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PRIMARY SEVEN SCIENCE SCHEME OF WORK FOR 2024- WHOLE YEAR

WK	PD	TOPIC	S/ TOPIC	CONTENT	SUBJ. COMP'NCES	LANG. COMP'NCES	METHODS	ACTIVITIES	IND. OF L.S.V	INST. MAT.	REF.	REM
THEME : THE HUMAN BODY **TOPIC : MUSCULOSKELETAL SYSTEM**												
1	**1**	**Musculoskeletal system**	**The skeleton**	**Musculoskeletal System** ⇒ This is a group of organs and tissues that hold body of an animal and supports it upright. **Skeleton** ⇒ A skeleton is the rigid structure that supports the body of an animal. **Importance of skeleton** ⇒ The skeleton supports the body of an organism. ⇒ The skeleton gives the body shape. **<u>Types of skeleton</u>** 1. Endoskeleton 2. Exoskeleton **3.** Hydrostatic skeleton.	The learner: * Defines skeleton * Mentions the types of skeleton * States importance of the skeleton	The learner: * Pronounces, spells, reads, writes and demonstrates the meaning of words; exoskeleton, endoskeleton, hydrostatic, muscular, axial, cranium, appendicular, coccyx, humerus related to the musculoskeletal system. * Reads, writes and writes texts and questions on musculoskeletal system	Discussion Demonstration. Observation Discovery method.	Defining skeleton Stating types of skeleton Stating the importance of the skeleton.	Logical thinking Decision making Responsibility Appreciation Care Effective communication	Human skeleton	Introduction to Biology p. 119	
1	**2**	**Musculoskeletal**	**Types and examples**	**Types and examples of each type of skeleton**	**The learner:** * Mentions the types of skeleton	**The learner:** * Pronounces, spells, reads,	Discussion Demonstration.	Mentioning the types of skeleton.	Logical thinking	Human skeleton	Introduction	

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

				support to the body and holds it upright. Bones provide sites for muscle attachment		appendicular, coccyx, humerus related to the musculoskeletal system. * Reads, writes and writes texts and questions on musculoskeletal system			n Care Effective communication			
1	**4**	**Musculoskeletal system**	**Musculoskeletal system**	**Musculoskeletal system** Bones ⇒ Bones are calcified supportive structures in the bodies of vertebrates **Types of bones** 1. Long bones, metacarpals, phalanges. 2. Short bones e.g. carpals 3. Flat bones -e.g. pelvis. 4. Irregular bones – e.g. sacrum **5.** Sesamoid bones- are bones that completely surrounded by tendons e.g. patella.	**The learner:** * Defines bones. * Describes the types of bones with relevant examples.	**The learner:** * Pronounces, spells, reads, writes and demonstrates the meaning of words related to the types of bones. * Reads, writes and writes texts and questions related to the types of bones.	Discussion Demonstration. Observation Discovery method.	Defining bones. Describing the types of bones with relevant examples.	Logical thinking Decision making Responsibility Appreciation Care Effective communication	Human skeleton	Introduction to Biology p. 119	

1	5	**Musculoskeletal system**	**Diseases and disorders of bones**	**The learner:** * Defines bones. * Describes the	**The learner:** * Pronounces,	Human skeleton	Introduction to Biology p. 119	
1	6	**Musculoskeletal system**	⇒ Some joints in the body have synovial fluid which helps to reduce friction.				Introduction to Biology New found t. Sci. pbk 7.	

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FOR NOTES, SCHENES, WORKBOOK ETC

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				Structure of a synovial joint					communication		Mk int. Sci pbk 7	
2	**1**	**Musculoskeletal system**	**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 joint**s 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 Demonstration. Observation 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.	Introduction to Biology New fount. Sci. pbk 7. Mk int. Sci pbk 7	
2	**2**	**Musculoskeletal**	**Muscles**	• **Muscles** ⇒ A muscle is an elastic fibrous tissue	**The learner:** * Defines muscles.	**The learner:** * Pronounces, spells, reads,	Discussion Demonstration.	Defining muscles.	Logical thinking	Structure of different	Introduction	

		system	that contracts to cause movement.		types of muscles	to Biology New fount. Sci. pbk 7. Mk int. Sci pbk 7	
2	**3**	**Musculoskeletal system**	⇒ Antagonistic muscles are found opposite bones. ⇒ Antagonistic muscles are made of antagonistic pairs called flexors and extensor. **<u>Examples of</u>**	* Give the examples of antagonistic muscles. * States how antagonistic muscles work.	* Reads, writes and writes texts and questions related to antagonistic muscles	Structure of antagonistic muscles.	Introduction to Biology New fount. Sci. pbk 7.	

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				<u>antagonistic muscles include</u> 1. Biceps (flexor) **2.** Triceps (extensor				c muscles work.	communication		Mk int. Sci pbk 7	
2	**4**	**Musculoskeletal system**	**Functions of muscles**	**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.	**The learner:** * States the functions of muscles. * Describes the diseases and disorders of the muscles.	**The learner:** * Pronounces, spells, reads, writes and demonstrates the meaning of words related to muscles * Reads, writes and writes texts and questions related to muscles	Discussion Demonstration. Observation Discovery method.	Stating the functions of muscles. Describing the diseases and disorders of the muscles.	Logical thinking Decision making Responsibility Appreciation Care Effective communication	Chalkboard illustration. A chart showing a person suffering from tetanus and leprosy.	Introduction to Biology New count. Sci. pbk 7. Mk int. Sci pbk 7	
2	**5**	**Musculoskeletal system**	**CARING FOR MUSCLES**	**CARING FOR MUSCLES** Prevention of diseases and disorders of muscles a) Prepare and eat a balanced diet.	**The learner:** * States the ways of caring for muscles. * Mentions health habits to keep	**The learner:** * Pronounces, spells, reads, writes and demonstrates the meaning of	Discussion Demonstration. Observation Discovery	Stating ways of caring for muscles. Mentioning health	Logical thinking Responsibility	Chalkboard illustration. A chart	Introduction to Biology	

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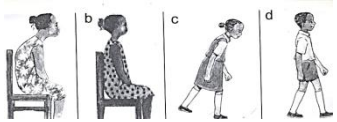
2	**6**	**Musculoskeletal system**	**ure.**  **Importance of correct posture** ⇒ Prevents body aches. **Life styles to keep muscular skeletal system** ⇒ Having regular	term posture. * Illustrates the correct body posture for the every activity we do. * States the benefits of correct body posture.	spells, reads, writes and demonstrates knowledge of the meaning of words related to body posture * Reads, writes and internalizes texts and questions related to body posture.	

				exercises. **Benefits of physical exercises to musculoskeletal system** ⇒ Exercises make bones thicker and harder thereby minimizing fractures.							Sci pbk 7	
THEME : MATTER AND ENERGY **TOPIC : ELECTRICITY AND MAGNETSIM**												
3	**1**	**Electricity and Magnetism**	**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.	**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 Demonstration. Observation Discovery method.	Defining electricity. Describing the types of electricity. Mentioning the sources of current electricity.	Logical thinking Responsibility Appreciation Care Effective communication	Dry cells Battery cells.	Introduction to Biology New found t. Sci. pbk 7. Mk int. Sci pbk 7	

3	**2**	**Electricity and Magnetism**	**Forms of electricity**	**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 Demonstration. Observation Discovery method.	Defining electricity. Describing the types of electricity. Mentioning the sources of current electricity.	Logical thinking Responsibility Appreciation Care Effective communication	Dry cells Battery cells.	Introduction to Biology New found t. Sci. pbk 7. Mk int. Sci pbk 7	
3	**3**	**Electricity and Magnetism**	**Types of current electricity**	**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 Responsibility Appreciation Care Effective	Dry cells Battery cells.	Introduction to Biology New found 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.	communication		pbk 7. Mk int. Sci pbk 7	
3	**4**	**Electricity and Magnetism**	**Conductors and insulators of electricity**	**Conductors of electricity** Conductors are materials that allow electricity to pass through them. **<u>Examples of electricity conductors</u>** 1. Metals like Iron, 2. Hard water wells. 3. Carbon (nonmetallic conductor) 4. Electrolytes. ***<u>Uses of conductors.</u>*** ⇒ 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 Responsibility Appreciation Care Effective communication	Carbon rod Metals Water wood	Introduction to Biology New found t. Sci. pbk 7. Mk int. Sci pbk 7	

3	**5**	**Electricity and Magnetism**		**Insulators of electricity** ⇒ These are materials shocks/electrocution. **2.** Prevent short circuits.	**The learner;** 1. Defines insulators. 2. Mentions the	**The learner:** * Pronounces,					Introduction to Biology New fount. Sci. pbk 7. Mk int. Sci pbk 7	
3	**6**	**Electricity and Magnetism**	**Electric circuit**	**Electric circuit** **Components of an electric circuit** ⇒ An electric circuit is a path through which an electric current flows. a) A bulb(appliance) b) A conductor (wire) **c)** Dry	**The learner;** 1. Defines an electric circuit. 2. States the parts of a simple circuit. 3. Describes the components of a simple circuit in relation to their functions.	**The learner:** * Pronounces, spells, reads, writes and demonstrates knowledge of the meaning of words related to simple electric circuits. * Reads, writes and internalizes	Discussion Demonstration. Observation Discovery method.	Defining insulators. Mentions the examples of insulators. States the	Logical thinking Responsibility Appreciation Care Effective	Dry cells Electric bulbs Electric wires switch	Introduction to Biology New fount. Sci.	

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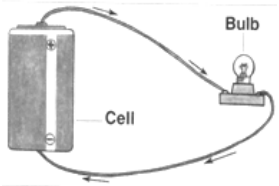
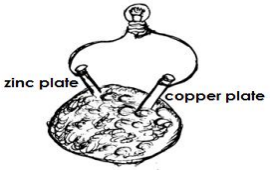
				Symbols used in an electric circuit **Uses of parts of an electric circuit** **1**. Switch 2. Dry cells 3. Conducting wire 4. Fuse 5. Bulb		texts and questions related to simple circuits.		uses/ importance of insulators.	communication		pbk 7. Mk int. Sci pbk 7	
4	**1**	**Electricity and Magnetism**	**Circuit diagrams**	**The flow of current/ electricity**  **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 Responsibility Appreciation Care Effective communication	Dry cells Electric bulbs Electric wires Switch A worked out calculation to find voltage in a simple circuit.	Introduction to Biology New found t. Sci. pbk 7. Mk int. Sci pbk 7	

				7 dry cells=? **7dry cells X 1.5 Volts.** **=10.5 volts**								
4	**2**	**Electricity and Magnetism**	**Electric cells**	**Electric cells** These are devices that produce and store electricity. **Types of electric cells.** 1. Primary cells like dry cells, simple wet cell. 2. Secondary cells like car batteries or accumulators. **Homemade simple wet cell**  	**The learner:** * Defines electric cells. * States the types of electric cells. * Describes the primary cells	**The learner:** * Pronounces, spells, reads, writes and demonstrates knowledge of the meaning of words related to electric cells. * Reads, writes and internalizes texts and questions related to electric cells.	Discussion Demonstration. Observation Discovery method.	Defining electric cells. Stating the types of electric cells. Describing the primary cells	Logical thinking Responsibility Appreciation Care Effective communication	Dry cells Electric bulbs Electric wires Lemon	Introduction to Biology New found t. Sci. pbk 7. Mk int. Sci pbk 7	
4	**3**	**Electricity and Magnetism**	**Chemical Battery**	**Chemical Battery** ⇒ Car battery is an example of chemical batteries. ⇒ It has the positive (+) {anode} and negative (-) terminals {cathode} called electrodes	**The learner:** * Describes a secondary cell diagrammatically. * States the examples of secondary cells.	**The learner:** * Pronounces, spells, reads, writes and demonstrates knowledge of the meaning of words related to electric cells.	Discussion Demonstration. Observation Discovery	Defining electric cells. Stating the types of electric cells.	Logical thinking Responsibility Appreciation	Dry cells Electric bulbs Electric wires A lead	Introduction to Biology New found t.	

					* Describes the primary cells		method.			battery	Sci. pbk 7. Mk int. Sci pbk 7	
4	**4**	**Electricity and Magnetism**								Dry cells Electric bulbs A torch	Introduction to Biology New fount. Sci. pbk 7. Mk int. Sci pbk 7	
4	**5**	**Electricity 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 Demonstration.	Describing the functioning of an	Logical thinking Responsibilit	Dry cells Electric bulbs	Introduction to	

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		etism		**<u>Uses of parts of a bulb</u>** 1. Filament 2. Conducting wire 3. Glass 4. Filament support 5. Insulating material	bulb. * Draws and labels the structure of an electric bulb. * States the functions of parts of an electric bulb.	demonstrates knowledge of the meaning of words related to an electric bulb. * Reads, writes and internalizes texts and questions related to an electric bulb.	Observation Discovery method.	electric bulb. Drawing and labeling the structure of an electric bulb. Stating the functions of parts of an electric bulb.	y Appreciation Care Effective communication	A torch	Biology New found t. Sci. pbk 7. Mk int. Sci pbk 7	
4	**5**	**Electricity and Magnetism**		**Short circuits** ⇒ A short circuit is a path of low resistance towards flow of current through circuit. **Illustration** **Causes of short circuit** ⇒ Poor wiring when installing electricity in buildings. **<u>Effects of short circuit.</u>** ⇒ Destruction of electrical	**The learner:** * Defines a short circuit. * Draws an illustration to show a short circuit. * States the causes and effects of a short circuit. * Mentions ways of avoiding short circuits.	**The learner:** * Pronounces, spells, reads, writes and demonstrates knowledge of the meaning of words related to short circuits. * Reads, writes and internalizes texts and questions related to short circuits.	Discussion Demonstration. Observation Discovery method.	Defining a short circuit. Drawing an illustration to show a short circuit. Stating the causes and effects of a short circuit. Mentioning ways of avoiding	Logical thinking Responsibility Appreciation Care Effective communication	Dry cells Electric bulbs Electric wires.	Introduction to Biology New found t. Sci. pbk 7. Mk int. Sci pbk	

											7	
4	**6**	**Electricity and Magnetism**									Introduction to Biology New found t. Sci. pbk 7. Mk int. Sci pbk 7	
5	**1**	**Electricity and Magnetism**	**How to avoid effects of lightnin**	**How to avoid effects of lightning** ⇒ Don't take shelter under trees when it is raining.	**The learner:** * Mentions ways of preventing the effects caused by	**The learner:** * Pronounces, spells, reads, writes and demonstrates	Discussion Demonstration.	Mentioning ways of preventing the effects caused by	Logical thinking Responsibility	Chalkboard illustration	Introduction to Biolo	

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			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 found t. Sci. pbk 7. Mk int. Sci pbk 7	
5	**2**	**Electricity and Magnetism**	**Uses of electricity**	**Uses of electricity in solving everyday problems** ⇒ Cooking ⇒ Lighting **Advantages of electricity** ⇒ It is quick. ⇒ It is clean. **Disadvantages/dangers 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 advantages and disadvantages of electricity. Describing the safety precautions in handling	Logical thinking Responsibility Appreciation Care Effective communication	Chalkboard illustration	Introduction to Biology New found t. Sci. pbk 7. Mk int. Sci pbk 7	

			electricity.			
5	**3**	**Electricity and Magnetism**	**Magnetization** ⇒ Magnetization is a method/ way of turning a magnetic material into a	Chalkboard illustration	Introduction to Biology New fount. Sci. pbk 7. Mk int. Sci pbk 7	

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				magnet.								
5	**4**	**Electricity and Magnetism**	**Magnetic and non-magnetic materials.**	**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 lodestone	Introduction to Biology New fount. Sci. pbk 7. Mk int. Sci pbk 7	
5	**5**	**Electricity and Magnetism**	**Properties 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 Responsibility Appreciation Care	Magnets Strings Magnetic material Non magnetic materials	Introduction to Biology New fount. Sci. pbk	

									Effective communication	lodestone	7. Mk int. Sci pbk 7	
5	6	**Electricity and Magnetism**								Magnets of different kinds lodestone	Introduction to Biology New fount. Sci. pbk 7. Mk int. Sci pbk 7	
6	1	**Electricity and**	**Temporary magnet**	**Temporary magnets** Temporary magnets are magnets which	**The learner:** * Describes the temporary	**The learner:** * Pronounces, spells, reads,	Discussion Demonstr	Describing the temporary	Logical thinking	Magnets of different	Introduction	

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		Magnetism	**s**	lose their magnetism easily as soon as things making them magnetized are withdrawn. **<u>Examples of a temporary magnet.</u>** Induced magnets Electromagnet **<u>Laws of magnets</u>** 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	kinds lodestone	to Biology New found t. Sci. pbk 7. Mk int. Sci pbk 7	
6	**2**	**Electricity and Magnetism**	**Magnetization**	**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 an electromagnet** i. The direction of flow	**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 magnetization.	Discussion Demonstration. Observation Discovery method.	Defines magnetization. Describes the methods used to make magnets States how to determine polarity in each method of	Logical thinking Responsibility Appreciation Care Effective communication	Magnets of different kinds Magnetic materials.	Introduction to Biology New found t. Sci. pbk 7. Mk int. Sci	

				of current. ii. Using the right hand grip rule.				making magnets.			pbk 7	
6	**3**	**Electricity and Magnetism**	**Demagnetizing a magnet**	**Demagnetizing a magnet** ⇒ It is making a magnet lose its magnetism. **Ways of demagnetizing a magnet** ⇒ Hammering/hitting strongly. ⇒ Strong heating. **Ways of keeping magnets safe** ⇒ -Painting to prevent rusting. ⇒ -Storing magnets using iron keepers. ⇒ -Keeping magnets in the North-South direction.	**The learner:** * Defines demagnetization. * States ways of demagnetizing magnets. * States ways of keeping the magnets safe.	**The learner:** * Pronounces, spells, reads, writes and demonstrates knowledge of the meaning of words related to demagnetization. * Reads, writes and internalizes texts and questions related to demagnetization.	Discussion Demonstration. Observation Discovery method.	Defining Demagnetization. Stating ways of demagnetizing magnets. Stating ways of keeping the magnets safe.	Logical thinking Responsibility Appreciation Care Effective communication	Magnets of different kinds Magnetic materials. Hammer Lighter	Introduction to Biology New found t. Sci. pbk 7. Mk int. Sci pbk 7	
6	**4**	**Electricity and Magnetism**	**Uses of magnets in modern world of work**	**Uses of magnets in modern world of work** ➢ Magnets are used in compasses by sailors, pilots and explorers to show direction. **Appliances that use electricity** ➢ Flat irons	**The learner:** * States the uses of magnets in the world of work. * Identifies some if the appliances that use electricity to work.	**The learner:** * Pronounces, spells, reads, writes and demonstrates knowledge of the meaning of words related to uses of magnets. * Reads, writes and	Discussion Demonstration. Observation Discovery method.	States the uses of magnets in the world of work. Identifies some if the appliances that use	Logical thinking Responsibility Appreciation Care	Magnets of different kinds Magnetic materials.	Introduction to Biology New found t. Sci.	

			➢ Heaters **Appliances that use magnetism**			internalizes texts and questions related to uses of magnets.			Effective communication	pbk 7. Mk int. Sci pbk 7	
6	**5**	**Electricity and Magnetism**	❖ It pulls the soft iron strip with the hammer. ❖ The hammer hits the gong producing sound.							Introduction to Biology New found t. Sci. pbk 7. Mk int. Sci pbk 7	
6	**6**	**Electricity**	**Generating**	**Generating electricity using a dynamo**	**The learner:** * Describe how	**The learner:** * Pronounces,	Discussion	Describing how the	Logical thinking	A chart showing	Introduct

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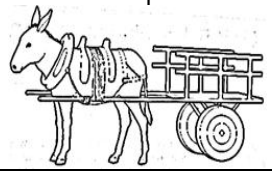
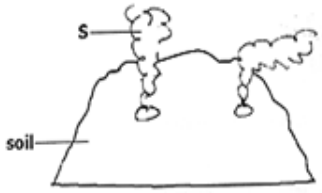
		and Magnetism	**electricity using a dynamo**	⇒ A dynamo is a device which converts mechanical energy into electrical energy. **Structure of a dynamo** **Generator** ⇒ The type of current electricity produced is **A.C** They change **Mechanical energy** to **electric energy.** **Uses of dynamos and generators** ➢ Provide electricity for light. ➢ Provide energy to run machines. **Devices that use both magnets and electricity** a) Speakers **b)** Electric bells	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.	Demonstration. Observation 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 generator from the school environment.	ion to Biology New found t. Sci. pbk 7. Mk int. Sci pbk 7	
THEME : THE ENVIRONMENT **TOPIC : ENERGY RESOURCES IN THE ENVIRONMENT**												
7	**1**	**Energy resources in the**	**Energy Resources in the Environ**	**Energy Resources in the Environment** ⇒ An Energy resource is anything that provides people with	**The learner:** * Defines energy resources in the environment. * Mentions the	**The learner:** * Pronounces, spells, reads, writes and demonstrates	Discussion Demonstration.	Defining energy resources in the environmen	Logical thinking Responsibility	The environment	Introduction to Biolo	

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

				produced by the power of running water at a fall. ⇒ When waterfalls at a greater height, **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.		related to the water as an energy resource in the environment.					Mk int. Sci pbk 7	
7	**3**	**Energy resources in the environment**	**Fossil fuels**	**Fossil fuels (coal, petroleum, Uranium)** as energy resources. ⇒ Fossils are preserved remains of ancient organisms. **Examples of fossils** ⇒ Coal ⇒ Petroleum ⇒ Natural gas **Importance of petroleum products and coal as fossil fuels.** ➢ Coal is burnt to produce thermal electricity **<u>Other products from petroleum</u>**	**The learner:** * Defines fossils. * Mentions examples of fossils. * States the importance of fossils as resources in the environment. * Describes how geothermal energy is produced.	**The learner:** * Pronounces, spells, reads, writes and demonstrates knowledge of the meaning of words related to water as an energy resource in the environment.. * Reads, writes and internalizes texts and questions related to the water as an energy resource in the	Discussion Demonstration. Observation Discovery method.	Defining fossils. Mentioning examples of fossils. Stating the importance of fossils as resources in the environment. Describing how geothermal	Logical thinking Responsibility Appreciation Care Effective communication	The environment	Introduction to Biology New fount. Sci. pbk 7. Mk int. 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**	**Energy resources in the environment**		**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. 	**The learner:** * 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 environment.	Discussion Demonstration. Observation Discovery method.	Stating the importance of animals as resources in the environment.	Logical thinking Responsibility Appreciation Care Effective communication	The environment.	Introduction to Biology New found t. Sci. pbk 7. Mk int. Sci pbk 7	

7	**5**	**Energy resources In the Environment**	**Plants as energy resources**	**Plants as energy resources** a) People eat various parts of plants such as seeds, fruits, leaves, roots etc. b) When eaten; food releases nutrients that support our bodies in various ways including production of energy. ⇒ Wood fuels are firewood and charcoal. **How charcoal is made**  c) Plant structures can be collected and mixed with water to produce biogas as in animals. **How to conserve plant resources**	**The learner:** * States the importance of plants as resources in the environment.	**The learner:** * Pronounces, spells, reads, writes and demonstrates knowledge of the meaning of words related to plants as energy resources in the environment. * Reads, writes and internalizes texts and questions related to plants as energy resources in the environment.	Discussion Demonstration. Observation Discovery method.	Stating the importance of plants as resources in the environment.	Logical thinking Responsibility Appreciation Care Effective communication	The environment	Introduction to Biology New found t. Sci. pbk 7. Mk int. Sci pbk 7	
7	**6**	**Energy**	**Wind and**	**Wind and plants as energy resources**	**The learner:** * States the	**The learner:** * Pronounces,	Discussion	Stating the importance	Logical thinking	The environm	Introduct	

		Resources In The Environment	**plants as an energy resource**	Uses of wind ➢ Used for winnowing ➢ Wind is Used to sail boats ➢ Wind helps in Flying of hot air balloons that are used for transport.	importance of wind as an energy resource in the environment.	spells, reads, writes and demonstrates knowledge of the meaning of words related to wind as an energy resource in the environment. * Reads, writes and internalizes texts and questions related to plants as energy resources in the environment.	Demonstration. Observation Discovery method.	of wind as an energy resource in the environment.	Responsibility Appreciation Care Effective communication	ent	ion to Biology New found t. Sci. pbk 7. Mk int. Sci pbk 7	
8	**1**		**Biogas production**	**Biogas production** ⇒ 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 into an air-tight container called	**The learner:** * Describes the steps involved when making biogas * Describes the structure of a biogas digester. * States the uses of biogas	**The learner:** * 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 production.	Discussion Demonstration. Observation Discovery method.	Describing the steps involved when making biogas Describing the structure of a biogas digester. Stating the uses of biogas	Logical thinking Responsibility Appreciation Care Effective communication	The environment Structure of a biogas digester.	Introduction to Biology New found t. Sci. pbk 7. Mk int.	

				<u>Biogas digester</u> ⇒ Where they are worked on by anaerobic bacteria to ferment and biogas is formed. **Structure of Biogas digester** **<u>Uses of the parts</u>**. ⇒ **Inlet**: For inserting in plant and animal matter. **<u>Uses of biogas</u>** 1. For cooking 2. For lighting							Sci pbk 7	
8	**2**	**Energy Resources In The Environment**	**Advantages of using biogas**	**Advantages of using biogas** 1. It is cheaper than using natural gas 2. It does not pollute the environment. **Caring for and conservation of energy resources** ⇒ To conserve means to use the resource without making it gets finished or go extinct. **Ways of caring and conserving energy**	**The learner:** * States the advantages of using biogas. * Mentions ways of caring for and conserving energy resources * States reasons for conservation of energy resources.	**The learner:** * 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 production.	Discussion Demonstration. Observation Discovery method.	Stating the advantages of using biogas. Mentioning ways of caring for and conserving energy resources Stating reasons for conservatio	Logical thinking Responsibility Appreciation Care Effective communication	The environment Structure of a biogas digester.	Introduction to Biology New found t. Sci. pbk 7. Mk int.	

				resources. ⇒ Using them sparingly. ⇒ Using other alternative sources of energy. **Reasons why energy resources should be conserved**. ⇒ To prevent extinction of useful resources.				n of energy resources.			Sci pbk 7	
THEME : MATTER AND ENERGY **TOPIC : SIMPLE MACHINES**												
8	**3**	**Simple machines**	**How machines simplify work**	**Simple machines** ⇒ A machine is a device that simplifies work. ⇒ A simple machine is any device that has few parts **How do machines simplify work?** ⇒ By changing the direction of force. ***Examples of simple machines*** Hoe, panga, scissor, spanner **Mechanical advantage (M.A) of machines** ⇒ Mechanical	**The learner:** * Defines a machine and a simple machine. * Describes how machines simplify work. * States examples of simple machines * Defines mechanical advantage of a simple machine. * Works out to find mechanical advantage of a machine.	**The learner:** * Pronounces, spells, reads, writes and demonstrates knowledge of the meaning of words related to simple machines. * Reads, writes and internalizes texts and questions related to simple machines.	Discussion Demonstration. Observation Discovery method.	Defining a machine and a simple machine. Describing how machines simplify work. Stating examples of simple machines Defining mechanical advantage	Logical thinking Responsibility Appreciation Care Effective communication	The scissor Nails Screws Stapler	Introduction to Biology New found t. Sci. pbk 7. Mk int. Sci pbk 7	

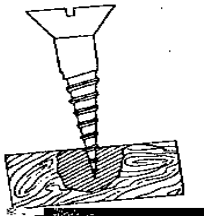
				advantage refers to the number of times a machine simplifies work. **Worked example** Akello used an effort of 50N to raise a child of 200N using a seesaw. Calculate the M.A. of the seesaw. **Solution** Given that Load= 200N and Effort =50N, $M.A = \frac{Load}{Effort}$ $M.A = \frac{200N}{50N}$ M.A = 4				of a simple machine. Working out to find mechanical advantage of a machine.				
8	**4**	**Simple machines**	**Types/classes of simple machines**	**Types/classes of simple machines** 1. Levers 2. Inclined planes/slope 3. Pulleys. **Levers** ⇒ A lever is a stiff rod that turns on a fixed point called a pivot or fulcrum. **Parts of a lever** 1. Effort 2. Load 3. Fulcrum or Pivot	**The learner:** * States the types of simple machines. * Describes a lever. * States the parts of a lever.	**The learner:** * Pronounces, spells, reads, writes and demonstrates knowledge of the meaning of words related to levers. * Reads, writes and internalizes texts and questions related to levers.	Discussion Demonstration. Observation Discovery method.	Stating the types of simple machines. Describing a lever. States the parts of a lever.	Logical thinking Responsibility Appreciation Care Effective communication	Structure of a sea saw	Introduction to Biology New found t. Sci. pbk 7. Mk	

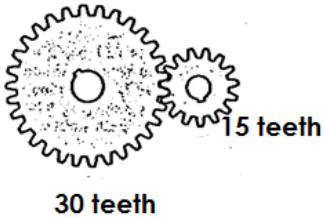
				4. Load arm 5. Effort arm							int. Sci pbk 7	
8	**5**	**Simple machines**	**Classes of levers**	**Classes of levers** ⇒ Levers are classified depending on the position of the fulcrum (f), Load (l) and effort (E). **First class of levers** ⇒ In first class of levers, the fulcrum/pivot is between the load and effort **e.g.** scissor. **Second class of levers** ⇒ **Load** is between the **fulcrum** and **effort.** **Examples of second class levers** A wheel barrow and a nut cracker.	**The learner:** * Classifies levers. * States the classes of levers * Describe first class levers with relevant examples. * Describes second class levers with relevant examples.	**The learner:** * Pronounces, spells, reads, writes and demonstrates knowledge of the meaning of words related to classes of levers. * Reads, writes and internalizes texts and questions related to classes of levers.	Discussion Demonstration. Observation Discovery method.	Classifying levers. Stating the classes of levers. Describing first class levers with relevant examples. Describing second class levers with relevant examples.	Logical thinking Responsibility Appreciation Care Effective communication	Scissors Claw hammer Pair of pliers Lid opener Wheel barrow Nut cracker	Introduction to Biology New found t. Sci. pbk 7. Mk int. Sci pbk 7	
8	**6**	**Simple machines**	**Third class levers**	**Third class levers** ⇒ Effort is between fulcrum and load. ⇒ The fulcrum and the load are on the either side. (FEL) **Examples of third class lever** **Fishing rod**	**The learner;** * Describe first class levers with relevant examples.	**The learner:** * Pronounces, spells, reads, writes and demonstrates knowledge of the meaning of words related to classes of levers.	Discussion Demonstration. Observation Discovery	Classifying levers. Stating the classes of levers. Describing first class	Logical thinking Responsibility Appreciation	Scissors Claw hammer Pair of pliers Lid	Introduction to Biology New found t.	

				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 communication	opener Wheel barrow Nut cracker Tongs Pair of tweezers	Sci. pbk 7. Mk int. Sci pbk 7	
9	**1**	**Simple machines**	**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 see-saw?	**The learner;** * States the law of levers. * Shows a worked example of principles of moments/ laws of lever.	**The learner:** * 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 Responsibility Appreciation Care Effective communication	A worked out example about principle of moments on a chart.	Introduction to Biology New found t. Sci. pbk 7. Mk int. Sci pbk 7	

				Load X load arm = Effort X effort arm 30 X x = 60 X 1.5 $\frac{30x}{30} = \frac{90}{30}$ x = 3 metre								
9	**2**	**Simple machines**	**Inclined plane (slope)**	**Inclined plane (slope)** An inclined plane is a slanting surface. **<u>Importance of an inclined plane</u>** ⇒ It enables heavy loads to be raised using a lesser effort. **<u>Examples of inclined plane</u>**	**The learner;** * Defines an inclined plane. * States the importance of using an inclined plane. * Outlines the examples of inclined planes.	**The learner:** * Pronounces, spells, reads, writes and demonstrates knowledge of the meaning of words related to inclined planes. * Reads, writes and internalizes texts and questions related to inclined planes.	Discussion Demonstration. Observation Discovery method.	Defining an inclined plane. Stating the importance of using inclined planes. Outlining the examples of inclined planes.	Logical thinking Responsibility Appreciation Care Effective communication	A ladder A wooden wedge A chart showing a stair case and wounding road.	Introduction to Biology New found t. Sci. pbk 7. Mk int. Sci pbk 7	
9	**3**	**Simple machines**	**Mechanical Advantage of an inclined plane**	**Mechanical Advantage of an inclined plane** Mechanical Advantage is the ratio of the load to effort. i.e. M.A = Load/effort. **Example;** John used a slope to	**The learner;** * Calculates to determine the mechanical advantages of an inclined plane.	**The learner:** * Pronounces, spells, reads, writes and demonstrates knowledge of the meaning of words related to inclined planes.	Discussion Demonstration. Observation Discovery	Calculating to determine the mechanical advantages of an inclined plane.	Logical thinking Responsibility Appreciation	A ladder A worked out example about M.A of an inclined	Introduction to Biology New found t.	

				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 communication	plane.	Sci. pbk 7. Mk int. Sci pbk 7	
9	**4**	**Simple machines**	**Wedges**	**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 Responsibility Appreciation Care Effective communication	Panga Hoe An axe Wooden wedge	Introduction to Biology New found t. Sci. pbk 7. Mk int. Sci pbk 7	

9	**5**	**Simple machines**	**Screws**	**Screws** ⇒ Screws are inclined planes wound around a rod. **Diagram showing a screw**  ***Uses of screws*** ⇒ Lifting very heavy things e.g. screw jack. **Examples of screws** Spiral stair case Car jerk Screw driver Nuts.	**The learner;** * Defines a screw * States the examples of screws * States the importance of screws	**The learner:** * Pronounces, spells, reads, writes and demonstrates knowledge of the meaning of words related to screws * Reads, writes and internalizes texts and questions related to screws	Discussion Demonstration. Observation Discovery method.	Defining a screw. Stating the examples of screws. Stating the importance of screws.	Logical thinking Responsibility Appreciation Care Effective communication	Spiral stair case Car jerk Screw driver Nuts.	Introduction to Biology New found t. Sci. pbk 7. Mk int. Sci pbk 7	
9	**6**	**Simple machines**	**Wheels and axles**	**Wheels and axles** An axle is a rod passed through a wheel. The wheel rotates on an axle. **wheels and axles** - car steering wheel - door handle/ knob - bicycle handle - A windlass **Uses of wheels and**	**The learner;** * Defines wheels and axles * States the examples of wheels and axles * States the importance of	**The learner:** * Pronounces, spells, reads, writes and demonstrates knowledge of the meaning of words related to wheels and axles * Reads, writes and	Discussion Demonstration. Observation Discovery method.	Defining wheels and axles Stating the examples of wheels and axles Stating the importance	Logical thinking Responsibility Appreciation Care	door handle/ knob bicycle handle A windlass A brace	Introduction to Biology New found t. Sci. pbk	

				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 communication		7. Mk int. Sci pbk 7	
10	**1**	**Simple machines**	**Gearwheels and conveyor belts**	**Gearwheels and conveyor belts** ⇒ A gearwheel is a special form of the wheel ⇒ It has teeth around its edge.  ⇒ 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 communication	A chart showing gearwheels and conveyor belt chains.	Introduction to Biology New found t. Sci. pbk 7. Mk int. Sci pbk 7	

				from one place to another.								
10	**2**	**Simple machines**	**Simple machines**	**Pulleys** ⇒ A pulley is a wheel with grooved rim that rotates freely about an axle through a Centre. **Parts of a pulley** - The grooved rim - The string the pulley holder **Types of pulleys** 1. Single fixed pulley 2. Single movable pulley. 3. Block and Tackle system. **Single fixed pulley.** ⇒ The effort applied is equal to the load.	**The learner;** * Defines a pulley * States the parts of a pulley. * Mentions the types of pulleys. * Describes the single fixed pulley.	**The learner:** * Pronounces, spells, reads, writes and demonstrates knowledge of the meaning of words related to wheels and axles * Reads, writes and internalizes texts and questions related to wheels and axles	Discussion Demonstration. Observation Discovery method.	Defining a pulley Stating the parts of a pulley. Mentioning the types of pulleys. Describing the single fixed pulley.	Logical thinking Responsibility Appreciation Care Effective communication	A chart showing a single fixed pulley	Introduction to Biology New fount. Sci. pbk 7. Mk int. Sci pbk 7	
10	**3**	**Simple machines**	**Simple machines**	**Single movable pulley** ⇒ It is supported on two ropes. ⇒ The M.A advantage of single movable pulley is 2 (two) Effort applied is half the load force. (It reduces the effort needed) **Structure**	**The learner;** * Describes the single movable pulleys pulley. * States the M.A advantages of a single movable pulley. * Calculates to find the M.A of a single movable pulley.	**The learner:** * Pronounces, spells, reads, writes and demonstrates knowledge of the meaning of words related to single movable pulleys * Reads, writes and internalizes texts and questions	Discussion Demonstration. Observation Discovery method.	Describing the single movable pulleys pulley. Stating the M.A advantages of a single movable pulley.	Logical thinking Responsibility Appreciation Care Effective	A chart showing a single movable pulley	Introduction to Biology New fount. Sci. pbk 7.	

						related to single movable pulleys.		Calculating to find the M.A of a single movable pulley.	communication		Mk int. Sci pbk 7	
10	**4**	**Simple machines**	**Block and tackle system**	**Block and tackle 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.	**The learner;** * Describes a block and tackle pulley system. * States how the block and tackle pulley system works. * Mentions the uses of pulleys in our lives.	**The learner:** * 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.	Discussion Demonstration. Observation Discovery method.	Describing 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.	Logical thinking Responsibility Appreciation Care Effective communication	A chart showing a block and tackle pulley system.	Introduction to Biology New found t. Sci. pbk 7. Mk int. Sci pbk 7	
10	**5**	**Simple machi**	**Friction**	**Friction** ⇒ Friction is the force that opposes	**The learner;** * Defines friction. * Describes the	**The learner:** * Pronounces, spells, reads,	Discussion Demonstr	Defining friction.	Logical thinking	Shoes	Introduction	

		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 ones. **Friction as a useful force** ⇒ It helps in moving and stopping vehicles. ⇒ It helps when writing	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.	Responsibility Appreciation Care Effective communication	Car tyres Sports books rollers	to Biology New found t. Sci. pbk 7. Mk int. Sci pbk 7	
10	**6**	**Simple machines**	**Friction as a nuisance force.**	**Friction as a nuisance force.** ⇒ It wears away things e.g. shoe soles, parts of engines. **How to increase friction** ⇒ Making smooth surfaces rough. **How friction can be reduced**	**The learner;** * Describes the effects of friction as a nuisance force. * States the ways of increasing and reducing friction al force on surfaces.	**The learner:** * Pronounces, spells, reads, writes and demonstrates knowledge of the meaning of words related to friction. * Reads, writes and internalizes texts and	Discussion Demonstration. Observation Discovery method.	Describing the effects of friction as a nuisance force. Stating the ways of increasing and reducing friction.	Logical thinking Responsibility Appreciation Care Effective	Shoes Car tyres Sports books rollers grease	Introduction to Biology New found t. Sci. pbk 7.	

				1. Using rollers 2. Using ball bearings		questions related to friction.			communication		Mk int. Sci pbk 7	
THEME : HUMAN BODY **TOPIC : EXCRETORY SYSTEM**												
11	**1**	**Excretory system**	**Excretory system**	**Excretory system** ⇒ Excretory system is a group of organs that removes metabolic wastes from the body. **Importance of the excretion** ⇒ Excretion helps to maintain constant internal environment of the body of an organism **Excretory products from the body** urine, faeces, uric acid **Note:** Urea, inactive hormones, excess salts and water are waste products in Urine. **Water** and **salts** are waste products in **sweat.**	**The learner;** * Defines the excretory system. * States the importance of the excretory system. * Identifies the excretory organs and their waste products secreted from the body.	**The learner:** * Pronounces, spells, reads, writes and demonstrates knowledge of the meaning of words related to excretory system. * Reads, writes and internalizes texts and questions related to the excretory system.	Discussion Demonstration. Observation Discovery method.	Defining the excretory system. Stating the importance of the excretory system. Identifying the excretory organs and their waste products secreted from the body.	Logical thinking Responsibility Appreciation Care Effective communication	A chart showing major excretory organs of the body.	Introduction to Biology New fount. Sci. pbk 7. Mk int. Sci pbk 7	

11	**2**	**Excretory system**	**The human skin**	**The human skin** ⇒ The skin is the largest organ of the body. ⇒ It covers most part of the body. **Function of human skin.** ⇒ Excretes salts, water and urea (sweat). ⇒ Stores fat for keeping the body warm. **Regulation of body temperature** ⇒ When it is hot, the skin regulates the body temperature through Sweat.	**The learner;** * Describes the human skin * States the functions of the human skin. * States how the skin controls body temperature.	**The learner:** * Pronounces, 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.	Discussion Demonstration. Observation Discovery method.	Describing the human skin Stating the functions of the human skin. Stating how the skin controls body temperature.	Logical thinking Responsibility Appreciation Care Effective communication	A chart showing the structure of the human skn.	Introduction to Biology New fount. Sci. pbk 7. Mk int. Sci pbk 7	
11	**3**	**Excretory system**	**Structure of the human skin**	**Structure of the human skin** ⇒ the human skin is made up of two main layers; a) The epidermis b) The dermis **Structure of the human skin** **The epidermis** ⇒ It is the outer layer made of three sub	**The learner;** * Describes structure the human skin * Draws, label and describes parts of the human skin.	**The learner:** * Pronounces, 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	Discussion Demonstration. Observation Discovery method.	Describing structure the human skin Drawing, labeling and describing parts of the human skin. Stating the functions of parts of the	Logical thinking Responsibility Appreciation Care Effective communication	A chart showing the structure of the human skin.	Introduction to Biology New fount. Sci. pbk 7. Mk int. Sci pbk 7	

				layers. a) Cornified layer b) Granular layer c) Malpighian layer **<u>Dermis</u>** ⇒ It is the inner layer of the skin. **<u>Parts of the dermis</u>** Capillaries Sweat glands		skin.		human skin.				
11	**4**	**Excretory system**	**Functions of parts of the human skin**	**Functions of parts of the human skin** **Hair** ⇒ The hair is helps to keep the body warm. **Sweat glands** ⇒ They produce and store sweat. **Pore** ⇒ It lets sweat out of the body. **Capillaries** ⇒ Capillaries transport food and oxygen to all parts of the skin. **Sebaceous glands** ⇒ Produce an oily substance called sebum. **Erector muscle** ⇒ It keeps the hair	**The learner;** * States the functions of parts of the human skin.	**The learner:** * Pronounces, 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.	Discussion Demonstration. Observation Discovery method.	Stating the functions of parts of the human skin.	Logical thinking Responsibility Appreciation Care Effective communication	A chart showing the structure of the human skin.	Introduction to Biology New fount. Sci. pbk 7. Mk int. Sci pbk 7	

				standing. **Nerves** ⇒ Conduct sensations of pain and touch. **Subcutaneous fat** ⇒ It contains fat cells where fat is stored.								
11	**5**	**Excretory system**	**Diseases of the human skin**	**Diseases of the human skin** ⇒ Scabies- caused by itch mites. ⇒ Athlete's foot- 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.	**The learner;** * Discusses the diseases of the human skin. * Describes the disorders of the human skin.	**The learner:** * Pronounces, 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.	Discussion Demonstration. Observation Discovery method.	Discussing the diseases of the human skin. Describing the disorders of the human skin..	Logical thinking Responsibility Appreciation Care Effective communication	A chart showing the structure of the human skin.	Introduction to Biology New fount. Sci. pbk 7. Mk int. Sci pbk 7	
11	**6**	**Excretory**	**Ways of Caring**	**Ways of Caring for the human skin**	**The learner;** * States ways of	**The learner:** * Pronounces,	Discussion	Stating ways of	Logical thinking	A chart showing	Introduction	

		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.	**The learner:** * 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 Demonstr ation. Observati on 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 Responsibi lity Appreciati on 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.	Observation Discovery method.	Drawing and labels parts of kidneys. Stating the functions of parts of the kidneys.	lity Appreciation Care Effective communication	of the kidneys	y New fount. Sci. pbk 7. Mk int. Sci pbk 7	
12	**3**	**Excretory system**	**Functions, care and diseases 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.	**The learner:** * 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 Responsibility Appreciation Care Effective communication	A chart showing the structure of the kidneys	Introduction to Biology New fount. Sci. pbk 7. Mk int. Sci pbk 7	

12	**4**	**Excretory system**	**The lungs as excretory organs**	**Structure of the human lungs** **The lungs as excretory organs** ✓ The Lungs remove carbon dioxide and water from the body. ✓ Lungs are both excretory and respiratory organs.	**The learner;** * Describes the structure of the lungs. * States the functions of the lungs as excretory organs.	**The learner:** * Pronounces, spells, reads, writes and demonstrates knowledge of the meaning of words related to the lungs as excretory organs. * Reads, writes and internalizes texts and questions related to the lungs as excretory organs.	Discussion Demonstration. Observation Discovery method.	Describing the structure of the lungs. Stating the functions of the lungs as excretory organs.	Logical thinking Responsibility Appreciation Care Effective communication	A chart showing the structure of lungs	Introduction to Biology New fount. Sci. pbk 7. Mk int. Sci pbk 7	
12	**5**	**Excretory system**	**Diseases and disorders of the lungs of lungs**	**Diseases of the lungs** - Tuberculosis - Diphtheria - Pertussis - Sinusitis - Asthma - Bronchitis	**The learner;** * Identifies the diseases of the lungs. * States the causes, signs and symptoms of the diseases of the lungs. * States ways of controlling and preventing diseases of the lungs.	**The learner:** * Pronounces, spells, reads, writes and demonstrates knowledge of the meaning of words related to the diseases of the lungs as excretory organs. * Reads, writes and internalizes texts and questions related to the diseases of the lungs as	Discussion Demonstration. Observation Discovery method.	Identifying the diseases of the lungs. Stating the causes, signs and symptoms of the diseases of the lungs Stating ways of controlling and preventing	Logical thinking Responsibility Appreciation Care Effective communication	A chart showing the structure of the human lungs infected with bronchitis and lung cancer.	Introduction to Biology New fount. Sci. pbk 7. Mk int. Sci pbk 7	

						excretory organs		diseases of the lungs.				
12	**6**	**Excretory system**	**Disorders and care of the lungs**	**Disorders of the lungs** ⇒ Choking ⇒ Yawning ⇒ Nasal congestion ⇒ Allergic sinusitis **Ways of caring lungs for the** ⇒ Doing regular physical exercises. ⇒ Having meals rich in a balanced diet. ⇒ Going for regular medical checkup.	**The learner;** * Identifies the disorders of the lungs. * Caring for the lungs.	**The learner:** * Pronounces, spells, reads, writes and demonstrates knowledge of the meaning of words related to the care of the lungs as excretory organs. * Reads, writes and internalizes texts and questions related to the care of the lungs as excretory organs	Discussion Demonstration. Observation Discovery method.	Identifying the diseases of the lungs. Stating the causes, signs and symptoms of the diseases of the lungs Stating ways of controlling and preventing diseases of the lungs.	Logical thinking Responsibility Appreciation Care Effective communication	A chart showing the structure of the human lungs infected with bronchitis and lung cancer.	Introduction to Biology New fount. Sci. pbk 7. Mk int. Sci pbk 7	
13	**1**	**Excretory system**	**Liver**	**Liver** ⇒ It is the largest internal body organ. **Function of the liver** ⇒ Regulation of blood sugars. ⇒ Produces bile salts which aid absorption of fats. **Diseases of the liver** i) Hepatitis	**The learner;** * Describes the structure of the liver. * States the functions of the liver. * States the diseases of the liver.	**The learner:** * Pronounces, spells, reads, writes and demonstrates knowledge of the meaning of words related to the care of the liver as excretory organs. * Reads, writes	Discussion Demonstration. Observation Discovery method.	Describing the structure of the liver. Stating the functions of the liver. Stating the diseases of the liver.	Logical thinking Responsibility Appreciation Care Effective	A chart showing the structure of the liver.	Introduction to Biology New fount. Sci. pbk 7. Mk	

				ii) Cirrhosis iii) Abscesses	* 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.	communication		int. Sci pbk 7	
THEME : MATTER AND ENERGY **TOPIC : LIGHT ENERGY**												
13	**2**	**Light energy**	**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 environment. Stating the sources of light with relevant examples. .	Logical thinking Responsibility Appreciation Care Effective communication	The environment.	Introduction to Biology New fount. Sci. pbk 7. Mk int. Sci pbk 7	

13	3	**Light energy**	**Sources of light**	**Artificial sources of light** ⇒ These are sources which are made by people. **<u>Examples of artificial sources of light</u>** ⇒ Solar lamps, Electric lamps, Fluorescent tubes, Electric tubes, Fire. **Luminous objects/ direct sources** Sun , stars **Non luminous objects/ indirect sources** ⇒ These are objects 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 300000km/sec.	**The learner;** * Gives examples of artificial of sources light. * Defines luminous and non luminous objects with relevant examples. * States the speed of light.	**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.	Giving examples of artificial of sources light. Defining luminous and non luminous objects with relevant examples. Stating the speed of light.	Logical thinking Responsibility Appreciation Care Effective communication	The environment.	Introduction to Biology New fount. Sci. pbk 7. Mk int. Sci pbk 7	
13	4	**Light energy**	**Transmission of light**	**Light Transmission and experiments with properties of light** 1. Light travels in a straight line.	**The learner;** * States how light travels. * Describes and experiment on	**The learner:** * Pronounces, spells, reads, writes and demonstrates	Discussion Demonstration.	Stating how light travels. Describing and	Logical thinking Responsibility	Candle wax Card board	Introduction to Biology	

				2. Light travels from a source in all directions. **Rays** A ray is a path taken by light. **Beams of light** A beam is a group of light rays traveling in the same direction. **Types of beams** i. Parallel beam ii. Divergent beam iii. Convergent beam	how light travels. * Defines a ray and beam of light. * Describes the types of beams.	knowledge of the meaning of words related to light transmission. * Reads, writes and internalizes texts and questions related to light transmission.	Observation Discovery method.	experiment on how light travels. Defining a ray and beam of light. Describing the types of beams.	Appreciation Care Effective communication	Strings Match stick	New fount. Sci. pbk 7. Mk int. Sci pbk 7	
13	**5**	**Light energy**	**Effects of different materials on light**	**Effects of different materials on light** **Transparent objects** ⇒ Transparent objects are materials that allow all light to pass through them. **Examples of transparent materials** 1. Clear glass 2. Clear still water. **Translucent materials** These are objects which allow little light to pass through them. **<u>Examples of translucent materials</u>** ⇒ Frosted glass ⇒ Coloured glass.	**The learner;** * Defines the different kinds of materials such as 1) Transparent. 2) Transluscent 3) Opaque * Gives examples of transparent, Transluscent and opaque objects. * Describes the effects of transparent, Transluscent and opaque objects. * light rays.	**The learner:** * Pronounces, spells, reads, writes and demonstrates knowledge of the meaning of words related to light transmission. * Reads, writes and internalizes texts and questions related to light transmission.	Discussion Demonstration. Observation Discovery method.	Defining the different kinds of materials such as transparent, translucent and opaque objects. Giving examples of transparent, Transluscent and opaque objects. Describing	Logical thinking Responsibility Appreciation Care Effective communication	Polythene paper, Glass Black board Frost paper	Introduction to Biology New fount. Sci. pbk 7. Mk int. Sci pbk 7	

				<u>Effects of translucent objects on light</u> ⇒ 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. **<u>Examples of opaque objects</u>** ⇒A wall **<u>Effects of opaque objects in light</u>**				the effects of transparent, Transluscent and opaque objects on light rays.				
13	**4**	**Light energy**	**Shadows**	**Shadows** ⇒ A shadow is a region of darkness behind an opaque object caused by obstruction of light. **Parts of a shadow** - Umbra - Penumbra **Characteristics of a shadow.** ⇒ Shadows take the shape of the opaque objects. ⇒ A shadow has two regions, umbra and penumbra.	**The learner;** * Defines shadows and states how shadows are formed. * Describes the parts of a shadow. * States the CCCs of shadows. * Gives the importance of shadows.	**The learner:** * Pronounces, spells, reads, writes and demonstrates knowledge of the meaning of words related to shadows. * Reads, writes and internalizes texts and questions related to shadows.	Discussion Demonstration. Observation Discovery method.	Defining shadows and states how shadows are formed. Describing the parts of a shadow. Stating the CCCs of shadows. Gives the importance of shadows	Logical thinking Responsibility Appreciation Care Effective communication	A chart showing parts of a shadow.	Introduction to Biology New fount. Sci. pbk 7. Mk int. Sci pbk 7	

				Importance of shadows ⇒ Tree shadows provide shade in the compound.								
13	**6**	**Light energy**	**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.	**The learner:** * 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 Responsibility Appreciation Care Effective communication	A chart showing different types of eclipses.	Introduction to Biology New fount. Sci. pbk 7. Mk int. Sci pbk 7	

14	1	**Light energy**	**Reflection of light**	**Reflection** ⇒ This is the bouncing of light from a surface. **Types of reflection** 1. Regular reflection 2. Irregular reflection/Diffuse reflection. 3. Normal reflection **The laws of reflection** ⇒ The incident ray, the reflected ray and the normal all lie in the same plane.	**The learner;** * Defines light reflection * State the types of reflection. * Describes the types of reflection.	**The learner:** * Pronounces, spells, reads, writes and demonstrates knowledge of the meaning of words related to light reflection. * Reads, writes and internalizes texts and questions related to light reflection.	Discussion Demonstration. Observation Discovery method.	Defining light reflection Stating the types of reflection. Describing the types of light reflection.	Logical thinking Responsibility Appreciation Care Effective communication	A chart showing different types of light reflection	Introduction to Biology New fount. Sci. pbk 7. Mk int. Sci pbk 7	
14	2	**Light energy**	**Simple optical instruments**	**Simple optical instruments** ⇒ Optical instruments are instruments which use light for their functioning. **Examples of simple optical instruments** 1. plane mirrors 2. lenses **CCCs of images formed by a plane mirror** ⇒ They are erect/upright. **Uses of plane mirrors** ⇒ They are the same	**The learner;** * Defines optical objects. * States examples of optical instruments. * Describes the CCCs of images formed by plane mirrors. * States the uses of plane mirrors and periscopes.	**The learner:** * Pronounces, spells, reads, writes and demonstrates knowledge of the meaning of words related to simple optical instruments. * Reads, writes and internalizes texts and questions related to simple optical objects.	Discussion Demonstration. Observation Discovery method.	Defining optical objects. Stating examples of optical instruments. Describing the CCCs of images formed by plane mirrors.	Logical thinking Responsibility Appreciation Care Effective communication	A chart showing a periscope.	Introduction to Biology New fount. Sci. pbk 7. Mk int. Sci pbk 7	

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				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**	**Light energy**	**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.	**The learner:** * 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 Responsibility Appreciation Care Effective communication	A chart showing a concave and convex mirror	Introduction to Biology New fount. Sci. pbk 7. Mk int. Sci pbk 7	

14	4	**Light energy**	**The pinhole camera**	**Pinhole camera.** ⇒ A pinhole camera works on the principle that light travels in a straight line. **Characteristics of images formed with a pinhole camera** ⇒ The image is smaller than the object/diminished. ⇒ The image is upside down/inverted.	**The learner;** * States how the pinhole camera works. * Describes the **CCCs** of image formed by pinhole cameras. * Draws an illustration of a pinhole camera.	**The learner:** * Pronounces, spells, reads, writes and demonstrates knowledge of the meaning of words related to simple optical instruments. * Reads, writes and internalizes texts and questions related to simple optical objects.	Discussion Demonstration. Observation Discovery method.	Stating how the pinhole camera works. Describing the **CCCs** of image formed by pinhole cameras. Drawing an illustration of a pinhole camera.	Logical thinking Responsibility Appreciation Care Effective communication	A chart showing a pinhole camera	Introduction to Biology New fount. Sci. pbk 7. Mk int. Sci pbk 7	
14	5	**Light energy**	**Colours and Reflection**	**Colours and reflection** ⇒ Light coloured objects reflect more light than the dull ones. ⇒ White light contains all the three primary colours of light. **When light falls on an object, the following can happen to it** ⇒ It is reflected either regularly or irregularly. **Uses of reflection in our daily life** ⇒ People can watch	**The learner;** * States the effects of reflection of light on different coloured materials. * States the uses of reflection in our daily lives.	**The learner:** * Pronounces, spells, reads, writes and demonstrates knowledge of the meaning of words related to light reflection. * Reads, writes and internalizes texts and questions related to light reflection.	Discussion Demonstration. Observation Discovery method.	Stating the effects of reflection of light on different coloured materials. Stating the uses of reflection in our daily lives.	Logical thinking Responsibility Appreciation Care Effective communication	A chart showing a colour wheel	Introduction to Biology New fount. Sci. pbk 7. Mk int. Sci pbk 7	

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				football match over the heads of the crowd using a periscope.								
14	**6**		**Refraction of light**	**Refraction of light** ⇒Refraction is the change in the direction of light rays as they pass through one transparent media to another. **Principle/law of refraction.** ⇒ The incident ray, the refracted ray and the normal all lie in the same plane. **Effects of refraction** i) Fish in water appears shallower than they are. **Refraction through a rectangular glass prism/ block** ⇒ I - Angle of incidence	**The learner;** * Defines refraction of light. * States the law of refraction. * States the effects of refraction of light in the environment. * Describes light refraction through a prism or glass block.	**The learner:** * Pronounces, spells, reads, writes and demonstrates knowledge of the meaning of words related to light refraction. * Reads, writes and internalizes texts and questions related to light refraction.	Discussion Demonstration. Observation Discovery method.	Defining refraction of light. Stating the law of refraction. Stating the effects of refraction of light in the environment. Describing light refraction through a prism or glass block.	Logical thinking Responsibility Appreciation Care Effective communication	A chart showing a refraction through a glass block	Introduction to Biology New fount. Sci. pbk 7. Mk int. Sci pbk 7	
15	**1**	**Light energy**	**Prisms and Light spectrum**	**Light spectrum** ⇒ Light spectrum is a band of seven distinct colours. **Dispersion of light.** ⇒ Light dispersion is the splitting of light	**The learner;** * Defines the light spectrum and dispersion of light. * Describes what happens to the	**The learner:** * Pronounces, spells, reads, writes and demonstrates knowledge of the meaning of	Discussion Demonstration. Observation	Defining the light spectrum and dispersion of light.	Logical thinking Responsibility Appreciati	A chart showing a light spectrum	Introduction to Biology New	

				into seven distinct colours. **Dispersion/ Refraction of white light by glass prism**. (ROYGBIV) ⇒ Light rays in a glass prism bend at different angles because they move at a different speed.	white light passing through a prism. * Names the seven colours of the light spectrum.	words related to prisms and light spectrum * Reads, writes and internalizes texts and questions related to prisms and light spectrum.	Discovery method.	Describing what happens to the white light passing through a prism. Naming the seven colours of the light spectrum.	on Care Effective communication		fount. Sci. pbk 7. Mk int. Sci pbk 7	
15	2	**Light energy**	**The rainbow**	**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 refracted.	**The learner;** * Describes how the rain bow is formed as a natural spectrum.	**The learner:** * Pronounces, spells, reads, writes and demonstrates knowledge of the meaning of words related to prisms and light spectrum * Reads, writes and internalizes texts and questions related to prisms and light spectrum.	Discussion Demonstration. Observation Discovery method.	Describing how the rain bow is formed as a natural spectrum.	Logical thinking Responsibility Appreciation Care Effective communication	A chart showing a light spectrum	Introduction to Biology New fount. Sci. pbk 7. Mk int. Sci pbk 7	
15	3	**Light energy**	**Colors of light**	**Colors of light** ⇒ Primary colours ⇒ Secondary colours. ⇒ Complementary	**The learner;** * Describes the different classifications of	**The learner:** * Pronounces, spells, reads, writes and	Discussion Demonstration.	Describing the different classifications of	Logical thinking Responsibi	A chart showing a colour wheel	Introduction to Biolog	

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				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	Observation Discovery method.	colours. Stating the effects of light falling on different colours.	lity Appreciation Care Effective communication		y New fount. Sci. pbk 7. Mk int. Sci pbk 7	
15	**4**	**Light energy**	**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** ⇒ 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 communication	A chart showing concave and convex lenses	Introduction to Biology New fount. Sci. pbk 7. Mk int. Sci pbk 7	

				microscopes.								
15	**5**	**Light energy**	**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 amount of light 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.	**The learner:** * Pronounces, spells, reads, writes and demonstrates knowledge of the meaning of words related to the lens camera. * Reads, writes and internalizes texts and questions related to the lens camera	Discussion Demonstration. Observation Discovery method.	Describing the parts of a lens camera. Stating the **CCCs** of images formed by a lens camera.	Logical thinking Responsibility Appreciation Care Effective communication	A chart showing the lens camera.	Introduction to Biology New fount. Sci. pbk 7. Mk int. Sci pbk 7	
15	**6**	**Light energy**	**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 Responsibility Appreciation Care Effective communication	A chart showing the human eye.	Introduction to Biology New fount. Sci. pbk 7. Mk int. Sci pbk 7	

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				Uses of the parts of the eye Cornea Aqueous humour: Pupil		eye.						
16	**1**	**Light energy**	**Characteristics of images formed by the eye**	**Characteristics of images formed by the eye.** ⇒ It is upside down/inverted. ⇒ Smaller than the object/diminished. **Differences and Similarities between images formed in a camera and the eye** **Similarities.** **The parts of the eye and Camera with similar functions.** **Eye Camera**	**The learner;** * Describes CCCs of images formed by a human eye. * States the difference and similarities between formed by the eye and the lens camera.	**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 eye.	Discussion Demonstration. Observation Discovery method.	Describing **CCCs** of images formed by a human eye. Stating the difference and similarities between formed by the eye and the lens camera.	Logical thinking Responsibility Appreciation Care Effective communication	A chart showing the human eye.	Introduction to Biology New fount. Sci. pbk 7. Mk int. Sci pbk 7	
16	**2**	**Light energy**	**Diseases and disorders of the human eye**	**Eye diseases** 1. Conjunctivitis 2. Trachoma 3. River Blindness 4. Glaucoma	**The learner;** * Identifies the diseases of the human eye. * States the causes, signs and symptoms of diseases of the human eye.	**The learner:** * Pronounces, spells, reads, writes and demonstrates knowledge of the meaning of words related to diseases of the	Discussion Demonstration. Observation	Identifying the diseases of the human eye. Stating the causes, signs and symptoms	Logical thinking Responsibility Appreciation	A chart showing the human eye	Introduction to Biology New fount. Sci.	

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					* 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 communication		pbk 7. Mk int. Sci pbk 7	
16	**3**	**Light energy**	**Eye defects /disorders, cause and correction**	**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.	**The learner:** * 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 communication	A chart showing the eye defects.	Introduction to Biology New fount. Sci. pbk 7. Mk int. Sci pbk 7	
THEME : THE ENVIRONMENT **TOPIC : INTERDEPENDENCE OF LIVING THINGS IN THE ENVIRONEMNT**												
16	**4**	**Interdependence of**	**Interdependence 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 environment	Introduction to Biolog	

		living things in the environment	**in the Environment**	in the environment. **Environment:** ⇒ It refers to **things** surrounding people. **Components of the environment** **a) Living things** ⇒ Living things are the things that have life. **Examples of living things** ⇒ Plants (fauna) ⇒ Animals (flora) **Non-living things** ⇒ Water bodies	ce - Environment * Identifies the living and non living components of environment. * Describes the causes, effects and corrections for each of the eye defects.	demonstrates knowledge of the meaning of words related to Interdependence * Reads, writes and internalizes texts and questions related to Interdependence	Observation Discovery method.	the living and non living components of environment Describing the causes, effects and corrections for each of the eye defects.	lity Appreciation Care Effective communication		y New fount. Sci. pbk 7. Mk int. Sci pbk 7	
16	**5**	**Interdependence of living things in the environment**	**How plants directly depend on animals**	**How plants directly 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	**The learner;** * States ways in which; i) Plants directly depend on animals. ii) Animals depend on the plants.	**The learner:** * Pronounces, spells, reads, writes and demonstrates knowledge of the meaning of words related to Interdependence * Reads, writes and internalizes texts and questions related to Interdependence	Discussion Demonstration. Observation Discovery method.	Stating ways in which; i) Plants directly depend on animals. ii) Animals depend on the plants.	Logical thinking Responsibility Appreciation Care Effective communication	The environment	Introduction to Biology New fount. Sci. pbk 7. Mk int. Sci pbk 7	

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16	**6**	**Interdependence of living things in the environment**	**How animals depend on other animals**	**How animals depend on other animals** ⇒ Some feed on others (predators) ⇒ Male and female animals need each other to mate and reproduce. **Food chain** ⇒ A food chain refers to the way how different organisms obtain food in their environment ⇒ In a food chain, organisms that make their own food are producers e.g. plants.	**The learner;** * States ways in which animals depend on other animals. * Describes the food chain.	**The learner:** * Pronounces, spells, reads, writes and demonstrates knowledge of the meaning of words related to Interdependence * Reads, writes and internalizes texts and questions related to Interdependence	Discussion Demonstration. Observation Discovery method	Stating ways in which animals depend on other animals. Describing the food chain	Logical thinking Responsibility Appreciation Care Effective communication	The environment	Introduction to Biology New fount. Sci. pbk 7. Mk int. Sci pbk 7	
17	**1**	**Interdependence of living things in the environment**		**How Plants depend on other plants** ⇒ The weak get support from other plants.eg Morning glory ⇒ Some parasitic plants obtain food from the host plants. ⇒ Some tall plants provide shade to small trees.	**The learner;** * States ways in which plants depend on other plants.	**The learner:** * Pronounces, spells, reads, writes and demonstrates knowledge of the meaning of words related to Interdependence * Reads, writes and internalizes texts and questions related	Discussion Demonstration. Observation Discovery method.	Stating ways in which plants depend on other plants.	Logical thinking Responsibility Appreciation Care Effective communication	The environment	Introduction to Biology New fount. Sci. pbk 7. Mk int. Sci pbk 7	

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						to Interdependence						
17	**2**	**Interdependence of living things in the environment**	**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 Interdependence * Reads, writes and internalizes texts and questions related to Interdependence	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 communication	The environment	New fount. Sci. pbk 7. Mk int. Sci pbk 7	
17	**3**	**Interdependence of living things in the environment**	**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 agro forestry. * States the importance of agro forestry. * States the importance of keeping animals on a farm.	**The learner:** * 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 environment	New fount. Sci. pbk 7. Mk int. Sci pbk 7	

						to agro forestry		a farm.	ation		
17	**4**	**Interdependence of living things in the environment**							Logical thinking Responsibility Appreciation Care Effective communication	The environment	New fount. Sci. pbk 7. Mk int. Sci pbk 7
			should be healthy.								
17	**5**	**Interdependence of living things in the**	**Types of trees that can be grown on an agro**	⇒ **Indigenous trees** Indigenous trees are trees that have been growing in Uganda for many years. **Examples of**	**The learner;** * Explains the process of growing trees. * States the indigenous and exotic trees	**The learner:** * Pronounces, spells, reads, writes and demonstrates knowledge of the meaning of	Discussion Demonstration. Observation	Explaining the process of growing trees. Stating the indigenous	Logical thinking Responsibility Appreciati	The environment	New fount. Sci. pbk 7. Mk int. Sci

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		enviro nment	**forestry farm**	**indigenous trees** ⇒ Musizi ⇒ Acacia **Characteristics of indigenous trees;** ⇒ They produce hard wood.	grown on agro forestry. * States the **CCCs** of indigenous and exotic trees.	words related to agro forestry * Reads, writes and internalizes texts and questions related to agro forestry	Discovery method.		on Care Effective communic ation		pbk 7	
17	**6**	**Interd epen denc e of living things in the enviro nment**	**Starting 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. ⇒ Seed boxes-Wooden boxes filled with soil.	**The learner;** * Defines a nursery bed. * States the types of nurseries for raising seedlings. * Mentions ways of caring for seedlings in the nursery bed.	**The learner:** * Pronounces, spells, reads, writes and demonstrates knowledge of the meaning of words related to agro forestry * Reads, writes and internalizes	Discussion Demonstr ation. Observati on Discovery method.	Defining a nursery bed. Stating the types of nurseries for raising seedlings. Mentioning ways of caring for	Logical thinking Responsibi lity Appreciati on Care	The environm ent	New fount. Sci. pbk 7. Mk int. Sci pbk 7	

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				texts and questions related to agro forestry	seedlings in the nursery bed.	Effective communication			
18						Logical thinking Responsibility Appreciation Care Effective communication	The environment	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 Responsibility Appreciation	The environment	New fount. Sci. pbk 7. Mk int. Sci pbk 7	

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

				⇒ Those which mature faster ⇒ Those that give high yields	when starting a tree growing project.	and internalizes texts and questions related to agro forestry	method.	considerations when starting a tree growing project.	Effective communication			
18	**5**	**Interdependence of living things in the environment**	**Preparing wood for different purposes and proper storage**	**Uses of wood** ⇒ For charcoal. ⇒ For fire wood. **Wood for firewood.** ⇒ It is split, dried and then kept in a shed. ⇒ Trees store much water inside their cells. **Wood for electricity and telephone poles.** ⇒ Poles are treated with chemicals known as wood preservatives. A strong salt can act as a **wood preservative.**	**The learner,** * Describe the correct ways of preparing wood for different purpose.	**The learner:** * Pronounces, spells, reads, writes and demonstrates knowledge of the meaning of words related to agro forestry * Reads, writes and internalizes texts and questions related to agro forestry	Discussion Demonstration. Observation Discovery method.	Describing the correct ways of preparing wood for different purpose.	Logical thinking Responsibility Appreciation Care Effective communication	The environment	New fount. Sci. pbk 7. Mk int. Sci pbk 7	
THEME : THE COMMUNITY POPULATION AND FAMILY HEALTH **TOPIC : POPULATION AND HEALTH**												
18	**6**	**Population and community health**	**Population and health**	**Population and health concerns** • Population • Community • Health • Community Health **Community Health and**	**The learner;** * Defines; I) Population Ii) Community Iii) Health * Describes the community	**The learner:** * Pronounces, spells, reads, writes and demonstrates knowledge of the meaning of	Discussion Demonstration. Observation	Defining I) Popn Ii) Community Iii) Health Describing the	Logical thinking Responsibility Appreciati	The environment	New fount. Sci. pbk 7. Mk int. Sci pbk	

					health problems.						7 Comp. Sch. Sci. pbk 7	
19	1	**Population and community health**								The environment	New fount. Sci. pbk 7. Mk int. Sci pbk 7 Comp. Sch. Sci. pbk 7	
19	2	**Population and**	**Communicable**	**Communicable diseases** ⇒ These are diseases	**The learner;** * Define communicable	**The learner:** * Pronounces, spells, reads,	Discussion Demonstr	Defining communicable	Logical thinking	The environment	New fount. Sci.	

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

				diseases ⇒ These are diseases that are passed on from parents to offspring thro[illegible] genes. **Examples [illegible] diseases** 1. Sickle c[illegible]sea[illegible] 2. Cystic f[illegible]s **Controlling [illegible]mon sicknesses i[illegible] and communi[illegible]** 1. Proper sanitation. 2. Family planning	diseases. * Mentions ways of controlling [illegible]ses in the co[illegible]unity	texts and questions related to community health.		diseases. Mentioning ways of [illegible] common sickness[illegible] in [illegible]mu[illegible]y.	communication		pbk 7	
19	**4**	**Population and community health**	**How to avoid health and social problems**	**How to avoid health and social problems** 1. Proper sanitation 2. Proper waste disposal **Methods of preventing diseases in the community.** ➢ Immunization ➢ Through proper nutrition **How young people can avoid social and health problem** 1. Avoiding bad peer groups. 2. Form clubs such as young farmers club,	**The learner:** * States ways of avoiding health and social problems * Mentions ways of preventing diseases in the community. * States how young people can avoid social and Health problems. * Mentions the life	**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.	Stating ways of avoiding health and social problems Mentioning ways of preventing diseases in the community. Stating how young people can avoid social	Logical thinking Responsibility Appreciation Care Effective communication	The environment	New fount. Sci. pbk 7. Mk int. Sci pbk 7 Comp. Sch. Sci. pbk 7	

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				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	**5**	**Population and community health**	**Health concerns**	**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** 1. 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 Responsibility Appreciation Care Effective communication	The environment	New fount. Sci. pbk 7. Mk int. Sci pbk 7 Comp. Sch. Sci. pbk 7	

				2. Construct pit latrines								
19	**6**	**Population and community health**	**Poor water supply**	**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 [illegible] water [illegible].	**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 Responsibility Appreciation Care Effective communication	The environment	New fount. Sci. pbk 7. Mk int. Sci pbk 7 Comp. Sch. Sci. pbk 7	
20	**1**	**Population and community health**	**Inadequate 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 environment	New fount. Sci. pbk 7. Mk int. Sci pbk 7 Comp. Sch. Sci. pbk 7	

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				malnutrition in people ⇒ Chronic fatigue.		health.		home.				
20	**2**	**Population and community health**	**Healthy life styles Examples of healthy**	**Healthy life styles** **Examples of healthy life styles include;** ⇒ Doing physical exercises. ⇒ Bathing daily. **Reasons for doing daily physical exercises** ⇒ For body flexibility. ⇒ Strengthen body muscles. **Health education** ⇒ It is the making of the community get aware of the matters concerning diseases and how to prevent them. **Ways of educating people** ⇒ Through Songs, plays, storytelling.	**The learner;** * Describes the healthy life style suitable for healthful leaving. * States reasons for doing regular physical exercises. * Mentions ways of education people on healthful living.	**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 healthy life style suitable for healthful leaving. Stating reasons for doing regular physical exercises. Mentioning ways of education people on healthful living.	Logical thinking Responsibility Appreciation Care Effective communication	The environment	New fount. Sci. pbk 7. Mk int. Sci pbk 7 Comp. Sch. Sci. pbk 7	
20	**3**	**Population and community health**	**Antisocial behaviour**	**Antisocial behaviour** ⇒ Anti-social behaviour is any behavior that is not acceptable in the community ⇒ **Examples of antisocial**	**The learner;** * Defines antisocial behaviour. * Mentions the examples and their causes. * States the	**The learner:** * Pronounces, spells, reads, writes and demonstrates knowledge of the meaning of words related to	Discussion Demonstration. Observation	Describing the healthy life style suitable for healthful leaving. Stating	Logical thinking Responsibility Appreciation	The environment	New fount. Sci. pbk 7. Mk int. Sci pbk 7	

				behaviour. ⇒ Lying, Truancy, **How to prevent and control antisocial behaviour** ⇒ All parents should create stable families.	effects of antisocial behaviours	community health.	Discovery method.					
20	**4**	**Population and community health**	**Sexual deviations**	**Sexual deviations** ⇒ Sexual deviation is an abnormal sexual practice. **Give the forms of Sexual deviations:** ➢ Bestiality ➢ Homosexuality **Reasons why people practice sexual**	**The learner;** * Defines sexual deviations. * Mentions the forms of sexual deviation. * States the reasons for sexual deviations.	**The learner:** * Pronounces, spells, reads, writes and demonstrates knowledge of the meaning of words related to community health.	Discussion Demonstration. Observation Discovery	Defining sexual deviations. Mentioning the forms of sexual deviation. Stating the	Logical thinking Responsibility Appreciation Care	The environment	New fount. Sci. pbk 7. Mk int. Sci pbk 7 Comp.	

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				deviations. ⇒ For personal satisfaction ⇒ As an effect of drugs. **Ways of avoiding sexual deviations.** ⇒ Avoid bad peer groups	* Mentions ways of avoiding sexual deviations.	* Reads, writes and internalizes texts and questions related to community health.	method.	reasons for sexual deviations. Mentioning ways of avoiding sexual deviations.	Effective communication		Sch. Sci. pbk 7	
20	**5**	**Population and community health**	**Having a family budget**	**Having a family budget** **A family budget** ⇒ It is an advance plan ⇒ of how the expected family income is to be spent. **Collecting information/data on human population.** **Demography** ⇒ This is the study of the changing numbers of births, deaths and diseases in a community. **Importance of demography** ⇒ To plan for the community services	**The learner;** * Defines a budget. * States the importance of demographic study. * States the causes of change in human population.	**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.	Defining a budget. Stating the importance of demographic study. Stating the causes of change in human population.	Logical thinking Responsibility Appreciation Care Effective communication	The environment	New fount. Sci. pbk 7. Mk int. Sci pbk 7 Comp. Sch. Sci. pbk 7	

				Causes of changes in human population ☞ Emigration ☞ Immigration **Housing information** ⇒ This is the finding out of the number of people who sleep in permanent/temporary 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** ⇒ Immunization. ⇒ Family planning.								
20	**6**	**Population and community**	**information on available health**	**Collecting information on available health services** • **Advantage of collecting**	**The learner;** * Describes the process of collecting information on	**The learner:** * Pronounces, spells, reads, writes and demonstrates	Discussion Demonstration.	Describing the process of collecting information	Logical thinking Responsibility	The environment	New fount. Sci. pbk 7.	

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		y health	**services**	**information on available health services**. ⇒ It helps in quick delivery of medical services. • **Health surveys** ⇒ A health survey is a strategy of finding out health the problems and solutions to them. **Importance of health surveys.** ⇒ 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.	health surveys. * Mentions ways of caring for those in poor health.	knowledge of the meaning of words related to community health. * Reads, writes and internalizes texts and questions related to community health.	Observation Discovery method.	on health surveys Mentioning ways of caring for those in poor health.	Appreciation Care Effective communication		Mk int. Sci pbk 7 Comp. Sch. Sci. pbk 7	