sun. 4. Fossil fuels. 5. Wind.	The learner; 1. Defines electricity. 2. Describes the types of electricity. 3. Mentions the sources of current electricity.	* Pronounces, spells, reads, writes and demonstrates knowledge of the meaning of words related to electricity. * Reads, writes and internalizes texts and questions related to electricity.	Discussion Demonstr ation. Observati on Discovery method.	Defining electricity. Describing the types of electricity. Mentioning the sources of current electricity.	Logical thinking Responsibilit y Appreciation Care Effective communication	Dry cells Battery cells.	Intro duct ion to Biolo gy New foun t. Sci. pbk 7. Mk int. Sci pbk 7

3 2	о М	city and	Forms of electrici ty	Forms of electricity Hydroelectricity Produced from water turning turbines at a dam. (Steps in production with a diagram) Thermal electricity Produced from fossil fuels. Solar electricity Produced from the sun. Nuclear electricity Produced from nuclear power stations. Geo thermal electricity Produced from hot rock in the earth	The learner; 1. Defines electricity. 2. Describes the types of electricity. 3. Mentions the sources of current electricity.	The learner: * Pronounces, spells, reads, writes and demonstrates knowledge of the meaning of words related to electricity. * Reads, writes and internalizes texts and questions related to electricity.	Discussion Demonstr ation. Observati on Discovery method.	Defining electricity. Describing the types of electricity. Mentioning the sources of current electricity.	Logical thinking Responsibilit y Appreciation Care Effective communication	Dry cells Battery cells.	Intro duct ion to Biolo gy New foun t. Sci. pbk 7. Mk int. Sci pbk 7
3 3	С О М	Electri city and Magn etism	Types of current electrici ty	Types of current electricity 1. Direct current (DC) (Diagram) 2. Alternating current electricity (A.C) Sources of D.C and A.C The dry cell	The learner; 1. State the types of current electricity. 2. mentions the sources of D.C and A.C 3. Draws and labels parts of a dry cell. 4. States the functions of each	The learner: * Pronounces, spells, reads, writes and demonstrates knowledge of the meaning of words related to types of current electricity. * Reads, writes and internalizes	Discussion Demonstration. Observation Discovery method.	Stating the types of current electricity. Mentioning the sources of D.C and A.C Drawing and labels	Logical thinking Responsibilit y Appreciation Care Effective	Dry cells Battery cells.	Intro duct ion to Biolo gy New foun t. Sci.

			 ⇒ A dry cell is an electric cell. ⇒ It stores chemical energy. Functions of each parts of a dry cell 1.Bras cap 2. Carbon rod 3. Electrolyte 4. Zinc can 5. Insulating top seal 	part of a dry cell.	texts and questions related to types of current electricity.		parts of a dry cell. Stating the functions of each part of a dry cell.	communica tion		pbk 7. Mk int. Sci pbk 7
3	Electri city and Magn etism	Conductors and insulators of electricity	Conductors of electricity Conductors are materials that allow electricity to pass through them. Examples of electricity conductors 1. Metals like Iron, 2. Hard water wells. 3. Carbon (nonmetallic conductor) 4. Electrolytes. Uses of conductors. Used to transmit electricity from one place to another.	The learner; 1. Defines conductors 2. Mentions the examples of conductors 3. States the uses of electric conductors.	The learner: * Pronounces, spells, reads, writes and demonstrates knowledge of the meaning of words related to electric conductors. * Reads, writes and internalizes texts and questions related to electricity conductors.	Discussion Demonstration. Observation Discovery method.	Defining conductors Mentions the examples of conductors Stating the uses of electric conductors	Logical thinking Responsibilit y Appreciation Care Effective communication	Carbon rod Metals Water wood	Intro duct ion to Biolo gy New foun t. Sci. pbk 7. Mk int. Sci pbk 7

3	5	Electri city and Magn etism		Insulators of electricity These are materials	The learner; 1. Defines insulators. 2. Mentions the	The learner: * Pronounces,					Intro duct ion to Biolo gy
				#CREATIVI	E PRINTER	S 0785681	207/	070374	45068		New foun t. Sci. pbk 7.
				shocks/electrocutio n. 2. Prevent short circuits.							Mk int. Sci pbk 7
3	6	Electri	Electric	Electric circuit	The learner;	The learner:	Discussion	Defining	Logical	Dry cells	Intro
		city	circuit	Components of an	1. Defines an	* Pronounces,		insulators.	thinking	,	duct
		and		electric circuit	electric circuit.	spells, reads,	Demonstr			Electric	ion
		Magn		⇒ An electric circuit is	2. States the parts	writes and	ation.	Mentions	Responsibilit	bulbs	to
		etism		a path through	of a simple	demonstrates		the	У		Biolo
				which an electric	circuit.	knowledge of	Observati	examples		Electric	gy
				current flows.	3. Describes the	the meaning of	on	of	Appreciatio	wires	
				a) A	components of	words related to		insulators.	n		
				bulb(appliance)	a simple circuit	simple electric	Discovery				New
				b) A conductor	in relation to	circuits.	method.		Care	. 41 . 1	foun
				(wire)	their functions.	* Reads, writes		C1-1		switch	†. c=:
				c) Dry		and internalizes		States the	Effective		Sci.

			Symbols used in an electric circuit Uses of parts of an electric circuit 1. Switch 2. Dry cells 3. Conducting wire 4. Fuse 5. Bulb		texts and questions related to simple circuits.		uses/ importanc e of insulators.	communica tion		pbk 7. Mk int. Sci pbk 7
4 1	Electri city and Magn etism	Circuit diagra ms	Energy changes in a circuit ⇒ Chemical energy to electric energy to heat energy to light energy. Calculating voltage Worked example Juliet's radio uses seven dry cells. How many volts are needed if he is to use it to listen to news? Solution: 1 dry cell= 1.5 volts	The learner; Draws an illustration to show the flow current in an electric circuit. States the energy change in a simple circuit. Calculates to find voltages in a simple circuit.	The learner: * Pronounces, spells, reads, writes and demonstrates knowledge of the meaning of words related to simple electric circuits. * Reads, writes and internalizes texts and questions related to simple circuits.	Discussion Demonstration. Observation Discovery method.	Drawing an illustration to show the flow current in an electric circuit. Stating the energy change in a simple circuit. Calculating to find voltages in a simple circuit.	Logical thinking Responsibilit y Appreciation Care Effective communication	Dry cells Electric bulbs Electric wires Switch A worked out calculati on to find voltage in a simple circuit.	Intro duct ion to Biolo gy New foun t. Sci. pbk 7. Mk int. Sci pbk 7

				7 dry cells=? 7dry cells X 1.5 Volts.							
				=10.5 volts							
4	2	Electri	Electric	Electric cells	The learner:	The learner:	Discussion	Defining	Logical	Dry cells	Intro
		city	cells	These are devices that	* Defines electric	* Pronounces,		electric	thinking		duct
		and		produce and store	cells.	spells, reads,	Demonstr	cells.		Electric	ion
		Magn		electricity.	* States the types	writes and	ation.		Responsibilit	bulbs	to
		etism		Types of electric cells.	of electric	demonstrates		Stating the	У		Biolo
				1. Primary cells like dry	cells.	knowledge of	Observati	types of		Electric	gy
				cells, simple wet cell.	* Describes the	the meaning of	on	electric	Appreciatio	wires	
				2. Secondary cells like	primary cells	words related to		cells.	n		
				car batteries or		electric cells.	Discovery			Lemon	New
				accumulators.		* Reads, writes	method.	Describing	Care		foun
				Homemade simple wet		and internalizes		the primary			t.
				cell		texts and		cells	Effective		Sci.
				9		questions related			communica		pbk
						to electric cells.			tion		7.
				zinc plate							
											Mk
											int.
											Sci
											pbk
											7
4	3	Electri	Chemic	Chemical Battery	The learner:	The learner:	Discussion	Defining	Logical	Dry cells	Intro
		city	al	⇒ Car battery is an	* Describes a	* Pronounces,		electric	thinking		duct
		and	Battery	example of	secondary cell	spells, reads,	Demonstr	cells.		Electric	ion
		Magn		chemical batteries.	diagrammaticall	writes and	ation.		Responsibilit	bulbs	to
		etism		\Rightarrow It has the positive	у.	demonstrates		Stating the	У		Biolo
				(+) {anode} and	* States the	knowledge of	Observati	types of		Electric	gy
				negative (-)	examples of	the meaning of	on	electric	Appreciatio	wires	New
				terminals (cathode)	secondary	words related to		cells.	n		foun
				called electrodes	cells.	electric cells.	Discovery			A lead	†.

				* Describes the primary cells		method.			battery	Sci. pbk 7. Mk int. Sci pbk 7
4	Electri city and Magn etism		#CREAT	TIVE PRINT	ERS 0785	581207	7 / 0703	3 74506	Dry cells Electric bulbs A torch	Intro duct ion to Biolo gy New foun t. Sci. pbk 7. Mk int. Sci pbk 7
4	Electri city and Magn	The Electric Bulb	Parts of an electric bulb	The learner: * Describes the functioning of an electric	The learner: * Pronounces, spells, reads, writes and	Discussion Demonstr ation.	Describing the functioning of an	Logical thinking Responsibilit	Dry cells Electric bulbs	Intro duct ion to

		etism	Uses of parts of a bulb	bulb.	demonstrates		electric	У		Biolo
			1. Filament	* Draws and	knowledge of	Observati	bulb.	,	A torch	gy
			2. Conducting wire	labels the	the meaning of	on	2010.	Appreciatio	7 (101011	New
			3. Glass	structure of an	words related to		Drawing	n		foun
			4. Filament support	electric bulb.	an electric bulb.	Discovery	and	11		10011
			5. Insulating material	* States the	* Reads, writes	method.	labeling	Care		Sci.
				functions of	and internalizes	memoa.	the	Care		pbk
				parts of an	texts and		structure of	Effective		7.
				electric bulb.	questions related		an electric	communica		'
				elecine bolb.	to an electric		bulb.	tion		
					bulb.		Stating the	11011		Mk
					DUID.		functions			int.
										Sci
							of parts of			
							an electric			pbk 7
	_	Flack	Claud alicavita	The decimal and	Th - 1	Diagonalian	bulb.	l a si a sil	Davis	/
4	5	Electri	Short circuits	The learner:	The learner:	Discussion	Defining a	Logical	Dry cells	Intro
		city	⇒ A short circuit is a	* Defines a short	* Pronounces,		short	thinking	E	duct
		and	path of low	circuit.	spells, reads,	Demonstr	circuit.		Electric	ion
		Magn	rocictanco tolliardo	* Draws an	writes and	ation.	Drawing	Responsibilit	bulbs	to
			resistance towards			anon.	•	•	00103	
		etism	flow of current	illustration to	demonstrates		an	У		Biolo
			flow of current through circuit.	illustration to show a short	demonstrates knowledge of	Observati	an illustration	У	Electric	gy
			flow of current	illustration to show a short circuit.	demonstrates knowledge of the meaning of		an illustration to show a	•	Electric	gy New
			flow of current through circuit.	illustration to show a short circuit. * States the	demonstrates knowledge of the meaning of words related to	Observati on	an illustration to show a short	У	Electric	gy
			flow of current through circuit.	illustration to show a short circuit. * States the causes and	demonstrates knowledge of the meaning of words related to short circuits.	Observati on Discovery	an illustration to show a short circuit.	y Appreciatio n	Electric	gy New foun t.
			flow of current through circuit.	illustration to show a short circuit. * States the causes and effects of a	demonstrates knowledge of the meaning of words related to short circuits. * Reads, writes	Observati on	an illustration to show a short circuit.	y Appreciatio	Electric	gy New foun t. Sci.
			flow of current through circuit. Illustration	illustration to show a short circuit. * States the causes and effects of a short circuit.	demonstrates knowledge of the meaning of words related to short circuits. * Reads, writes and internalizes	Observati on Discovery	an illustration to show a short circuit. Stating the causes	y Appreciatio n Care	Electric	gy New foun t. Sci. pbk
			flow of current through circuit. Illustration Causes of short circuit	illustration to show a short circuit. * States the causes and effects of a short circuit. * Mentions ways	demonstrates knowledge of the meaning of words related to short circuits. * Reads, writes and internalizes texts and	Observati on Discovery	an illustration to show a short circuit. Stating the causes and effects	y Appreciatio n Care Effective	Electric	gy New foun t. Sci.
			flow of current through circuit. Illustration Causes of short circuit Poor wiring when	illustration to show a short circuit. * States the causes and effects of a short circuit. * Mentions ways of avoiding	demonstrates knowledge of the meaning of words related to short circuits. * Reads, writes and internalizes texts and questions related	Observati on Discovery	an illustration to show a short circuit. Stating the causes and effects of a short	Appreciation Care Effective communica	Electric	gy New foun t. Sci. pbk
			flow of current through circuit. Illustration Causes of short circuit Poor wiring when installing electricity	illustration to show a short circuit. * States the causes and effects of a short circuit. * Mentions ways	demonstrates knowledge of the meaning of words related to short circuits. * Reads, writes and internalizes texts and	Observati on Discovery	an illustration to show a short circuit. Stating the causes and effects	y Appreciatio n Care Effective	Electric	gy New foun t. Sci. pbk 7.
			flow of current through circuit. Illustration Causes of short circuit Poor wiring when installing electricity in buildings.	illustration to show a short circuit. * States the causes and effects of a short circuit. * Mentions ways of avoiding	demonstrates knowledge of the meaning of words related to short circuits. * Reads, writes and internalizes texts and questions related	Observati on Discovery	an illustration to show a short circuit. Stating the causes and effects of a short circuit.	Appreciation Care Effective communica	Electric	gy New foun t. Sci. pbk 7.
			flow of current through circuit. Illustration Causes of short circuit Poor wiring when installing electricity in buildings. Effects of short circuit.	illustration to show a short circuit. * States the causes and effects of a short circuit. * Mentions ways of avoiding	demonstrates knowledge of the meaning of words related to short circuits. * Reads, writes and internalizes texts and questions related	Observati on Discovery	an illustration to show a short circuit. Stating the causes and effects of a short circuit.	Appreciation Care Effective communica	Electric	gy New foun t. Sci. pbk 7.
			flow of current through circuit. Illustration Causes of short circuit Poor wiring when installing electricity in buildings.	illustration to show a short circuit. * States the causes and effects of a short circuit. * Mentions ways of avoiding	demonstrates knowledge of the meaning of words related to short circuits. * Reads, writes and internalizes texts and questions related	Observati on Discovery	an illustration to show a short circuit. Stating the causes and effects of a short circuit.	Appreciation Care Effective communica	Electric	gy New foun t. Sci. pbk 7.

4	6	Electri city and Magn etism		#CREAT	TIVE PRINT	ERS 0785	581201	7 / 070	374506	58	Intro duct ion to Biolo gy New foun t. Sci. pbk 7.	
5	1	Electri	How to	How to avoid effects of lightning	The learner: * Mentions ways	The learner: * Pronounces,	Discussion	Mentioning ways of	Logical thinking	Chalkbo ard	Intro duct	
		and Magn etism	effects of lightnin	⇒ Don't take shelter under trees when it is raining.	of preventing the effects caused by	spells, reads, writes and demonstrates	Demonstr ation.	preventing the effects caused by	Responsibilit y	illustration	ion to Biolo	

		g	 ⇒ Avoid touching lightning conductors when it is raining. How lightning conductors reduce risks to the building. ➤ They provide route for electrons to pass into the ground without damaging the building. 	lightning. * States how lightning arrestors reduce the risk of lightning to the buildings.	knowledge of the meaning of words related to static electricity. * Reads, writes and internalizes texts and questions related to static electricity.	Observation Discovery method.	lightning. Stating how lightning arrestors reduce the risk of lightning to the buildings.	Appreciation Care Effective communication		gy New foun t. Sci. pbk 7. Mk int. Sci pbk
5 2	Electri city and Magn etism	Uses of electricity	Uses of electricity in solving everyday problems ⇒ Cooking ⇒ Lighting Advantages of electricity ⇒ It is quick. ⇒ It is clean. Disadvantages/danger s of electricity ⇒ It is expensive to install. ⇒ Electricity can shock people to death. ⇒ It can burn buildings. Safety precautions in handling electricity and electrical	The learner: * States the uses of electricity in solving everyday problems. * State the advantages and disadvantages of electricity. * Describes the safety precautions in handling electricity.	The learner: * Pronounces, spells, reads, writes and demonstrates knowledge of the meaning of words related to uses of electricity. * Reads, writes and internalizes texts and questions related to uses of electricity.	Discussion Demonstration. Observation Discovery method.	Stating the uses of electricity in solving everyday problems. Stating the advantage s and disadvanta ges of electricity. Describing the safety precaution s in handling	Logical thinking Responsibility Appreciation Care Effective communication	Chalkbo ard illustration	Intro duct ion to Biolo gy New foun t. Sci. pbk 7. Mk int. Sci pbk 7

		electricity.			
5 3	Electri city and Magn etism	#CREATIVE PRINTERS 0785681207 / 0703745068	Chalkbo ard illustration	Intro duct ion to Biolo gy New foun t. Sci. pbk 7.	
		Magnetization ⇒ Magnetization is a method/ way of turning a magnetic material into a			

				magnet.							
5	4	Electri city and Magn etism	Magnet ic and non-magnet ic materia ls.	Magnetic materials: ⇒ Magnetic materials are materials that can be attracted by a magnet. Examples of magnetic materials ⇒ Iron, steel nickel Non-magnetic materials ⇒ Non-magnetic materials are materials that cannot be attracted by magnets. Examples of non-magnetic substances. - wood - Plastic	The learner: * Defines magnetic and non magnetic materials. * States examples of magnetic and non magnetic materials.	The learner: * Pronounces, spells, reads, writes and demonstrates knowledge of the meaning of words related to magnetism like magnets, magnetic materials, and magnetic field. * Reads, writes and internalizes texts and questions related to magnetism.	Discussion Demonstration. Observation Discovery method.	Defining magnetic and non magnetic materials. Stating examples of magnetic and non magnetic materials.	Logical thinking Responsibility Appreciation Care Effective communication	Magnets Iron felling Nails Piece of iron sheet Iodeston e	Intro duct ion to Biolo gy New foun t. Sci. pbk 7. Mk int. Sci pbk 7
5	5	Electri city and Magn etism	Properti es of a magnet	Properties of a magnet 1. A freely suspended bar magnet rests pointing in the North to South direction. illustration 2. Like poles of magnets repel while unlike poles attract.	The learner: * States the properties of magnets with relevant illustrations. * Draws diagrams to illustrate the various properties of magnets.	The learner: * Pronounces, spells, reads, writes and demonstrates knowledge of the meaning of words related to properties of magnets. * Reads, writes	Discussion Demonstration. Observation Discovery method.	Stating the properties of magnets with relevant illustration Drawing diagrams to illustrate the various	Logical thinking Responsibilit y Appreciatio n Care	Magnets Strings Magnetic material Non magnetic materials	Intro duct ion to Biolo gy New foun t. Sci. pbk

		#0	REATIVE PR	INTEDS 07	25621207	/ 0703	74506	Effective communica tion	lodeston e	7. Mk int. Sci pbk 7
5	Electri city and Magn etism	#	REATIVE PR		0001207	/ 0 / 0 3	74300		Magnets of different kinds lodeston e	Intro duct ion to Biolo gy New foun t. Sci. pbk 7. Mk int. Sci pbk 7
6	Electri city	Tempor ary	Temporary magnets Temporary magnets	The learner: * Describes the	The learner: * Pronounces,	Discussion	Describing the	Logical thinking	Magnets of	Intro duct
	and	magnet	are magnets which	temporary	spells, reads,	Demonstr	temporary	I II III IKII IG	different	ion

		Magn etism	S	lose their magnetism easily as soon as things making them magnetized are withdrawn. Examples of a temporary magnet. Induced magnets Electromagnet Laws of magnets Like poles of magnets repel each other while unlike poles attract each other.	magnets. * Gives examples of temporary magnets. * States the laws of magnets.	writes and demonstrates knowledge of the meaning of words related to temporary magnets. * Reads, writes and internalizes texts and questions related to temporary magnets.	ation. Observation Discovery method.	magnets. Giving examples of temporary magnets. Stating the laws of magnets.	Responsibility Appreciation Care Effective communication	lodeston e	to Biolo gy New foun t. Sci. pbk 7. Mk int. Sci pbk 7
6	2	Electri city and Magn etism	Magnet ization	Magnetization ⇒ Magnetization is a way of turning a magnetic material into a magnet. Methods of magnetization a) Stroking method (single stroking and double stroking) b) Induction method c) Electrical method Determining the poles	The learner: * Defines magnetization. * Describes the methods used to make magnets. * States how to determine polarity in each method of making magnets.	The learner: * Pronounces, spells, reads, writes and demonstrates knowledge of the meaning of words related to magnetization. * Reads, writes and internalizes texts and questions related to	Discussion Demonstration. Observation Discovery method.	Defines magnetizat ion. Describes the methods used to make magnets States how to determine	Logical thinking Responsibilit y Appreciatio n Care Effective communica tion	Magnets of different kinds Magnetic materials.	Intro duct ion to Biolo gy New foun t. Sci. pbk 7.
				an electromagnet i. The direction of flow		magnetization.		polarity in each method of			Mk int. Sci

				of current. ii. Using the right hand				making magnets.			pbk 7
				grip rule.							
6	3	Electri	Demag	Demagnetizing a	The learner:	The learner:	Discussion	Defining	Logical	Magnets	Intro
		city	netizing	magnet	* Defines	* Pronounces,		Demagneti	thinking	of	duct
		and	a	⇒It is making a	demagnetizati	spells, reads,	Demonstr	zation.		different	ion
		Magn	magnet	magnet lose its	on.	writes and	ation.		Responsibilit	kinds	to
		etism		magnetism.	* States ways of	demonstrates		Stating	У		Biolo
				Ways of	demagnetizing	knowledge of the	Observati	ways of		Magnetic	gy
				demagnetizing a	magnets.	meaning of words	on	demagneti	Appreciatio	materials.	New
				magnet	* States ways of	related to		zing	n		foun
				⇒ Hammering/hitti	keeping the	demagnetization.	Discovery	magnets.		Hammer	t.
				ng strongly.	magnets safe.	* Reads, writes and	method.		Care		Sci.
				\Rightarrow Strong heating.		internalizes texts		Stating			pbk
				Ways of keeping		and questions		ways of	Effective		7.
				magnets safe		related to		keeping	communica	Lighter	
				⇒ -Painting to prevent		demagnetization.		the	tion		
				rusting.				magnets			Mk
				⇒ -Storing magnets				safe.			int.
				using iron keepers.							Sci
				⇒ -Keeping magnets							pbk
				in the North-South direction.							
6	4	Electri	Uses of	Uses of magnets in	The learner:	The learner:	Discussion	States the	Logical	Magnets	Intro
		city	magnet	modern world of work	* States the uses	* Pronounces,		uses of	thinking	of	duct
		and	s in	Magnets are used in	of magnets in	spells, reads,	Demonstr	magnets in		different	ion
		Magn	modern	compasses by	the world of	writes and	ation.	the world	Responsibilit	kinds	to
		etism	world of	sailors, pilots and	work.	demonstrates		of work.	У		Biolo
			work	explorers to show	* Identifies some if	knowledge of the	Observati			Magnetic	gy
				direction.	the appliances	meaning of words	on	Identifies	Appreciatio	materials.	New
				Appliances that use	that use	related to uses of		some if the	n		foun
				electricity	electricity to	magnets.	Discovery	appliances			t.
				> Flat irons	work.	* Reads, writes and	method.	that use	Care		Sci.

		magnetism		and questions related to uses of magnets.			communication	a	Mk int. Sci pbk 7
6 5 Electrication of the control of	y #CI d ign	REATIVE PRI	ITERS 078	85681207 <i> </i>	07037	745068	3		Intro duct ion to Biolo gy New foun t. Sci. pbk 7.
		 It pulls the soft iron strip with the hammer. The hammer hits the gong producing sound. 							Mk int. Sci pbk 7
6 6 Elec		Generating electricity using a dynamo	The learner: * Describe how	The learner: * Pronounces,	Discussion	Describing how the	Logical thinking	A chart showing	Intro duct

and Mag etisn	n ty using	converts mechanical energy into electrical energy. Structure of a dynamo Generator ⇒ The type of current electricity produced is A.C They change Mechanical energy to electric energy. Uses of dynamos and generators ➤ Provide electricity for light. ➤ Provide energy to run machines. Devices that use both magnets and electricity a) Speakers	the dynamo and a generator work. * States the energy change in the dynamo and a generator.	spells, reads, writes and demonstrates knowledge of the meaning of words related to a dynamo and generator. * Reads, writes and internalizes texts and questions related to a generator and dynamo.	Demonstr ation. Observati on Discovery method.	dynamo and a generator work. Stating the energy change in the dynamo and a generator.	Responsibility Appreciation Care Effective communication	parts of an dynamo. A generato r from the school environm ent.	ion to Biolo gy New foun t. Sci. pbk 7. Mk int. Sci pbk 7
\ \E :1	THE ENVIRO	b) Electric bells							
		OURCES IN THE ENVIRONME	ENT						
Ener		Energy Resources in	The learner:	The learner:	Discussion	Defining	Logical	The	Intro
У	Resourc		* Defines energy	* Pronounces,		energy	thinking	environm	duct
reso		⇒ An Energy resource is	resources in the	spells, reads,	Demonstr	resources in		ent	ion
cesi	in the Environ	anything that provides people with	environment. * Mentions the	writes and demonstrates	ation.	the	Responsibili		to

		enviro	ment	useful energy.	types of energy	knowledge of the	Observati	t.			gy
		nment		Types of energy	resources in the	meaning of words	on		Appreciati		New
				resources	environment.	related to energy		Mentioning	on		foun
				1. Renewable energy	* States the	resources in the	Discovery	the types of			t.
				resources	importance of	environment.	method.	energy	Care		Sci.
				2. Non energy	the sun as an	* Reads, writes and		resources in			pbk
				renewable resources.	energy resource	internalizes texts		the	Effective		7.
				The sun as major	in the	and questions		environmen	communic		
				source of energy in the	environment.	related to energy		t.	ation		
				environment		resources in the					Mk
				\Rightarrow The sun is the main		environment.		Stating the			int.
				source of heat and				importance			Sci
				light as forms of				of the sun			pbk
				energy on earth				as an			7
				Importance of the sun				energy			
				to people and				resource in			
				environment				the			
				\Rightarrow The sun helps in rain				environmen			
				formation.				†.			
7	2	Energ	Water	Water as an Energy	The learner:	The learner:	Discussion	Describing	Logical	The	Intro
		У	as an	resource	* States the	* Pronounces,		how the	thinking	environm	duct
		resour	Energy	⇒ Fast running water	importance of	spells, reads,	Demonstr	dynamo		ent.	ion
		ces in	resourc	at a fall turns	water and an	writes and	ation.	and a	Responsibili		to
		the	e:	turbines to produce	energy resource	demonstrates		generator	ty	Chalkbo	Biolo
		enviro		Hydro Electricity	in the	knowledge of the	Observati	work.		ard	gy
		nment		Power.	environment.	meaning of words	on		Appreciati	illustration	New
				⇒ Used to cool	* Describes how	related to water	5.	Stating the	on		foun
				machines in	HEP is produced	as an energy	Discovery	energy .			t.
				industries.		resource in the	method.	change in	Care		Sci.
				Hydroelectricity and its		environment		the	E.C		pbk
				production		* Reads, writes and		dynamo	Effective		7.
				⇒ It is the form of		internalizes texts		and a	communic		
				electricity		and questions		generator.	ation		

				produced by the		related to the					Mk
				power of running		water as an					int.
				water at a fall.		energy resource					Sci
				⇒ When waterfalls at		in the					pbk
				a greater height,		environment.					7
				potential energy is							
				changed to kinetic							
				energy.							
				⇒ Kinetic energy turns							
				the turbines							
				connected to a							
				generator with							
				powerful magnetic							
				field and a coil of							
				wire turning it.							
7	3	Energ	Fossil	Fossil fuels (coal,	The learner:	The learner:	Discussion	Defining	Logical	The	Intro
		у	fuels	petroleum, Uranium) as	Defines fossils.	Pronounces,		fossils.	thinking	environm	duct
		resour		energy resources.	* Mentions	spells, reads,	Demonstr			ent	ion
		ces in		⇒ Fossils are preserved	examples of	writes and	ation.	Mentioning	Responsibili		to
		the		remains of ancient	fossils.	demonstrates		examples of	ty		Biolo
		enviro		organisms.	* States the	knowledge of the	Observati	fossils.			gy
		nment		Examples of fossils	importance of	meaning of words	on		Appreciati		New
				⇒ Coal	fossils as	related to water		Stating the	on		foun
				⇒ Petroleum	resources in the	as an energy	Discovery	importance			t.
				⇒ Natural gas	environment.	resource in the	method.	of fossils as	Care		Sci.
				Importance of	* Describes how	environment		resources in			pbk
				petroleum products	geothermal	* Reads, writes and		the	Effective		7.
				and coal as fossil fuels.	energy is	internalizes texts		environmen	communic		
				Coal is burnt to	produced.	and questions		†.	ation		
				produce thermal		related to the					Mk
				electricity		water as an		Describing			int.
l I I				Other products from		energy resource	1	l how	1	I	
				petroleum		in the		geothermal			Sci pbk

		 Plastics, polythene paper, tar, dye, detergents, Vaseline, mattresses, grease, paint, fertilizers, etc Geothermal energy It is got from hot springs// thermal springs where steam is trapped to turn turbines to produce electricity. 		environment.		energy is produced.			7
7 4	Energ y resour ces in the enviro nment	Animals as energy resources ⇒ Animals like oxen are used to plough land. ⇒ Some animals like the donkeys are used for transport. ⇒ Some animals are used as source of food. ⇒ Some animals like oxen and ass are used to pull carts.	* States the importance of animals as resources in the environment.	The learner: * Pronounces, spells, reads, writes and demonstrates knowledge of the meaning of words related to animals as energy resources in the environment. * Reads, writes and internalizes texts and questions related to animals as energy resources in the environments.	Discussion Demonstration. Observation Discovery method.	Stating the importance of animals as resources in the environmen t.	Logical thinking Responsibility Appreciation Care Effective communic ation	The environm ent.	Intro duct ion to Biolo gy New foun t. Sci. pbk 7. Mk int. Sci pbk 7

7	5	Energ	Plants	Plants as energy	The learner:	The learner:	Discussion	Stating the	Logical	The	Intro
		У	as	resources	* States the	* Pronounces,		importance	thinking	environm	duct
		resour	energy	a) People eat various	importance of	spells, reads,	Demonstr	of plants as		ent	ion
		ces In	resourc	parts of plants such	plants as	writes and	ation.	resources in	Responsibili		to
		the	es	as seeds, fruits,	resources in the	demonstrates		the	ty		Biolo
		Enviro		leaves, roots etc.	environment.	knowledge of the	Observati	environmen			gy
		nment		b) When eaten; food		meaning of words	on	t.	Appreciati		New
				releases nutrients		related to plants			on		foun
				that support our		as energy	Discovery				t.
				bodies in various		resources in the	method.		Care		Sci.
				ways including		environment.					pbk
				production of		* Reads, writes and			Effective		7.
				energy.		internalizes texts			communic		
				\Rightarrow Wood fuels are		and questions			ation		
				firewood and		related to plants					Mk
				charcoal.		as energy					int.
				How charcoal is made		resources in the					Sci
				c) Plant structures can be collected and mixed with water to produce biogas as in animals. How to conserve plant resources		environment.					pbk 7
7	6	Energ	Wind	Wind and plants as	The learner:	The learner:	Discussion	Stating the	Logical	The	Intro
		у	and	energy resources	* States the	* Pronounces,		importance	thinking	environm	duct

		Resou	plants	Uses of wind	importance of	spells, reads,	Demonstr	of wind as		ent	ion
		rces	as an	▶ Used for	wind as an	writes and	ation.	an energy	Responsibi	Cili	to
		In The	energy	winnowing	energy resource	demonstrates	anon.	resource in	lity		Biolo
		Enviro	resourc	Williowing	in the	knowledge of the	Observati	the	l III y		gy
		nment	e		environment.	meaning of words	on	environmen	Appreciati		New
		IIIIIEIII	C		enviionineni.	related to wind as	OH	+	on		foun
							Discovery	1.	OH		10011
						an energy resource in the	method.		Care		Sci.
						environment.	memoa.		Cale		pbk
				gg62115945 www.gograph.com		* Reads, writes and			Effective		DDK
				Wind is Used to sail		internalizes texts			communic		'
				boats		and questions			ation		
				Wind helps in Flying					dilori		Mk
				of hot air balloons		related to plants					int.
				that are used for		as energy resources in the					Sci
				transport.		environment.					
						environmeni.					pbk
	-		Diogra								/
- ×				Ringgs production	The learner	The learner	Discussion	Describing	Logical	The	Intro
8	1		Biogas product	Biogas production It is methane that is	The learner: * Describes the	The learner: * Propounces	Discussion	Describing the steps	Logical thinking	The	Intro
8	•		product	\Rightarrow It is methane that is	* Describes the	* Pronounces,		the steps	Logical thinking	environm	duct
8	1		•	⇒ It is methane that is produced from the	Describes the steps involved	* Pronounces, spells, reads,	Demonstr	the steps involved	thinking	_	duct ion
8	1		product	⇒ It is methane that is produced from the rotting organic	 Describes the steps involved when making 	Pronounces, spells, reads, writes and		the steps involved when	thinking Responsibi	environm ent	duct ion to
8	1		product	⇒ It is methane that is produced from the rotting organic matter.	 Describes the steps involved when making biogas 	 Pronounces, spells, reads, writes and demonstrates 	Demonstr ation.	the steps involved when making	thinking	environm ent Structure	duct ion to Biolo
8	•		product	 ⇒ It is methane that is produced from the rotting organic matter. ⇒ The waste plant 	 Describes the steps involved when making biogas Describes the 	 Pronounces, spells, reads, writes and demonstrates knowledge of the 	Demonstr ation. Observati	the steps involved when	thinking Responsibi lity	environm ent Structure of a	duct ion to Biolo gy
8	•		product	 ⇒ It is methane that is produced from the rotting organic matter. ⇒ The waste plant materials. 	 Describes the steps involved when making biogas Describes the structure of a 	* Pronounces, spells, reads, writes and demonstrates knowledge of the meaning of words	Demonstr ation.	the steps involved when making biogas	thinking Responsibi lity Appreciati	environm ent Structure of a biogas	duct ion to Biolo gy New
8	•		product	 ⇒ It is methane that is produced from the rotting organic matter. ⇒ The waste plant materials. 1. Cow dung. 	 Describes the steps involved when making biogas Describes the structure of a biogas digester. 	* Pronounces, spells, reads, writes and demonstrates knowledge of the meaning of words related to biogas	Demonstr ation. Observati on	the steps involved when making biogas Describing	thinking Responsibi lity	environm ent Structure of a	duct ion to Biolo gy
8			product	 ⇒ It is methane that is produced from the rotting organic matter. ⇒ The waste plant materials. 1. Cow dung. 2. Plant materials. 	 Describes the steps involved when making biogas Describes the structure of a biogas digester. States the uses 	* Pronounces, spells, reads, writes and demonstrates knowledge of the meaning of words related to biogas production.	Demonstr ation. Observati on Discovery	the steps involved when making biogas Describing the	thinking Responsibi lity Appreciati on	environm ent Structure of a biogas	duct ion to Biolo gy New foun t.
8			product	 ⇒ It is methane that is produced from the rotting organic matter. ⇒ The waste plant materials. 1. Cow dung. 2. Plant materials. 3. Animal urine. 	 Describes the steps involved when making biogas Describes the structure of a biogas digester. 	* Pronounces, spells, reads, writes and demonstrates knowledge of the meaning of words related to biogas production.	Demonstr ation. Observati on	the steps involved when making biogas Describing the structure of	thinking Responsibi lity Appreciati	environm ent Structure of a biogas	duct ion to Biolo gy New foun t. Sci.
8			product	 ⇒ It is methane that is produced from the rotting organic matter. ⇒ The waste plant materials. 1. Cow dung. 2. Plant materials. 3. Animal urine. Steps of making biogas 	 Describes the steps involved when making biogas Describes the structure of a biogas digester. States the uses 	* Pronounces, spells, reads, writes and demonstrates knowledge of the meaning of words related to biogas production. * Reads, writes and internalizes texts	Demonstr ation. Observati on Discovery	the steps involved when making biogas Describing the structure of a biogas	thinking Responsibi lity Appreciati on Care	environm ent Structure of a biogas	duct ion to Biolo gy New foun t. Sci. pbk
8			product	 ⇒ It is methane that is produced from the rotting organic matter. ⇒ The waste plant materials. 1. Cow dung. 2. Plant materials. 3. Animal urine. Steps of making biogas digest 	 Describes the steps involved when making biogas Describes the structure of a biogas digester. States the uses 	* Pronounces, spells, reads, writes and demonstrates knowledge of the meaning of words related to biogas production. * Reads, writes and internalizes texts and questions	Demonstr ation. Observati on Discovery	the steps involved when making biogas Describing the structure of	thinking Responsibi lity Appreciati on Care Effective	environm ent Structure of a biogas	duct ion to Biolo gy New foun t. Sci.
8			product	 ⇒ It is methane that is produced from the rotting organic matter. ⇒ The waste plant materials. 1. Cow dung. 2. Plant materials. 3. Animal urine. Steps of making biogas digest ⇒ The above 	 Describes the steps involved when making biogas Describes the structure of a biogas digester. States the uses 	* Pronounces, spells, reads, writes and demonstrates knowledge of the meaning of words related to biogas production. * Reads, writes and internalizes texts and questions related to biogas	Demonstr ation. Observati on Discovery	the steps involved when making biogas Describing the structure of a biogas digester.	thinking Responsibility Appreciation Care Effective communic	environm ent Structure of a biogas	duct ion to Biolo gy New foun t. Sci. pbk
8			product	 ⇒ It is methane that is produced from the rotting organic matter. ⇒ The waste plant materials. 1. Cow dung. 2. Plant materials. 3. Animal urine. Steps of making biogas digest ⇒ The above materials are put 	 Describes the steps involved when making biogas Describes the structure of a biogas digester. States the uses 	* Pronounces, spells, reads, writes and demonstrates knowledge of the meaning of words related to biogas production. * Reads, writes and internalizes texts and questions	Demonstr ation. Observati on Discovery	the steps involved when making biogas Describing the structure of a biogas digester. Stating the	thinking Responsibi lity Appreciati on Care Effective	environm ent Structure of a biogas	duction to Biolo gy New foun t. Sci. pbk 7.
8			product	 ⇒ It is methane that is produced from the rotting organic matter. ⇒ The waste plant materials. 1. Cow dung. 2. Plant materials. 3. Animal urine. Steps of making biogas digest ⇒ The above 	 Describes the steps involved when making biogas Describes the structure of a biogas digester. States the uses 	* Pronounces, spells, reads, writes and demonstrates knowledge of the meaning of words related to biogas production. * Reads, writes and internalizes texts and questions related to biogas	Demonstr ation. Observati on Discovery	the steps involved when making biogas Describing the structure of a biogas digester.	thinking Responsibility Appreciation Care Effective communic	environm ent Structure of a biogas	duct ion to Biolo gy New foun t. Sci. pbk

			Г	T	т	т	Τ		Τ	T	Τ
		1	1	<u>Biogas digester</u>		1	'		!	1	Sci
		1	1	⇒ Where they are		1	'		'	1	pbk
		1	1	worked on by		1	'	ļ		1	7
		1	1	anaerobic bacteria		1	'	ļ		1	
'		1	1	to ferment and		1	'			1	
'		1	1	biogas is formed.		1				1	
'		1	1	Structure of Biogas		1	'			1	
. '		1		digester							
		1		Uses of the parts.		1					
'		1	1	⇒ Inlet : For inserting in		1	'			1	
'		1	1	plant and animal		1	'			1	
'		1	1	matter.		1	'			1	
		1	1	Uses of biogas		1	'			1	
		1	1	1. For cooking		1	1	,			
		1	1	2. For lighting		1	1	,			
		1		2.101119111119	,	1		ļ			
8	2	Energ	Advant	Advantages of using	The learner:	The learner:	Discussion	Stating the	Logical	The	Intro
'		y	ages of	biogas	* States the	* Pronounces,	1	advantages	thinking	environm	duct
'		Resou	using	1. It is cheaper than	advantages of	spells, reads,	Demonstr	of using		ent	ion
		rces	biogas	using natural gas	using biogas.	writes and	ation.	biogas.	Responsibi		to
		In The	1	2. It does not pollute	* Mentions ways	demonstrates	1	_	lity	Structure	Biolo
		Enviro	1	the environment.	of caring for	knowledge of the	Observati	Mentioning		of a	gy
		nment	1	Caring for and	and conserving	meaning of words	on	ways of	Appreciati	biogas	New
'		1	1	conservation of energy	energy	related to biogas	1	caring for	on	digester.	foun
		1	1	resources	resources	production.	Discovery	and			t.
		1	1	\Rightarrow To conserve means	* States reasons	* Reads, writes and	method.	conserving	Care		Sci.
		1	1	to use the resource	for conservation	internalizes texts	1	energy			pbk
'		1	1	without making it	of energy	and questions	1	resources	Effective		7.
	1 1	1	1	gets finished or go	resources.	related to biogas	1		communic		
		1	1	extinct.		production.	1	Stating	ation		
		1	1	Ways of caring and		1	1	reasons for			Mk
			<u> </u>	conserving energy				conservatio			int.

				resources.				n of energy			Sci
				\Rightarrow Using them				resources.			pbk
				sparingly.							7
				⇒ Using other							
				alternative sources							
				of energy.							
				Reasons why energy							
				resources should be							
				conserved.							
				⇒ To prevent							
				extinction of useful							
				resources.							
THE			TER AND E								
TO	PIC	: SIMP	LE MACHIN	NES							
8	3	Simpl	How	Simple machines	The learner:	The learner:	Discussion	Defining a	Logical	The	Intro
		е	machin	⇒A machine is a	Defines a	* Pronounces,		machine	thinking	scissor	duct
		machi	es	device that simplifies	machine and a	spells, reads,	Demonstr	and a			ion
		nes	simplify	work.	simple machine.	writes and	ation.	simple	Responsibi	Nails	to
			work	⇒ A simple machine is	 Describes how 	demonstrates		machine.	lity		Biolo
				any device that has	machines	knowledge of the	Observati			Screws	gy
				few parts	simplify work.	meaning of words	on	Describing	Appreciati		New
				How do machines	 * States examples 	related to simple		how	on	Stapler	foun
				simplify work?	of simple	machines.	Discovery	machines			t.
				\Rightarrow By changing the	machines	* Reads, writes and	method.	simplify	Care		Sci.
				direction of force.	* Defines	internalizes texts		work.			pbk
				Examples of simple	mechanical	and questions			Effective		7.
				machines	advantage of a	related to simple		Stating	communic		
				Hoe, panga, scissor,	simple machine.	machines.		examples of	ation		
				spanner	* Works out to find			simple			Mk
				Mechanical	mechanical			machines			int.
				advantage (M.A) of	advantage of a			Defining			Sci
				machines	machine.			mechanical			pbk
				⇒ Mechanical				advantage			7

	$\overline{}$					Τ				
	'	1	advantage refers to		1		of a simple			
	'	1	the number of times		1	'	machine.			
	'	1	a machine simplifies		1	!				
	'	1	work.		1	!	Working out			
	'	1	Worked example		1	!	to find			
	'	1	Akello used an effort of		1	!	mechanical			
	'	1	50N to raise a child of		1	!	advantage			
	'	1	200N using a seesaw.	!	1	!	of a			
	'	1	Calculate the M.A. of		1	!	machine.			
	'	1	the seesaw.		1	!				
	'	1	Solution		1	!				
	'	1	Given that Load= 200N		1	!				
	'	1	and Effort =50N,		1	'				
	'	1	$M.A = \frac{Load}{Effort}$		1	!				
	,	1 '	Effort			!				
	,	1 '	$M.A = \frac{-200N}{50N}$!				
	,	1 '	M.A - 50N			!				
		1	M.A = 4			!				
8 4	4 Simpl	Types/c	Types/classes of	The learner:	The learner:	Discussion	Stating the	Logical	Structure	Intro
	e	lasses	simple machines	* States the types	* Pronounces,	!	types of	thinking	of a sea	duct
	machi	of	1. Levers	of simple	spells, reads,	Demonstr	simple		saw	ion
	nes	simple	2. Inclined	machines.	writes and	ation.	machines.	Responsibi		to
	,	machin	planes/slope	Describes a	demonstrates	!		lity		Biolo
	'	es	3. Pulleys.	lever.	knowledge of the	Observati	Describing			gy
	'	1	Levers	* States the parts	meaning of words	on	a lever.	Appreciati		New
		1	\Rightarrow A lever is a stiff rod	of a lever.	related to levers.			on		foun
	'	1	that turns on a fixed		* Reads, writes and	Discovery	States the			t.
	'	1	point called a pivot		internalizes texts	method.	parts of a	Care		Sci.
		1	or fulcrum.		and questions		lever.			pbk
		1	Parts of a lever		related to levers.			Effective		7.
		1	1. Effort			1		communic		
	'	1 '	2. Load					ation		
			3. Fulcrum or Pivot							Mk

				4. Load arm							int.
				5. Effort arm							Sci
											pbk
											7
8	5	Simpl	Classes	Classes of levers	The learner:	The learner:	Discussion	Classifying	Logical	Scissors	Intro
		е	of		* Classifies levers.	* Pronounces,		levers.	thinking		duct
		machi	levers	depending on the	* States the	spells, reads,	Demonstr			Claw	ion
		nes		position of the	classes of levers	writes and	ation.	Stating the	Responsibi	hammer	to
				fulcrum (f), Load (I)	* Describe first	demonstrates		classes of	lity		Biolo
				and effort (E).	class levers with	knowledge of the	Observati	levers.	l		gy
				First class of levers	relevant	meaning of words	on		Appreciati	Pair of	New
				\Rightarrow In first class of	examples.	related to classes		Describing	on	pliers	foun
				levers, the	* Describes	of levers.	Discovery	first class			†.
				fulcrum/pivot is	second class	* Reads, writes and	method.	levers with	Care		Sci.
				between the load	levers with	internalizes texts		relevant	=	Lid	pbk
				and effort e.g.	relevant	and questions		examples.	Effective .	opener	7.
				scissor.	examples.	related to classes			communic		
				Second class of levers		of levers.		Describing	ation	Wheel	
				⇒ Load is between the				second		barrow	Mk
				fulcrum and effort.				class levers			int.
				Examples of second				with		N 14	Sci
				class levers				relevant		Nut	pbk 7
				A wheel barrow and a nut cracker.				examples.		cracker	'
8	6	Simpl	Third	Third class levers	The learner;	The learner:	Discussion	Classifying	Logical	Scissors	Intro
0	0	-	class	⇒ Effort is between	* Describe first	* Pronounces,	DISCUSSION	levers.	thinking	3CISSOIS	duct
		e machi	levers	fulcrum and load.	class levers with	spells, reads,	Demonstr	ieveis.	ITIITIKITIG	Claw	ion
		nes	IEVEI3	\Rightarrow The fulcrum and	relevant	writes and	ation.	Stating the	Responsibi	hammer	to
		1162		the load are on the	examples.	demonstrates	GIIOTI.	classes of	lity	Halline	Biolo
				either side. (FEL)	CAUTIPIES.	knowledge of the	Observati	levers.	''' y	Pair of	gy
				Examples of third class		meaning of words	on	10 v G13.	Appreciati	pliers	New
				lever		related to classes		Describing	on		foun
				Fishing rod		of levers.	Discovery	first class		Lid	
				······································	l .	1 07 10 7 0101			l	: ~	1

			N.B The formula PLE or FLE can help to determine the class of lever		* Reads, writes and internalizes texts and questions related to classes of levers.	method.	levers with relevant examples. Describing second class levers with relevant examples.	Care Effective communic ation	opener Wheel barrow Nut cracker Tongs Pair of tweezers	Sci. pbk 7. Mk int. Sci pbk 7
9 1	Simpl e machi nes	The law of levers	The law of levers/Principle of moments of force 1. The load force multiplied by the load arm is equal to the effort force multiplied by the effort arm. Examples ⇒ A man weighs 60N. He sits 1.5 metres from the fulcrum of the see saw. How far from the fulcrum will the boy of 30N sit in order to balance the seesaw?	* States the law of levers. * Shows a worked example of principles of moments/ laws of lever.	* Pronounces, spells, reads, writes and demonstrates knowledge of the meaning of words related to the laws of levers * Reads, writes and internalizes texts and questions related to the laws of levers	Discussion Demonstration. Observation Discovery method.	Stating the law of levers. Showing a worked example of principles of moments/ laws of lever.	Logical thinking Responsibi lity Appreciati on Care Effective communic ation	A worked out example about principle of moments on a chart.	Intro duct ion to Biolo gy New foun t. Sci. pbk 7. Mk int. Sci pbk 7

9	2	Simpl e machi nes	Incline d plane (slope)	load X load arm = Effort X effort arm 30 X x = 60 X 1.5 30x = 90 30 = 30 x = 3 metre Inclined plane (slope) An inclined plane is a slanting surface. Importance of an	The learner; * Defines an inclined plane. * States the importance of using an inclined plane.	The learner: * Pronounces, spells, reads, writes and demonstrates knowledge of the meaning of words	Discussion Demonstration. Observation	Defining an inclined plane. Stating the importance of using	Logical thinking Responsibi lity	A ladder A wooden wedge A chart	Intro duct ion to Biolo gy New
				inclined plane ⇒ It enables heavy loads to be raised using a lesser effort. Examples of inclined plane	* Outlines the examples of inclined planes.	related to inclined planes. * Reads, writes and internalizes texts and questions related to inclined planes.	Discovery method.	inclined planes. Outlining the examples of inclined planes.	Care Effective communic ation	showing a stair case and woundin g road.	foun t. Sci. pbk 7. Mk int. Sci pbk 7
9	3	Simpl e	Mecha nical	Mechanical Advantage of an	The learner; * Calculates to	The learner: * Pronounces,	Discussion	Calculating to	Logical thinking	A ladder	Intro duct
		machi	Advant	inclined plane	determine the	spells, reads,	Demonstr	determine	i ii ii ikii ig	A worked	ion
		nes	age of	Mechanical	mechanical	writes and	ation.	the	Responsibi	out	to
			an	Advantage is the ratio	advantages of	demonstrates		mechanical	lity	example	Biolo
			inclined	of the load to effort.	an inclined	knowledge of the	Observati	advantages	A	about	gy
			plane	i.e. M.A = Load/effort.	plane.	meaning of words related to inclined	on	of an inclined	Appreciati	M.A of	New
				Example ; John used a slope to		planes.	Discovery	plane.	on	an inclined	foun t
				201111 0360 0 310PG 10		Pidi ies.	DISCOVERY	piane.		ii iCiii iCu	1.

				raise a load of 600N from the ground to the higher level as shown below.		* Reads, writes and internalizes texts and questions related to inclined planes.	method.		Care Effective communic ation	plane.	Sci. pbk 7. Mk int. Sci pbk 7
9	4	Simpl e machi nes	Wedge	Wedges ⇒ A wedge is a cutting tool. It is double inclined plane/slope. Examples of wedges Panga, hoe, axe Importance of wedges ⇒ Wedges like antler or wood wedge help in splitting of firewood by making the work easy. ⇒ Wedges like hoes help us in digging ⇒ Wedges like panga help us in cutting objects ⇒ Wedges like razor blades help us in cutting hair short to keep body hygiene	The learner; * Defines a wedge. * States the examples of wedges. * States the importance of wedges.	The learner: * Pronounces, spells, reads, writes and demonstrates knowledge of the meaning of words related to wedges * Reads, writes and internalizes texts and questions related to wedges.	Discussion Demonstration. Observation Discovery method.	Defining a wedge. Stating the examples of wedges. Stating the importance of wedges.	Logical thinking Responsibi lity Appreciati on Care Effective communic ation	Panga Hoe An axe Wooden wedge	Intro duct ion to Biolo gy New foun t. Sci. pbk 7. Mk int. Sci pbk 7

9	5	Simpl	Screws	Screws	The learner;	The learner:	Discussion	Defining a	Logical	Spiral	Intro
		e		⇒ Screws are	* Defines a screw	* Pronounces,		screw.	thinking	stair case	duct
		machi		inclined planes	* States the	spells, reads,	Demonstr		Ü		ion
		nes		wound around a	examples of	writes and	ation.	Stating the	Responsibi	Car jerk	to
				rod.	screws	demonstrates		examples of	lity	,	Biolo
				Diagram showing a	* States the	knowledge of the	Observati	screws.	,	Screw	gy
				screw	importance of	meaning of words	on		Appreciati	driver	New
					screws	related to screws		Stating the	on		foun
						* Reads, writes and	Discovery	importance		Nuts.	t.
						internalizes texts	method.	of screws.	Care		Sci.
						and questions					pbk
						related to screws			Effective		7.
				C. S.					communic		
				Uses of screws					ation		
				⇒ Lifting very heavy							Mk
				things e.g. screw							int.
				jack.							Sci
				Examples of screws							pbk
				Spiral stair case							7
				Car jerk							
				Screw driver							
	,	6	14/1 I .	Nuts.	T 1 1	TI. 1	5:	D . C	1	.1	1.1
9	6	Simpl	Wheels	Wheels and axles	The learner;	The learner:	Discussion	Defining	Logical	door	Intro
		e	and	An axle is a rod passed	* Defines wheels	* Pronounces,	Domonstr	wheels and	thinking	handle/	duct
		machi	axles	through a wheel. The wheel rotates on	and axles	spells, reads, writes and	Demonstr ation.	axles	Doop opsiloi	knob	ion to
		nes		an axle.	 * States the	demonstrates	dilon.	Stating the	Responsibi	biovolo	Biolo
				wheels and axles	examples of		Observati	examples of	lity	bicycle handle	
					wheels and	knowledge of the meaning of		wheels and	Approciati	nanale	gy New
				- car steering wheel - door handle/ knob	axles	words related to	on	axles	Appreciati on	Α	foun
				- bicycle handle	UNICS	wheels and axles	Discovery	UNICS	011	windlass	†.
				- A windlass	 * States the	WITEEIS UTIO UXIES	method.	Stating the	Care	WIII IGIGSS	Sci.
				Uses of wheels and	importance of	* Reads, writes and	memoa.	importance	Care	A brace	pbk
				JUST OF WINGERS WING		Rodds, Willos dild	1		<u> </u>	, A DIGCO	POR

			axles ⇒ Drawing water from underground tanks using windlass/winch.	wheels and axles	internalizes texts and questions related to wheels and axles		of wheels and axles	Effective communic ation		7. Mk int. Sci pbk 7
10	Simpl e machi nes	Gearw heels and convey or belts	Gearwheels and conveyor belts ⇒ A gearwheel is a special form of the wheel ⇒ It has teeth around its edge. 30 teeth ⇒ If A has 30teeth and B has 15 teeth, how many rotations does B make in one revolution? 30divided by 15 = 2 turns. Conveyor belts. ⇒ Conveyor belts are used in industries to move things easily	The learner; * Defines gearwheels and conveyor belts * States the examples of gearwheels and conveyor belts * States the importance of gearwheels and conveyor belts	The learner: * Pronounces, spells, reads, writes and demonstrates knowledge of the meaning of words related to gearwheels and conveyor belts * Reads, writes and internalizes texts and questions related to gearwheels and conveyor belts	Discussion Demonstration. Observation Discovery method.	Defining gearwheels and conveyor belts Stating the examples of gearwheels and conveyor belts Stating the importance of gearwheels and conveyor belts	Logical thinking Responsibility Appreciation Care Effective communic ation	A chart showing gearwhe els and conveyor belt chains.	Intro duct ion to Biolo gy New foun t. Sci. pbk 7. Mk int. Sci pbk 7

				from one place to							
				another.							
10	2	Simpl	Simple	Pulleys	The learner;	The learner:	Discussion	Defining a	Logical	A chart	Intro
		е	machin	\Rightarrow A pulley is a wheel	Defines a pulley	Pronounces,		pulley	thinking	showing	duct
		machi	es	with grooved rim that		spells, reads,	Demonstr			a single	ion
		nes		rotates freely about	* States the parts	writes and	ation.	Stating the	Responsibi	fixed	to
				an axle through a	of a pulley.	demonstrates		parts of a	lity	pulley	Biolo
				Centre.		knowledge of	Observati	pulley.			gy
				Parts of a pulley	* Mentions the	the meaning of	on		Appreciati		New
				- The grooved rim	types of pulleys.	words related to	· .	Mentioning	on		foun
				- The string the pulley	* Describes the	wheels and axles	Discovery	the types of	Causa		T.
				holder	* Describes the	* Događa vyritas avad	method.	pulleys.	Care		Sci.
				Types of pulleys	single fixed	* Reads, writes and internalizes texts		Describing	Effective		pbk 7.
				 Single fixed pulley Single movable 	pulley.	and questions		the single	communic		'
				pulley.		related to wheels		fixed pulley.	ation		
				3. Block and Tackle		and axles		lixed policy.	anon		Mk
				system.		aria axics					int.
				Single fixed pulley.							Sci
				⇒ The effort applied is							pbk
				equal to the load.							7
10	3	Simpl	Simple	Single movable pulley	The learner;	The learner:	Discussion	Describing	Logical	A chart	Intro
		e	machin	\Rightarrow It is supported on	* Describes the	Pronounces,		the single	thinking	showing	duct
		machi	es	two ropes.	single movable	spells, reads,	Demonstr	movable	_	a single	ion
		nes		\Rightarrow The M.A	pulleys pulley.	writes and	ation.	pulleys	Responsibi	movable	to
				advantage of	* States the M.A	demonstrates		pulley.	lity	pulley	Biolo
				single movable	advantages of	knowledge of the	Observati				gy
				pulley is 2 (two)	a single	meaning of words	on	Stating the	Appreciati		New
				Effort applied is half	movable pulley.	related to single		M.A	on		foun
				the load force. (It	* Calculates to	movable pulleys	Discovery	advantages			t.
				reduces the effort	find the M.A of	* Reads, writes and	method.	of a single	Care		Sci.
				needed)	a single	internalizes texts		movable			pbk
				Structure	movable pulley.	and questions		pulley.	Effective		7.

10	4	Simpl	Block	Block and tackle	The learner;	related to single movable pulleys. The learner:	Discussion	Calculating to find the M.A of a single movable pulley. Describing	communic ation	A chart	Mk int. Sci pbk 7
		e machi nes	and tackle system	system ⇒ It does work more easily because it is a combination of both fixed and movable pulleys. How it works ⇒ It changes direction of force. Uses of pulleys in daily life ⇒ They help in lifting objects from the lower level to higher level. ⇒ They help in lifting heavy loads during building. ⇒ They help in offloading heavy vehicles.	* Describes a block and tackle pulley system. * States how the block and tackle pulley system works. * Mentions the uses of pulleys in our lives.	Pronounces, spells, reads, writes and demonstrates knowledge of the meaning of words related to block and tackle pulley system. * Reads, writes and internalizes texts and questions related to block and tackle pulley system.	Demonstration. Observation Discovery method.	the block and tackle pulley system. Stating the M.A advantages of a block and tackle pulley system. Mentioning the examples of block and tackle pulley system.	thinking Responsibi lity Appreciati on Care Effective communic ation	showing a block and tackle pulley system.	duct ion to Biolo gy New foun t. Sci. pbk 7. Mk int. Sci pbk 7
10	5	Simpl	Friction	Friction	The learner;	The learner:	Discussion	Defining	Logical	Shoes	Intro
		e machi		⇒ Friction is the force that opposes	* Defines friction. * Describes the	* Pronounces, spells, reads,	Demonstr	friction.	thinking		duct ion

	nes		movement between two surfaces in contact. Types of friction 1. Static friction 2. Sliding or rolling friction 3. Viscosity friction Properties of friction ⇒ There is more friction with rough surfaces than with smooth or slippery	types of friction. * States the properties of friction. * States the importance of friction as useful force.	writes and demonstrates knowledge of the meaning of words related to friction. * Reads, writes and internalizes texts and questions related to friction.	ation. Observation Discovery method.	Describing the types of friction. Stating the properties of friction. Stating the importance of friction as useful force.	Responsibi lity Appreciati on Care Effective communic ation	Car tyres Sports books rollers	to Biolo gy New foun t. Sci. pbk 7.
			•							7.
			surfaces than with		•		of friction as	ation		
			Friction as a useful							pbk
			force ⇒ It helps in moving							
			and stopping vehicles.							
			⇒ It helps when writing							
10 6	Simpl	Friction	Friction as a nuisance	The learner;	The learner:	Discussion	Describing	Logical	Shoes	Intro
	е	as a	force.	* Describes the	Pronounces,		the effects	thinking		duct
	machi	nuisanc	\Rightarrow It wears away	effects of friction	spells, reads,	Demonstr	of friction as			ion
	nes	e force.	things e.g. shoe	as a nuisance	writes and	ation.	a nuisance	Responsibi	Car tyres	to
			soles, parts of	force.	demonstrates		force.	lity	C	Biolo
			engines.	* States the ways	knowledge of	Observati	Ctating the	A mara ais:±:	Sports	gy
			How to increase friction	of increasing and reducing	the meaning of words related to	on	Stating the ways of	Appreciati	books	New foun
			⇒ Making smooth	friction al force	friction.	Discovery	increasing	on	rollers	100n
			surfaces rough.	on surfaces.	* Reads, writes	method.	and	Care	1011613	Sci.
			How friction can be	on sonaces.	and internalizes	THOMAS	reducing	Caro	grease	pbk
			reduced		texts and		friction.	Effective	J. 5 5 5 5	7.

				1. Using rollers		questions related			communic			
				2. Using ball bearings		to friction.			ation		Mk	
											int. Sci	
											pbk	
											7	
THE	ME	: HUM	AN BODY				l			<u> </u>	<u> </u>	
			ETORY SYS	TEM								
11	1	Excret	Excreto	Excretory system	The learner;	The learner:	Discussion	Defining the	Logical	A chart	Introd	
		ory	ry	⇒ Excretory system is a	* Defines the	Pronounces,		excretory	thinking	showing	uction	
		syste	system	group of organs that	excretory	spells, reads,	Demonstr	system.		major	to	
		m		removes metabolic	system.	writes and	ation.	Stating the	Responsibi	excretory	Biolog	
				wastes from the	* States the	demonstrates		importance	lity	organs of	У	
				body. Importance of the	importance of	knowledge of	Observati	of the excretory	Appropiati	the body.	New fount.	
				excretion	the excretory system.	the meaning of words related to	on	system.	Appreciati on		Sci.	
				⇒ Excretion helps to	* Identifies the	excretory system.	Discovery	System.	OH		pbk 7.	
				maintain constant	excretory	* Reads, writes	method.	Identifying	Care		pok 7.	
				internal	organs and their	and internalizes		the			Mk	
				environment of the	waste products	texts and		excretory	Effective		int. Sci	
				body of an	secreted from	questions related		organs and	communic		pbk 7	
				organism	the body.	to the excretory		their waste	ation			
				Excretory products		system.		products				
				from the body				secreted				
				urine, faeces, uric acid				from the				
				Note: Urea, inactive				body.				
				hormones, excess salts								
				and water are waste								
				products in Urine.								
				Water and salts are								
				waste products in								
				sweat.								

11	2	Excret	The	The human skin	The learner;	The learner:	Discussion	Describing	Logical	A chart	Introd	
		ory	human	\Rightarrow The skin is the	* Describes the	Pronounces,		the human	thinking	showing	uction	
		syste	skin	largest organ of the	human skin	spells, reads,	Demonstr	skin		the	to	
		m		body.	* States the	writes and	ation.		Responsibi	structure	Biolog	
				⇒ It covers most part	functions of the	demonstrates		Stating the	lity	of the	У	
				of the body.	human skin.	knowledge of	Observati	functions of		human	New	
				Function of human	* States how the	the meaning of	on	the human	Appreciati	skn.	fount.	
				skin.	skin controls	words related to		skin.	on		Sci.	
				⇒ Excretes salts, water	body	the human skin.	Discovery	Stating			pbk 7.	
				and urea (sweat).	temperature.	* Reads, writes	method.	how the skin	Care			
				\Rightarrow Stores fat for		and internalizes		controls			Mk	
				keeping the body		texts and		body	Effective		int. Sci	
				warm.		questions related		temperatur	communic		pbk 7	
				Regulation of body		to the human		e.	ation			
				temperature		skin.						
				\Rightarrow When it is hot, the								
				skin regulates the								
				body temperature								
				through Sweat.								
11	3	Excret	Structur	Structure of the human	The learner;	The learner:	Discussion	Describing	Logical	A chart	Introd	
		ory .	e of the	skin	* Describes	* Pronounces,		structure	thinking	showing	uction	
		syste	human		structure the	spells, reads,	Demonstr	the human		the	to	
		m	skin	⇒ the human skin is	human skin	writes and	ation.	skin	Responsibi	structure	Biolog	
				made up of two	* Draws, label	demonstrates		Drawing,	lity	of the	У	
				main layers;	and describes	knowledge of	Observati	labeling	A	human	Nimm	
				a) The epidermis	parts of the	the meaning of	on	and	Appreciati	skin.	New	
				b) The dermis	human skin.	words related to	Diagona	describing	on		fount.	
				Structure of the human		the human skin.	Discovery	parts of the	Causa		Sci.	
				skin		* Reads, writes	method.	human skin.	Care		pbk 7.	
				The enidermic		and internalizes texts and		Stating the	Effective		Mk	
				The epidermis ⇒ It is the outer layer		questions related		Stating the functions of	communic		int. Sci	
				⇒ It is the outer layer made of three sub		to the human		parts of the	ation		pbk 7	
				made of friee sub		TO THE HUTTIGH		I paris or the	ulion		hnk /	<u> </u>

				layers.		skin.		human skin.				
				a) Cornified layer								
				b) Granular layer								
				c) Malpighian layer								
				<u>Dermis</u>								
				\Rightarrow It is the inner layer								
				of the skin.								
				Parts of the dermis								
				Capillaries								
				Sweat glands								
11	4	Excret	Functio	Functions of parts of	The learner;	The learner:	Discussion	Stating the	Logical	A chart	Introd	
		ory	ns of	the human skin	* States the	* Pronounces,		functions of	thinking	showing	uction	
		syste	parts of		functions of	spells, reads,	Demonstr	parts of the		the	to	
		m	the	Hair	parts of the	writes and	ation.	human skin.	Responsibi	structure	Biolog	
			human	\Rightarrow The hair is helps to	human skin.	demonstrates			lity	of the	У	
			skin	keep the body		knowledge of	Observati			human		
				warm.		the meaning of	on		Appreciati	skin.	New	
				Sweat glands		words related to			on		fount.	
				\Rightarrow They produce and		the human skin.	Discovery				Sci.	
				store sweat.		* Reads, writes	method.		Care		pbk 7.	
				Pore		and internalizes			-cc			
				\Rightarrow It lets sweat out of		texts and			Effective .		Mk	
				the body.		questions related			communic		int. Sci	
				Capillaries		to the human			ation		pbk 7	
				⇒ Capillaries transport		skin.						
				food and oxygen to								
				all parts of the skin.								
				Sebaceous glands								
				⇒ Produce an oily								
				substance called								
				sebum.								
				Erector muscle								
				\Rightarrow It keeps the hair				1			1	

11	5	Excret ory syste m	Disease s of the human skin	standing. Nerves ⇒ Conduct sensations of pain and touch. Subcutaneous fat ⇒ It contains fat cells where fat is stored. Diseases of the human skin ⇒ Scabies- caused by itch mites. ⇒ Athlete's foot-	The learner; * Discusses the diseases of the human skin. * Describes the	The learner: * Pronounces, spells, reads, writes and demonstrates	Discussion Demonstration.	Discussing the diseases of the human skin.	Logical thinking Responsibi lity	A chart showing the structure of the	Introd uction to Biolog y	
				caused by fungus. ⇒ Dhobi itch- caused by fungus ⇒ Leprosy- Caused by bacteria. ⇒ Impetigo- Caused by bacteria ⇒ Boils- Caused by bacteria. ⇒ Skin cancer- using strong chemicals on the skin. ⇒ Chicken pox-caused by a virus. Disorders of the human skin ❖ Albinism: Lack of colour in the skin. ❖ Burns.	disorders of the human skin.	knowledge of the meaning of words related to the human skin. * Reads, writes and internalizes texts and questions related to the human skin.	Observation Discovery method.	Describing the disorders of the human skin	Appreciation Care Effective communic ation	human skin.	New fount. Sci. pbk 7. Mk int. Sci pbk 7	
11	0	Excret	Ways of	Ways of Caring for the	The learner;	The learner:	Discussion	Stating	Logical	A chart	Introd	
		ory	Caring	human skin	* States ways of	* Pronounces,		ways of	thinking	showing	uction	

		syste m	for the human skin	 ⇒ Wash the body with clean warm water and soap. ⇒ This helps to reduce on body odour and remove germs form the skin. ⇒ Smear the body with Vaseline to make it soft. 	caring for the human skin. * States the importance of physical exercises to the body.	spells, reads, writes and demonstrates knowledge of the meaning of words related to the human skin. * Reads, writes and internalizes texts and questions related to the human skin.	Demonstr ation. Observati on Discovery method.	caring for the human skin. Stating the importance of physical exercises to the body.	Responsibi lity Appreciati on Care Effective communic ation	the structure of the human skin.	to Biolog y New fount. Sci. pbk 7. Mk int. Sci pbk 7	
12	1	Excret ory syste m	The urinary system	The urinary system ⇒ The urinary system is made of organs that produce and remove urine from the body. Major organs of the urinary system • The kidneys • Urinary bladder Structure of the urinary system	The learner; * Describes the urinary system * Identifies the major organs of the urinary system. * Draws and labels major organs of the urinary system.	* Pronounces, spells, reads, writes and demonstrates knowledge of the meaning of words related to the urinary system. * Reads, writes and internalizes texts and questions related to the urinary system.	Discussion Demonstration. Observation Discovery method.	Describing the urinary system Identifying the major organs of the urinary system. Draws and labels major organs of the urinary system.	Logical thinking Responsibility Appreciation Care Effective communic ation	A chart showing the structure of the urinary system.	Introd uction to Biolog y New fount. Sci. pbk 7. Mk int. Sci pbk 7	
12	2	Excret ory syste m	Kidneys	Kidneys ⇒They remove nitrogenous	The learner; * Describes the structure of the kidneys.	The learner: * Pronounces, spells, reads, writes and	Discussion Demonstr ation.	Describing the structure of the kidneys.	Logical thinking Responsibi	A chart showing the structure	Introd uction to Biolog	

			compounds from the body. Structure of the kidney Functions of the parts of the kidney * Kidney wall: It protects the internal parts of the kidney. * Cortex: For filtration of blood.	* Draws and labels parts of kidneys. * States the functions of parts of the kidneys.	demonstrates knowledge of the meaning of words related to the structures of the kidneys * Reads, writes and internalizes texts and questions related to the structure of the kidneys.	Observati on Discovery method.	Drawing and labels parts of kidneys. Stating the functions of parts of the kidneys.	Appreciation Care Effective communic ation	of the kidneys	y New fount. Sci. pbk 7. Mk int. Sci pbk 7	
12 3	S Excret ory syste m	and disease s of the kidneys	Functions of the kidney ⇒ Filters blood ⇒ They regulate the level of water, sugars and salts in the body. Good habits for the care of the kidney ⇒ By doing regular physical exercises ⇒ Avoid holding back urine for a long time. Diseases of the kidney and the urinary system ⇒ Kidney stones ⇒ Kidney failure ⇒ Bilharziasis ⇒ Nephritis: this is an inflammation of the kidney	The learner; * States the functions of parts of the kidneys. * Identifies the good habits for the care of the kidneys. * States the diseases of the kidneys.	* Pronounces, spells, reads, writes and demonstrates knowledge of the meaning of words related to the care of the kidneys * Reads, writes and internalizes texts and questions related to the care of the kidneys.	Discussion Demonstration. Observation Discovery method.	Stating the functions of parts of the kidneys. Identifying the good habits for the care of the kidneys. Stating the diseases of the kidneys.	Logical thinking Responsibi lity Appreciati on Care Effective communic ation	A chart showing the structure of the kidneys	Introd uction to Biolog y New fount. Sci. pbk 7. Mk int. Sci pbk 7	

12	4	Excret	The	Structure of the human	The learner;	The learner:	Discussion	Describing	Logical	A chart	Introd	
		ory	lungs as	lungs	* Describes the	* Pronounces,	2.00000.0	the	thinking	showing	uction	
		syste	excreto		structure of the	spells, reads,	Demonstr	structure of		the	to	
		m	ry	The lungs as excretory	lungs.	writes and	ation.	the lungs.	Responsibi	structure	Biolog	
			organs	organs	* States the	demonstrates		i i i i i i i i i i i i i i i i i i i	lity	of lungs	V	
				✓ The Lungs remove	functions of the	knowledge of	Observati	Stating the	,		,	
				carbon dioxide	lungs as	the meaning of	on	functions of	Appreciati		New	
				and water from the	excretory	words related to	Discovery	the lungs as	on		fount.	
				body.	organs.	the lungs as	method.	excretory			Sci.	
				✓ Lungs are both		excretory organs.		organs.	Care		pbk 7.	
				excretory and		* Reads, writes						
				respiratory organs.		and internalizes			Effective		Mk	
				. , ,		texts and			communic		int. Sci	
						questions related			ation		pbk 7	
						to the lungs as						
						excretory organs.						
12	5	Excret	Disease	Diseases of the lungs	The learner;	The learner:	Discussion	Identifying	Logical	A chart	Introd	
		ory	s and	- Tuberculosis	* Identifies the	Pronounces,		the diseases	thinking	showing	uction	
		syste	disorder	- Diphtheria	diseases of the	spells, reads,	Demonstr	of the lungs.		the	to	
		m	s of the	•	lungs.	writes and	ation.		Responsibi	structure	Biolog	
			lungs of	- Pertussis		demonstrates		Stating the	lity	of the	У	
			lungs	- Sinusitis	* States the	knowledge of	Observati	causes,		human		
					causes, signs	the meaning of	on	signs and	Appreciati	lungs	New	
				- Asthma	and symptoms	words related to	Discovery	symptoms	on	infected	fount.	
				- Bronchitis	of the diseases	the diseases of	method.	of the	_	with	Sci.	
				516116111116	of the lungs.	the lungs as		diseases of	Care	bronchitis	pbk 7.	
						excretory organs.		the lungs		and lung		
					* States ways of	* Reads, writes			Effective .	cancer.	Mk	
					controlling and	and internalizes		Stating	communic		int. Sci	
					preventing	texts and		ways of	ation		pbk 7	
					diseases of the	questions related		controlling				
					lungs.	to the diseases of		and				
						the lungs as		preventing				

						excretory organs		diseases of				
								the lungs.				<u> </u>
12	6	Excret	Disorde	Disorders of the lungs	The learner;	The learner:	Discussion	Identifying	Logical	A chart	Introd	
		ory	rs and	⇒ Choking	* Identifies the	* Pronounces,		the diseases	thinking	showing	uction	
		syste	care of	⇒ Yawning	disorders of the	spells, reads,	Demonstr	of the lungs.		the	to	
		m	the	\Rightarrow Nasal congestion	lungs.	writes and	ation.		Responsibi	structure	Biolog	
			lungs	⇒ Allergic sinusitis		demonstrates		Stating the	lity	of the	У	
				Ways of caring lungs	* Caring for the	knowledge of	Observati	causes,		human		
				for the	lungs.	the meaning of	on	signs and	Appreciati	lungs	New	
				⇒ Doing regular		words related to	Discovery	symptoms	on	infected	fount.	
				physical exercises.		the care of the	method.	of the		with	Sci.	
				\Rightarrow Having meals rich in		lungs as		diseases of	Care	bronchitis	pbk 7.	
				a balanced diet.		excretory organs.		the lungs		and lung		
				⇒ Going for regular		* Reads, writes			Effective	cancer.	Mk	
				medical checkup.		and internalizes		Stating	communic		int. Sci	
						texts and		ways of	ation		pbk 7	
						questions related		controlling				
						to the care of		and				
						the lungs as		preventing				
						excretory organs		diseases of				
								the lungs.				
13	1	Excret	Liver	Liver	The learner;	The learner:	Discussion	Describing	Logical	A chart	Introd	
		ory		\Rightarrow It is the largest	* Describes the	* Pronounces,		the	thinking	showing	uction	
		syste		internal body	structure of the	spells, reads,	Demonstr	structure of		the	to	
		m		organ.	liver.	writes and	ation.	the liver.	Responsibi	structure	Biolog	
				Function of the liver		demonstrates			lity	of the	У	
				⇒ Regulation of blood	* States the	knowledge of	Observati	Stating the		liver.		
				sugars.	functions of the	the meaning of	on	functions of	Appreciati		New	
				⇒ Produces bile salts	liver.	words related to	Discovery	the liver.	on		fount.	
				which aid		the care of the	method.				Sci.	
				absorption of fats.	* States the	liver as excretory		Stating the	Care		pbk 7.	
				Diseases of the liver	diseases of the	organs.		diseases of				
				i) Hepatitis	liver.	* Reads, writes		the liver.	Effective		Mk	

THEA		ITTER AND	_	* Gives ways of caring for the liver.	and internalizes texts and questions related to the care of the liver as excretory organs		Giving ways of caring for the liver.	communic ation		int. Sci pbk 7	
13 13 13 13 13 13 13 13 13 13 13 13 13 1		Light as a form of energy	Light energy ⇒ Light is a form of energy that enables us to see. We see things Light as a form of energy ⇒ Light is a form of energy because it is capable of doing work. Importance of light in the environment ⇒ Sunlight enables plants to make their own food. ⇒ It enables us and other animals to see Sources of light 1. Natural sources of light. 2. Artificial sources of light.	The learner; * Defines light as a form of energy. * States the importance of light in the environment. * States the sources of light with relevant examples.	The learner: * Pronounces, spells, reads, writes and demonstrates knowledge of the meaning of words related to light as a form of energy * Reads, writes and internalizes texts and questions related to light as a form of energy	Discussion Demonstration. Observation Discovery method.	Defining light as a form of energy. Stating the importance of light in the environmen t. Stating the sources of light with relevant examples.	Logical thinking Responsibility Appreciation Care Effective communic ation	The environm ent.	Introd uction to Biolog y New fount. Sci. pbk 7. Mk int. Sci pbk 7	

13	3	Light	Sources	Artificial sources of	The learner;	The learner:	Discussion	Giving	Logical	The	Introd	
		energ	of light	light	* Gives examples	Pronounces,		examples of	thinking	environm	uction	
		У		\Rightarrow These are sources	of artificial of	spells, reads,	Demonstr	artificial of		ent.	to	
				which are made by	sources light.	writes and	ation.	sources	Responsibi		Biolog	
				people.	* Defines luminous	demonstrates		light.	lity		У	
				Examples of artificial	and non	knowledge of	Observati					
				sources of light	luminous objects	the meaning of	on	Defining	Appreciati		New	
				\Rightarrow Solar lamps, Electric	with relevant	words related to		luminous	on		fount.	
				lamps, Fluorescent	examples.	light as a form of		and non			Sci.	
				tubes, Electric	* States the	energy	Discovery	luminous	Care		pbk 7.	
				tubes, Fire.	speed of light.	* Reads, writes	method.	objects with				
				Luminous objects/		and internalizes		relevant	Effective		Mk	
				direct sources		texts and		examples.	communic		int. Sci	
				Sun , stars		questions related			ation		pbk 7	
				Non luminous objects/		to light as a form		Stating the				
				indirect sources		of energy		speed of				
				⇒ These are objects				light.				
				that reflect light								
				from other sources								
				of light.								
				Examples of non-								
				luminous								
				Moon								
				Planets								
				The speed of light								
				⇒ The speed of light in								
				normal air is								
13	4	121-1	T	300000km/sec.	Tl 1	The state of the same of the state of the state of the same of the state of the sta	Dii	Ctti t	1:: 1	C ava all a	Laka al	
13	4	Light	Transmi	Light Transmission and	The learner;	The learner:	Discussion	Stating how	Logical	Candle	Introd	
		energ	ssion of	experiments with	* States how light	* Pronounces,	Domonstr	light travels.	thinking	wax	uction	
		У	light	properties of light	travels.	spells, reads,	Demonstr	Dosoribing	Dosponsihi	Card	to	
				1. Light travels in a	* Describes and	writes and	ation.	Describing	Responsibi	Card	Biolog	
				straight line.	experiment on	demonstrates		and	lity	board	У	

				2. Light travels from a	how light travels.	knowledge of	Observati	experiment		Strings		
				source in all directions.	* Defines a ray	the meaning of	on	on how light	Appreciati	Ü	New	
				Rays	and beam of	words related to		travels.	on	Match	fount.	
				A ray is a path taken	light.	light transmission.				stick	Sci.	
				by light.	* Describes the	* Reads, writes	Discovery	Defining a	Care		pbk 7.	
				Beams of light	types of beams.	and internalizes	method.	ray and				
				A beam is a group of	, ,	texts and		beam of	Effective		Mk	
				light rays traveling in		questions related		light.	communic		int. Sci	
				the same direction.		to light			ation		pbk 7	
				Types of beams		transmission.		Describing				
				i. Parallel beam				the types of				
				ii. Divergent beam				beams.				
				iii. Convergent beam								
13	5	Light	Effects	Effects of different	The learner;	The learner:	Discussion	Defining the	Logical	Polythen	Introd	
		energ	of	materials on light	* Defines the	* Pronounces,		different	thinking	e paper,	uction	
		у	differen		different kinds of	spells, reads,	Demonstr	kinds of			to	
			t	Transparent objects	materials such	writes and	ation.	materials	Responsibi	Glass	Biolog	
			materia	⇒ Transparent objects	as	demonstrates		such as	lity		У	
			ls on	are materials that	1) Transparent.	knowledge of	Observati	transparent,		Black		
			light	allow all light to pass	2) Transluscent	the meaning of	on	translucent	Appreciati	board	New	
				through them.	3) Opaque	words related to		and	on		fount.	
				Examples of	* Gives examples	light transmission.		opaque			Sci.	
				transparent materials	of transparent,	* Reads, writes	Discovery	objects.	Care	Frost	pbk 7.	
				1. Clear glass	Transluscent	and internalizes	method.			paper		
				2. Clear still water.	and opaque	texts and		Giving	Effective		Mk	
				Translucent materials	objects.	questions related		examples of	communic		int. Sci	
				These are objects	* Describes the	to light		transparent,	ation		pbk 7	
				which allow little light	effects of	transmission.		Transluscent				
				to pass through them.	transparent,			and				
				Examples of	Transluscent			opaque				
				translucent materials	and opaque			objects.				
				⇒ Frosted glass	objects.							
				⇒ Coloured glass.	* light rays.			Describing				

			Effects of translucent objects on light ⇒ They allow little light to pass through them. Opaque objects An opaque object is that which does not allow any light ray to go through it. Examples of opaque objects ⇒A wall Effects of opaque objects in light				the effects of transparent, Transluscent and opaque objects on light rays.				
13		Shado	Shadows	The learner;	The learner:	Discussion	Defining	Logical	A chart	Introd	
	energ	WS	⇒ A shadow is a	* Defines shadows and states how	* Pronounces,	Demonstr	shadows and states	thinking	showing	uction to	
	У	 	region of darkness behind an opaque	shadows are	spells, reads, writes and	ation.	how	Responsibi	parts of a shadow.	Biolog	
			object caused by	formed.	demonstrates	G11011.	shadows	lity	311000111	у	
		 	obstruction of light.	* Describes the	knowledge of	Observati	are formed.	, ´		,	
		 	Parts of a shadow	parts of a	the meaning of	on		Appreciati		New	
		 	- Umbra	shadow.	words related to		Describing	on		fount.	
		 	- Penumbra Characteristics of a	* States the CCCs of shadows.	shadows. * Reads, writes	Discovery	the parts of a shadow.	Care		Sci.	
		 	shadow.	* Gives the	and internalizes	method.	a stiddow.	Care		pbk 7.	
		 	⇒ Shadows take the	importance of	texts and	monioa.	Stating the	Effective		Mk	
		 	shape of the	shadows.	questions related		CCCs of	communic		int. Sci	
		 	opaque objects.		to shadows.		shadows.	ation		pbk 7	
		 	⇒ A shadow has two				Gives the				
		I	regions, umbra and				importance				
			penumbra.				of shadows				

				Importance of shadows ⇒ Tree shadows provide shade in the compound.								
13	6	Light energ y	Eclipse	Eclipse: ⇒ This is a natural shadow formed when the suns light is blocked by another planet. Types of eclipse. ⇒ Solar eclipse (eclipse of the sun) ⇒ Lunar eclipse (eclipse of the moon). The Solar eclipse(This is the eclipse of the sun) ⇒ It occurs when the moon comes between the sun and the earth (SME) Lunar eclipse (This is the eclipse of the moon). ⇒ It occurs when the earth comes between the moon and the sun (MES/SEM).	The learner; * Defines an eclipse. * State the types of eclipses. * Describes the types of eclipses.	* Pronounces, spells, reads, writes and demonstrates knowledge of the meaning of words related to eclipses. * Reads, writes and internalizes texts and questions related to eclipses.	Discussion Demonstration. Observation Discovery method.	Defining an eclipse. Stating the types of eclipses. Describing the types of eclipses.	Logical thinking Responsibi lity Appreciati on Care Effective communic ation	A chart showing different types of eclipses.	Introd uction to Biolog y New fount. Sci. pbk 7. Mk int. Sci pbk 7	

14	1	Light	Reflecti	Reflection	The learner;	The learner:	Discussion	Defining	Logical	A chart	Introd	
		energ	on of	⇒ This is the bouncing	* Defines light	* Pronounces,		light	thinking	showing	uction	
		у	light	of light from a	reflection	spells, reads,	Demonstr	reflection		different	to	
		,		surface.	* State the types	writes and	ation.		Responsibi	types of	Biolog	
				Types of reflection	of reflection.	demonstrates		Stating the	lity	light	у	
				1. Regular reflection	* Describes the	knowledge of	Observati	types of	07450	reflection		
				2. Irregular#CREA	* Describes the PRIN	rknowledge of 85	68120	types of 70 Period On 70	Apprecial!	68	New	
				reflection/Diffuse	reflection.	words related to			on		fount.	
				reflection.		light reflection.		Describing			Sci.	
				3. Normal reflection		* Reads, writes	Discovery	the types of	Care		pbk 7.	
				The laws of reflection		and internalizes	method.	light				
				\Rightarrow The incident ray,		texts and		reflection.	Effective		Mk	
				the reflected ray		questions related			communic		int. Sci	
				and the normal all		to light reflection.			ation		pbk 7	
				lie in the same								
				plane.								
14	2	•	Simple	Simple optical	The learner;	The learner:	Discussion	Defining	Logical	A chart	Introd	
		energ	optical	instruments	* Defines optical	* Pronounces,		optical	thinking	showing	uction	
		У	instrum	⇒ Optical instruments	objects.	spells, reads,	Demonstr	objects.		a .	to	
			ents	are instruments	* States examples	writes and	ation.		Responsibi	periscop	Biolog	
				which use light for	of optical	demonstrates		Stating	lity	e.	У	
				their functioning.	instruments.	knowledge of	Observati	examples of				
				Examples of simple	* Describes the	the meaning of	on	optical	Appreciati		New	
				optical instruments	CCCs of images	words related to		instruments.	on		fount.	
				 plane mirrors lenses 	formed by plane mirrors.	simple optical instruments.	Discovery		Care		Sci.	
				2. lenses CCCs of images	* States the uses	* Reads, writes	Discovery method.	Describing	Care		pbk 7.	
				formed by a plane	of plane mirrors	and internalizes	memod.	the CCCs of	Effective		Mk	
				mirror	and periscopes.	texts and		images	communic		int. Sci	
				⇒ They are	and penscopes.	questions related		formed by	ation		pbk 7	
				erect/upright.		to simple optical		plane	GIIOIT		PDK /	
				Uses of plane mirrors		objects.		mirrors.				
				-		00,000.		111111013.				
				⇒ They are the same		ODJECIS.		111111013.				

			size as the object. Uses of periscopes ⇒ This is an instrument used to see objects overhead. Illustration of a periscope.				Stating the uses of plane mirrors and periscopes.				
14 3		Curved Mirrors	Curved Mirrors ⇒ These have their reflecting surfaces form a hollow sphere. Types of curved mirrors Concave mirrors ⇒ It is coated on the outside of the spherical surface. Characteristics of images in concave mirrors. ⇒ They are real. ⇒ They are upright. Convex mirror ⇒ It is coated on the inside of the spherical surface. Characteristics of images formed in convex mirrors ⇒ The images are upright.	The learner; * Defines curved mirrors. * States the examples of curved mirrors. * Describes the CCCs of image formed by curved mirrors. * States the uses of curved mirrors.	* Pronounces, spells, reads, writes and demonstrates knowledge of the meaning of words related to curved mirrors. * Reads, writes and internalizes texts and questions related to curved mirrors.	Discussion Demonstration. Observation Discovery method.	Defining curved mirrors. Stating the examples of curved mirrors. Describing the CCCs of image formed by curved mirrors. Stating the uses of plane mirrors and periscopes.	Logical thinking Responsibi lity Appreciati on Care Effective communic ation	A chart showing a concave and convex mirror	Introd uction to Biolog y New fount. Sci. pbk 7. Mk int. Sci pbk 7	

14	1	liaht	The	Pinhole camera.	The learner;	The learner:	Discussion	Stating how	Logical	A chart	Introd	
14	4	Light	_		* States how the		ואכטאוטו	_			uction	
		energ	pinhole	⇒ A pinhole camera		* Pronounces,	Domond	the pinhole	thinking	showing		
		У	camera	works on the	pinhole camera	spells, reads,	Demonstr	camera		a pinhole	to	
				principle that light	works.	writes and	ation.	works.	Responsibi	camera	Biolog	
				travels in a straight	* Describes the	demonstrates			lity		У	
				line.	CCCs of image	knowledge of	Observati	Describing				
				Characteristics of	formed by	the meaning of	on	the CCCs of	Appreciati		New	
				images formed with a	pinhole	words related to		image	on		fount.	
				pinhole camera	cameras.	simple optical		formed by			Sci.	
				\Rightarrow The image is smaller	* Draws an	instruments.	Discovery	pinhole	Care	<u></u>	pbk 7.	
				# GREATIVE	PRUMHUMBRS	instruments. 07856812	∂h igthød () 7	1000ero45	068#C	REATI	VE	
				object/diminished.	_pinhole camera_	_and internalizes_	FOCOM	CDE 4	Effective_		Мk	
				PRINTERS O	78508120	/ text Und U374	5008 #	Drawing an	Communic.	INTER	🔐 t. Sci	
				0785681207	7 / 070374	Eggestion are lots of	ATIVE	illustration of		25621	99h77	/
				0783081207	/ U/U3/ 1	to simple optical	AIIVE	a pinhole	ACS UT	00001	401	/
				0703745068	8	objects.		camera.				
14	5	Light	Colours	Colours and reflection	The learner;	The learner:	Discussion	Stating the	Logical	A chart	Introd	
		energ	and	⇒ Light coloured	* States the	* Pronounces,		effects of	thinking	showing	uction	
		У	Reflecti	objects reflect more	effects of	spells, reads,		reflection of		a colour	to	
			on	light than the dull	reflection of	writes and	Demonstr	light on	Responsibi	wheel	Biolog	
				ones.	light on different	demonstrates	ation.	different	lity		У	
				⇒ White light contains	coloured	knowledge of		coloured	,		,	
				all the three primary	materials.	the meaning of		materials.	Appreciati		New	
				colours of light.	* States the uses	words related to	Observati		on		fount.	
				When light falls on an	of reflection in	light reflection.	on	Stating the			Sci.	
				object, the following	our daily lives.	* Reads, writes		uses of	Care		pbk 7.	
				can happen to it	, , , , , , , , , , , , , , , , , , , ,	and internalizes		reflection in				
				⇒ It is reflected either		texts and	Discovery	our daily	Effective		Mk	
				regularly or		questions related	method.	lives.	communic		int. Sci	
				irregularly.		to light reflection.			ation		pbk 7	
				Uses of reflection in our								
				daily life								
				⇒People can watch								
<u> </u>					1					l	<u> </u>	

				football match over								
				the heads of the								
				crowd using a								
				periscope.			5	- · ·				
14	6		Refracti	Refraction of light	The learner;	The learner:	Discussion	Defining	Logical	A chart	Introd	
			on of	⇒Refraction is the	* Defines	* Pronounces,		refraction of	thinking	showing	uction	
			light	change in the	refraction of	spells, reads,		light.		a	to	
				direction of light rays	light.	writes and	Demonstr 		Responsibi	refraction	Biolog	
				as they pass through	* States the law of	demonstrates	ation.	Stating the	lity	through	У	
				one transparent	refraction.	knowledge of		law of		a glass		
				media to another.	* States the	the meaning of		refraction.	Appreciati	block	New	
				Principle/law of	effects of	words related to	Observati	C11: 11	on		fount.	
				refraction.	refraction of	light refraction.	on	Stating the	Causa		Sci.	
				⇒ The incident ray, the	light in the	* Reads, writes		effects of	Care		pbk 7.	
				refracted ray and	environment.	and internalizes	Discovery	refraction of	Effootive		Mk	
				the normal all lie in	* Describes light refraction	texts and	Discovery	light in the	Effective			
				the same plane.		questions related	method.	environmen ₊	communic ation		int. Sci	
				Effects of refraction	through a prism	to light refraction.		1.	alion		pbk 7	
				i) Fish in water appears shallower than they	or glass block.	refraction.		Describing				
				are.				light				
				Refraction through a				refraction				
				rectangular glass				through a				
				prism/ block				prism or				
				⇒ I - Angle of				glass block.				
				incidence				9.000 2.001.				
15	1	Light	Prisms	Light spectrum	The learner;	The learner:	Discussion	Defining the	Logical	A chart	Introd	
		energ	and	⇒ Light spectrum is a	* Defines the light	* Pronounces,		light	thinking	showing	uction	
		у	Light	band of seven	spectrum and	spells, reads,	Demonstr	spectrum		a light	to	
			spectru	distinct colours.	dispersion of	writes and	ation.	and	Responsibi	spectrum	Biolog	
			m	Dispersion of light.	light.	demonstrates		dispersion	lity		У	
				⇒ Light dispersion is	* Describes what	knowledge of	Observati	of light.				
				the splitting of light	happens to the	the meaning of	on		Appreciati		New	

				into seven distinct colours. Dispersion/ Refraction	white light passing through a prism.	words related to prisms and light spectrum	Discovery	Describing what happens to	on Care		fount. Sci. pbk 7.	
				of white light by glass prism. POTEMATI Dight rays in a glass prism bend at different angles because they move at a different speed.	* Names the The light spectrum.	* Reads, writes Reads, writes Reads, writes Reads, writes fexts and questions related to prisms and light spectrum.	method. 1207 ,	the white light casing through a prism. Naming the seven colours of the light spectrum.	45068 communic ation		Mk int. Sci pbk 7	
15	2	Ligh t energ y	The rainbow	⇒ It is a natural spectrum in the sky. ⇒ It is formed when light rays from the sun pass through rain drops and get	* Describes how the rain bow is formed as a natural spectrum.	* Pronounces, spells, reads, writes and demonstrates knowledge of the meaning of	Demonstration. Observation	how the rain bow is formed as a natural spectrum.	thinking Responsibi lity Appreciati	A chart showing a light spectrum	Introd uction to Biolog y New	
			#	CREATIVE P	RINTERS O	spectrum * Reads, writes and internalizes texts and questions related to prisms and light spectrum.	7 / 070 Discovery method.)3 7450	Care Effective communic ation		fount. Sci. pbk 7. Mk int. Sci pbk 7	
15	3	Light energ y	Colors of light	Colors of light ⇒ Primary colours ⇒ Secondary colours. ⇒ Complementary	The learner; * Describes the different classifications of	* Pronounces, spells, reads, writes and	Discussion Demonstration.	Describing the different classificatio ns of	Logical thinking Responsibi	A chart showing a colour wheel	Introd uction to Biolog	

			colours. Primary colors Primary colours are the colours got without mixing any other colour. Examples of primary colours 1. Red 2. Blue 3. Green	colours. * States the effects of light falling on different colours.	demonstrates knowledge of the meaning of words related to Colors of light. * Reads, writes and internalizes texts and questions related to colors of light	Observati on Discovery method.	colours. Stating the effects of light falling on different colours.	lity Appreciation Care Effective communic ation		y New fount. Sci. pbk 7. Mk int. Sci pbk 7	
15 4	Light energ y	Lenses	Lenses A lens is a transparent glass or plastic with curved sides capable of refracting light. Types of lens I. Convex (converging) lens. II. Concave (diverging) lens. Convex (converging) lens. Convex (converging) lens ⇒ It refracts light to meet at one point (focal point). Concave (diverging) Lens Uses of lenses ⇒ Lenses are used in optical instruments like telescopes, camera, and	The learner; * Defines lenses. * States the types of lenses and their uses. * Describes the concave and concave lenses. * States the effects of lenses on light rays.	The learner: * Pronounces, spells, reads, writes and demonstrates knowledge of the meaning of words related to lenses. * Reads, writes and internalizes texts and questions related to lenses.	Discussion Demonstration. Observation Discovery method.	Defining lenses. Stating the types of lenses and their uses. Describing the concave and concave lenses. Stating the effects of lenses on light rays.	Logical thinking Responsibility Appreciation Care Effective communic ation	A chart showing concave and convex lenses	Introd uction to Biolog y New fount. Sci. pbk 7. Mk int. Sci pbk 7	

				microscopes.								
15	5	Light energ y	The lens camera	Parts of the camera and their functions ⇒ Lens: It focuses light to the film. ⇒ Film: The image is formed there. ⇒ Diaphragm: Controls the amplified TI entering the camera. Characteristics of images formed by the lens camera ⇒ They are real (they are formed on the film.)	The learner; * Describes the parts of a lens camera. * States the CCCs of images formed by a lens camera. VE PRINTE	The learner: * Pronounces, spells, reads, writes and demonstrates knowledge of the meaning of words related to * Reads, writes and internalizes texts and questions related to the lens camera	Discussion Demonstration. Observation 1207 Discovery method.	Describing the parts of a lens camera. Stating the CCCs of images from the camera.	Logical thinking Responsibi lity Appreciati on 45068 Effective communic ation	A chart showing the lens camera.	Introd uction to Biolog y New fount. Sci. pbk 7. Mk int. Sci pbk 7	
15	6	Light energ y	The lens camera	The human eye ⇒ The eye is the sense organ for sight. ⇒ The complete eye is called the eyeball. ⇒ The eye ball is protected by the socket of the skull. A structure of a mammalian eye Front view Cross section view	The learner; * Describes the parts of the human eye. * Draws and labels parts of the human eye. * States the function	The learner: * Pronounces, spells, reads, writes and demonstrates knowledge of the meaning of words related to the eye * Reads, writes and internalizes texts and questions related to the human	Discussion Demonstration. Observation Discovery method.	Describing the parts of the human eye. Drawing and labels parts of the human eye. Stating the function	Logical thinking Responsibi lity Appreciati on Care Effective communic ation	A chart showing the human eye.	Introd uction to Biolog y New fount. Sci. pbk 7. Mk int. Sci pbk 7	

						eye.						
				Uses of the parts of the								
				eye								
				Cornea								
				Aqueous humour:								
				Pupil								
16	1	Light	Charac	Characteristics of	The learner;	The learner:	Discussion	Describing	Logical	A chart	Introd	
		energ	teristics	images formed by the	* Describes CCCs	* Pronounces,		CCCs of	thinking	showing	uction	
		У	of	eye.	of images	spells, reads,	Demonstr	images		the	to	
			images	\Rightarrow It is upside	formed by a	writes and	ation.	formed by	Responsibi	human	Biolog	
			formed	down/inverted.	human eye.	demonstrates		a human	lity	eye.	У	
			by the	\Rightarrow Smaller than the	* States the	knowledge of	Observati	eye.				
			eye	object/diminished.	difference and	the meaning of	on		Appreciati		New	
				#ODE ATT	similarities	RSe 078568	1007	Stating the 7	45068		fount.	
				Difference Record ATI							Sci.	
				Similarities between	formed by the	* Reads, writes	Discovery	and	Care		pbk 7.	
				images formed in a	eye and the lens	and internalizes	method.	similarities			Mk	
				camera and the eye	camera.	texts and		between	Effective		int. Sci	
						questions related		formed by	communic		pbk 7	
				Similarities.		to the human		the eye and	ation			
				The parts of the eye		eye.		the lens				
				and Camera with				camera.				
				similar functions.								
				Eye Camera								
16	2	Light	Disease	Eye diseases	The learner;	The learner:	Discussion	Identifying	Logical	A chart	Introd	
		energ	s and		* Identifies the	Pronounces,		the diseases	thinking	showing	uction	
		У	disorder	1. Conjunctivitis	diseases of the	spells, reads,	Demonstr	of the		the	to	
			s of the	-	human eye.	writes and	ation.	human eye.	Responsibi	human	Biolog	
			human	2. Trachoma	* States the	demonstrates	<u>.</u>		lity	eye	У	
			eye	3. River Blindness	causes, signs	knowledge of	Observati	Stating the				
					and symptoms	the meaning of	on	causes,	Appreciati		New	
				4. Glaucoma	of diseases of	words related to		signs and	on		fount.	
					the human eye.	diseases of the		symptoms			Sci.	

					* Mentions ways of preventing and controlling the diseases of the human eye.	eye * Reads, writes and internalizes texts and questions related to diseases of the human eye.	Discovery method.	of diseases of the human eye. Mentioning ways of preventing and controlling the diseases of the human eye.	Care Effective communic ation		pbk 7. Mk int. Sci pbk 7	
	3	Light energ y	and correcti on	Eye defects/disorders, cause and correction Eye defects ⇒ An eye defect is the inability of the eye to focus certain distances correctly Common eye defects ✓ Short sightedness ✓ Long sightedness ✓ Astigmatism	The learner; * Defines the eye defects. * Identifies the eye defects. * Describes the causes, effects and corrections for each of the eye defects.	* Pronounces, spells, reads, writes and demonstrates knowledge of the meaning of words related to eye defects. * Reads, writes and internalizes texts and questions related to eye defects.	Discussion Demonstration. Observation Discovery method.	Defining the eye defects. Identifying the eye defects. Describing the causes, effects and corrections for each of the eye defects.	Logical thinking Responsibility Appreciation Care Effective communic ation	A chart showing the eye defects.	Introd uction to Biolog y New fount. Sci. pbk 7. Mk int. Sci pbk 7	
THE/			ENVIRON/ ERDEPEND	MENT ENCE OF LIVING THINGS II	N THE ENVIRONEMNT							
	4	Interd epen denc e of	Interde penden ce of Things	Interdependence ⇒ Interdependence is the way things benefit from each	The learner; * Defines the key terms; - Interdependen	The learner: * Pronounces, spells, reads, writes and	Discussion Demonstration.	Defining the key terms. Identifying	Logical thinking Responsibi	The environm ent	Introd uction to Biolog	

		living things in the enviro nment	in the Environ ment	in the environment. Environment: It refers to things surrounding people. Components of the environment a) Living things things that have life.	ce - Environment * Identifies the living and non living components of the living and the living components of the living the living the living the living the living and the living the li	demonstrates knowledge of the meaning of words related to Interdependenc e ORTESSONS 12 and internalizes texts and	Observati on Discovery	the living and non living component s of environmen to 3745 Describing the causes,	Appreciation Care Case communication		y New fount. Sci. pbk 7. Mk int. Sci pbk 7	
16	5	Interd	How	Examples of living things ⇒ Plants (fauna) ⇒ Animals (flora) Non-living things ⇒ Water bodies How plants directly	causes, effects and corrections for each of the eye defects. The learner;	questions related to Interdependenc e	Discussion	effects and corrections for each of the eye defects.	Logical	The	Introd	
	3	epen denc e of living things in the enviro nment	plants directly depend on animals	depend on animals ⇒ Plants get carbon dioxide from animals from photosynthesis. Examples of carnivorous plants ⇒ sun dew ⇒ Venus fly traps How animals depend on plants ⇒ Animals get oxygen from plants	* States ways in which; i) Plants directly depend on animals. ii) Animals depend on the plants.	* Pronounces, spells, reads, writes and demonstrates knowledge of the meaning of words related to Interdependenc e * Reads, writes and internalizes texts and questions related to Interdependenc e	Demonstration. Observation Discovery method.	ways in which; i) Plants directly depend on animals. ii) Animals depend on the plants.	thinking Responsibility Appreciation Care Effective communic ation	environm ent	vetion to Biolog y New fount. Sci. pbk 7. Mk int. Sci pbk 7	

16	6	Interd	How	How animals depend	The learner:	The learner:	Discussion	Stating	Logical	The	Introd	
		epen	animals	on other animals	* States ways in	* Pronounces,	5000.011	ways in	thinking	environm	uction	
		denc	depend	⇒ Some feed on	which animals	spells, reads,	Demonstr	which		ent	to	
		e of	on	others (predators)	depend on	writes and	ation.	animals	Responsibi		Biolog	
		living	other	⇒ Male and female	other animals.	demonstrates		depend on	lity		У	
		things	animals	animals need each	* Describes the	knowledge of	Observati	other	,		,	
		in the		other to mate and	food chain.	the meaning of	on	animals.	Appreciati		New	
		enviro		reproduce.		words related to			on		fount.	
		nment		Food chain		Interdependenc		Describing			Sci.	
				⇒ A food chain refers		е	Discovery	the food	Care		pbk 7.	
				to the way how	DIMMEDO	* Reads writes	method	shaip a E	60		Mk	
				#CREATIVES P	RINTERS (Peods writes 568il-20	7 / 07	<i>U3745</i> 0	Efective		int. Sci	
				obtain food in their		texts and			communic		pbk 7	
				environment		questions related			ation			
				\Rightarrow In a food chain,		to						
				organisms that		Interdependenc						
				make their own		е						
				food are producers								
				e.g. plants.								
17	1	Interd		How Plants depend on	The learner;	The learner:	Discussion	Stating	Logical	The	Introd	
		epen		other plants	* States ways in	* Pronounces,		ways in	thinking	environm	uction	
		denc		T I	which plants	spells, reads,	Demonstr	which		ent	to	
		e of		⇒ The weak get	depend on	writes and	ation.	plants	Responsibi		Biolog	
		living		support from other	other plants.	demonstrates		depend on	lity		У	
		things		plants.eg Morning		knowledge of	Observati	other				
		in the		glory		the meaning of	on	plants.	Appreciati		New	
		enviro		⇒ Some parasitic plants obtain food		words related to			on		fount.	
		nment		from the host plants.		Interdependenc	Diagona		Causa		Sci.	
				⇒ Some tall plants		e * Decrele visites	Discovery		Care		pbk 7.	
				⇒ some rail plants provide shade to		* Reads, writes	method.		Effoctive		Mk	
				small trees.		and internalizes texts and			Effective		int. Sci	
				3111dii 11003.					communic			
						questions related			ation		pbk 7	

						to Interdependenc e						
17	2	Interd epen denc e of living things in the enviro nment	How Animals and plants depend on non- living things	Animals depend on non-living things ⇒ Termites and earthworms live in the soil. Plants depend on non-living things ⇒ All plants need oxygen for respiration Non-living things benefit from living things ⇒ Plants purify air by absorbing carbon dioxide from it.	The learner; * States ways in which; i) Animals depend on non living things. ii) Plants depend on non living things. * States ways in which non living things depend on living things.	The learner: * Pronounces, spells, reads, writes and demonstrates knowledge of the meaning of words related to Interdependenc e * Reads, writes and internalizes texts and questions related to Interdependenc e	Discussion Demonstration. Observation Discovery method.	Stating ways in which; i) Animals depend on non living things. ii) Plants depend on non living things. Stating ways in which non living things depend on living things	Logical thinking Responsibility Appreciation Care Effective communic ation	The environm ent	New fount. Sci. pbk 7. Mk int. Sci pbk 7	
17	3	Interd epen denc e of living things in the enviro nment	Agro forestry	Agro forestry ⇒ Agro-forestry is the growing of trees alongside crops on the same piece of land. Importance of growing crops and trees together ⇒ Trees provide shelter to other crops. ⇒ Trees control soil erosion.	The learner; * Defines agroforestry. * States the importance of agroforestry. * States the importance of keeping animals on a farm.	* Pronounces, spells, reads, writes and demonstrates knowledge of the meaning of words related to agro forestry * Reads, writes and internalizes texts and questions related	Discussion Demonstration. Observation Discovery method.	Defining agro forestry. Stating the importance of agro forestry. Stating the importance of keeping animals on	Logical thinking Responsibility Appreciation Care Effective communic	The environm ent	New fount. Sci. pbk 7. Mk int. Sci pbk 7	

						to agro forestry		a farm.	ation			
17	4	Interd epen							Logical thinking	The environm	New fount.	
		denc e of							Responsibi	ent	Sci. pbk 7.	
		living							lity			
		things in the							Appreciati		Mk int. Sci	
		enviro	# C .	REATIVE PRI	NTERS 07	85681207	/ 0703	745068	on		pbk 7	
		nment							Care			
									Effective			
									communic ation			
									dion			
			_	should be healthy.	r	F		r <u></u>				
17	5	Interd	Types of trees	⇒ Indigenous trees Indigenous trees	The learner;	The learner: * Pronounces,	Discussion	Explaining	Logical thinking	The environm	New fount.	
		epen denc	that	are trees that have	* Explains the process of	spells, reads,	Demonstr	the process of growing	HIHKING	ent	Sci.	
		e of	can be	been growing in	growing trees.	writes and	ation.	trees.	Responsibi	0.11	pbk 7.	
		living	grown	Uganda for many	* States the	demonstrates			lity			
		things	on an	years.	indigenous and	knowledge of	Observati	Stating the			Mk	
		in the	agro	Examples of	exotic trees	the meaning of	on	indigenous	Appreciati		int. Sci	

enviro	t farm ´	indigenous trees ⇒ Musizi ⇒ Acacia Characteristics of indigenous trees; ⇒ They produce hard	grown on agro forestry. * States the CCCs of indigenous and exotic trees.	and internalizes texts and questions related to agro forestry	Discovery method.	45060	on Care Effective communic ation		pbk 7	
	#CRI	EATIVE PRINT	IEKS 0785	0081207 /	<i>070374</i>	4 3U 08				
		wood.			1			1		
7 6 Interd		Starting a tree nursery	The learner;	The learner:	Discussion	Defining a	Logical	The	New	
epen	a tree	Starting a tree nursery bed	* Defines a	* Pronounces,		Defining a nursery bed.	Logical thinking	environm	fount.	
	•	Starting a tree nursery	•		Discussion Demonstration.	_	thinking	_	_	
epen denc	a tree nursery	Starting a tree nursery bed ⇒ A nursery bed is a	* Defines a nursery bed.	Pronounces, spells, reads,	Demonstr	nursery bed.	-	environm	fount. Sci.	
epen denc e of living things	a tree nursery bed	Starting a tree nursery bed ⇒ A nursery bed is a place where seedlings are raised. Types of nurseries	 Defines a nursery bed. States the types of nurseries for raising seedlings. 	 Pronounces, spells, reads, writes and demonstrates knowledge of 	Demonstr	nursery bed. Stating the types of nurseries for	thinking Responsibi	environm	fount. Sci. pbk 7.	
epen denc e of living things in the	a tree nursery bed	Starting a tree nursery bed ⇒ A nursery bed is a place where seedlings are raised. Types of nurseries ⇒ Nursery bed-raised	 Defines a nursery bed. States the types of nurseries for raising seedlings. Mentions ways 	 Pronounces, spells, reads, writes and demonstrates knowledge of the meaning of 	Demonstr ation.	nursery bed. Stating the types of nurseries for raising	thinking Responsibi lity Appreciati	environm	fount. Sci. pbk 7. Mk int. Sci	
epen denc e of living things in the enviro	a tree nursery bed	Starting a tree nursery bed ⇒ A nursery bed is a place where seedlings are raised. Types of nurseries ⇒ Nursery bed-raised on the ground.	 Defines a nursery bed. States the types of nurseries for raising seedlings. Mentions ways of caring for 	* Pronounces, spells, reads, writes and demonstrates knowledge of the meaning of words related to	Demonstr ation. Observati	nursery bed. Stating the types of nurseries for raising seedlings.	thinking Responsibi	environm	fount. Sci. pbk 7.	
epen denc e of living things in the	a tree nursery bed	Starting a tree nursery bed ⇒ A nursery bed is a place where seedlings are raised. Types of nurseries ⇒ Nursery bed-raised	 Defines a nursery bed. States the types of nurseries for raising seedlings. Mentions ways 	 Pronounces, spells, reads, writes and demonstrates knowledge of the meaning of 	Demonstr ation. Observati	nursery bed. Stating the types of nurseries for raising	thinking Responsibi lity Appreciati	environm	fount. Sci. pbk 7. Mk int. Sci	

			texts and questions related to agro forestry	seedlings in the nursery bed.	Effective communic ation			
18	#CREATIVE PRINTER	RS 078568	31207 / 0703745	068	Logical thinking Responsibi lity Appreciati on Care Effective communic ation	The environm ent	New fount. Sci. pbk 7. Mk int. Sci pbk 7	
	organism that	ways of caring for trees in agro forestry. * Describes the pests that attract trees on an agro forestry	spells, reads, writes and demonstrates knowledge of the meaning of words related to agro forestry		Logical thinking Responsibi lity Appreciati on	The environm ent	New fount. Sci. pbk 7. Mk int. Sci pbk 7	

				destroys crops.	farm.	* Reads, writes	Discovery	that attract	Care			
				 Examples of pests 		and internalizes	method.	trees on an				
				⇒ Rats		texts and		agro	Effective			
				⇒ Monkeys		questions related		forestry	communic			
				⇒ elephants Moore		to agro forestry			ation			
18	3	Interd	Proper	Proper ways of	The learner;	The learner:	Discussion	Describing	Logical	The	New	
		epen	ways of	harvesting trees	* Describes the	Pronounces,		the proper	thinking	environm	fount.	
		denc	harvesti	 Coppicing 	proper methods	spells, reads,	Demonstr	methods of		ent	Sci.	
		e of	ng trees	⇒ Coppicing is the	of harvesting	writes and	ation.	harvesting	Responsibi		pbk 7.	
		living		cutting of the whole	trees.	demonstrates		trees.	lity			
		things		tree but leaving		knowledge of	Observati				Mk	
		in the		room for it to sprout		the meaning of	on		Appreciati		int. Sci	
		enviro		again.		words related to			on		pbk 7	
		nment		Pollarding		agro forestry						
				\Rightarrow The cutting of the		* Reads, writes	Discovery		Care			
				top part of a tree		and internalizes	method.					
				allowing new		texts and			Effective			
				branches to		questions related			communic			
				develop.		to agro forestry			ation			
				Lopping-								
				Cutting of the side								
				branches from the								
				truck								
18	4	Interd	Starting	Advantages of Starting	The learner;	The learner:	Discussion	Stating the	Logical	The	New	
		epen	a	and managing a	* States the	* Pronounces,		advantages	thinking	environm	fount.	
		denc	school/	school/home wood	advantages of	spells, reads,	Demonstr	of starting		ent	Sci.	
		e of	home	project	starting and	writes and	ation.	and	Responsibi		pbk 7.	
		living	wood	⇒ Production of food	managing a	demonstrates		managing	lity			
		things	project	for the family	school or home	knowledge of	Observati	a school or			Mk	
		in the		⇒Source of income	wood lot	the meaning of	on	home wood	Appreciati		int. Sci	
		enviro		Factors considered	project.	words related to		lot project.	on		pbk 7	
		nment		when choosing crops or	* States the	agro forestry						
				trees for planting.	considerations	* Reads, writes	Discovery	States the	Care			

				⇒ Those which mature	when starting a	and internalizes	method.	considerati				
				faster	tree growing	texts and		ons when	Effective			
				\Rightarrow Those that give high	project.	questions related		starting a	communic			
				yields		to agro forestry		tree	ation			
								growing				
								project.				
18	5	Interd	Prepari	Uses of wood	The learner,	The learner:	Discussion	Describing	Logical	The	New	
		epen	ng	\Rightarrow For charcoal.	* Describe the	Pronounces,		the correct	thinking	environm	fount.	
		denc	wood	\Rightarrow For fire wood.	correct ways of	spells, reads,	Demonstr	ways of		ent	Sci.	
		e of	for	Wood for firewood.	preparing wood	writes and	ation.	preparing	Responsibi		pbk 7.	
		living	differen	\Rightarrow It is split, dried and	for different	demonstrates		wood for	lity			
		things	t	then kept in a shed.	purpose.	knowledge of	Observati	different			Mk	
		in the	purpos	\Rightarrow Trees store much		the meaning of	on	purpose.	Appreciati		int. Sci	
		enviro	es and	water inside their		words related to			on		pbk 7	
		nment	proper	cells.		agro forestry						
			storage	Wood for electricity		* Reads, writes	Discovery		Care			
				and telephone poles.		and internalizes	method.					
				\Rightarrow Poles are treated		texts and			Effective			
				with chemicals		questions related			communic			
				known as wood		to agro forestry			ation			
				preservatives.								
				A strong salt can								
				act as a wood								
				preservative.								
THE				TY POPULATION AND FAM	ILY HEALTH							
TOP				ND HEALTH	Τ	T	Γ	T	1		I	
18	6	Popul	Populati	Population and health	The learner;	The learner:	Discussion	Defining	Logical	The	New	
		ation	on and	concerns	* Defines;	* Pronounces,		I) Pop <u>n</u>	thinking	environm	fount.	
		and	health	Population	I) Population	spells, reads,	Demonstr	li)		ent	Sci.	
		com		Community	li) Community	writes and	ation.	Community	Responsibi		pbk 7.	
		munit		Health	lii) Health	demonstrates		lii) Health	lity			
		У		Community Health	* Describes the	knowledge of	Observati	Describing			Mk int.	
		health		Community Health and	community	the meaning of	on	the	Appreciati		Sci pbk	

		#	#CREATIVE PI	health problems.) 78568120	7/070	037450	68		7 Comp. Sch. Sci. pbk 7	
19	Popul ation and com munit y health								The environm ent	New fount. Sci. pbk 7. Mk int. Sci pbk 7 Comp. Sch. Sci. pbk 7	
19	Popul ation	Comm unicabl	Communicable diseases	The learner; * Define	The learner: * Pronounces,	Discussion	Defining communica	Logical thinking	The environm	New fount.	
	and	e	⇒ These are diseases	communicable	spells, reads,	Demonstr	ble	111111111111111111111111111111111111111	ent	Sci.	

	com	disease	which can be	diseases.	writes and	ation.	diseases.	Responsibi		pbk 7.	
	munit	S	spread from one	* States the	demonstrates			lity			
	у		infected person to a	examples of	knowledge of	Observati	Stating the			Mk int.	
	health		healthy person.	communicable	the meaning of	on	examples of	Appreciati		Sci pbk	
			Examples of	diseases.	words related to		communica	on		7	
			communicable		community		ble				
			diseases	* Explains life style	health.	Discovery	diseases.	Care		Comp.	
			Malaria	related diseases.	* Reads, writes	method.				Sch.	
			HIV/ Aids		and internalizes		Explaining	Effective		Sci.	
			Flυ	* Mentions	texts and		life style	communic		pbk 7	
			• Self-inflicted diseases	examples of self	questions related		related	ation			
			(life style related	inflicted	to community		diseases.				
			diseases)	diseases.	health.						
			⇒ These are diseases				Mentioning				
			which people get				examples of				
			due to poor health				self inflicted				
			life styles.				diseases.				
			Examples of self-								
			inflicted diseases;								
			i. Lung cancer								
			ii. Emphysema								
19 3		Sexuall	Sexually transmitted	The learner;	The learner:	Discussion	Describing	Logical	The	New	
	ation	У	diseases (venereal	* Describes the	Pronounces,		the sexually	thinking	environm	fount.	
	and	transmit	diseases)	sexually	spells, reads,	Demonstr	transmitted		ent	Sci.	
	com	ted	These are spread	transmitted	writes and	ation.	diseases.	Responsibi		pbk 7.	
	munit	disease	through having	diseases.	demonstrates			lity			
	У	S	unprotected sexual	* States the	knowledge of	Observati	Stating the			Mk int.	
	health	(venere	intercourse with	examples of	the meaning of	on	examples of	Appreciati		Sci pbk	
		al	infected persons.	STDs.	words related to		STDs.	on		7	
		disease	Examples		community			_		_	
		s)	1. HIV/AIDS	* Explains	health.	Discovery	Explaining	Care		Comp.	
			2. Gonorrhoea	hereditary/	* Reads, writes	method.	hereditary/			Sch.	
			Hereditary (genetic)	genetic	and internalizes		genetic	Effective		Sci.	

			diseases ⇒ These are diseases	diseases.	texts and questions related		diseases.	communic ation		pbk 7	
			that are passed on	* Mentions ways	to community		Mentioning				
			from parents to	of controlling	health.		ways of				
			offspring through			l					
			genes.	ses in the			common				
			Examples (e '''	co lunity	ppro		sickness in				
			diseases								
			1. Sickle c sec.		PP.		m. y.				
			2. Cystic f								
			• • • • • • • • • • • • • • • • • • • •								
			sicknesses in and community								
			1. Proper sanitation.								
			Family planning								
19 4	Popul	How to	How to avoid health	The learner:	The learner:	Discussion -	Statina	Logical	<u>Ihe</u>	New	
	ation	avoid	and social Greekers T	*Valle Pure July 1	The learner: \$56	81207	yay 0 0703	76 A 50 6	environm	fount.	
	and	health	1. Proper sanitation	avoiding health	spells, reads,	Demonstr	avoiding	_	ent	Sci.	
	com	and	2. Proper waste	and social	writes and	ation.	health and	Responsibi		pbk 7.	
	munit	social	disposal	problems	demonstrates		social	lity			
	у	proble	Methods of preventing		knowledge of	Observati	problems			Mk int.	
	health	ms	diseases in the	* Mentions ways	the meaning of	on		Appreciati		Sci pbk	
			community.	of preventing	words related to		Mentioning	on		7	
			> Immunization	diseases in the	community	5.	ways of				
			> Through proper	community.	health.	Discovery	preventing	Care		Comp.	
			nutrition	* C1 - 1 1 · ·	* Reads, writes	method.	diseases in	Ett 1;		Sch.	
			How young people	* States how	and internalizes		the	Effective		Sci.	
			can avoid social and health problem	young people can avoid social	texts and questions related		community.	communic ation		pbk 7	
			Avoiding bad peer	and Health	to community		Stating how	dilori			
			groups.	problems.	health.		young				
			2. Form clubs such as	problems.	TIOGITTI.		people can				
			young farmers club,	* Mentions the life			avoid social				

			drama and music. Life skills of avoiding social and health problems 1. Critical thinking 2. Decision making	skills to avoiding health problems.			and Health problems. Mentioning the life skills to avoiding health problems.				
19	Popul ation and com munit y health	Health concer ns	Health concerns These are health problems that affect us and need immediate solutions. Population and health concerns Poor sanitation. Antisocial behavior. Poor sanitation. It is the improper disposal of human waste and other waste products into the environment. Indicators of poor sanitation. Poor ventilation of houses. Bushes around homes. Activities or solutions to poor sanitation Construct rubbish pits in a home	The learner; * Describes the community health concerns of poor sanitation.	The learner: * Pronounces, spells, reads, writes and demonstrates knowledge of the meaning of words related to community health. * Reads, writes and internalizes texts and questions related to community health.	Discussion Demonstration. Observation Discovery method.	Describing the community health concerns.	Logical thinking Responsibi lity Appreciati on Care Effective communic ation	The environm ent	New fount. Sci. pbk 7. Mk int. Sci pbk 7 Comp. Sch. Sci. pbk 7	

				Construct pit latrines								
19	6	Popul ation and com munit y health		Poor water supply ⇒ It is when the community receives little or dirty water for use. Water associated diseases i. Water borne diseases ii. Water contact diseases iii. Water cleaned diseases v. Water habitat vector diseases	The learner; * Describes the community	* Pronounces, spells, reads, whiles and demonstrates in vielate of he meaning of words related to community health.	Discussion Demonstr anon. Car a on Discovery method.	Describing the community health concerns.	Logical thinking Responsibi lity Appreciati on Care Effective communic ation	The environm ent	New fount. Sci. pbk 7. Mk int. Sci pbk 7 Comp. Sch. Sci. pbk 7	
20	1	Popul ation and com munit y health	Inadeq uate food	 Inadequate food Inadequate food is the situation in which a family or community members lack enough food Causes of inadequate food High population increase. Food security It is having enough food for future use. Effects of 	The learner; * Describes the community health concerns about inadequate food. * Sates the effects of malnutrition. * Mentions ways of caring for a home.	The learner: * Pronounces, spells, reads, writes and demonstrates knowledge of the meaning of words related to community health. * Reads, writes and internalizes texts and questions related to community	Discussion Demonstration. Observation Discovery method.	Describing the community health concerns about inadequate food. Sating the effects of malnutrition. Mentioning ways of caring for a	Logical thinking Responsibility Appreciation Care Effective communication	The environm ent	New fount. Sci. pbk 7. Mk int. Sci pbk 7 Comp. Sch. Sci. pbk 7	

				malnutrition in		health.		home.				
				people								
				⇒ Chronic fatigue.								
20	2	Popul	Healthy	Healthy life styles	The learner;	The learner:	Discussion	Describing	Logical	The	New	
		ation	life	Examples of healthy	* Describes the	* Pronounces,		the healthy	thinking	environm	fount.	
		and	styles	life styles include;	healthy life style	spells, reads,	Demonstr	life style		ent	Sci.	
		com	Exampl	⇒ Doing physical	suitable for	writes and	ation.	suitable for	Responsibi		pbk 7.	
		munit	es of	exercises.	healthful	demonstrates		healthful	lity			
		У	healthy	\Rightarrow Bathing daily.	leaving.	knowledge of	Observati	leaving.			Mk int.	
		health		Reasons for doing daily	* States reasons	the meaning of	on		Appreciati		Sci pbk	
				physical exercises	for doing regular	words related to		Stating	on		7	
				\Rightarrow For body flexibility.	physical	community		reasons for				
				\Rightarrow Strengthen body	exercises.	health.	Discovery	doing	Care		Comp.	
				muscles.	* Mentions ways	Reads, writes	method.	regular			Sch.	
				Health education	of education	and internalizes		physical	Effective		Sci.	
				\Rightarrow It is the making of	people on	texts and		exercises.	communic		pbk 7	
				the community get	healthful living.	questions related			ation			
				aware of the		to community		Mentioning				
				matters concerning		health.		ways of				
				diseases and how				education				
				to prevent them.				people on				
				Ways of educating				healthful				
				people				living.				
				⇒ Through Songs,								
	_	D 1	A . I	plays, storytelling.	T I I	T I I	D:	D	1	TI	N.L.	
20	3	Popul	Antisoci	Antisocial behaviour	The learner;	The learner:	Discussion	Describing	Logical	The .	New	
		ation	al	⇒Anti-social	* Defines	* Pronounces,	D	the healthy	thinking	environm	fount.	
		and	behavi	behaviour is any	antisocial	spells, reads,	Demonstr	life style	D! -:	ent	Sci.	
		com	our	behavior that is not	behaviour.	writes and	ation.	suitable for	Responsibi		pbk 7.	
		munit		acceptable in the	* Mentions the	demonstrates	Observer:	healthful	lity		A Alcimt	
		y		community	examples and	knowledge of	Observati	leaving.	Appropiati		Mk int.	
		health		⇒ Examples of	their causes.	the meaning of	on	Ctating	Appreciati		Sci pbk	
				antisocial	* States the	words related to		Stating	on		/	

			behaviour . ⇒ Lying, Truancy,	effects of antisocial behaviours	community health.	Discovery method.					
			#CREATIVI	E PRINTER	S 0785681	207/	070374	5068			
			How to prevent and								
			control antisocial behaviour								
			⇒ All parents should								
			create stable								
			families.								
20 4	Popul	Sexual	Sexual deviations	The learner;	The learner:	Discussion	Defining	Logical	The	New	
	ation	deviati	\Rightarrow Sexual deviation is	* Defines sexual	* Pronounces,		sexual	thinking	environm	fount.	
	and	ons	an abnormal sexual	deviations.	spells, reads,	Demonstr	deviations.		ent	Sci.	
	com		practice.	* Mentions the	writes and	ation.		Responsibi		pbk 7.	
	munit		Give the forms of Sexual deviations:	forms of sexual deviation.	demonstrates	Observati	Mentioning the forms of	lity		Mk int.	
	y health		> Bestiality	* States the	knowledge of the meaning of	on	sexual	Appreciati		Sci pbk	
	Healiff		Homosexuality	reasons for	words related to	OH	deviation.	on		7	
			Reasons why people	sexual	community		dovidion.	011		'	
			practice sexual	deviations.	health.	Discovery	Stating the	Care		Comp.	

	П	1		T	T	T			ı			
				deviations.	* Mentions ways	* Reads, writes	method.	reasons for			Sch.	
				⇒ For personal	of avoiding	and internalizes		sexual	Effective		Sci.	
				satisfaction	sexual	texts and		deviations.	communic		pbk 7	
				\Rightarrow As an effect of	deviations.	questions related			ation			
				drugs.		to community		Mentioning				
				Ways of avoiding		health.		ways of				
				sexual deviations.				avoiding				
				⇒ Avoid bad peer				sexual				
				groups				deviations.				
20	5	Popul	Having	Having a family	The learner;	The learner:	Discussion	Defining a	Logical	The	New	
		ation	a family	budget	* Defines a	* Pronounces,		budget.	thinking	environm	fount.	
		and	budget	A family budget	budget.	spells, reads,	Demonstr			ent	Sci.	
		com	_	⇒ It is an advance	* States the	writes and	ation.	Stating the	Responsibi		pbk 7.	
		munit		plan	importance of	demonstrates		importance	lity			
		у		\Rightarrow of how the	demographic	knowledge of	Observati	of	,		Mk int.	
		health		expected family	study.	the meaning of	on	demograph	Appreciati		Sci pbk	
				income is to be	* States the	words related to		ic study.	on		7	
				spent.	causes of	community		,				
				Collecting	change in	health.	Discovery	Stating the	Care		Comp.	
				information/data on	human	* Reads, writes	method.	causes of			Sch.	
				human population.	population.	and internalizes		change in	Effective		Sci.	
				Demography		texts and		human	communic		pbk 7	
				\Rightarrow This is the study of		questions related		population.	ation		'	
				the changing '		to community		' '				
				numbers of births,		health.						
				deaths and								
				diseases in a								
				community.								
				Importance of								
				demography								
				⇒ To plan for the								
				community services								

				Causes of changes in								
				human population								
				Emigration								
				Immigration								
				Housing information								
				⇒ This is the finding								
				out of the number								
				of people who								
			#(sleep in permanent CREATOURE PR	INTERS 07	785681207	/ 0703	374506	8			
				houses to estimate								
				the poverty line of								
				the people.								
				Available health								
				services								
				⇒ The government								
				needs information								
				on these services to								
				be able to deliver								
				medical services								
				quickly and monitor								
				the health of its								
				population								
				Information available								
				on health services								
				include								
				\Rightarrow Immunization.								
				\Rightarrow Family planning.								<u> </u>
20	6	Popul	informa	Collecting information	The learner;	The learner:	Discussion	Describing	Logical	The	New	
		ation	tion on	on available health		Pronounces,		the process	thinking	environm	fount.	
		and	availabl	services	process of	spells, reads,	Demonstr	of		ent	Sci.	
		com	е	Advantage of	collecting	writes and	ation.	collecting	Responsibi		pbk 7.	
		munit	health	collecting	information on	demonstrates		information	lity			
		<u> </u>										

у	services	information on	health surveys.	knowledge of	Observati	on health		Mk int.	
health		available health	* Mentions ways	the meaning of	on	surveys	Appreciati	Sci pbk	
		services.	of caring for	words related to		,	on	7	
		⇒ It helps in quick	those in poor	community		Mentioning			
		delivery of medical	health.	health.	Discovery	ways of	Care	Comp.	
		services.		* Reads, writes	method.	caring for		Sch.	
		Health surveys		and internalizes		those in	Effective	Sci.	
		\Rightarrow A health survey is a		texts and		poor health.	communic	pbk 7	
		strategy of finding out		questions related			ation		
		health the problems		to community					
		and solutions to		health.					
		them.							
		Importance of health							
		surveys.							
		\Rightarrow It helps the							
		government to							
		plan well for the							
		people.							
		Activities of health							
		clubs include:							
		Promotion of							
		personal hygiene in							
		a community.							
		Caring for those in							
		poor health							
		> 1Getting health							
		information from							
		technical personnel							
		and distributing to							
		the community.							