

TIPS FOR PLE SCIENCE

Topic	Target areas
Muscular skeletal system	<ul style="list-style-type: none"> ➤ Bones ➤ Joints ➤ Muscles ➤ Disorders ➤ Diseases ➤ care
Sanitation	<ul style="list-style-type: none"> ➤ Promoting sanitation measures ➤ Requirements of a clean home ➤ VIP latrine ➤ Ordinary pit latrine ➤ Flush toilet ➤ Sanitary diseases , germs ➤ 4F's germ path ➤ Signs of poor and good sanitation.
Science at home and in our community	<ul style="list-style-type: none"> ➤ Methods of making water safe ➤ Methods of making water clean ➤ Water impurities ➤ Silting ➤ Cleaning clothes in a home <ul style="list-style-type: none"> i) Soaking ii) Sorting iii) Wringing iv) Rinsing v) Washing ➤ Preparing local salt.
Accidents and first aid.	<ul style="list-style-type: none"> ➤ Fever and convulsions ➤ Foreign bodies ➤ Near drowning ➤ Fainting ➤ First id concept ➤ Burns and scalds ➤ Fracture ➤ Poisoning
Respiratory system	<ul style="list-style-type: none"> ➤ Respiration <ul style="list-style-type: none"> i) Product and by products ii) Respiratory system diagram iii) Model of respiratory system ➤ Breathing. <ul style="list-style-type: none"> i) Actions during breathing

	ii) Composition of air breathed in and breathed out iii) Diseases and disorders iv) Adaptations of the alveoli. v) Care for the respiratory system.
Reproductive system	➤ Primary and secondary sex body changes ➤ Social and emotional changes. ➤ Reproductive organs ➤ Pregnancy ➤ Reproductive process ➤ Sexually transmitted diseases ➤ Disorders of the reproductive system. ➤ Family planning ➤ PIASCY messages
Excretory system	➤ The skin ➤ The kidney ➤ The liver Details on each
Light energy	➤ Sources of light ➤ Transparent, translucent and opaque objects ➤ How light travels ➤ Reflection ➤ Plane mirror and periscope ➤ Pinhole camera ➤ Refraction/ glass block/ rainbow ➤ Beams ➤ Eclipse ➤ Shadows ➤ Lenses ➤ Lens camera ➤ Optical instrument ➤ The human eye ➤ Comparison of the eye and the len camera ➤ Eye defects ➤ Diseases that affect the eye.
Electricity and magnetism	➤ Source of electricity ➤ Electric circuit ➤ Electric cells ➤ Electric conductors and insulators ➤ Electric bulb ➤ Electric torch

	<ul style="list-style-type: none"> ➤ Static electricity ➤ Short circuits ➤ Diagrams of magnets ➤ Properties of magnets ➤ Making magnets ➤ Demagnetization ➤ Electric bell ➤ Uses of magnets// electricity ➤ Generators, dynamos
Simple machines and friction.	<ul style="list-style-type: none"> ➤ Friction concept ➤ Inclined planes ➤ Levers ➤ Screws ➤ Wheels and axles ➤ Pulleys
Interdependence of things in the environment	<ul style="list-style-type: none"> ➤ Interdependence of plants and animals ➤ Food chains ➤ Agroforestry ➤ Nursery bed ➤ Crop growing practices ➤ Harvesting trees. ➤ Woodlot
	➤
Resources in the environment	<ul style="list-style-type: none"> ➤ Renewable and nonrenewable resources ➤ Energy resources from; <ul style="list-style-type: none"> i) Plants ii) Animals iii) Fossil fuels iv) Minerals v) Water vi) Sun vii) Wind viii) Concepts on air ➤ Craft materials ➤ Sources ➤ Examples ➤ Uses ➤ Plant and animal fibers ➤ Windmill ➤ Alloys

	<ul style="list-style-type: none"> ➤ environmental degradation ➤ pollution ➤ conserving resources ➤ conserving wood fuel ➤ waste management(6rs) ➤ biogas production ➤ energy saving stove
Population and health	<ul style="list-style-type: none"> ➤ Community health concerns ➤ Types of common sicknesses ➤ Anti-social behavior ➤ Activities done to address health concerns ➤ Health surveys ➤ Demography
Bacteria and fungi	<ul style="list-style-type: none"> ➤ Conditions favourable for bacteria to breed ➤ Reproduction in bacteria ➤ Uses of bacteria ➤ Dangers of bacteria ➤ Bacterial diseases in plants, animals and people ➤ Prevention/ control of harmful bacteria ➤ Examples of fungi ➤ Structure of mushroom ➤ Reproduction in fungi ➤ Uses of fungi ➤ Dangers of harmful fungi ➤ Fungal diseases in humans ➤ Prevention and control of harmful fungi.
Classification of animals	<ul style="list-style-type: none"> ➤ Classification table ➤ Groups of vertebrates (details on each group) <ul style="list-style-type: none"> i) Mammals ii) Birds iii) Reptiles iv) Fish v) Amphibians ➤ Invertebrates <ul style="list-style-type: none"> i) Molluscs ii) Worms iii) Arthropods
Sound energy	<ul style="list-style-type: none"> ➤ Sources of sound ➤ Why animals make sound ➤ Methods of storing and reproducing sound

	<ul style="list-style-type: none"> ➤ Properties of sound ➤ Pitch of sound ➤ Volume of sound ➤ Musical instruments ➤ Speed of sound ➤ Echoes ➤ The human ear <ul style="list-style-type: none"> i) Structure ii) Functions iii) Disorders iv) Care v) Diseases
The circulatory system	<ul style="list-style-type: none"> ➤ The human heart ➤ Blood vessels ➤ Blood ➤ Blood components ➤ Disorders and diseases ➤ Increasing volume of blood ➤ Care for the circulatory system
Food and nutrition	<ul style="list-style-type: none"> ➤ Advantages of breast feeding to the baby and mother ➤ Conditions that lead to bottle feeding. ➤ Disadvantages of bottle feeding ➤ Vulnerable groups ➤ Food for vulnerable ➤ Food taboos ➤ Balanced diet components ➤ Classes of food/food values ➤ Deficiency diseases ➤ Food security ➤ Preparing simple dishes
Alcohol, smoking and drugs	<ul style="list-style-type: none"> ➤ Methods of making alcohol ➤ Uses of alcohol ➤ Factors that lead to alcoholism ➤ Effects of alcohol ➤ Factors that lead to smoking ➤ Types of smoking ➤ Harmful substances found in tobacco smoke. ➤ Effects of smoking to : <ul style="list-style-type: none"> a) Individuals

	b) Pregnant woman c) Family ➤ Characteristics of essential drugs. ➤ Drug prescription ➤ Drug misuses ➤ Dangers of buying drugs from local shops ➤ Drug abuse and depending with their effects ➤ Life skills to safeguard against alcoholism smoking
Classification of plants	➤ Classification table ➤ Non flowering plants ➤ Diagrams of a bean seed and maize ➤ Conditions for germination ➤ Types of germination and illustration ➤ Pollination ➤ Seed dispersal ➤ An onion // Irish potato ➤ Photosynthesis and transpiration ➤ Rhizomes ➤ Types of leaves ➤ Leaf venation ➤ Concepts on roots ➤ Plant propagation ➤ Climbing plants and modes of climbing.
Crop growing	➤ Groups of crops ➤ Types of annual crops ➤ Tuber crops ➤ Garden tools ➤ Crop growing practices ➤ Crop rotation ➤ Crop pests and disease ➤ Harvesting crops ➤ Storage crops i) Conditions ii) Storage facilities (granary)
Keeping goas,sheep and pigs	➤ Advantages of keeping goats over cattle ➤ Dairy breeds of goats ➤ Housing goats and sheep. ➤ Steaming up – angora goats ➤ Heat period ➤ Sheep sheering

	<ul style="list-style-type: none"> ➤ Wool sheep breeds ➤ Castration ➤ Hoof trimming ➤ Docking ➤ Dehorning ➤ Deworming <ul style="list-style-type: none"> i) Drenching ii) Dosing ➤ Methods of grazing ➤ Selected diseases that attack farm animals ➤ Factors to consider when starting a livestock farm. ➤ Farm records. ➤ Breeds, advantages and disadvantages
Keeping cattle	<ul style="list-style-type: none"> ➤ Types of cattle ➤ Cattle shapes ➤ Breeds, advantages and disadvantages. ➤ Insemination ➤ Signs of a cow on heat. ➤ Importance of colostrum to calf. ➤ Strip cup, lactometer, burdizzo. ➤ Methods of milking. ➤ Milk preservation. ➤ Milk products. ➤ Tick borne cattle diseases ➤ Cattle identification <p>For other areas, refer to keeping goats, sheep and pigs</p>
Types of changes in the environment	<ul style="list-style-type: none"> ➤ Examples of biological changes in <ul style="list-style-type: none"> I) Plants II) Animals ➤ Examples of body changes ➤ Ways of managing body changes. ➤ Characteristics of physical changes. ➤ Examples of physical changes ➤ Rusting concept
Primary Health Care (PHC)	<ul style="list-style-type: none"> ➤ Elements of PHC ➤ Activities done under element

	<ul style="list-style-type: none"> ➤ Responsibilities of individuals, families and communities in promoting PHC ➤ Principles of PHC ➤ Health lifestyles ➤ Health parades ➤ Control of diseases without using drugs ➤ Child to child programme ➤ Roles of school health committee ➤ Importance of PHC ➤ Examples of people with special needs and caring for them.
Soil	<ul style="list-style-type: none"> ➤ Characteristics of sand, loam and clay soil ➤ Uses of sand, clay and loam soil. ➤ Soil formation. ➤ Factors that affect weathering. ➤ Components of soil. ➤ Soil contains water, air experiments ➤ Concepts on soil erosion ➤ Soil exhaustion ➤ Effects of harmful materials on soil. ➤ Soil conservation methods. ➤ Soil fertility ➤ Fertilizers and their application ➤ Making compost manure.
Heat energy	<ul style="list-style-type: none"> ➤ Properties of matter ➤ States of matter ➤ Solutes, solvents and solutions ➤ Physical processes in matter ➤ Energy – mixtures ➤ Effects of heat gain and loss ➤ Expansion and contraction ➤ Heat transfer and their applications ➤ Heat conductors and insulators ➤ Temperature, thermometers, thermometric liquids and conversions. ➤ Why water is not used in thermometers.
Immunization	<ul style="list-style-type: none"> ➤ Importance of immunization ➤ Types of immunity ➤ Ways of acquiring and boosting immunity.

	<ul style="list-style-type: none"> ➤ Immunisable childhood diseases ➤ Administration of vaccines ➤ Child health card
Digestive system	<ul style="list-style-type: none"> ➤ Diagram of digestive system. ➤ Roles of saliva, hydrochloric acid, enzymes, tongue and bile during digestion. ➤ Peristalsis ➤ Disease and disorders of the digestive system and prevention. ➤ Action of food in the mouth and stomach. ➤ Care for the digestive system
Measurement	<ul style="list-style-type: none"> ➤ Mass and weight concept ➤ Measuring volume ➤ Floating and sinking objects ➤ Finding volume and mass ➤ Hydrometer
Keeping poultry and honey bees	<ul style="list-style-type: none"> ➤ Types of chicken ➤ Breeds of chicken ➤ Advantages and disadvantages of keeping different breeds of chicken. ➤ Incubation and brooding ➤ Systems of keeping poultry. ➤ Poultry vices ➤ Feeding poultry ➤ Poultry parasites and diseases ➤ Control/ prevention of the above ➤ Farm records ➤ Types of bees, their roles and characteristics ➤ Products got from bees and their uses ➤ Importance of honey bees. ➤ Swarming and its causes ➤ Sitting and stocking bees ➤ Bee hives ➤ Honey extaction ➤ Bee enemies ➤ Bee farming as a business ➤ Honey combs
Body organs	<ul style="list-style-type: none"> ➤ Body organs their functions ➤ Body senses and their sensitivities ➤ Diseases that affect different body organs

	<ul style="list-style-type: none"> ➤ Care for body organs
Vectors and diseases	<ul style="list-style-type: none"> ➤ Common vectors, disease and their breeding grounds. ➤ Characteristics of vectors ➤ How vectors spread diseases ➤ Life styles of vectors ➤ Feeding habits of vectors ➤ Prevention and control of vectors ➤ HIV concept.
Communicable intestinal diseases	<ul style="list-style-type: none"> ➤ Examples of diarrhoeal diseases and how they spread ➤ Signs and symptoms of diarrhoeal diseases ➤ Control/ prevention of diarrhoeal diseases ➤ Dehydration, rehydration and ORS ➤ Worm infestation <ul style="list-style-type: none"> i) Tapeworm ii) Hookworm iii) Pinworms ➤ Signs and symptoms of worm infestation. ➤ Prevention /control of worm infestation.
Teeth	<ul style="list-style-type: none"> ➤ Sets of teeth and their composition ➤ Types of teeth, functions, diagrams and adaptations ➤ Arrangement of teeth in the mouth ➤ The structure of the tooth showing parts and their functions ➤ Mineral salts that harden teeth. ➤ Disease and disorders of teeth. ➤ Dental hygiene/ oral health
Weather changes around us	<ul style="list-style-type: none"> ➤ Details on weather elements and types i.e <ul style="list-style-type: none"> i) Clouds ii) Sunshine iii) Wind iv) Rainfall ➤ Water cycle <ul style="list-style-type: none"> i) Processes involved ii) Illustration iii) Roles of the sun, plants, water body and nimbus clouds in rain formation.

	<ul style="list-style-type: none"> ➤ Element of weather formed. ➤ Experiment on water cycle. ➤ Weather instruments. ➤ Stevenson screen ➤ Simple weather instruments <ul style="list-style-type: none"> ❖ Diagram ❖ Table ❖ shadows ➤ Harvest rainwater. ➤ Effects of weather changes
Personal hygiene	<ul style="list-style-type: none"> ➤ Ways of keeping the body clean ➤ Importance of keeping our bodies clean ➤ Things used for keeping our body clean (Diagram and importance) ➤ Diseases spread due to poor personal hygiene ➤ Prevention /control of such disease ➤ Body parts that need to be kept clean.
Keeping rabbits	<ul style="list-style-type: none"> ➤ Breeds of rabbits ➤ Hutches(types and qualities) ➤ Cleaning hutches ➤ Rabbit products ➤ Uses of rabbits ➤ Advantages of keeping rabbits over goats ➤ Reproduction in rabbits ➤ Common rabbit diseases. ➤ Signs of diseases in rabbits. ➤ Diseases that attack both; <ul style="list-style-type: none"> i) Rabbits and poultry ii) Rabbits and human beings ➤ Prevention/ control of diseases in rabbits ➤ Keeping rabbit records.

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