

Republic of Zambia

MINISTRY OF EDUCATION, SCIENCE, VOCATIONAL TRAINING AND EARLY EDUCATION

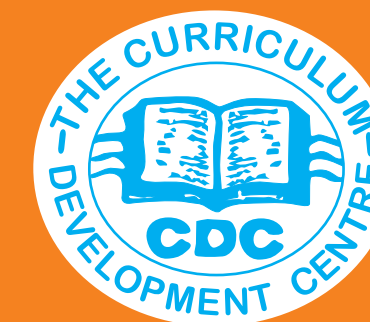
INTEGRATED SCIENCE SYLLABUS

GRADES 1 – 7



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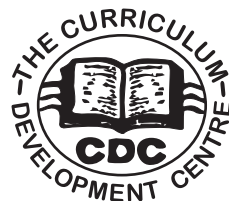


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Prepared and Written by The Curriculum Development Centre
P.O. Box 50092
Lusaka - Zambia
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VISION

Quality, lifelong education for all which is accessible, inclusive and relevant to individual, national and global needs and value systems

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PREFACE

The review of the Integrated Science syllabus was necessitated by the need to provide a curriculum that is interrelated and interconnected at all the levels of the education system in order to provide quality education. It is envisaged that it will transmit to the young learners the knowledge, skills, positive values and attitudes that allow them to live and grow into resourceful and useful members of their communities. Learners will therefore be provided with opportunities and experiences necessary for the development of mental, physical, emotional, social and hence realise their potentials. The syllabus will also provide young learners an opportunity to do hands-on, minds-on and hearts-on activities through manipulation of objects and models, interaction with nature through observation of living and non-living things in their environment as is required in the field of science. It will enhance children's readiness for learning science and as a foundation for lifelong learning.

This syllabus has incorporated the emerging needs of society (cross-cutting issues) such as sexuality education, environment, gender, HIV and AIDS, nutrition and health, in order to ensure children's safety and equip them with basic knowledge, essential skills, values and develop positive attitudes needed for their progression in the field of science and the world of work.

It is hoped that this syllabus will encourage learners to be creative, problem solvers and critical thinkers and hence make science more meaningful, enjoyable and contribute to the caring of their immediate environment.

It is also my sincere hope that this syllabus will encourage teachers to do science with their learners as opposed to teaching science to them.



Chishimba Nkossa

Permanent Secretary

MINISTRY OF EDUCATION, SCIENCE, VOCATIONAL TRAINING AND EARLY EDUCATION

ACKNOWLEDGEMENTS

The syllabus presented here is a result of broad-based consultation involving several stakeholders within and outside the education system.

Many individuals, institutions and organisations were consulted to gather their views on the existing syllabus and to accord them an opportunity to make suggestions for the new syllabus. The Ministry of Education, Science, Vocational Training and Early Education wishes to express heartfelt gratitude to all those who participated for their valuable contributions, which resulted in the development of this syllabus.

The Curriculum Development Centre worked closely with other sister departments and institutions to develop this document. We sincerely thank the Directorate of Teacher Education and Specialised Services, the Directorate of Planning and Information, the Directorate of Human Resource and Administration, the Directorate of Open and Distance Education, the Examinations Council of Zambia, the University of Zambia, schools and other institutions too numerous to mention, for their steadfast support.

We pay special tribute to co-operating partners especially JICA in collaboration with Hiroshima University and UNICEF for rendering financial and technical support in the production of the syllabus.



C.N.M Sakala (Mrs.)

Director - Standard and Curriculum

MINISTRY OF EDUCATION, SCIENCE, VOCATIONAL TRAINING AND EARLY EDUCATION

INTRODUCTION

The contributing subjects to this learning area are Environmental Science, Home Economics and Agricultural Science. It also integrates other cross-cutting issues such as Environment, Reproductive Health, HIV/AIDS, Hygiene, Nutrition, Substance Abuse, Sexuality Education, Water and Sanitation.

METHODOLOGY

The success of Integrated Science can be achieved by maximum participation by learners. This learning area, that enhances creativity, analysis, problem solving and an investigative approach, can be taught effectively using a variety of methods both in the classroom and outside. Learners are expected to conduct experiments, study tours, field work and project work.

GENERAL OUTCOMES FOR GRADES 1 - 7

Integrated Science is an area in which learners are required to develop scientific knowledge, skills and attitudes which will help them to explore and understand their immediate environment and the world at large.

By the end of Grade 7 learners are expected to develop:

- an attitude of scientific curiosity and enquiry;
- the ability to generate new ideas;
- ability to co-operate;
- willingness to share knowledge;
- an understanding of human beings and their environment;
- awareness of a variety of life;
- an understanding of the relationship of living things in their environment; and
- knowledge, skills and positive attitudes in health and nutrition.

ASSESSMENT

Continuous assessment will be emphasised by using various methods of testing according to topics and themes at various levels. The Examinations Council of Zambia (ECZ) will prepare detailed procedures on how continuous assessment will be conducted by the teachers. ECZ will also develop examination syllabus to provide teachers with guidelines on the outcomes to be tested. The scheme of assessment will consist of school based assessment and final examination that will be conducted by the Examinations Council of Zambia.

School based assessment will be in the form of tests. Tests will be in the form of diagnostic, aptitude, achievement, oral, practice attitude and performance, learners.

TIME AND PERIOD ALLOCATION

Time allocation for this syllabus will require at least five periods of 2hrs 30 minutes per week for grades 1 to 4 while for grades 5 to 7, six periods of 4hrs per week.

GRADE 1

GENERAL OUTCOMES AND KEY COMPETENCES

GENERAL OUTCOMES:	KEY COMPETENCES
• Demonstrate an understanding of the basic facts about the human body • Develop investigative skills • Recognise the importance of personal health • Develop investigative skills on personal health • Develop knowledge, values and positive attitudes for the immediate environment • Develop investigative skills about the immediate environment • Develop knowledge, values and positive attitudes about materials and energy • Demonstrate investigative skills about materials and energy • Demonstrate an understanding of the basic facts about plants and animals • Develop investigative skills about plants and animals	• Demonstrate the ability to follow basic hygienic practices • Demonstrate an understanding and appreciation of the local environment

TOPIC	SUB-TOPIC	SPECIFIC OUTCOMES	CONTENT		
			KNOWLEDGE	SKILLS	VALUES
1.1 THE HUMAN BODY	1.1.1 External parts of the Human Body	1.1.1.1 Identify the external parts of the human body.	External parts of human body e.g. Head, neck, arm, elbow, hand, abdomen, knee, leg, ankle, foot.	Observing the external parts of human body	Appreciating the external parts of human body
	1.1.2 The Senses	1.1.2.1 Identify the parts associated with the senses	Parts associated with the five senses(Sight - eyes; smell- nose; hearing - ears; taste - tongue; touch –skin)	Observing the parts associated with senses	Appreciating the sense organs
	1.1.3 Stages of HumanLife	1.1.3.1 Identify the stages in the human life cycle.	Stages in the human life cycle such as Baby, toddler, infant, child, teenager, adult, aged person	- Classifying humans according to stage of growth - Communicating the role of clinics	- Cooperating during group activities - Appreciating human life cycle
		1.1.3.2 Describe what a human being can do at different stages of growth.	Activities at different stages of human growth(Sitting; crawling; standing; running		
		1.1.3.3 Mention what the clinic does for babies and children in the community	Role of clinics such as; Vaccination of children and babies		

TOPIC	SUB-TOPIC	SPECIFIC OUTCOMES	CONTENT		
			KNOWLEDGE	SKILLS	VALUES
1.2 HEALTH	1.2.1 Hygiene	1.2.1.1 Explain the importance of keeping the body clean.	Importance of clean bodies in Prevention of diseases	- Communicating information on the importance of hygiene - Demonstrating hygiene practices - Observing hygiene practices	- Cooperating in group work - Practicing Personal and environmental care - Asking questions for more understanding
		1.2.1.2 Demonstrate how to clean the face, teeth, hands and feet.	Ways of Cleaning the face, teeth, hands and feet.		
		1.2.1.3 Explain the importance of washing hands.	Importance of hand washing in Prevention of transmission of germs(diseases)		
		1.2.1.4 Explain the importance of keeping the surroundings clean.	Importance of clean surrounding in Prevention of breeding/transmission grounds of germs		
	1.2.2 Common Diseases	1.2.2.1 State common communicable diseases	Communicable diseases such as Diarrhea, Dysentery, Cholera, HIV and AIDS, common colds, Ebola	Communicating information on common diseases	Cooperating in group work

TOPIC	SUB-TOPIC	SPECIFIC OUTCOMES	CONTENT		
			KNOWLEDGE	SKILLS	VALUES
1.3 THE ENVIRONMENT	1.3.1 The Environment	1.3.1.1 Identify the main features of the local environment.	• Features of the local environment(Plants, Rocks, animals Streams, buildings)	• Observing main features of local environment • Comparing urban and rural environment • Communicating the importance of the environment.	• Caring for the local environment • Cooperating in group work
		1.3.1.2 Distinguish between urban and rural environment.	• Refer to Houses, roads, heating and lighting, water supply		
		1.3.1.3 Explain the importance of the environment to living things.	• Importance of environment in providing Food, shelter, medicines, water, wood,		

TOPIC	SUB-TOPIC	SPECIFIC OUTCOMES	CONTENT		
			KNOWLEDGE	SKILLS	VALUES
1.4 PLANTS AND ANIMALS	1.4.1 Local Plants	1.4.1.1 Identify plants in the local environment.	Local plants e.g. Crops, weeds, decorative plant.	Comparing plants in the local environment	- Appreciating plants in local environment - Asking questions for more understanding
		1.4.1.2 Observe the early stages of plant growth.	Plant growth stages (Seed, root and shoot).	Observing stages of plant growth	
	1.4.2 Animals around us	1.4.2.1 Identify wild and domestic animals in the local environment.	Wild animals(e.g. Lion, elephant, zebra) and domestic animals(e.g. Cow, pig, sheep)	- Classifying animals in the local environment - Communicating what animals do	- Appreciating all animals - Asking questions for more understanding
		1.4.2.2 Name things that all animals do.	Common Activities of animals such as Moving, feeding, breathing, growing, reproducing, etc.		

TOPIC	SUB-TOPIC	SPECIFIC OUTCOMES	CONTENT		
			KNOWLEDGE	SKILLS	VALUES
1.5 MATERIALS AND ENERGY	1.5.1 Types and properties of Materials	1.5.1.1 Identify different types of materials.	Materials(Wood, metal, plastic, stone, mud, textiles, water)	- Comparing materials according to type, properties and uses - Classifying materials according to properties	- Cooperating in group activities - Listening to others with respect. - Appreciating different uses of materials
		1.5.1.2 Describe properties of materials.	Properties of materials (Rough/smooth; hard/soft; flexible/rigid; strong/fragile, sinking, floating)		
		1.5.1.3 Explain different uses of materials.	Uses of materials (Shelter, clothing, building, toys)		

GRADE 2

GENERAL OUTCOMES AND KEY COMPETENCES

GENERAL OUTCOMES:	KEY COMPETENCES
• Demonstrate an understanding of the basic facts about the human body • Develop investigative skills • Recognise the importance of health • Develop investigative skills on health Develop knowledge, values and positive attitudes for the immediate environment • Develop investigative skills about the immediate environment Demonstrate an understanding of the basic facts about plants and animals • Develop investigative skills about plants and animals • Develop knowledge, values and positive attitudes about materials and energy • Demonstrate investigative skills about materials and energy	• Demonstrate the ability to move legs and arms • Demonstrate an understanding of the importance of good hygiene • Demonstrate the existence of matter in solid, liquid and gas form

TOPIC	SUB-TOPIC	SPECIFIC OUTCOMES	CONTENT		
			KNOWLEDGE	SKILLS	VALUES
2.1 THE HUMAN BODY	2.1.1 The Internal Parts of the Human Body	2.1.1.1 Name the major internal parts	Major internal parts (Brain, throat, lungs, stomach, intestines and heart)	Communicating the names of major internal organs	Participating in class discussion actively
		2.1.1.2 Describe the functions of the major internal parts	Functions of major parts; Brain-thinking, throat -passing food, lungs - exchanging air, stomach-digesting food, intestine-food absorption, heart-pumping blood	Communicating the functions of the major internal organs	Appreciating the major internal organs

TOPIC	SUB-TOPIC	SPECIFIC OUTCOMES	CONTENT		
			KNOWLEDGE	SKILLS	VALUES
2.2 HEALTH	2.2.1 Food Hygiene	2.2.1.1 Explain the importance of washing of food before eating it	Importance food hygiene in getting rid of germs	Communicating importance of water and food hygiene	Appreciating food and water hygiene
		2.2.1.2 Explain the danger of eating exposed food.	Danger of exposed food: may cause diarrhoea		
		2.2.1.3 Explain the need to drink clean and safe water	Drinking clean water to avoid taking in germs/disease		
	2.2.2 HIV and AIDS	2.2.2.1 State what HIV and AIDS stand for.	HIV-Human Immuno- deficiency Virus; AIDS - Acquired Immune Deficiency Syndrome	Communicating information on HIV, its transmission and prevention	- Awareness of HIV and AIDS - Cooperating in group work - Caring for the infected and affected
		2.2.2.2 Mention ways through which HIV can be transmitted	HIV Transmission through contaminated Blood and body fluids		
		2.2.2.3 Explain how HIV can be prevented.	Prevention by avoiding touching blood and body fluids, sharp objects.		

TOPIC	SUB-TOPIC	SPECIFIC OUTCOMES	CONTENT		
			KNOWLEDGE	SKILLS	VALUES
2.3 ENVIRONMENT	2.3.1 Our Environment	2.3.1. 1 List things that are harmful to human beings and the environment	Harmful things (Waste dumps, toxic fumes from factories, automobiles and fires.	- Communicating information on clean and dirty environment - Observing things harmful in the environment	- Appreciating the environment - Cooperating in group activities - Participating in voluntary activities on keeping the environment clean - Applying knowledge of keeping homes and schools clean.
		2.3.1.2 Explain why wastes should be deposited in the right places.	Depositing waste in the right places to avoid contamination of the Environment.		
		2.3.1.3 Describe the effects harmful things on the environment	Effects of harmful things: cause diseases, kill plants and animals, change the habitat of living things.		
		2.3.1.4 Explain the importance of keeping our homes and schools clean.	Keeping homes and schools clean to avoid land and water pollution		
		2.3.1.5 Explain what people in the community do to care for their surroundings.	Caring of surrounding by cleaning, planting flowers, trees and grass. Slashing, decorating.		

TOPIC	SUB-TOPIC	SPECIFIC OUTCOMES	CONTENT		
			KNOWLEDGE	SKILLS	VALUES
2.4 PLANTS AND ANIMALS	2.4.1 Parts of Plants	2.4.1.1 Identify the main parts of a plant	• Plant parts(Root, stem, leaf, flower, and fruits)	• Observing the main parts of a plant • Comparing the life cycle of plants	• Appreciating wild plants • Caring for vital plants
		2.4.1.2 Describe the life cycle of a plant	• Seed- seedling-adult plant with flowers- adult plant with fruits-adult plant dies		
	2.4.2 Types of Animals	2.4.2.1 Name different types of animals in the environment.	• Insects and animals (e.g. mosquitoes, bees, worms; spider, lion, elephant, tilapia, snake, eagle, cow).	• Observing animals in the environment • Communicating ways of conserving animals	• Appreciating animals in the environment • Caring for the animals in the environment. • Participating actively in group activities
		2.4.2.2 Mention some animals which depend on others for food.	• Animals that depend on others for food(Dog, cat, lion, fox, snake, leopard)		
		2.4.2.3 Mention some animals which feed on grass and crop plants.	• Animals that depend on plants for food(Goat, pig, cow, rabbit, impala)		
		2.4.2.4 Mention places where wild animals are found	• Places where animals are found (bush, dessert, woods, river, lake, etc.)		
		2.4.2.5 Explain how animals protect themselves from their enemies	• Protection of animals from enemies by Camouflage, running, horns		
		2.4.2.6 Explain the importance of conserving wild life.	• Conserving animals to avoid extinction, gain foreign exchange through tourism		

TOPIC	SUB-TOPIC	SPECIFIC OUTCOMES	CONTENT		
			KNOWLEDGE	SKILLS	VALUES
2.5 MATERIALS AND ENERGY	2.5.1 Soluble and insoluble Materials	2.5.1.1 Demonstrate the existence of materials in solid and liquid forms.	• Matter in Solid and liquid form	• Observing the change of liquid and solid state of materials • Investigating the solubility of different solids in cold and hot water • Inferring that soluble materials (sugar and salt) dissolve faster in hot water than in cold water	• Appreciating the solubility of substances • Asking questions for more understanding • Participating in class activities actively
		2.5.1.2 Demonstrate that some materials are soluble and others are insoluble	• Dissolving and non-dissolving substances (e.g. Sugar, salt, chalk, dust, sand)		
		2.5.1.3 Show that some materials dissolve quicker in hot water than in cold water.	• Comparing the dissolving rate of materials such as sugar and salt in hot and cold water		
	2.5.2 Sources of Sound	2.5.2.1 Mention the Sources of Sound.	• Sources of sound (Metals, drum, speakers, headphones, bell)	• Communicating sources of sounds • Classifying different sounds	• Appreciating different sources of sound • Cooperating in group activities
		2.5.2.2 Distinguish between different sounds.	• Different sounds such as Loud/soft, high pitch/low pitch,		
	2.5.3 Light	2.5.3.1 Mention the sources of light	• Sources of light (Sun, fire, candle, bulb)	• Communicating the sources of light • Relating the position of light to shadows and shades	• Appreciating light and its sources • Cooperating in group activities
		2.5.3.2 Relate different positions of the source of light to shadow and shade at different times.	• Relating the position of the light to the size of the shadow and shade at different times.		

GRADE 3

GENERAL OUTCOMES AND KEY COMPETENCES

GENERAL OUTCOMES:	KEY COMPETENCES
• Demonstrate an understanding of the basic facts about the human body • Develop investigative skills • Recognise the importance of personal health • Develop investigative skills on personal health Develop knowledge, values and positive attitudes for the immediate environment • Develop investigative skills about the immediate environment Demonstrate an understanding of the basic facts about plants and animals • Develop investigative skills about plants and animals • Develop knowledge, values and positive attitudes about materials and energy • Demonstrate investigative skills about materials and energy	• Show basic knowledge and skills in taking the pulse rate • Show basic skills and knowledge in measuring temperature of various objects • Demonstrate the ability to classify plants and animals

TOPIC	SUB-TOPIC	SPECIFIC OUTCOMES	CONTENT		
			KNOWLEDGE	SKILLS	VALUES
3.1 THE HUMAN BODY	3.1.1 Mouth	3.1.1.1 State the function of the teeth and tongue	Functions; teeth for chewing the food, tongue for tasting with	Communicating information on the function of the mouth	- Appreciating the function of the teeth and tongue - Cooperating in group work
	3.1.2 Nose	3.1.2.1 State the function of the nose	Function of the nose: for smelling and breathing with	Communicating information on the function of the nose	Participating actively in class activities
	3.1.3 Structure of the Body	3.1.1.1 Demonstrate the movement of arms and legs	Movement of arms and legs	- Comparing movement of legs and arms - Observing major movable joints of the body - Communicating information on the human skeleton	- Appreciating body movements - Asking questions for more understanding
		3.1.1.2 Name the major movable joints in the body.	Movable joints (Elbow, knee, shoulder, hip, wrist and ankle).		
		3.1.1.3 Explain the role played by bones, joints and muscles.	Function of bones and muscles(Hold structure, support the body and help in movement		
		3.1.1.4 Explain what happens if a bone gets broken.	Broken arm or leg: pain, no movement or playing.		
		3.1.1.5 Identify the major parts of the human skeleton	Parts of the human skeleton (Skull, neck, arms, ribs, hip, legs, feet, spine)		

TOPIC	SUB-TOPIC	SPECIFIC OUTCOMES	CONTENT		
			KNOWLEDGE	SKILLS	VALUES
3.2 HEALTH	3.2.1 Food	3.2.1.1 State the importance of food	Importance of food for: Energy, body building and protection.	- Classifying foods according to nutrients - Communicating the composition of a balanced diet for health	- Appreciating food nutrients - Cooperating in group activities - Applying the knowledge of a balanced diet in everyday life
		3.2.1.2 Classify foods according to their nutrients.	Food nutrients such as Energy foods: rice nshima, potatoes; Body building foods: meat, eggs beans Protective foods: fruits, vegetables,		
		3.2.1.3 Demonstrate the composition of a balanced diet for health from available foods.	Composition of balanced diet: e.g. nshima, meat and vegetables		
	3.2.2 Drug Abuse	3.2.2.1 Identify common drugs in the community.	- Common drugs: paracetamol, quinine, vermoxx, alcohol. - Effects of too much drugs: addiction, death Poor/ bad health,	- Investigating common drugs - Communicating the effects of taking drugs	- Awareness of common drugs - Using drugs correctly
		3.2.2.2 Explain the effects of taking too much drugs			
	3.2.3 Illnesses and Diseases	3.2.3.1 Identify the common causes of diseases	Common causes of diseases: Parasites, bacteria and viruses	- Investigating the common causes of diseases - Comparing infectious and non-infectious diseases - Communicating ways of preventing diseases	- Awareness of common diseases, their causes and prevention - Cooperating in group work - Caring for the sick
		3.2.3.2 List common diseases in the community	Common diseases: Malaria, cholera, dysentery, colds, bilharzia.		
		3.2.3.3 Distinguish between infectious and non-infectious diseases	Infectious (HIV, TB, Ebola, Measles, chicken pox) .Non-infectious (Asthma, Malnutrition).		
		3.2.3.4 Explain different ways of preventing diseases	Personal hygiene, good sanitation, vaccination, healthy food.		

TOPIC	SUB-TOPIC	SPECIFIC OUTCOMES	CONTENT		
			KNOWLEDGE	SKILLS	VALUES
3.3 THE ENVIRONMENT	3.3.1 Soil Formation	3.3.1.1 State what weathering is.	Weathering as the breaking up of rocks to form soil	- Communicating the agents of weathering - Investigating the layers of soil	- Appreciating the formation of soil - Cooperating in group work
		3.3.1.2 Identify the agents of weathering in soil formation	Agents of weathering: Wind, trees, water, animals		
		3.3.1.3 Demonstrate the formation of soil layers.	Soil layers: top soil, subsoil and bedrock		
3.4 PLANTS AND ANIMALS	3.4.1 Plant Classification	3.4.1.1 Classify plants into flowering and non- flowering.	Flowering Plants(e.g. maize, beans, rose flower) and non-flowering plants (e.g. ferns, moss, pine)	Classifying plants into flowering and non- flowering	Appreciating classes of plants
	3.4.2 Animal Classification	3.4.2.1 Classify animals into vertebrates and invertebrates. 3.4.2.2 Classify vertebrates into their groups.	- Vertebrates-e.g. Man, chicken, snake, fish, frog; Invertebrates-e.g. Worms, spiders, insects. - Groups of vertebrates: Mammals, birds, amphibians, fish, reptiles	- Classifying vertebrate and invertebrates - Grouping vertebrates into their five groups	- Participating actively in class discussion - Appreciating groups of animals
	3.4.3 Homes of living things	3.4.3.1 Identify different places where animals and plants live	Place of living (e.g. Land (forest, soil, plains, mountains, water (ponds, rivers, seas).	Comparing places where animals and plants live	Caring for environment where plants and animals live

TOPIC	SUB-TOPIC	SPECIFIC OUTCOMES	CONTENT		
			KNOWLEDGE	SKILLS	VALUES
3.5 MATERIALS AND ENERGY	3.5.1 Three States of matter	3.5.1.1 Demonstrate the effect of heating and cooling on matter	Effects of heating and cooling on matter: change of state into solid liquid and gas	Investigating the effect of heating and cooling on matter	- Cooperating in group activities - Appreciating change of state of matter
		3.5.1.2 Demonstrate the process of melting, evaporation and freezing.	Process of: Melting, Evaporation freezing and condensation.	Communicating the process of melting, evaporation and condensation	Applying Safety rules during demonstration on heating /cooling
	3.5.2 Solutions	3.5.2.1 Demonstrate the existence of saturated and unsaturated solutions	Saturated and unsaturated solution of: Salt and sugar solutions	Observing the existence of saturated and unsaturated solutions	Cooperating in group activities

GRADE 4

GENERAL OUTCOMES AND KEY COMPETENCES

GENERAL OUTCOMES:	KEY COMPETENCES
• Demonstrate an understanding of the basic facts about the human body • Develop investigative skills Recognise the importance of personal health • Develop investigative skills on personal health • Develop knowledge, values and positive attitudes for the immediate environment • Develop investigative skills about the immediate environment • Demonstrate an understanding of the basic facts about plants and animals • Develop investigative skills about plants and animals • Develop knowledge, values and positive attitudes about materials and energy • Demonstrate investigative skills about materials and energy	• Show basic knowledge and skills in cleaning and caring for the external body parts • Demonstrate basic knowledge and skills in appreciating nature

TOPIC	SUB-TOPIC	SPECIFIC OUTCOMES	CONTENT		
			KNOWLEDGE	SKILLS	VALUES
4.1 THE HUMAN BODY	4.1.1 Eyes	4.1.1.1 Identify the basic parts of an eye.	• Basic parts of eyes: Eyelid, iris, pupil, eye lash;	• Observing features of eyes	• Appreciating the role of eyes as sense organs
		4.1.1.2 State the function of eyes	• Function of eyes: Sight, reading;	• Investigating functions of eyes	
	4.1.2 The Ear	4.1.2.1 Identify the basic parts of an ear.	• Basic parts of ears: Earlobe, middle ear and inner ear	• Communicating features and functions of ears	• Appreciating the role of ears as sense organs
		4.1.2.2 State the function of ears.	• Function of ears: hearing, balancing		
	4.1.3 The skin	4.1.3.1 Identify the parts of the skin.	• Parts of the skin: Epidermis, dermis, hair follicle, sweat pores.	• Communicating different parts of the skin: • Communicating the effects of lightening creams	• Appreciating the skin and its functions • Awareness of the common skin diseases
		4.1.3.2 State the functions of the skin.	• Functions of the skin: Protection, Sensitivity, stores fat, temperature control.		

TOPIC	SUB-TOPIC	SPECIFIC OUTCOMES	CONTENT		
			KNOWLEDGE	SKILLS	VALUES
4.2 HEALTH	4.2.1 Personal Hygiene	4.2.1.1 Describe the care for eyes	• How to care for: - Eyes; Washing, and protection of the eye. -Ears: Cleaning and protection of the ears - Feet: Cleaning and protection of the feet - Skin: cleaning and protection of skin.	• Communicating the care for ears, eyes, feet and skin	• Caring for ears, eyes feet and skin • Participating actively in class activity
		4.2.1.2 Describe the care for ears			
		4.2.1.3 Describe the care of the feet.			
		4.2.1.4 Describe the care for the skin			
	4.2.2 Water in the Body	4.2.2.1 Explain the importance of water in the body.	• Importance of water in dissolving substances, distributing heat, moistening skin	• Investigating the effects of dehydration. • Communicating ways of preventing and treating dehydration	• Appreciating the importance of water • Asking questions for more understanding
		4.2.2.2 Explain the effects of dehydration.	• Effects of dehydration: Kidney failure, death		
		4.2.2.3 Explain how to prevent and treat dehydration	• Prevention by: Oral rehydration Therapy (ORT), Drugs		
	4.2.3 Medicines	4.2.3.1 Identify traditional and conventional medicines for common ailments.	• Traditional Medicines such as: (Tembusha/ aloe Vera, moringa, cinnamon, ginger, garlic; Conventional (paracetamol, antibiotics, malarial drugs)	• Communicating traditional and conventional medicines for common ailments	• Appreciating the use of medicines • Cooperating in group activities

TOPIC	SUB-TOPIC	SPECIFIC OUTCOMES	CONTENT		
			KNOWLEDGE	SKILLS	VALUES
4.3 THE ENVIRONMENT	4.3.1 Forests	4.3.1.1 Explain the importance of forests to people and other forms of life.	Importance of forests: Wood, shelter, food, medicine, rainfall, reducing soil erosion.	- Communicating the importance of forests - Investigating the effect of human activities on forests and ways of conserving forests	- Appreciating existence of forests for other forms of life - Asking questions for more understanding
		4.3.1.2 Explain the effects of human activities on forests.	Human activities leading to deforestation, soil erosion and droughts		
		4.3.1.3 Describe ways of conserving forests.	Ways of conserving Tree planting, avoiding bush fires, alternative heating system, logging		
	4.3.2 Game Management Areas (GMA)	4.3.2.1 Explain how to control the wild animal population in the GMA	Control of wild animals: Game cropping and conservation.	- Communicating ways of controlling animal population in GMAs - Investigating threats to wild life	- Appreciating conservation of wildlife - Cooperating in group activities - Asking questions for more understanding
		4.3.2.2 Explain threats to wildlife	Threats to wildlife: Poaching, encroachment, increase in human population		
		4.3.2.3 State the importance of conserving wildlife.	Conserving wild life for Tourism attraction, increasing wild life population, source of income		

TOPIC	SUB-TOPIC	SPECIFIC OUTCOMES	CONTENT		
			KNOWLEDGE	SKILLS	VALUES
	4.3.3 Soils	4.3.3.1 Classify soil samples according to types	Types of soils: Clay, loam and sand.	- Classifying soil according to types - Comparing natural and artificial methods of improving soil fertility	- Appreciating different types of soil - Cooperating in group work
		4.3.3.2 Describe how soil fertility can be improved.	Improving soil fertility by using: Inorganic and organic manures.		
		4.3.3.3 Explain why natural methods of improving soil fertility are better than artificial ones	Retaining soil fertility by natural methods and making of soil acidic by artificial methods.		
	4.3.4 Pollution	4.3.4.1 Identify different types of pollution.	Types of pollution: air, land and water pollution	- Communicating types of pollution - Investigating the sources of pollution on	- Awareness of pollution - Cooperating in group work - Applying the three Rs of conservation
		4.3.4.2 Identify the sources pollution in the community	Sources of: Burning, mining, quarrying, automobiles, industrial activities, farming.		
		4.3.4.3 Explain ways of conserving natural resources.	Conserving resources: use of the three Rs of conservation (Reduce, Reuse and Recycle)		

TOPIC	SUB-TOPIC	SPECIFIC OUTCOMES	CONTENT		
			KNOWLEDGE	SKILLS	VALUES
4.4 PLANTS AND ANIMALS	4.4.1 Flowering plants	4.4.1.1 Describe the functions of parts of the flowering plant.	Function of: Roots for anchorage, stem for absorption, leaf for food making, and flower for reproduction	Communicating the functions of the main parts of a plant	Participating actively in class activities
		4.4.2.1 Identify conditions necessary for seed germination	Conditions required for seed germination such as: Moisture, favourable temperature, air	Investigating conditions necessary for germination	Appreciating germination and growth of plants
	4.4.2 Plant Growth	4.4.2.2 Investigate factors necessary for plant growth	Factors for plant growth: Water, nutrients, sunlight, air, favourable temperature	Investigating factors necessary for plant growth	Asking questions for more understanding
		4.4.2.3 Grow maize seeds to maturity	Steps in growing maize: Soil preparation, planting, watering, removing weeds applying fertilizer / manure.	- Observing the growth of maize - Recording the growth of maize at every stage.	Cooperating in group activities
	4.4.3 Domestic Animals	4.4.3.1 List the main animals kept by farmers in the community	Animals such as: Cattle, pigs, goats, sheep, chickens, ducks, guinea fowl	Investigate types of animals kept by farmers in community	Appreciating the role played by farmers in keeping animals
		4.4.3.2 Explain why some animals are kept in certain areas only.	Favourable pasture and conditions, traditional practices	Communicating the importance of keeping animals in the community	Cooperating in group activities
		4.4.3.3 State the importance of animals in the community.	Importance of animals: Sources of food, hides, manure, ploughing and transportation.		

TOPIC	SUB-TOPIC	SPECIFIC OUTCOMES	CONTENT		
			KNOWLEDGE	SKILLS	VALUES
4.5 MATERIALS AND ENERGY	4.5.1 Forces	4.5.1.1 Name two types of force	Types of forces: pull or push	- Comparing pulling and pushing forces - Observing what forces do - Communicating the use of forces in everyday life	- Appreciating the roles of forces - Applying forces in everyday life
		4.5.1.2 Describe what forces can do	What forces do: moving objects, changing direction of objects, changing shape of objects.		
		4.5.1.3 Explain ways in which animals or machines can help us to push or pull.	Use of force in daily life; animals and machines in: Transportation, work, pumping water, ploughing		
	4.5.2 Air	4.5.2.1 Demonstrate the existence of air	Air as a form of matter that occupies space (Balloon and transparent cup & water experiment).	- Investigating the existence of air - Communicating the uses of air. - Observing the advantages and disadvantages of strong winds	- Appreciating the existence of air - Asking questions for more understanding - Participating actively in class activities
		4.5.2.2 Explain the uses of air.	Uses of air: Breathing, burning, and making food		
		4.5.2.3 Explain advantages and disadvantages of strong winds.	- Advantages: Power generation, sailing of boats, drying things, seed dispersal and pollination; - Disadvantages: Destruction of trees, buildings, spreading of bush fires		

TOPIC	SUB-TOPIC	SPECIFIC OUTCOMES	CONTENT		
			KNOWLEDGE	SKILLS	VALUES
	4.5.3 Magnets	4.5.3.1 Explain what magnets do.	Moving, pushing and pulling of magnetic materials	- Observing types of magnets and what they do. - Classifying materials into magnetic and non - magnetic - Observing the repulsion and attraction of magnets - Differentiating a magnet from a non-magnet - Comparing the poles of a magnet to the north and south poles of the earth.	- Appreciating magnets - Asking questions for more understandings - Cooperating in group activities
		4.5.3.2 Identify different types of magnets	Types of magnets: bar, horseshoe and circle magnets.		
		4.5.3.3 Identify magnetic & non-magnetic materials.	Magnetic Materials e.g. Iron and steel, etc. & Non-magnetic materials e.g. Copper, aluminium, plastic etc		
		4.5.3.4 Identify the poles of a magnet.	Poles of a magnet: North and South poles.		
		4.5.3.5 Demonstrate the laws of repulsion and attraction.	Like poles repel; unlike poles attract.		
		4.5.3.6 Relate the poles of a magnet to the earth's north and south poles	North-north and south-south direction of a freely suspended magnet.		
	4.5.4 Light	4.5.4.1 Demonstrate the movement of light in a straight line	Movement of light in a straight line :	- Observing path taken by light during its propagation - Demonstrating the passage of light through different materials	- Asking more questions for more understanding - Participating in group discussions actively
		4.5.4.2 Investigate the passage of light through different materials.	Passage of light through material: Transparent, opaque and translucent materials		

GRADE 5

GENERAL OUTCOMES AND KEY COMPETENCES

GENERAL OUTCOMES:	KEY COMPETENCES
• Demonstrate an understanding of the basic facts about the human body • Develop investigative skills Recognise the importance of personal health • Develop investigative skills on personal health • Develop knowledge, values and positive attitudes for the immediate environment • Develop investigative skills about the immediate environment • Demonstrate an understanding of the basic facts about plants and animals • Develop investigative skills about plants and animals • Develop knowledge, values and positive attitudes about materials and energy • Demonstrate investigative skills about materials and energy	• Show basic knowledge and skills in measuring mass, weight and volume of different substances • Demonstrate basic understanding of good and bad conductors of electricity • Demonstrate basic understanding of pest control using natural pesticides

TOPIC	SUB-TOPIC	SPECIFIC OUTCOMES	CONTENT		
			KNOWLEDGE	SKILLS	VALUES
5.1 THE HUMAN BODY	5.1.1 The Heart	5.1.1.1 State the function of the heart.	Function of the heart :Pumping blood	- Communicating information on the function of the heart - Measuring the number of pulses a minute	- Appreciating the function of the heart - Asking questions for more understanding - Cooperating in group work
		5.1.1.2 Describe the structure of the heart	Structure of the heart		
		5.1.1.4 Demonstrate how to take the pulse.	How to take the pulse		
	5.1.2 Puberty	5.1.1.1 Identify male and female parts of the body.	Male and female parts of the body(Private and non-private parts)	Comparing the body parts between boys and girls	- Showing respect for each other - Awareness of ones changes at puberty
		5.1.1.2 Describe changes that occur at puberty in human beings.	Changes at puberty Physical: Pubic hair, beards, breaking of voice, pimples, pelvic girdle, enlargement of breasts. Emotional; moods, sexual feelings		

TOPIC	SUB-TOPIC	SPECIFIC OUTCOMES	CONTENT		
			KNOWLEDGE	SKILLS	VALUES
5.2 HEALTH	5.2.1 Fresh Air	5.2.1.1 Explain the importance of good ventilation	• Ventilation is good for health	• Communicating the importance of good ventilation • Practising how to treat a suffocated person	• Applying good ventilation in everyday life • Appreciating the use of
		5.2.1.2 Explain ways of providing good ventilation in buildings	• Ways of good ventilation; air conditioners, Air vents, Windows, Fans		
		5.2.1.3 Demonstrate ways of treating a suffocated person.	• Removing source of suffocation; artificial breathing, First Aid treatment for a suffocated person.		
	5.2.2 Air and water borne Diseases	5.2.2.1 Name common airborne and water borne diseases in Zambia	• Common air and waterborne diseases: Tuberculosis, pneumonia, cholera, typhoid, dysentery, measles and bilharzia.	• Identifying common airborne and waterborne diseases • Communicating symptoms of airborne and waterborne diseases	• Awareness of waterborne and airborne diseases • Cooperating in group work • Asking questions for more understanding
		5.2.2.2 Describe symptoms of common air borne and water borne diseases.	• Symptoms: TB prolonged cough, sweating at night, fever, loss of weight and appetite, eyes, rash, Dysentery: bloody stool		
		5.2.2.3 Describe how to prevent air and water borne diseases	• Ways of preventing air and waterborne diseases: Good ventilation, and hygiene		

TOPIC	SUB-TOPIC	SPECIFIC OUTCOMES	CONTENT		
			KNOWLEDGE	SKILLS	VALUES
	5.2.3 Malaria	5.2.3.1 Identify causes of malaria	Causes of malaria: Anopheles mosquito bite (plasmodium)	Communicating causes, prevention, treatment, signs and symptoms of malaria	- Awareness of causes and prevention of malaria - Asking questions for more understanding - Appreciating the knowledge on malaria prevention
		5.2.3.2 State the symptoms of malaria	Symptoms of malaria: Fever, vomiting, headache, body pains, loss of appetite.		
		5.2.3.3 Describe ways of preventing and treating of malaria	Ways of preventing malaria: Sleeping under Insecticide Treated Nets (mosquito nets), spraying Mosquito breeding places and homes, clearing Mosquito breeding places.		
	5.2.4 HIV and AIDS and STIs	5.2.4.1 Describe ways in which STIs and HIV are transmitted.	Ways of STIs and HIV transmission, unprotected sexual activities; contaminated blood, breast milk and sharp instruments. .	- Communicating ways of HIV and STIs transmission - Investigating ways of treating and caring for HIV and AIDS patients.	- Awareness of STIs and HIV - Cooperating in group activities - Empathy for patients
		5.2.4.2 Identify ways of preventing the spread of HIV and STIs	Ways of prevention Abstinence, use of condoms etc.		
		5.2.4.3 Describe the care and treatment for AIDS patients.	Care and treatment of AIDs patients; Good nutrition, good hygiene, love and support ART		

TOPIC	SUB-TOPIC	SPECIFIC OUTCOMES	CONTENT		
			KNOWLEDGE	SKILLS	VALUES
	5.2.7 Harmful Substances and their effects	5.2.7.1 Distinguish between licit and illicit drugs	Distinction between licit and illicit drugs	- Identifying substances that are harmful to the body - Effective communication to avoid substance abuse - Classifying different substances	- Applying knowledge to avoid harmful substances - Asking questions for more understanding - Awareness of the consequences of drug and substance abuse
		5.2.7.2 Mention the substances which are harmful to the human body.	Harmful substances: Cocaine, mandrax, heroin, petrol, alcohol, dagga.		
		5.2.7.3 State the harmful effects of substance abuse on the body.	Harmful effects: Aggressiveness, brain damage, unconsciousness, restlessness, nausea, addiction		
		5.2.7.4 Explain the effects of drinking alcohol	Effects of alcohol: poor health, violence, accidents		

TOPIC	SUB-TOPIC	SPECIFIC OUTCOMES	CONTENT		
			KNOWLEDGE	SKILLS	VALUES
5.3 THE ENVIRONMENT	5.3.1 Soil	5.3.1.1 Explain the importance of water in the soil.	Importance of water; Seed germination, and photosynthesis	- Communicating the importance of water in soil - Observing the drainage rates of different soils	- Appreciating importance of water to life - Cooperating in group activities
		5.3.1.2 Mention ways in which water can be retained in the soil.	Retention of water in soil: Mulching, shading terracing, weeding and intercropping		
		5.3.1.3 Demonstrate the drainage rates of soils.	Drainage rates of clay, loamy and sandy soils		
	5.3.2 Fertilizers	5.3.2.1 Explain what organic and inorganic fertilizers are.	Organic-Natural fertilizers, inorganic-man made fertilizers	- Communicating knowledge on organic and inorganic fertilizers - Demonstrating how to make composite manure - Communicating advantages of and disadvantages of chemical fertilizers in agriculture	- Appreciating role of fertilizers in agriculture - Asking questions for more understanding - Cooperating in group work
		5.3.2.2 Demonstrate how to prepare compost manure.	Way of Preparing compost manure: pile of layers under the shade		
		5.3.2.3 Explain the importance of maintaining a supply of composted materials.	Importance of maintain a supply of composted materials: Continuous supply of manure to plants.		
		5.3.2.4 Explain the advantages and disadvantages of chemical fertilizers in agriculture.	Advantages: required nutrients, quick absorption. Disadvantages; spoil soil, leaching, high cost		

TOPIC	SUB-TOPIC	SPECIFIC OUTCOMES	CONTENT		
			KNOWLEDGE	SKILLS	VALUES
5.4 PLANTS AND ANIMALS	5.4.1 Non Flowering Plants	5.4.1.1 Identify different types of non-flowering plants.	- Types of non-flowering plants; Algae, ferns, moss, fungi (e.g. mushroom). - Ferns: Ornamental plants; Fungi: baking, beer brewing; food; medicine (e.g. penicillin)	- Comparing the difference among non-flowering plants - Communicating the use of ferns and fungi	- Cooperating in group activities - Applying the use of ferns and fungi in everyday life.
		5.4.1.2 Identify use of ferns and fungi.			
	5.4.2 Invertebrate Animals	5.4.2.1 Identify the different types of invertebrate animals	• Different Invertebrate Animals; Insects (bees, dragon flies, wasps, grasshoppers, beetles and butterflies), worms, spiders, crabs, lobsters and snails.	- Observing basic structure of insects and spiders - Communicating ways in which insects are useful	- Appreciating the nutritional value of insects - Participating in group activities
		5.4.2.2 Investigate the basic structure of insects	• Basic Structures of insects and spiders: insects (head, thorax, abdomen, antennae, six legs, wings) spiders (eight legs and two body section)	• Comparing the basic structure of insects and spiders	• Appreciating the importance of insects in everyday life.
		5.4.2.3 Explain the difference between insects and spiders			
		5.4.2.4 State ways in which insects are useful.	• Usefulness of insects: Source of food; assist in pollination.		

TOPIC	SUB-TOPIC	SPECIFIC OUTCOMES	CONTENT		
			KNOWLEDGE	SKILLS	VALUES
	5.4.3 Pest and Parasites	5.4.1.1 Identify common pests and parasites in the local environment.	Common pests and parasites: Aphids, locusts, caterpillars, ticks, beetle, worm, flea weevils, termites, tsetse fly, lice	- Investigating the common pests in local the environment - Communicating harm caused by pests and parasites - Investigating ways controlling pests and parasites using local and commercial chemicals - Communicating harmful effects of pesticides to the environment	- Appreciating the knowledge about pests and parasites - Cooperating in group activities - Asking questions for more understanding
		5.4.1.2 Describe the harm caused by pests and parasites on plants and animals.	Harm caused by pests and parasites: Suck nutrients, cause diseases, affect growth of the host.		
		5.4.1.3 Explain how pests and parasites can be controlled using local plant materials and commercial chemicals.	Parasite and pests control; - Local: Spraying garlic, red pepper and ash; - Commercial: Doom, Boam, Rogo		
		5.4.1.4 Explain how chemical pesticides can cause harm to the environment.	Harm on environment caused by Chemical pesticides: contamination of environment, killing of beneficial living things such as snails, worms, rats		

TOPIC	SUB-TOPIC	SPECIFIC OUTCOMES	CONTENT		
			KNOWLEDGE	SKILLS	VALUES
5.5 MATERIALS AND ENERGY	5.5.1 Electricity	5.5.1.1 State what electricity can do.	What electricity does: powers up appliances and lights	- Observing the electrical appliances at home, school and in the community - Experimenting good and bad conductors of electricity - Inferring the use of good and bad conductor of electricity - Communicating methods of conserving electricity	- Applying safe use of electricity in everyday life - Participating actively in group work - Asking questions for more understanding - Applying energy saving practices in everyday life
		5.5.1.2 Identify sources of electricity	Sources of electricity: battery, hydroelectric power and thermal power station, electric generator, solar cells.		
		5.5.1.3 Identify electrical appliances used at home, school and in the community.	Electrical appliances used; Electric heater, stove, iron, fridge, fan.		
		5.5.1.4 Identify good and bad conductors of electricity	Good conductors: Copper wire, iron sheets, carbon, Bad conductors: wood, plastic, rubber.		
		5.5.1.5 Describe the uses of good and bad conductors of electricity.	Uses of good and bad conductors: Electric wires and appliances; insulators and handles of electric appliances		

TOPIC	SUB-TOPIC	SPECIFIC OUTCOMES	CONTENT		
			KNOWLEDGE	SKILLS	VALUES
	5.5.2 Heat Conductors	5.5.2.1 Describe what heat is	Heat; The flow of thermal energy from warmer object to cooler objects	- Measuring Temperature of human body; boiling water; and air inside and outside the room - Comparing good and bad conductors of heat - Inferring materials that are good conductors of heat and those that are bad conductors of heat	- Measuring of temperature - Applying good and bad conductors of heat in everyday life - Asking questions for more understanding - Cooperating in group activities
		5.5.2.2 Determine the temperature of human body; boiling water; and air inside and outside the classroom.	Temperature measurement: of human body; boiling water; and air inside and outside the classroom		
		5.5.3.2 Distinguish good and bad conductors of heat.	Good conductors: metals; Bad conductors: wood rubber, wool, plastic		
		5.5.3.3 Identify materials which are good insulators.	Good insulators: wood, plastic, rubber		
		5.5.3.4 Explain the uses of good and bad conductors of heat.	Good conductors: for cooking utensils such as a pan, pot, pressing iron, Bad conductors: warmth, making handles for pots/pans/utensils.		

TOPIC	SUB-TOPIC	SPECIFIC OUTCOMES	CONTENT		
			KNOWLEDGE	SKILLS	VALUES
	5.5.3 Measuring Matter	5.5.4.1 Identify instruments used to compare how heavy objects are	Instruments for measuring mass and weight: beam balance, , Electronic balances, spring balance, force metres	Measuring mass and weight using beam and spring balances	- Applying measurements in everyday life - Participating actively in group activities
		5.5.4.2 Demonstrate the effect of gravity on objects	Effect of gravity: pulling objects down/towards the centre of earth.	Communicating the difference between mass and weight	
		5.5.4.3 Distinguish between mass and weight	Difference between mass (meaning: amount of matter, unit: grams and kilograms) and weight (meaning: pull of gravity, unit: the Newton) Note: In everyday life we use kilograms/grams when we measure weight, but this is not the case in science.	Inferring the mass of objects on the moon	Asking questions for more understanding

TOPIC	SUB-TOPIC	SPECIFIC OUTCOMES	CONTENT		
			KNOWLEDGE	SKILLS	VALUES
	5.5.4 Volume	5.5.3.1 Identify various instruments and apparatus used to measure volume	Instruments for measuring volume; Beaker, measuring cylinder,	Identifying various instruments used to measure volume	- Appreciating the skill of measuring - Asking questions for more understanding - Cooperating in group activities
		5.5.3.2 Measure the volume of liquids.	Measuring Volume of given liquids.	Measuring volume of liquids, regular and objects	
		5.5.3.3 Measure the volume of various regular and irregular solid objects	Measuring Volume of regular (l x b x h) and irregular (displacement method) solid objects.	Designing an experiment to measure the volume of an irregular object	
	5.5.5 Simple Machines	5.5.5.1 Explain what a simple machine is.	What a simple machine is ; that which is used for making work easier for us by allowing us to push or pull over increased distances	- Identifying simple machines at school and at home - Manipulating simple machines	- Appreciating the role played by simple machines - Cooperating in group activities - Asking questions for more questions
		5.5.5.2 Identify six kinds of simple machines used in the home and school.	6 Kinds of simple machines; Lever, Wheel & Axle, Inclined Plane, Wedge, Screw and Pulley		

GRADE 6

GENERAL OUTCOMES AND KEY COMPETENCES

GENERAL OUTCOMES:	KEY COMPETENCES
• Demonstrate an understanding of the basic facts about the human body • Develop investigative skills • Recognise the importance of personal health • Develop investigative skills on personal health Develop knowledge, values and positive attitudes for the immediate environment • Develop investigative skills about the immediate environment • Demonstrate an understanding of the basic facts about plants and animals • Develop investigative skills about plants and animals • Develop knowledge, values and positive attitudes about materials and energy • Demonstrate investigative skills about materials and energy	• Show knowledge and skills of maintaining a healthy human body • Demonstrate basic skills of making a magnet • Demonstrate knowledge and skills of conserving plants and animals in the environment

TOPIC	SUB-TOPIC	SPECIFIC OUTCOMES	CONTENT		
			KNOWLEDGE	SKILLS	VALUES
6.1. THE HUMAN BODY	6.1.1 The Blood	6.1.1.2 Describe the composition of blood.	Composition of blood: Red and white blood cells, blood platelet and blood plasma	- Comparing the difference between artery and veins - Communicating the functions of blood	- Cooperating in group work - Asking questions for more understanding
		6.1.1.3 Describe the functions of blood in the body.	Functions of blood: Transportation of; food , gases and water; defence of body		
		6.1.1.2 Describe how blood circulates in the body.	Double circulation of blood in the body: Artery and Veins		
	6.1.2 Features of pregnancy	6.1.2.1 Describe features of pregnancy.	Features of pregnancy: Protrusion of the tummy, enlargement of breasts.	- Communicating features of pregnancy - Communicating signs and symptoms of pregnancy	- Awareness of pregnancy features - Cooperating in group work
		6.1.2.2 Identify signs and symptoms of pregnancy.	Signs and symptoms: Morning sickness, vomiting.		
	6.1.3 Health risks	6.1.3.1 Identify health and social consequences of teenage pregnancy	Health and social risks for teenage pregnancy: Trauma, Disability, Complications to the mother and the baby, Premature death	Communicating risks associated with teenage pregnancy and early sexual debut	Awareness of health risks associated with teenage pregnancy and early sexual debut
		6.1.3.2 Identify health risks associated with early sexual debut.	Health risks associated with early sexual debut: contraction of STIs and HIV, unwanted/teenage pregnancy, cervical cancer.		

TOPIC	SUB-TOPIC	SPECIFIC OUTCOMES	CONTENT		
			KNOWLEDGE	SKILLS	VALUES
6.2 HEALTH	6.2.1 Food Nutrients	6.2.1.1 List foods which are good sources of vitamins and minerals.	•Sources of vitamins and minerals: Vegetables, fruits, milk, liver, oils, fish, dairy products.	• Classifying foods according to their nutrients	• Applying acquired knowledge on diet in everyday life • Asking questions for more understandings • Cooperating in group work
		6.2.1.2 Explain the importance of vitamins and minerals in a diet.	•Importance of vitamins and minerals: Protection against diseases, better body functioning	• Communicating information on deficiency diseases	
		6.2.1.3 Explain the importance of eating a variety of foods.	•Importance of eating a variety of food: Good healthy	• Observing expiry dates, information on nutrients and packaging	
		6.2.1.4 Explain the importance of food labelling and packaging.	•Importance of food labelling: Expiry date, and nutrients, information of packaged foods.	• Analysing clinic cards for dietary intake	
		6.2.1.5 Identify common deficiency diseases in the communities.	•Common dietary diseases: Scurvy, rickets, night blindness, marasmus, kwashiorkor, goitre		
		6.2.1.6 Interpret children’s clinic cards in relation to dietary intake.	•Interpreting the children’s clinic cards: weight, age growth curve,		
		6.2.2 Effects of harmful Substance	6.2.2.1Explain how substance abuse can ruin the lives of people.	• How substance abuse can ruin lives: Addiction, diseases, crime, accidents	• Communicating the dangers of substance abuse
6.2.2.2 Explain how substance addicts can be helped.	• Helping substance addicts: Recreation, rehabilitation				
	6.2.3 Living with HIV and AIDS	6.2.3.1 Describe the challenges of living with HIV and AIDS	• Challenges of living with HIV and AIDS: Emotional, economic, social, moral.	• Communicating challenges of living with HIV and AIDS	• Awareness of challenges of living with HIV and AIDS

TOPIC	SUB-TOPIC	SPECIFIC OUTCOMES	CONTENT		
			KNOWLEDGE	SKILLS	VALUES
6.3 THE ENVIRONMENT	6.3.1 The water cycle	6.3.1.1 Describe the water cycle system.	The water cycle (sun heats water, water evaporates, water vapour condenses, , clouds form, clouds drop as rain or precipitation)	- Experimenting the process of evaporation, condensation and precipitation - Communicating the effects of the water cycle	- Appreciating the water cycle - Participating actively in class activities
		6.3.1.2 Describe the process of evaporation and condensation	Evaporation (change from liquid to gas state, Condensation (change from gas to solid) of water.		
		6.3.1.3 State the effects of the water cycle in everyday life.	Effects of water cycle: draughts, floods, changes in weather.		

TOPIC	SUB-TOPIC	SPECIFIC OUTCOMES	CONTENT		
			KNOWLEDGE	SKILLS	VALUES
6.4 PLANTS AND ANIMALS	6.4.1 Photosynthesis	6.4.1.1 Investigate how water and mineral salts reach the leaves	How water/mineral salts reach the leaves: Transpiration(Root→stem→leaves)	- Investigating the movement of mineral salts and water to leaves in plants - Communicating information on how plants make food - Observing the presence of starch in a leaf	- Appreciating how plants make food - Asking questions for more understanding - Cooperating in group work
		6.4.1.2 Describe the process by which plants make food.	Process by which plants make food: Carbon dioxide combines with water to make starch in presence of light and chlorophyll.		
		6.4.1.3 Test for the presence of starch in a leaf	Testing for starch in a leaf: Use of iodine solution to obtain a blue/black colour		
	6.4.2 Care for Domestic Animals	6.4.2.1 Explain the basic needs of livestock.	Basic needs of livestock: Food, shelter, water.	- Communicating information on cleanliness and care of livestock - Investigating the management of livestock	- Appreciating needs for livestock - Cooperating in group activities - Showing care when attending to livestock.
		6.4.2.2 Explain the importance of cleanliness in the care of livestock.	Importance of cleanliness in the care of livestock: avoid outbreak of diseases.		
		6.4.2.3 Find out the advantages of keeping livestock together.	Advantages of keeping livestock together: protection, reproduction, interaction		
		6.4.2.4 Find out the disadvantages of crowding livestock.	Disadvantages of crowding livestock: Outbreak of diseases, fights, overgrazing,		

TOPIC	SUB-TOPIC	SPECIFIC OUTCOMES	CONTENT		
			KNOWLEDGE	SKILLS	VALUES
	6.4.3 Vertebrate Animals	6.4.3.1 Identify the different types of vertebrate animals	- Vertebrate animals: - Mammals: man, cow - Birds: duck, eagle, - Reptiles : lizard, crocodile, tortoise. - Fish: Tilapia, - Amphibians: frog, toads etc.	- Classifying vertebrates according to where they live, body covering , how they move, how they breathe and reproduction. - Investigating adaptations of vertebrate animals - Comparing life cycles of vertebrate animals	- Participating in group discussion actively - Cooperating in class activities
		6.4.3.2 Describe adaptations shown by vertebrate animals	Adaptation of vertebrates: Breathing-nose/gills, feeding-long neck & special mouth protection-changing of the colour & strong legs and movement-fins/legs		
		6.4.3.3 Describe the life cycle of vertebrate animals	Life cycle of vertebrate animals (birds, fish, frog e.g. Eggs, young adult. Mammals e.g. mother, young, adult.		
		6.4.3.4 State ways of conserving vertebrate animals	Conserving vertebrates: avoiding unnecessary killing, maintaining habitats.		

TOPIC	SUB-TOPIC	SPECIFIC OUTCOMES	CONTENT		
			KNOWLEDGE	SKILLS	VALUES
6.5 MATERIALS AND ENERGY	6.5.1 Nature of Air	6.5.1.1 Describe the composition of air.	Composition of air: Oxygen, carbon dioxide, nitrogen, water vapour.	- Predicting the composition of air - Investigating that air has weight and volume	- Ask questions for more understanding - Actively participating in group work
		6.5.1.2 State the physical properties of air.	Physical properties of air: Invisible, no smell, colourless.		
		6.5.1.3 Demonstrate that air has weight and occupies space.	Characteristics of air: Weight, mass and occupies space.		
	6.5.2 Sound	6.5.2.1 Explain what sound is.	Sound as a form energy	- Demonstrating sound production - Comparing high volume to lower volume - Predicting how sound travels	- Cooperating in group activities - Appreciating different sources of sound
		6.5.2.2 Demonstrate how sound is produced	Vibrating materials (vibrating air is called “sound wave”) when shaking, hitting, plucking and blowing.		
		6.5.2.3 Describe how sound travels from one place to another.	Transmission of sound: sound travels through air, water and solids		
		6.5.2.4 Demonstrate how the volume of sound can be increased.	Making sound louder: Increasing the sound waves, e.g. plucking harder.		

TOPIC	SUB-TOPIC	SPECIFIC OUTCOMES	CONTENT		
			KNOWLEDGE	SKILLS	VALUES
	6.5.3 Pressure	6.5.3.1 Show the effect of pressure on objects.	• Effect of pressure: Increases the force applied	• Demonstrating the effect of pressure • Observing the sharpness of tools in relation to pressure • Investigating that air exerts pressure	• Appreciating the application of pressure • Cooperating in group work
		6.5.3.2 Explain why tools and implements should be sharp.	• Why tools/implements are sharp: Less force is applied/required		
		6.5.3.3 Explain why water tanks are placed on a higher level.	• Why tanks are placed on high level: Increasing water pressure.		
	6.5.4 Communication	6.5.3.4 Demonstrate that air exerts pressure.	• Air pressure in balloons, tubes		
		6.5.3.5 Explain why pumping a bicycle tube becomes more difficult as the tube gets inflated.	• Building up of pressure inside the tube.		
		6.5.4.1 State methods of communication.	• Methods of communication: conversation, mail, Phones, drums, radio, television.	• Communicating with others using the most effective method • Investigating how sound waves are used in communication	• Appreciating methods of communication • Cooperating in group work
		6.5.4.2 Explain the importance of communication	• Importance of communication: Passing of messages from place to place or person to person.		
		6.5.4.3 Describe how sound waves are used in communication.	• Use of sound waves: Carrying sound through vibration of particles in the medium.		

GRADE 7

GENERAL OUTCOMES AND KEY COMPETENCES

GENERAL OUTCOMES:	KEY COMPETENCES
• Demonstrate an understanding of the basic facts about the human body • Develop investigative skills • Recognise the importance of personal health • Develop investigative skills on personal health Develop knowledge, values and positive attitudes for the immediate environment • Develop investigative skills about the immediate environment • Demonstrate an understanding of the basic facts about plants and animals • Develop investigative skills about plants and animals • Develop knowledge, values and positive attitudes about materials and energy • Demonstrate investigative skills about materials and energy	• Show knowledge and skills of plant propagation in the local area • Demonstrate basic skills of wiring a three pin plug • Show basic understanding of the use of conductors and insulators of electricity

TOPIC	SUB-TOPIC	SPECIFIC OUTCOMES	CONTENT		
			KNOWLEDGE	SKILLS	VALUES
7.1 THE HUMAN BODY	7.1.1 The Digestive System	7.1.1.1 Describe digestion	Digestion is the breaking down of food into nutrients that body cells can use.	- Communicating main organs of the digestive system - Predicting what happens to undigested foods	- Appreciating the role of digestive system - Asking questions for more understanding - Cooperating in group activities
		7.1.1.2 Identify the organs of the digestive system.	Organs of digestive system: Liver, pancreas, mouth(teeth & tongue), stomach, intestine (large and small)		
		7.1.1.3 Identify parts of the alimentary canal where digested food is absorbed.	Small intestine-nutrients are absorbed, Large intestine-water and minerals are absorbed		
		7.1.1.4 Explain what happens to undigested food.	Undigested food: expelled as faecal material		

TOPIC	SUB-TOPIC	SPECIFIC OUTCOMES	CONTENT		
			KNOWLEDGE	SKILLS	VALUES
7.2 HEALTH	7.2.1 Diseases	7.2.1.1 Distinguish between a virus and a bacterium.	Differences between a virus and bacteria: Size, survival, reproduction, control.	- Comparing viruses and bacteria - Communicating common skin diseases	- Appreciating differences between viruses and bacteria - Cooperating in group activities
		7.2.1.2 Explain how viruses and bacteria can affect health	Effect of viruses and bacteria: Causes of diseases		
		7.2.1.3 Identify common diseases of the skin	Ringworms, measles, scabies, Scurvy, warts, chicken pox, skin cancer.		
		7.2.1.4 Explain the prevalence of diseases in relation to the provision of health services.	Effect of disease prevalence on health services: Pressure on health services		
	7.2.2 Fruits	7.2.2.1 Identify fruits used as food.	Fruits used as food: Mangoes, avocados, paw paws, oranges, and passion fruits.	- Classifying fruits and seeds used as food - Communicating the importance of eating a variety of fruits	- Appreciating a variety of fruits - Participating actively in class discussion
		7.2.2.2 Identify seeds used as food.	Seeds used as food: Legumes and cereals.		
		7.2.2.3 State the importance of fruits in improving health	Importance of fruits and seeds: contains vital vitamins and minerals.		

TOPIC	SUB-TOPIC	SPECIFIC OUTCOMES	CONTENT		
			KNOWLEDGE	SKILLS	VALUES
7.3 THE ENVIRONMENT	7.3.1 Separating substances	7.3.1.1 Demonstrate the separation of an insoluble solid from water	- Separating of a soluble and an insoluble solid from water e.g. salt from water, sand from water(evaporation and filtration) - Separation of iron fillings from sand: magnetic method	- Experimenting the separation of substances - Planning an investigation to separate a mixture of materials	- Appreciating the separation methods - Cooperating in group discussion
		7.3.1.2 Demonstrate the separation of a soluble substance from water.			
		7.3.1.3 Demonstrate the separation of iron fillings from sand			
	7.3.2 Water supply system	7.3.2.1 Identify sources of water in the village and towns.	Sources of water: Wells, rivers, dams, bore holes, taps	- communicating various sources of water - Communicating how to conserve water - Demonstrating the treatment of water	- Applying the conservation of water methods. - Cooperating in group activities - Questioning new ideas for more understanding
		7.3.2.2 Identify different types of water treatment systems.	Water treatment in urban and rural areas: boiling, filtration, decantation, chlorination.		
		7.3.2.3 State the importance of water treatment	Importance of water treatment: Makes water clean and safe.		
		7.3.2.4 Describe ways of conserving water	Water conservation: turning taps off if not in use, washing clothes at once, etc.		

TOPIC	SUB-TOPIC	SPECIFIC OUTCOMES	CONTENT		
			KNOWLEDGE	SKILLS	VALUES
7.4 PLANTS AND ANIMALS	7.4.1 The flower	7.4.1.1 Identify the parts of a flower.	Parts of a flower: Anthers, filament, petals, Ovary, stigma, style, sepal, stalk	- Observing parts of flowers - Recording information on observations	- Appreciate the organisation of floral parts - Cooperating in group activities - Respecting other people's opinion
		7.4.1.2 Explain the functions of the parts of the flower	Functions of anthers, filament, petals, Ovary, stigma, style, sepal, stalk.		
	7.4.2 Pollination and fertilization in flowering plants	7.4.2.1 Describe pollination.	Pollination: Transfer of pollen grains from anthers to stigma.	- Communicating agents of pollination - Comparing pollination and fertilisation in plants	- Appreciate the role of insects and wind in pollination. - Cooperating in group activities
		7.4.2.2 Identify the agents of pollination.	Agents of pollination: Wind, water, animals (birds, insects and mammals)		
		7.4.2.3 Describe fertilization in flowering plants.	Fertilisation in plants: Joining of ovule and pollen grains.		
	7.4.3 Fruits and seeds	7.4.3.1 Explain why plants produce seeds.	Why plants produce seeds: for plant propagation.	Comparing varieties of fruits and seeds	- Actively participating in class discussions - Questioning new ideas for more understanding
		7.4.3.2 Explain the importance of improving seed varieties	Importance of improving seed varieties: more yields and resistance to diseases and draught		

TOPIC	SUB-TOPIC	SPECIFIC OUTCOMES	CONTENT		
			KNOWLEDGE	SKILLS	VALUES
	7.4.4 Seed dispersal	7.4.4.1 Describe what seed dispersal is.	Seed dispersal as a method of spreading seeds in the environment.	Communicating agents of seed dispersal.	Awareness of the importance of seed dispersal
		7.4.4.2 Describe ways in which seeds are dispersed.	Ways of seed dispersal: Wind, animals, water, and explosive method.		
		7.4.4.3 Explain the importance of seed dispersal.	Importance of seed dispersal: for survival of plant species.		
	7.4.5 Propagation	7.4.5.1 Explain what plant propagation is.	Plant propagation: means by which plants continue their existence.	Communicating methods of plant propagation	Applying knowledge of plant propagation in everyday life.
		7.4.5.2 State methods of plant propagation.	Methods of plant propagation: Seed and vegetative propagation.		
		7.4.5.3 Demonstrate how some plants are propagated in the local area.	Plant propagation: Row planting e.g. maize, beans; Planting by broadcasting e.g. millet, sorghum.		

TOPIC	SUB-TOPIC	SPECIFIC OUTCOMES	CONTENT		
			KNOWLEDGE	SKILLS	VALUES
7.5 MATERIALS AND ENERGY	7.5.1 Energy	7.5.1.1 Explain what energy is.	Energy as the ability to do work: carrying books, digging, lifting a box	- Communicating information about different forms of energy - Investigating the conversion of energy from one form to another	- Awareness of the need for conductors and insulators - Cooperate in group activities - Show ability to solve problems
		7.5.1.2 Identify different types of energy	Types of energy: mechanical(potential, kinetic), electric, sound, chemical, thermal energy, heat, light		
		7.5.1.3 Explain how energy is converted from one form into another.	Energy conversion E.g., Bulb (Electrical energy to light to heat), a ball rolling from the top(Potential –kinetic energy), battery (chemical- electrical), radio(electrical- sound), touch(chemical- light)		

TOPIC	SUB-TOPIC	SPECIFIC OUTCOMES	CONTENT		
			KNOWLEDGE	SKILLS	VALUES
	7.5.2 Electric current and Circuits	7.5.2.1 Explain what an electric current does	Electric current is the flow of charges (from positive to negative terminal) and helps to power up appliances.	- Planning the construction of a simple electric circuit. - Comparing a series and parallel circuit	- Cooperating in group activities - Applying knowledge on circuits in everyday life - Questioning questions for more understanding
		7.5.2.2 Demonstrate how to construct a simple electric circuit.	Making a simple circuit: Wire, switch, dry cell, bulb, flow of electricity from the cell to the bulb and back.		
		7.5.2.3 Distinguish between a series and parallel circuit	Series (bulbs in same line) and parallel (bulbs in two different lines) circuits		
		7.5.2.4 Describe the action of a switch in a circuit.	Action of a switch: open or close the circuit.		
	7.5.3 Lightning	7.5.3.1 Identify the causes of lightning.	Causes of lightning: static electricity (presence of charges).	- Experimenting with static electricity - Observing lightning Note: This is possible when done in the rainy season	- Appreciating the power of lightning in nitrogen fixing - Applying knowledge to avoid damage by lightning - Cooperating in group activities
		7.5.3.2 Explain the effects of lightning on plants, animals and buildings.	- Effects of lightning: Damage, fire, death.		
		7.5.3.3 Demonstrate how to prevent damage from lightning.	Preventing damage from lightning: Lightning arresters, avoid standing under trees when it is raining or walking in rain, stay away from electrical appliances during thunder storms.		

TOPIC	SUB-TOPIC	SPECIFIC OUTCOMES	CONTENT		
			KNOWLEDGE	SKILLS	VALUES
	7.5.4 The Solar System	7.5.4.1 Describe the solar system.	Solar system: The sun and the 8 planets	- Communicating information on solar system - Observing the phases of the moon - Experimenting with the position of the sun in June(winter in Zambia) and in October (summer in Zambia)	- Appreciate the existence of a solar system - Questioning new ideas for more understanding - Listening with respect - Cooperating in group activities
		7.5.4.2 Explain the differences between the sun and its planets	Difference between sun and the planets: size, luminous/non luminous		
		7.5.4.3 State the source of light in the solar system.	Source of light in the solar system: Sun		
		7.5.4.4 State the reasons for seasons and day and night	Seasons: revolution of the earth and its tilted axis; Day and night: earth's rotation		
		7.5.4.5 Compare the movement of the earth and the moon	Earth orbits the sun, Moon orbits the earth and produces phases of the moon.		
		7.5.4.6 Describe the formation of solar and lunar eclipses.	Formation of solar and lunar eclipse: Moon between sun and earth, earth between sun and moon		
		7.5.4.7 State uses of solar energy	Uses of solar energy: Generation of heat and electricity, used by plants to make food		
	7.5.5 Metals and Non-metals	7.5.5.1 Identify Metals and Non-metals	- Metals (aluminium, copper, iron, zinc); Non-metals (carbon, hydrogen, oxygen and carbon dioxide) - Conduction and non-conduction of electricity	- Comparing metals and non-metals - Experimenting with types of materials using an electric current.	- Awareness of non-metals and metals - Participating actively in group discussion

TOPIC	SUBTOPIC	SPECIFIC OUTCOMES	CONTENT		
			KNOWLEDGE	SKILLS	VALUES
	7.5.6 Mining	7.5.6.1 Identify minerals mined in Zambia	Minerals mined in Zambia: Copper, gold, cobalt, lead, iron, zinc Silver, tin, coal, aluminium.	• Communicating metals mined in Zambia • Investigating how much copper is exported annually and from where • Communicating the need to make copper products within Zambia	• Appreciation the importance of copper • Cooperating in group activities • Applying entrepreneurial skills
		7.5.6.2 List the properties of copper.	• Properties of copper.(electrical conductivity, resistance to rust)		
		7.5.6.3 Explain how copper is extracted and refined.	• Extraction of copper: Drilling/ blasting- crushing- floatation- electrolysis		
		7.5.6.4 Identify items made from copper within Zambia.	• Items made from copper: Ornaments, jewellery, copper coins, cables, utensils: • Foreign exchange, taxes, trade, employment.		
		7.5.6.5 Explain the importance of making copper items within Zambia.			
		7.5.6.6 Describe the impact of mining on the environment.	• Impact of mining: Pollution of air, land, water.		

SCOPE and SEQUENCE CHART

	Sub-Topics & Knowledge						
	G1	G2	G3	G4	G5	G6	G7
UNIT1: The Human Body	1.1.1 External parts of the human body • External parts of human body	2.1.1 The Internal parts of the human Body • Major internal parts • Functions of major parts			5.1.1 The Heart • Function of the heart • Structure of the heart • How to take the pulse	6.1.1 The Blood • Composition of blood • Functions of blood • Double circulation of blood in the body: Artery and Veins	7.1.1 The Digestive System • Digestive system • Organs of digestive system • The parts of alimentary canal • Undigested food
	1.1.2 The senses • Parts associated with the five senses		3.1.1 Mouth • Functions of mouth				
			3.1.2 Nose • Function of the nose		5.1.2 Breathing • The roles of breathing: • The types of organs in breathing • The function of organs in breathing		
				4.1.1 Eyes • Basic parts of eyes			

	Sub-Topics & Knowledge						
	G1	G2	G3	G4	G5	G6	G7
UNIT1: The Human Body				4.1.2 The Ear • Basic parts of ears • Function of ears			
				4.1.3 The skin • Parts of the skin • Functions of the skin			
			3.1.3 Structure of the Body • Movement of arms and legs • Movable joints • Function of bones and muscles • Broken arm or leg • Parts of the human skeleton				

	Sub-Topics & Knowledge						
	G1	G2	G3	G4	G5	G6	G7
UNIT1: The Human Body	1.1.3 Stages of human life • Stages in the human life cycle • Activities at different stages of human growth • Role of clinics				5.1.3 Puberty • Male and female parts of the body • Changes of human body at puberty	6.1.2 Features of pregnancy • Features of pregnancy • Signs and symptoms of pregnancy	
						6.1.3 Health risks • Health and social risks for teenage pregnancy • Health risks associated with early sexual debut	

	Sub-Topics & Knowledge						
	G1	G2	G3	G4	G5	G6	G7
UNIT2: Health		2.2.1 Food Hygiene • Importance of food hygiene • Danger of exposed food • The importance of clean and safe water	3.2.1 Food • Importance of food • Food nutrients • Composition of balanced diet			6.2.1 Food Nutrients • Sources of vitamins and minerals • Roles of vitamins and minerals • Well-balanced diets • Food labeling • Common dietary diseases • Interpreting the children's clinic cards	7.2.2 Fruits • Fruits used as food • Seeds used as food • Importance of fruits and seeds for health
	1.2.1 Hygiene • Importance of clean bodies in Prevention of diseases • Ways of Cleaning • Importance of hand washing • Importance of clean surrounding			4.2.1 Personal Hygiene • How to care for Eyes, ears, Feet and skins			
				4.2.2 Water in the body • Importance of water for the body • Effects of dehydration • Prevention and treatment of dehydration			

	Sub-Topics & Knowledge						
	G1	G2	G3	G4	G5	G6	G7
UNIT2: Health					5.2.1 Fresh Air • The importance of ventilation • The ways of good ventilation • First Aid treatment for a suffocated person		
	1.2.2 Common Diseases • Communicable diseases				5.2.3 Malaria • Causes of malaria • Symptoms of malaria • Ways of preventing malaria		
			3.2.3 Illnesses and diseases • Common causes of diseases • Common diseases in the community • Infection and Non-infection disease		5.2.2 Air and water borne Diseases • Common air and waterborne diseases • Symptoms of common air borne and water borne diseases		7.2.1 Diseases • Differences between a virus and bacteria • Effect of viruses and bacteria • Effect of disease prevalence on health services

	Sub-Topics & Knowledge						
	G1	G2	G3	G4	G5	G6	G7
UNIT2: Health		2.2.2 HIV and AIDS • The meaning of HIV and AIDS • HIV Transmission • Prevention of HIV			5.2.4 HIV and AIDS and STIs • Ways of STIs and HIV transmission • Ways of prevention • Care and treatment of AIDs patients	6.2.3 Living with HIV and AIDS • Challenges of living with HIV and AIDS	
			3.2.2 Drug Abuse • Common drugs • Effects of too much drugs		5.2.5 Harmful Substances and their effects • Harmful substances • Harmful effects • Effects of alcohol	6.2.2 Effects of harmful Substance • Effect of substance abuse on lives • How to Help substance addicts	
				4.2.3 Medicines • Traditional Medicines			

	Sub-Topics & Knowledge						
	G1	G2	G3	G4	G5	G6	G7
UNIT3: The Environment	1.3.1 The Environment • Features of the local environment • Urban and Rural Environment • Importance of environment	2.3.1 Our environment • Harmful things in environment • Wastes in environment • Effects of harmful things • Keeping homes and schools clean • Caring of surrounding by cleaning	3.3.1 Soil formation • Weathering • Agents of weathering • Soil layers		5.3.1 Soil • Importance of water in the soil • Retention of water in soil • Drainage rates of soils		
				4.3.3 Fertile Soils • Types of soils: • How to improve soil fertility • The superiority of natural methods	5.3.2 Fertilizers • What organic and inorganic fertilizers are • Way of Preparing compost manure • Importance of maintain a supply of composted materials • Advantages and disadvantages of chemical fertilizers in agriculture		

	Sub-Topics & Knowledge						
	G1	G2	G3	G4	G5	G6	G7
UNIT3: The Environment				4.3.1 Forests • Importance of forests • Human activities • Ways of conserving forests			
				4.3.2 Game Management Areas (GMA) • Control of wild animals • Threats to wildlife • The importance of Conserving wild life			
				4.3.4 Pollution • Types of pollution • Sources of pollution • Conserving resources			

	Sub-Topics & Knowledge						
	G1	G2	G3	G4	G5	G6	G7
UNIT3: The Environment						6.3.1 The water cycle • The water cycle system • The process of Evaporation and Condensation of water in the environment. • Effects of water cycle	7.3.1 Water supply system • Sources of water for our life • Water treatment in urban and rural areas • Importance of water treatment • Water conservation

	Sub-Topics & Knowledge						
	G1	G2	G3	G4	G5	G6	G7
UNIT4: Plants and Animals	1.4.1 Local Plants • Local plants • Plant growth stages	2.4.1 Parts of Plants • Plant parts • The life cycle of a plant	3.4.1 Plant Classification • Classification of plants in Flowering and Non-Flowering; Flowering Plants		5.4.1 Non Flowering Plants • Types of non- flowering plants • The use of Ferns and Fungi for our life		
				4.4.1 Flowering plants • Function of parts of the flowering plant			7.4.1 The flower • Parts of a flower • Functions of parts of flower
							7.4.2 Pollination and fertilization in flowering plant • Pollination • Agents of pollination • Fertilisation in plants

	Sub-Topics & Knowledge						
	G1	G2	G3	G4	G5	G6	G7
UNIT4: Plants and Animals							7.4.3 Fruits and seeds • The roles of seeds • The process of seed growth • Importance of improving seed varieties
							7.4.4 Seed dispersal • Seed dispersal • Ways of seed dispersal • Importance of seed dispersal
							7.4.5 Propagation • What plant propagation is • Methods of plant propagation • Plant propagation in local area

	Sub-Topics & Knowledge						
	G1	G2	G3	G4	G5	G6	G7
UNIT4: Plants and Animals				4.4.2 Plant Growth • Conditions required for seed germination • Factors for plant growth • Steps in growing maize		6.4.1 Photosynthesis • The movement of water/mineral • Process by which plants make food • The presence of starch in a leaf:	
	1.4.2 Animals around us • Wild animals • Common Activities of animals	2.4.2 Types of Animals • Different types of animals • Animals and food • Places where animals are found • Protection of animals from enemies • Conserving animals	3.4.2 Animal Classification • Classification of animals in Vertebrate and Invertebrate • Groups of vertebrates		5.4.2 Invertebrate Animals • Different types of Invertebrate Animals; • Basic Structures of insects and spiders • Usefulness of insects	6.4.3 Vertebrate animals • The different types of Vertebrate animals • Adaptation of vertebrates • Life cycle of vertebrate animals • The ways of conserving vertebrates	

	Sub-Topics & Knowledge						
	G1	G2	G3	G4	G5	G6	G7
UNIT4: Plants and Animals			3.4.3 Homes of living things • Place of living	4.4.3 Domestic Animals • The types of domestic animals • Favorable pasture and conditions • Importance of domestic animals	5.4.3 Pest and Parasites • Common pests and parasites • Harm caused by pests and parasites • Parasite and pests control • Harm on environment caused by Chemical pesticides	6.4.2 Care for Domestic Animals • Basic needs of livestock • Importance of cleanliness in the care of livestock • Farming Procedure of domestic animals	

	Sub-Topics & Knowledge						
	G1	G2	G3	G4	G5	G6	G7
UNIT5: Materials and Energy	1.5.1 Types and properties of Materials • Different types of Materials • Properties of materials • Uses of materials	2.5.1 Soluble and insoluble Materials • Matter in Solid and liquid form • Dissolving and non-dissolving substances • The different rate of dissolution of materials	3.5.2 Solutions • Saturated and unsaturated solution	4.5.1 Making Mixtures • The differences between a substance and a mixture • The nature of mixtures • The types of mixtures	5.5.1 Separating substances • Separating of a soluble and an insoluble solid from water • Separation of iron fillings from sand		
			3.5.1 Three States of matter • Effects of heating and cooling on matter • Process of change of states	4.5.3 Air • What Air is • Uses of air • Advantages and disadvantages of winds		6.5.1 Nature of Air • Composition of air • Physical properties of air • Characteristics of air	
							7.5.5 Metals and Non-metals • Types of metals & Non-metals • Conduction and non- conduction of electricity

	Sub-Topics & Knowledge						
	G1	G2	G3	G4	G5	G6	G7
UNIT5: Materials and Energy							7.5.6 Mining • Minerals mined in Zambia • Properties of copper • Extraction of copper • Items made from copper • Impact of mining
		2.5.2 Sources of Sound • Sources of sound • Different sounds				6.5.2 Sound • What sound is • How sound can make • Transmission of sound • Making sound louder	7.5.1 Energy • What Energy is • Types of energy • Energy conversion
		2.5.3 Light • Sources of light • Light & Shadow		4.5.5 Nature of Light • Movement of light • Passage of light through material			

	Sub-Topics & Knowledge						
	G1	G2	G3	G4	G5	G6	G7
UNIT5: Materials and Energy				4.5.4 Magnets• The nature of magnet • Types of magnets • Magnetic Materials • Two types of poles of a magnet • The laws of repulsion and attraction • The uses of magnet			
					5.5.2 Electricity • What electricity does • Sources of electricity • The application of electricity in our life • Conductors of electricity • Uses of good and bad conductors in our life		

	Sub-Topics & Knowledge						
	G1	G2	G3	G4	G5	G6	G7
UNIT5: Materials and Energy					5.5.3 Heat Conductors • What heat is • Temperature measurement • Good and bad conductors of heat • Good insulators • The uses of good and bad conductors of heat in our life		
							7.5.2 Electric current and Circuits • What Electric current is • How to make a simple circuit • Two types of circuits • Action of a switch

	Sub-Topics & Knowledge						
	G1	G2	G3	G4	G5	G6	G7
UNIT5: Materials and Energy							7.5.3 Lightning • Causes of lightning • Effects of lightning • Preventing damage from lightning • Importance of lightning
				4.5.2 Forces • Types of forces • What forces do • Use of force in daily life	5.5.6 Simple Machines • What simple machine is • 6 Kinds of simple machines • Application of simple machines		
					5.5.4 Measuring Matter • Instruments for measuring mass and weight • Effect of gravity • Difference between mass		

	Sub-Topics & Knowledge						
	G1	G2	G3	G4	G5	G6	G7
UNIT5: Materials and Energy						6.5.3 Pressure • Effects of pressure • The relation between area and force • Application of pressure in our life	
					5.5.5 Volume • Instruments for measuring volume • Measuring Volume of given liquids • Measuring Volume of regular and irregular solid objects.		
						6.5.4 Communication • Methods of communication • Importance of communication • Use of sound waves	

	Sub-Topics & Knowledge						
	G1	G2	G3	G4	G5	G6	G7
UNIT5: Materials and Energy							7.5.4 The solar system • The formation of Solar system • Difference between sun and the planets • Source of light in the solar system • The movement of the earth and the moon • The cause of day & night • The cause of seasons • Formation of solar and lunar eclipse • Uses of solar energy

