ZIMBABWE

Ministry of Primary and Secondary Education

# SCIENCE AND TECHNOLOGY

# SYLLABUS

## 2024-2030

## Grade 3-7

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## 1.0. Preamble

### 1.1. Introduction

The Heritage Based Junior Science and Technology Syllabus is designed to build upon the foundational concepts established in the Infant phase. The syllabus is hinged on the rich cultural heritage of our community and focuses to stimulate interest, imagination and critical thinking. Science and Technology Syllabus discovers the wonders of our natural world from plants and animals to materials and machines. Traditional scientific knowledge and modern innovations are used to connect scientific concepts to everyday lives and global challenges through hands-on activities. By integrating the Science and Technology Syllabus with cultural relevance, learners are empowered to investigate, innovate, solve problems and become informed responsible citizens who appreciate our heritage and promote sustainable development. The learners will be assessed through continuous school-based and summative assessment system in the form of project-based assessments and hands-on experiences and demonstrations.

**Rationale**

The Heritage-Based Science and Technology Syllabus for Junior Education provides an integration of traditional knowledge and contemporary technologies. Learners will develop essential critical thinking, problem-solving and collaborative skills through hands-on inquiry based learning to apply scientific principles to real world challenges and impact the society positively. The syllabus addresses diverse learning needs and promotes equity by incorporating local perspectives and knowledge. It fosters responsible stewardship of natural resources and cultural heritage.

**Aims**

The Heritage-Based Junior Science and Technology Syllabus aims to:

- develop an understanding of basic scientific and indigenous knowledge concepts
- instil use of traditional technologies to solve day-to-day problems
- develop problem solving skills through hands-on experiences
- analyse scientific information
- cultivate curiosity and exploration
- appreciate innovative solutions
- develop environmental awareness and protection responsibility

### 1.4 Syllabus Objectives

The syllabus will enable learners to:

- demonstrate creativity and critical thinking
- demonstrate environmental awareness and protection stewardship
- analyse the need for co-existence of plants and animals in their natural environment
- describe some negative effects of fossil fuels to the environment and climate
- explain basic scientific concepts and principles
- apply Indigenous Knowledge Systems (IKS) to real world problems
- apply problem-solving skills using traditional and contemporary technologies
- construct artefacts using traditional and contemporary technologies
- contribute positively towards the maintenance of their immediate environment
- design innovative solutions using traditional and contemporary technologies

### 1.5 Assumptions

The Heritage-Based Junior Science and Technology Syllabus for Zimbabwe has taken deliberate consideration of several assumptions critical for socio-economic transformation. Our assumptions as a country are based on the context of Zimbabwe's heritage, educational system, societal needs and aspirations. It therefore becomes critical to consider that learners:

- have gone through the Infant Science and Technology Syllabus
- are actively engaged in scientific experiences
- live in diverse social contexts
- have access to and use technological devices
- are conscious of their environment
- are aware of their obligation towards health and well-being

The general assumption is that a Heritage-Based Junior Science and Technology Syllabus can effectively integrate science and technology education, fostering a deeper understanding of scientific concepts, technological innovations, and their relationship with Zimbabwe’s heritage.

### 1.6 Cross-Cutting Themes

The following cross-cutting themes must be considered in the Junior Science and Technology teaching and learning to foster competence development for life-long learning:

- Inclusivity
- Cultural diversity
- Ethical innovation
- Community engagement
- Climate change
- Digital competencies
- Health and Safety
- Disaster risk management
- Entrepreneurship

### 1.7 Summary of Content

The Junior Science and Technology Syllabus emphasises integrating heritage-based knowledge into Junior education and supports diversity. The syllabus covers various topics aimed at fostering a deep connection with cultural roots while promoting scientific curiosity and technological skills. Key topics include health and hygiene practices, food and nutrition, environmental awareness and conservation, and educational technology. It encourages hands-on, learner-centred activities such as moulding, classifying, constructing, drawing, designing, programming, promoting critical thinking and problem-solving skills. The syllabus also addresses cross-cutting themes like digital competencies, climate change, and disaster risk management, ensuring a holistic approach to junior development. Continuous assessment is performance based, projects, presentations and observations to evaluate the understanding of both the scientific and cultural aspects of the learning area.

### 1.8 Methodology

This syllabus is based upon a learner-centred participatory approach with emphasis on hands-on, multisensory, problem identification and problem solving. These attributes encourage sharing, spark curiosity and promote logical and practical learning. Learner-centred approach encourages learner to learner exchange of scientific ideas, experiences, knowledge, skills and attitudes. Innovativeness and inventiveness are strongly recommended in the teaching and learning of Science and Technology. The following are the suggested methods:

- educational tour
- discovery
- experimentation
- demonstration
- resource person
- science and technical exhibition
- simulation
- case study
- project work
- research
- game
- quiz
- gallery walk
- debate
- nature-based learning
- project
- field trip/ excursion

### 1.9 Time Allocation

Ten 30 minute periods per week (5 hours), should be allocated for adequate coverage of concepts.

## 2.0 Syllabus Presentation

This syllabus is made up of eight (8) topics.

## 2.1 SYLLABUS TOPICS

The Science and Technology Heritage-Based Syllabus has the following topics:

2.1.1 Health and Hygiene practices

2.1.2 Food and Nutrition

2.1.3 Crops, Plants and Animals

2.1.4 Environmental Awareness and Conservation

2.1.5 Tools, Equipment and Implements

2.1.6 Energy and Fuels

2.1.7 Disaster Risk Management and Resilience

2.1.8 Educational Technology and Innovations

## 7.0 SCOPE AND SEQUENCE

### 7.1 Health and Hygiene Practices

| Grade 3 | Grade 4 | Grade 5 | Grade 6 | Grade 7 |
|---|---|---|---|---|
| • Internal body parts<br>- teeth<br>- stomach<br>- lungs<br>- heart | • Dental<br>- types of teeth<br>- functions<br>- oral hygiene | • Digestive system<br>- mouth<br>- stomach<br>- intestines<br>- anus | • Human reproductive system<br>- female and male organs<br>- puberty<br>- personal hygiene | • Respiratory system<br>- nose<br>- trachea /wind pipe<br>- lungs<br>- diaphragm<br>- diseases<br>• Circulatory system<br>- heart<br>- blood vessels |
| • Food hygiene practices<br>- food preparation | • Proper food handling practices<br>- demonstration | • Eating disorders<br>- obesity<br>- bulimia<br>- anorexia | • Food borne diseases<br>- salmonella<br>- botulism<br>- E-coli infection | • Food safety<br>- importance<br>- safety practices |
| • Environmental hygiene<br>- sources of waste<br>- effects<br>- waste disposal | • Environmental hygiene<br>- air pollution<br>- causes<br>- pollutants<br>- effects | • Environmental hygiene<br>- water pollution<br>- causes<br>- pollutants<br>- effects<br>- reduction measures | • Environment hygiene<br>- land pollution<br>- causes<br>- pollutants<br>- effects<br>- reduction measures | • Environmental health<br>- noise pollution<br>- causes<br>- pollutants<br>- effects<br>- reduction measures |
| • Physical health<br>- health activities<br>- importance | • Mental health<br>- health activities<br>- importance | • Emotional health<br>- signs<br>- influencing factors | • Emotional intelligence<br>- self-awareness<br>- self-regulation ~~- stress management~~ | • Emotional intelligence<br>- empathy<br>- social skills<br>- motivation |

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| • Water borne disease<br>- bilharzia<br>- dysentery<br>- typhoid<br>- cholera | • Immunization<br>- Polio<br>- Measles<br>- Tuberculosis<br>- Diphtheria<br>- Whooping cough<br>- tetanus | • Sexually transmitted infections<br>- signs and symptoms<br>- prevention | • HIV and AIDS<br>- transmission<br>- prevention<br>- management | • Chronic diseases<br>- tuberculosis<br>- hypertension<br>- cancer<br>- kidney failure<br>- diabetes<br>• Epidemic diseases |

### 7.2 Food and Nutrition

| Grade 3 | Grade 4 | Grade 5 | Grade 6 | Grade 7 |
|---|---|---|---|---|
| • Sources of food<br>- plants<br>- animals | • Food nutrients and their functions.<br>- balanced diet | • Food nutrients<br>- deficiency<br>- nutrient excess | • Balanced diet<br>- indigenous diet<br>- benefits | • Cultural and social influences on food choices |
| • Importance of food<br>- carbohydrates<br>- vitamins<br>- fats<br>- proteins<br>- mineral salts | • Food Science and Technology<br>- processing methods<br>- career path | • Food preservation<br>- indigenous methods<br>- modern methods<br>- contamination | • Packaging and storage<br>- indigenous<br>- modern<br>- importance | • Food storage and hygiene<br>- granaries<br>- silos |
| • Food preparation<br>- Traditional<br>- modern | • Meal planning<br>- types ~~and budgeting~~<br>- importance | • Meal planning and budgeting<br>- importance | • Food Preparation<br>- indigenous meal | • Food preparation<br>- contemporary meal |

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## 7.3 Crops, Plants and Animals

| Grade 3 | Grade 4 | Grade 5 | Grade 6 | Grade 7 |
|---|---|---|---|---|
| • Types of crops<br>- Field<br>- garden | • Crop rotation<br>• Crop pests management | • Plant reproduction<br>- flowering<br>- non-flowering | • Germination conditions<br>- | • Photosynthesis<br>- factors<br>- word equation |
| • Classification of plants (indigenous and exotic)<br>• Plant parts and functions<br>- roots<br>- stem<br>- leaves<br>- flowers<br>• Importance of plants<br>• Plant nutrients. | • Life cycle of a bean plant<br>• Plant~~Plants~~ nutrients<br>• -organic | • Plant nutrients<br>- absorption of nutrients | • Nutrient deficiency<br>- phosphorous<br>- nitrogen<br>- potassium | • Uses of plants<br>• medicinal<br>• ecological<br>• socio-economic<br>• aesthetic |
| • Animals<br>- small livestock management | • Animals<br>- vertebrates<br>- invertebrates | • Animal reproduction<br>- mating<br>- gestation period | • Animal nutrition<br>- nutrients<br>- importance of nutrients<br>- animal diet | • Uses of animals<br>- food<br>- clothing<br>- transport<br>- pets |
| • Food chain<br>- producer<br>- primary consumer<br>- secondary consumer | • Food web<br>- Components | • Food pyramids | • Predator-prey relationships<br>- adaptation | |

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7.4 **Environmental Awareness and Conservation**

| Grade 3 | Grade 4 | Grade 5 | Grade 6 | Grade 7 |
|---|---|---|---|---|
| • Four seasons of Zimbabwe<br>- Activities<br>• Weather elements | • Weather<br>- elements<br>- instruments | • Weather conditions<br>- Measuring<br>- recording | • Weather patterns | • Climate change<br>- causes<br>- effects<br>- mitigation |
| • Soil formation<br>- components<br>- types | • Soil<br>- components<br>- as an ecosystem<br>- erosion | • Soil<br>- component of an ecosystem<br>- importance of soil organisms<br>• uses of soil | • Soil erosion<br>- types<br>- agents<br>- effects<br>- prevention | • Weathering<br>- types<br>- effects |
| • Sources of water<br>• Uses of water | • Water cycle<br>- states of water<br>• Water pollution<br>• Water treatment<br>• Waterborne diseases | • Water conservation<br>- methods | • Ground water<br>- conservation<br>- extraction | • Water scarcity<br>- effects<br>- conservation |
| • Uses of land<br>- agriculture<br>- land conservation | • Land use (rural and urban settlements)<br>- Land conservation | • Land use<br>- commercial | • Natural Land use<br>• Recreation<br>- Forest<br>- Mountain<br>- Lakes<br>- wildlife reserves | • Land use<br>- mining |
| • Natural resources<br>- importance<br>- human impacts | • Man-made resources<br>- dams<br>- roads | • Conservation of natural resources<br>- Natural resources | • Natural resources<br>- Importance of | |

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| on the environment | - Seaports | conservation methods<br>- Importance of conservation | natural resources<br>- Destruction of natural resources<br>- reclamation | |

7.5 **Tools, Equipment and Implements**

| Grade 3 | Grade 4 | Grade 5 | Grade 6 | Grade 7 |
|---|---|---|---|---|
| • Tools<br>• Classification<br>• Maintenance and care of tools<br>• Tool design and modification | • Farm Equipment and Machinery<br>- types<br>- uses<br>• Maintenance of farm equipment | • Tools<br>- kitchen<br>- garden and landscaping<br>• Safety and storage | • Machine designs and models<br>• Functions of machines<br>• Farm implements<br>- storage | • Farm implements<br>- safety<br>- maintenance |
| • Measuring tools<br>- indigenous<br>- standard | • Measuring tools<br>- length<br>- mass | • Measuring tools<br>- temperature<br>- mass | • Measuring tools<br>- temperature<br>- volume<br>- mass | • Measuring tools<br>- time<br>- volume |
| • Digital devices<br>• computing devices<br>- types<br>- personal computers<br>- desktop<br>- laptop<br>- tablets<br>- palmtop<br>- smartphones | • Digital devices<br>• entertainment devices<br>- television<br>- gaming consoles<br>- streaming devices<br>• peripherals<br>- input/output<br>- storage | • Digital devices<br>• communication devices<br>- smartphone<br>- desktop<br>- tablets<br>- two-way radios<br>• storage<br>- input/output | • Digital devices<br>• creative devices<br>• digital camera<br>- creative tasks<br>- music<br>- video editing<br>- graphics<br>• features | • Digital devices<br>• types of servers<br>- web servers<br>- mail servers<br>- file servers<br>- print screen servers<br>• purposes<br>- word processing<br>- desktop publishing<br>- database Management System (DBMS)<br>- global Positioning Systems (GPS) |

| | | | | |
|---|---|---|---|---|
| • Digital tools<br>- word processor<br>- text input<br>- formatting text | • Digital tools<br>- presentation<br>- PowerPoint | • Digital tools<br>- publisher<br>- flyers<br>- certificates | • Digital tools<br>- spreadsheets<br>- structure<br>- formulas | • Digital tools<br>- database<br>- tables<br>- forms<br>- reports |
| • Career opportunities<br>- Data entry clerk<br>- Secretary<br>- Copyright writer<br>- Editor | • Career opportunities<br>- Graphic designer<br>- Digital media specialist<br>- Computer science teacher | • Career opportunities<br>- Desktop publisher<br>- Document designer<br>- Web publisher<br>- print designer | • Career opportunities<br>- Data analyst<br>- Data scientist<br>- Statistical analyst<br>- accountant | • Career opportunities<br>- Web developer<br>- Database administrator<br>- Software developer<br>- Network engineer |

7.6 **Energy and Fuels**

| Grade 3 | Grade 4 | Grade 5 | Grade 6 | Grade 7 |
|---|---|---|---|---|
| • Forms of energy<br>• Energy and Energy use | • Forms of energy<br>- potential<br>- kinetic | • Forms of energy<br>- solar<br>• safety precautions | • Forms of energy<br>- heat<br>- light<br>- electrical<br>• Electrical circuits | • Forms of energy<br>• Sound<br>• Energy conversion |
| • Fuels<br>- forms<br>- renewable<br>- non-renewable | • Fuels<br>- conditions necessary for fuels to burn (combustion)<br>- fuel hazards<br>- safety precautions | • Fuels<br>- renewable<br>- non-renewable fuels | • Fuels<br>- sustainable use of fuels | • Fuels<br>- impact of fuels on the environment<br>- methods of putting out fire<br>- prevention of fire |

**7.7 Disaster risk management and resilience**

| Grade 3 | Grade 4 | Grade 5 | Grade 6 | Grade 7 |
|---|---|---|---|---|
| • Hazards<br>- types<br>- effects | • Hazards<br>- man made<br>- impact<br>- mitigation | • Hazards<br>- natural hazards<br>- safety measures<br>- mitigation | • Hazards<br>- Preparedness | • Disasters<br>- types of disasters<br>- impact<br>- resilience |
| • Safety and evacuations<br>- mitigation<br>- procedures | • Safety and evacuations<br>• Man-made Hazards/Disasters<br>• mitigation | • Safety and evacuation<br>- importance<br>- mitigation | • Evacuation map<br>- route<br>- assembly point | • Safety and Evacuations<br>- earthquake<br>- floods<br>- dangerous animal invasion |
| • Emergency professionals<br>- responders<br>- roles | • Emergency professionals<br>- responders<br>- roles | • Emergency professionals<br>- responders<br>- roles | • Emergency professionals<br>- responders<br>- roles | • Emergency professionals<br>- responders<br>- roles |
| • Psycho-emotional support<br>- sources<br>- coping mechanisms | • Psycho-emotional support<br>- man-made hazards<br>- impact<br>- services | • Psycho-emotional support<br>- impact<br>- services | • Psycho-emotional support<br>- impact<br>- services | • Psycho-emotional support<br>- impact<br>- services |

7.8 **Educational technology and innovation**

| Grade 3 | Grade4 | Grade 5 | Grade 6 | Grade 7 |
|---|---|---|---|---|
| • Educational technology interaction<br>- search engines<br>- applications and software | • Educational technology interaction<br>- applications and software<br>- search engines<br>- digital citizenship | • Research using different search engines<br>- benefits | • Use of Artificial intelligence<br>- applications<br>- impact | • Use of Artificial Intelligence (AI)<br>- applications<br>- impact<br>- AI - powered devices |

| | | | | |
|---|---|---|---|---|
| • Robotics and coding<br>- types<br>- uses<br>- basic coding concepts | • Robotics and coding<br>- components<br>- block-based coding | • Robotics and coding<br>- design process<br>- game development<br>- careers | • Robotics and coding<br>- Designing, robotics and coding<br>- text based programming<br>- simple scripts<br>- game development | • Robotics and coding<br>- designing, robotics and coding<br>- mobile application development<br>- game development<br>- ethics |
| • Cyber security<br>- Hardware security<br>- passwords | • Cyber security<br>- Software security<br>- Viruses and antiviruses<br>- Malware | • Cyber security<br>- Cyber wellness<br>- Surfing the internet<br>- Best practices | • Cyber security<br>- hacking<br>- types of hackers<br>- Black hat<br>- White hat<br>- Grey hat<br>- Hacking prevention<br>- Firewall<br>- Encryption | • Cyber security<br>- Data protection laws<br>- Firewalls<br>- antivirus |

**Grade 3**

8.1 **Health and Hygiene**

| **KEY CONCEPT** | **OBJECTIVES** Pupils should be able to: | **CONTENT** (Skills, attitudes, and knowledge values and positive dispositions) | **SUGGESTED ACTIVITIES AND NOTES** | **SUGGESTED RESOURCES** |
|---|---|---|---|---|
| Internal body parts | • state the internal body parts<br>• identify internal body parts<br>• label internal body parts<br>• describe the location of internal body parts<br>• explain the functions of internal body parts | • Internal body parts<br>- teeth<br>- stomach<br>- heart<br>- lungs<br>• Functions of internal body parts | • Stating the internal human body parts<br>• Identifying the internal body parts<br>• Labelling internal body parts<br>• Describing the location of internal body parts<br>• Explaining the functions of internal body parts | • Charts<br>• Word cards<br>• Internal body parts models<br>• ICT Tools |
| Food hygiene practices | • state proper food hygiene practices<br>• demonstrate proper food preparation techniques<br>• practice proper food preparation techniques | • Proper food hygiene practices<br>• Proper food preparation techniques | • Stating proper food hygiene practices<br>• Demonstrating proper food preparation techniques<br>• Practising proper food preparation techniques | • Indigenous recipes<br>• Picture books<br>• Digital tools<br>• Charts<br>• kitchen utensils<br>• Ashes |
| Environmental hygiene | • identify sources of environmental waste in the community<br>• recognise the | • Sources of environmental waste in the community<br>• Impact of waste in the community | • Identifying sources of environmental waste in the community<br>• Discussing the impact of waste in the community | • Digital tools<br>• Charts<br>• Picture books<br>• Cleaning tools and materials. |

| | | | | |
|---|---|---|---|---|
| | impact of waste in the community<br>• demonstrate proper waste disposal in the community | • Proper waste disposal in the community | • Demonstrating proper waste disposal in the community<br>• Engaging in community clean-up activities. | • Resource person |
| Physical health | • identify physical health activities<br>• demonstrate physical health activities<br>• discuss the importance of physical health activities | • Healthy activities<br>• Physical health activities<br>• Importance of physical health activities | • Identifying physical health activities<br>• Demonstrating physical health activities<br>• Discussing the importance of physical activities, balanced meals and adequate rest | • Digital tools<br>• Simple recipes<br>• Locally available nutritious ingredients<br>• Relaxation exercises<br>• Work cards |
| Waterborne diseases | • state various water diseases<br>• discuss ways of preventing water borne diseases<br>• prepare salt and sugar solution (SSS) | • Causes of common diseases including<br>- bilharzia<br>- dysentery<br>- typhoid<br>- cholera<br>• Ways of preventing waterborne diseases | • Stating the various water borne diseases<br>• Discussing ways of preventing water borne diseases<br>• Preparing salt and sugar solution<br>• Discussing the importance of salt and sugar solution in the body | • Print media<br>• Digital tools<br>• Water, salt and sugar<br>• Water jug<br>• Spoon<br>• Resource person |

8.2 **Food and Nutrition**

| **KEY CONCEPT** | **OBJECTIVES**<br>Pupils should be able to: | **CONTENT**<br>(skills, attitudes, and knowledge values and positive dispositions) | **SUGGESTED ACTIVITIES AND NOTES** | **SUGGESTED RESOURCES** |
|---|---|---|---|---|
| Sources of food | • state sources of food<br>• classify food according to plant and animal origin | • Sources of food<br>• Food from plants<br>• Food from animals | • Stating sources of food<br>• Classifying food according to their origin | • Digital tools<br>• Food samples |

| KEY CONCEPT | OBJECTIVES<br>Pupils should be able to: | CONTENT<br>(skills, attitudes, and knowledge values and positive dispositions) | SUGGESTED ACTIVITIES AND NOTES | SUGGESTED RESOURCES |
|---|---|---|---|---|
| | | | | |
| Importance of food | • list food nutrients<br>• group food according to their nutrients<br>• discuss the importance of food nutrients | • Food nutrients<br>- Carbohydrates<br>- Proteins<br>- Vitamins<br>- Fats<br>- Mineral salts<br>• Importance of food nutrients | • Listing food nutrients<br>• Grouping food according to their nutrients<br>• Discussing the importance of food nutrients | • Indigenous and modern food samples<br>• Chart |
| Food preparation | • list different indigenous and modern meals<br>• name various food ingredients<br>• describe how to prepare a meal<br>• prepare a meal | • Indigenous and modern meals<br>• Food ingredients<br>• Food preparation | • Listing indigenous and modern meals<br>• Naming various food ingredients<br>• Describing how to make a meal<br>• Preparing a meal | • Flash cards<br>• Chart<br>• Cooking utensils<br>• Plates<br>• Chef set (aprons) |

8.3 **Crops, Plants and Animals**

| KEY CONCEPT | OBJECTIVES<br>Pupils should be able to: | CONTENT<br>(Skills, attitudes, and knowledge values and positive dispositions) | SUGGESTED ACTIVITIES AND NOTES | SUGGESTED RESOURCES |
|---|---|---|---|---|
| Crops | • name different types of crops<br>• classify crops as garden and field crops<br>• explain growing conditions of crops | • Different types of crops<br>• Garden crops<br>• Field crops<br>• Growing conditions of field crops and garden crops | • Naming different types of crops<br>• Classifying crops as garden and field crops<br>• Discussing growing conditions of garden and field crops | • Picture cards<br>• Watering cans<br>• Gardening tools<br>• Samples of field and garden crops |

| KEY CONCEPT | OBJECTIVES<br>Pupils should be able to: | CONTENT<br>(Skills, attitudes, and knowledge values and positive dispositions) | SUGGESTED ACTIVITIES AND NOTES | SUGGESTED RESOURCES |
|---|---|---|---|---|
| Plants | • name plant parts and their functions<br>• classify plants as indigenous and exotic<br>• explain the importance of plants<br>• state organic sources of plant nutrients | • Plant parts and their functions<br>- Roots<br>- Stem<br>- Leaves<br>- Flowers<br>• Indigenous and exotic plants<br>• Importance of plants<br>• Sources of plant nutrients | • Naming plant parts and their functions<br>• Showing plant parts on a real plant<br>• Classifying plants as indigenous and exotic<br>• Discussing the importance of plants<br>• Stating organic sources of plant nutrients | • Charts<br>• Indigenous plants<br>• Exotic plants<br>• Decayed plant matter<br>• Compost |
| Animals | • name types of small livestock<br>• explain management of small livestock | • Types of small livestock<br>- Poultry<br>- Rabbits<br>• Management of small livestock<br>- Housing<br>- Feeding | • Naming small livestock<br>• Identifying small livestock<br>• Discussing the management of small livestock | • Flash cards<br>• Digital tools<br>• Poultry<br>• Rabbits<br>• Charts |
| Food Chain | • identify components of a food chain<br>• draw a food chain with three stages<br>• explain the importance of food chain | • Food chain with three stages Producer-primary consumers–secondary consumers<br>• Importance of food chain | • Identifying components of a food chain<br>• Drawing food chains<br>• Discussing the importance of food chain | • ICT tools<br>• Word cards<br>• Work cards<br>• Charts |

### 8.4 Environmental Awareness and Conservation

| KEY CONCEPT | OBJECTIVES<br>Pupils should be able to: | CONTENT | SUGGESTED ACTIVITIES AND NOTES | SUGGESTED RESOURCES |
|---|---|---|---|---|
| Climate and Weather | • identify the four seasons of Zimbabwe<br>• state the months that fall under each season<br>• compare seasons<br>• explain the activities done in each of the four seasons | • Four seasons of Zimbabwe<br>- Summer<br>- Autumn<br>- Winter<br>- Spring<br>• Activities done in each season<br>- Agricultural and cultural activities<br>• Comparing seasons | • Naming of the four seasons<br>• Classifying months according to seasons<br>• Comparing and discussing the four seasons<br>• Discussing local activities and events done in each season<br>• Listing environmental signs (including indigenous knowledge systems) that indicate seasonal changes<br>• Imitating cultural activities done in different seasons | • Charts<br>• Digital tools<br>• diagrams<br>• Songs<br>• Resource person |
| Weather elements | • state weather elements<br>• identify instruments which measure weather elements | • Weather elements<br>- Temperature<br>- Rainfall<br>- Wind direction<br>• Weather instruments<br>Thermometer<br>Rain-gauge<br>Wind-vane | • Stating weather elements.<br>• Listing instruments which measure weather elements<br>• Matching weather elements with their correct instruments<br>• Field trip | • Thermometer<br>• Rain gauge<br>• Wind-vane<br>• Print media |

| KEY CONCEPT | OBJECTIVES<br>Pupils should be able to: | CONTENT<br>(Skills, attitudes, and knowledge values and positive dispositions) | SUGGESTED ACTIVITIES AND NOTES | SUGGESTED RESOURCES |
|---|---|---|---|---|

| | | | | |
|---|---|---|---|---|
| Sources of water | • identify sources of water<br>• classify man- made and natural sources of water<br>• explain the uses the water | • Sources of water<br>- Man-made water sources<br>- Natural water sources<br>• Uses of water | • Identifying sources of water<br>• Classifying man-made and natural water sources<br>• Describing the uses of water in their local environment | • Charts<br>• Magazines<br>• Digital tools |
| Soil formation | • describe soil formation<br>• identify soil components<br>• list soil types | • Soil formation<br>• Soil components<br>- air<br>- organic matter<br>- in-organic minerals<br>- Water<br>• Soil types | • Describing soil formation<br>• Identifying soil components<br>• Listing types of soil | • Soil samples<br>• Charts<br>• ICT tools |
| Land use | • identify agricultural uses of land<br>• explain ways of conserving agricultural land<br>• describe environmental impact of agricultural land use | • Agricultural uses of land<br>- Land conservation<br>- Good farming practices<br>• Environmental impact of land use<br>- Siltation<br>- Erosion<br>- overstocking | • Identifying agricultural uses of land<br>• Explaining ways of conserving agricultural land<br>• Discussing the impact of agricultural land use<br>• Field trips | • Charts<br>• Local environment |
| Environmental conservation | • identify natural resources<br>• explain the importance of natural resources<br>• state human impact on the natural resources | • Natural resources<br>- water<br>- monuments<br>- minerals<br>- plants<br>- animals<br>• Importance of natural resources | • Identifying various natural resources.<br>• Discussing the importance of natural resources<br>• Discussing how human activities can harm the natural environment, including pollution, deforestation, and | • Charts<br>• ICT tools |

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|---|---|---|---|---|
| | | • Human Impact on the environment | improper waste disposal.<br>• Educational tours | |

8.5 **Tools, Equipment and Implements**

| **KEY CONCEPT** | **OBJECTIVES**<br>Pupils should be able to: | **CONTENT**<br>(Skills, attitudes, and knowledge values and positive dispositions) | **SUGGESTED ACTIVITIES AND NOTES** | **SUGGESTED RESOURCES** |
|---|---|---|---|---|
| Tools | • name basic tools<br>• classify basic tools<br>• explain the maintenance of a specific basic tool<br>• design a tool of their choice<br>• modify a tool of their choice | • Basic tools<br>- Agricultural tools<br>- ICT tools<br>- Household tools<br>• Maintenance and care<br>- tool design<br>- tool modification | • Naming basic tools<br>• Classifying basic tools<br>• Explaining the maintenance of a specific tool<br>• Designing a tool of their choice<br>• Modifying a tool of their choice | • Basic tools<br>• Grease<br>• ICT tools<br>• Sharpening tools |
| Measuring tools | • name indigenous measuring tools<br>• list standard measuring tools<br>• measure distance, mass and volume using indigenous and standard tools | • Indigenous measuring tools<br>- tree bark strings<br>- baskets<br>- clay pots<br>• Standard measuring tools<br>- ruler<br>- scale<br>- measuring cylinder | • Naming indigenous measuring tools<br>• Listing standard measuring tools<br>• Measuring<br>- Distance<br>- Mass<br>- volume using indigenous and standard tools | • Measuring tools<br>• Rulers<br>• Scales<br>• measuring cups<br>• Baskets<br>• clay pots<br>• Balance<br>• Tree bark strings |

| KEY CONCEPT | OBJECTIVES<br>Pupils should be able to: | CONTENT<br>(Skills, attitudes, and knowledge values and positive dispositions) | SUGGESTED ACTIVITIES AND NOTES | SUGGESTED RESOURCES |
|---|---|---|---|---|
| | | | | |
| Digital devices | • identify different types of computers<br>• distinguish different type of computers<br>• describe uses of different types of computers<br>• identify different parts of a computer<br>• explain functions of parts of a computer<br>• label parts of a computer | - Types of computers<br>• Computing devices<br>- desktops<br>- smartphones<br>- laptops<br>- tablets<br>• Parts and functions<br>- monitor<br>- keyboard<br>- mouse<br>- CPU | • Naming different types of personal computer<br>• Matching computers to their names<br>• Describing parts of a computer<br>• Operating any type of computer | • ICT devices<br>• Chart<br>• Work cards<br>• Print media<br>• Digital devices |
| Digital tools | • create a word document<br>• insert word art in a document<br>• edit document using word processing tools | • Word processor<br>- add images<br>- text box<br>- word art<br>• Format text<br>- font type<br>- font size<br>- font color | • Typing text and inserting images to create a printable document<br>• Designing a document with word art<br>• Changing text appearances | • ICT devices<br>• ICT tools<br>• Resource person |
| Career opportunities | • identify careers in ICT<br>• describe the roles of ICT personnel | • Career path<br>- Data entry clerk<br>- Copyright writer<br>- Graphic designer<br>- Computer engineer | • Identifying career opportunities in ICT<br>• Explaining roles of ICT personnel identified | • Print media<br>• ICT tools |

8.6 **Energy and Fuels**

| **KEY CONCEPT** | **OBJECTIVES** Pupils should be able to: | **CONTENT** (Skills, attitudes, and knowledge values and positive dispositions) | **SUGGESTED ACTIVITIES AND NOTES** | **SUGGESTED RESOURCES** |
|---|---|---|---|---|
| Energy and Energy use | • identify uses of energy | • Uses of Energy<br>- cooking<br>- lighting<br>- ironing | • Discussing energy<br>• Identifying the uses of energy<br>• Demonstrating different uses of energy | • Print media<br>• Electronic media<br>• Word cards |
| Fuels | • identify forms of fuels<br>• demonstrate the characteristics of fuels<br>• classify fuel as renewable and non-renewable fuels | • Forms of fuels<br>- solid<br>- liquid<br>- gas<br>• Renewable and non-renewable fuels | • Discussing forms of fuels<br>• Demonstrating that fuels burn<br>• Grouping fuels according to their similarities or differences<br>• Categorizing fuels as renewable and non-renewable | • Print media<br>• Samples of fuel<br>• Word cards<br>• Work cards |

### 8.7 Disaster Risk Management and Resilience

| KEY CONCEPT | OBJECTIVES<br>Pupils should be able to: | CONTENT<br>(Skills, attitudes, and knowledge values and positive dispositions) | SUGGESTED ACTIVITIES AND NOTES | SUGGESTED RESOURCES |
|---|---|---|---|---|
| Hazards | • identify natural hazards<br>• describe different natural hazards<br>• explain the effects of natural hazards | • Natural hazards<br>- floods<br>- lightning<br>- fire<br>- wind<br>- extreme temperatures (heat wave and snow) | • Identifying natural hazards<br>• Describing different natural hazards<br>• Showing videos and images of hazards<br>• Explaining effects of natural hazards | • Images of natural hazards scenarios<br>• Visual aids<br>• Digital tools<br>• Newspapers |
| Safety and Evacuation | • state different disaster mitigation measures<br>• demonstrate evacuation procedures.<br>• carry out a fire drill | • Disaster mitigation measures:<br>- staying calm<br>- following instructions<br>- knowing and calling emergency contacts<br>• Evacuation procedure<br>• Fire drills | • Stating different disaster mitigation measures<br>• Demonstrating evacuation procedures<br>• Carrying out fire drills | • Whistle<br>• Alarm<br>• Sand buckets<br>• Fire blankets<br>• Blankets |
| Emergency Professionals | • list emergency responders<br>• discuss roles of emergency responders in keeping the community safe. | • Emergency responders such as:<br>- police<br>- firefighters<br>- health personnel<br>• Roles of emergency professionals | • listing emergency responders<br>• Discussing the roles of different emergency responders<br>- fire fighters<br>- police officers<br>- game-rangers<br>- story telling<br>• Inviting local emergency responders to the classroom to talk about their jobs and | • Real or toy equipment used by emergency responders (e.g., helmets, badges).<br>• Resource person<br>• Visual aids<br>• Digital tools |

| KEY CONCEPT | OBJECTIVES<br>Pupils should be able to: | CONTENT<br>(Skills, attitudes, and knowledge values and positive dispositions) | SUGGESTED ACTIVITIES AND NOTES | SUGGESTED RESOURCES |
|---|---|---|---|---|
| | | | demonstrate their equipment.<br>• Role-playing activities where children act as emergency responders, using props like<br>• toy helmets and badges<br>• Field trip | |
| Emotional Resilience<br><br>(psycho-emotional support after a disaster) | • identify sources of support when affected by a disaster<br>• explain the importance of emotional resilience | • Sources of emotional support<br>- family<br>- school<br>- community<br>- government<br>• Ways of coping with emotional trauma after a disaster<br>• Importance of emotional resilience | • Identifying sources of emotional support<br>• Discussing emotions that might arise after disasters and ways to manage them.<br>• Role playing scenarios where characters experience and manage fear, stress, anxiety and seek comfort.<br>• Discussing the importance of seeking comfort and support.<br>• Practising deep breathing, singing, or playing calming games that can help reduce anxiety during stressful situations | • Puppets or dolls for role-playing emotional resilience scenarios.<br>• Posters<br>• Calming music and songs<br>• Music player |

**8.8 Educational Technology and Innovation**

| KEY CONCEPT | OBJECTIVES<br>Pupils should be able to: | CONTENT<br>(Skills, attitudes, and knowledge values and positive dispositions) | SUGGESTED ACTIVITIES AND NOTES | SUGGESTED RESOURCES |
|---|---|---|---|---|
| Educational Technology Interaction | • name search engines<br>• identify age-appropriate educational applications and software<br>• demonstrate interactive games and activities on digital tools | • Search engines<br>- Bing<br>- Google<br>• Educational applications and software:<br>- Profuturo<br>- Dzidzo paden/ imfundwe'ndlini<br>- Learning passports<br>• Interactive games and activities on digital to | • Naming the various search engines<br>• Identifying age-appropriate educational applications and software<br>• Discussing how technologies enhance learning through interactive games and activities.<br>• Sharing experiences about the games and applications<br>• Practising navigation of educational games<br>• Demonstrating the uses of educational applications and software. | • Computers<br>• Smartphones<br>• Tablets<br>• Interactive boards<br>• Digital tools |
| Robotics and Coding | • list types of robots<br>• explain the uses of robots in everyday life<br>• identify application used for making robots | • Introduction to robotics<br>• Types<br>- Industrial<br>- Service (vacuum cleaner)<br>- Social (chatbots)<br>• Uses<br>• Basic coding concepts<br>- Scratch Jr | • naming different types of robotics<br>• discussing the everyday uses of robots<br>• identifying software used in robotics design | • Visual aids<br>• Digital tools |

| **KEY CONCEPT** | **OBJECTIVES** Pupils should be able to: | **CONTENT** (Skills, attitudes, and knowledge values and positive dispositions) | **SUGGESTED ACTIVITIES AND NOTES** | **SUGGESTED RESOURCES** |
|---|---|---|---|---|
| Cyber security | • identify computer hardware security threats<br>• create strong password<br>• modify passwords | • Cyber security<br>• Hardware security<br>- passwords | • Stating hardware security threats<br>• Creating strong passwords<br>• Modifying passwords | • ICT tools<br>• Resource person<br>• Digital devices<br>• Digital tools |

**Grade 4**

9.1 **Health and Hygiene**

| **KEY CONCEPT** | **OBJECTIVES** Pupils should be able to: | **CONTENT** (Skills, attitudes, and knowledge values and positive dispositions) | **SUGGESTED ACTIVITIES AND NOTES** | **SUGGESTED RESOURCES** |
|---|---|---|---|---|
| Dental | • name the different types of teeth<br>• identify different types of teeth<br>• state the functions of the different teeth<br>• describe causes of tooth decay<br>• outline methods of preventing teeth decay | • Types of teeth<br>- incisors<br>- canines<br>- premolars<br>- molars<br>• Functions of teeth<br>• Causes of tooth decay<br>• Methods of preventing tooth decay | • Naming different types of teeth<br>• Identifying different types of teeth<br>• Stating the functions of teeth<br>• Discussing the causes of tooth decay<br>• Outlining methods of preventing tooth decay | • Charts<br>• Word cards<br>• ICT Tools<br>• Toothbrush<br>• Toothpaste<br>• Charcoal |
| Proper food handling practices | • state proper food handling practices<br>• demonstrate proper food handling practices<br>• explain the impact of improper food handling practices | • Proper food hygiene practices<br>• Impact of improper food handling practices<br>- dysentery<br>- tapeworm<br>- roundworm | • Stating proper food hygiene practices<br>• Demonstrating proper food handling practices<br>• Discussing dangers of improper food handling practices<br>• Role playing food handling scenarios<br>• Designing food safety plans and posters | • Indigenous recipes.<br>• posters<br>• Digital tools<br>• Ash for cleaning<br>• Charts<br>• Kitchen utensils<br>• Food covers |

| | | | | |
|---|---|---|---|---|
| Environmental hygiene<br>- Air pollution | • define air pollution<br>• identify the causes of air pollution<br>• list air pollutants<br>• explain the effects of air pollution<br>• outline measures to reduce air pollution | • Air pollution<br>• Causes of air pollution<br>• Air pollutants<br>• Effects of air pollution<br>• Mitigation on air pollution | • Defining the term air pollution<br>• Identifying the causes of air pollution<br>• Listing air pollutants<br>• Discussing the effects of air pollution<br>• Suggesting ways of reducing air pollution | • Digital tools<br>• Charts<br>• Rubbish bin<br>• Environment |
| Mental Health | • define mental wellness<br>• identify activities that promote mental wellness<br>• explain the importance of mental wellness<br>• demonstrate activities that promote mental wellness | • Mental health activities<br>• Importance of mental health activities.<br>. | • Defining mental wellness<br>• Identifying activities that promote mental wellness<br>• Discussing the importance of being mentally healthy<br>• Demonstrating some activities that promote mental wellness | • Digital tools<br>• Work cards<br>• Relaxation guidelines |
| Immunization | • identify child-killer diseases<br>• explain immunization<br>• outline the importance of immunisation | • Immunisation<br>- polio<br>- measles<br>- tuberculosis<br>- whooping cough<br>- tetanus<br>- diphtheria | • Listing child-killer diseases<br>• Discussing immunisation<br>• Explaining the importance of immunisation | • Posters<br>• Resource person<br>• Newsletter<br>• ICT tools |

9.2 **Food and Nutrition**

| **KEY CONCEPT** | **OBJECTIVES**<br>Pupils should be able to: | **CONTENT**<br>(Skills, attitudes, and knowledge values and positive dispositions) | **SUGGESTED ACTIVITIES AND NOTES** | **SUGGESTED RESOURCES** |
|---|---|---|---|---|
| Food nutrients | • name food nutrients<br>• discuss functions of food nutrients<br>• explain balanced diet | • Food nutrients<br>- Carbohydrates<br>- Proteins<br>- Fats<br>- Mineral salts<br>- Vitamins<br>• Balanced diet | • Collecting various food samples<br>• Grouping food samples according to their classes<br>• Explaining functions of food nutrients | • Food items<br>• Digital tools<br>• Resource person |
| Food science and technology | • list food processing methods<br>• explain the food processing methods<br>• identify career paths | • Food processing methods<br>- winnowing<br>- sorting<br>- grading<br>- grinding<br>• Career paths<br>- Hospitality industry<br>- Food processing industries<br>- Food scientists | • Listing processing methods<br>• Simulating how to process food<br>• Discussing food processing methods they use at home<br>• Discussing career paths in food science and technology<br>• Playing games on career paths | • Processed food<br>• Food processing tools<br>• Flow charts<br>• Digital tools<br>• Videos<br>• Resource person |
| Meal planning and budgeting | • explain budgeting<br>• prepare a meal<br>• illustrate a budget for their family | • Meal planning<br>• Advantages of meal planning<br>• Meal budgeting<br>• Benefits of meal budgeting<br>• Meal preparation | • Discussing the advantages of meal planning and budgeting<br>• Practising budgeting and planning<br>• Collecting of meal | • Print media<br>• Charts<br>• Digital tools<br>• Ingredients<br>• Utensils |

| KEY CONCEPT | OBJECTIVES<br>Pupils should be able to: | CONTENT<br>(Skills, attitudes, and knowledge values and positive dispositions) | SUGGESTED ACTIVITIES AND NOTES | SUGGESTED RESOURCES |
|---|---|---|---|---|
| | | | ingredients<br>• Preparing a simple meal (simple dish) | |

9.3 **Crops, Plants and Animals**

| KEY CONCEPT | OBJECTIVES<br>Pupils should be able to: | CONTENT<br>(Skills, attitudes, and knowledge values and positive dispositions) | SUGGESTED ACTIVITIES AND NOTES | SUGGESTED RESOURCES |
|---|---|---|---|---|
| Crops | • define crop rotation<br>• name pests that affect crops<br>• explain ways of controlling pests | • Crop rotation<br>• Crop pests<br>• Effects of pests on crops<br>• Pests control<br>- weeding<br>- spraying<br>- crop rotation<br>- hand-picking | • Explaining crop rotation<br>• Naming pests that affect crops<br>• Discussing effects of pests on crops<br>• Explaining ways of controlling pests.<br>• Field trips | • ICT tools<br>• word cards<br>• local environment |
| Plants | • describe the life cycle of a bean plant<br>• name plant nutrients<br>• identify sources of plant nutrients | • The bean plant<br>- germination<br>- growth<br>- harvesting<br>• Plant nutrients:<br>- nitrogen(N)<br>- phosphorus (P)<br>- potassium (K)<br>• natural sources of plant nutrients | • Describing germination process<br>• Discussing bean plant life cycle from germination to harvesting<br>• Planting a bean seed<br>• Monitoring and recording observation<br>• Listing sources of plant nutrients<br>• Discussing sources of natural plant nutrients | • charts<br>• organic matter<br>• word cards<br>• bean seeds |

| KEY CONCEPT | OBJECTIVES<br>Pupils should be able to: | CONTENT<br>(Skills, attitudes, and knowledge values and positive dispositions) | SUGGESTED ACTIVITIES AND NOTES | SUGGESTED RESOURCES |
|---|---|---|---|---|
| | | | | |
| Animals | • identify characteristics of vertebrates and invertebrates<br>• classify vertebrates into five groups<br>• describe the characteristics of vertebrates and invertebrates<br>• state examples of vertebrates in each group<br>• identify vertebrates and invertebrates according to their habitats | • Vertebrates and invertebrates<br>- Characteristics<br>• Five groups of vertebrates<br>- Fish<br>- Amphibians<br>- Reptiles<br>- Birds<br>- mammals | • Identifying characteristics of vertebrates and invertebrates<br>• Classifying vertebrate into five groups<br>• Discussing the external features of vertebrates and invertebrates<br>• Listing examples of vertebrates in each group<br>• Classifying vertebrates and invertebrates according to their habitats<br>• Conducting educational tour to view vertebrates and invertebrates | • flash cards<br>• digital tools<br>• work cards<br>• fish pond<br>• charts<br>• local environment |
| Food web | • identify components of a food web<br>• draw a simple food web<br>• explain the importance of food webs | • Food web<br>• Importance of food web | • identifying components of a food web<br>• Drawing a simple food web<br>• Discussing the importance of food web | • ICT tools<br>• Work cards<br>• Charts |

**9.4 Environmental Awareness and Conservation**

| KEY CONCEPT | OBJECTIVES<br>Pupils should be able to: | CONTENT | SUGGESTED ACTIVITIES AND NOTES | SUGGESTED RESOURCES |
|---|---|---|---|---|
| Climate and Weather | • list weather elements<br>• identify weather instruments<br>• construct weather instruments | • weather elements<br>- rainfall<br>- wind<br>- cloud cover<br>- temperature<br>- humidity<br>• weather instruments<br>- rain gauge<br>- wind vane<br>- cup-anemometer<br>- thermometer<br>- hygrometer | • Naming weather elements<br>• Listing weather instruments<br>• Modelling weather instruments<br>• Matching weather elements with instruments | Weather station<br>Charts<br>ICT tools |
| Soil components | • list the four components of soil<br>• explain the importance of soil components in the soil | • soil components<br>- air<br>- water<br>- organic matter<br>- mineral matter | • Identifying the components of soil<br>• Discussing the importance of soil components in the soil and plants | • soil samples<br>• sand, organic matter<br>• garden tools<br>• print media<br>• digital tools |

| KEY CONCEPT | OBJECTIVES<br>Pupils should be able to: | CONTENT<br>(Skills, attitudes, and knowledge values and positive dispositions) | SUGGESTED ACTIVITIES AND NOTES | SUGGESTED RESOURCES |
|---|---|---|---|---|
| Soil as an ecosystem | • identify organisms living in the soil<br>• discuss how plants and animals benefit from the soil<br>• explain how soil is enriched by soil organism | • soil as an ecosystem<br>- organisms living in the soil<br>- soil as a source of plant nutrients<br>- soil as a habitat for animals<br>- organisms provide organic matter to the soil | • Observing organism living in the soil<br>• Digging soil in the local garden to identify organisms<br>• Naming organisms found in the soil<br>• Illustrating how plants get nutrients in the soil<br>• Describing how organisms provide organic matter to the soil | • school garden<br>• garden tools<br>• print media<br>• humus<br>• compost |
| Soil erosion | • define soil erosion<br>• list agents of soil erosion<br>• explain causes of soil erosion<br>• state ways of controlling soil erosion | • Soil erosion<br>- Agents<br>- Causes<br>• Ways of controlling soil erosion | • Defining soil erosion<br>• Identifying agents of soil erosion<br>• Explaining causes of soil erosion<br>• Suggesting ways of preventing and controlling soil erosion<br>• Field trip | • Charts<br>•<br>• Local environment<br>• ICT tools |
| Water cycle | • identify states of water<br>• demonstrate changes in water states<br>• explain the water cycle | • States of water<br>• Water cycle<br>- evaporation<br>- condensation<br>- precipitation | • Naming states of water<br>• Experimenting state of water changes<br>• Identifying stages in water cycle<br>• Explaining the water cycle<br>• Illustrating the water cycle | • Charts<br>• ICT tools<br>• Digital tools<br>• Magazines<br>• Containers<br>• Beakers<br>• Freezer<br>• Ice trays<br>• Heat source |

| | | | | |
|---|---|---|---|---|
| Water pollution | • define water pollution<br>• name causes of water pollution<br>• identify effects of water pollution<br>• state ways of water treatment | • Water pollution<br>-causes<br>• Water treatment<br>- Filtration<br>- Boiling<br>- Applying chemicals | • Explaining water pollution<br>• Listing causes of water pollution<br>• Discussing the effects of water pollution on humans and animals<br>• Demonstrating ways of water treatment<br>• Field trips | • Water sources<br>• Charts<br>• Filtration apparatus<br>• ICT Tools<br>• Boiling apparatus<br>• Resource person |
| Water borne diseases | • define water borne diseases<br>• list water borne diseases<br>• explain how diseases are transmitted through water<br>• identify symptoms of<br>- cholera<br>- typhoid and bilharzia<br>• explain ways of preventing water borne diseases | • Water borne diseases<br>-Cholera<br>-Typhoid<br>-Bilharzia<br>• Transmission of water borne diseases<br>• Symptoms of<br>- cholera<br>- typhoid and bilharzia<br>• Prevention and remedies | • Defining water borne diseases<br>• Naming water borne diseases<br>• Discussing how diseases are transmitted through water<br>• suggesting precautions against water borne diseases<br>• Role playing<br>• Describing indigenous and contemporary prevention measures and remedies.<br>• Field trips<br>• Health expos | • Print media<br>• Resource person<br>• ICT tools |

| | | | | |
|---|---|---|---|---|
| Land use | • explain land use<br>• classify land according to use<br>• list various land uses | • Land use<br>- Rural<br>- Urban settlement<br>• Environmental effects caused by land users<br>• Siting rural and urban settlements land | • Describing uses of land<br>• Classification of land<br>• Listing factors to consider when siting rural and urban settlements land | • Local<br>•<br>• Chart<br>• Digital tools<br>• Maps<br>• Resource person |
| Land conservation | • explain proper use of land<br>• identify ways of conserving land<br>• list effects of improper use of land<br>• practice land conservation measures | • Proper uses of land<br>• Ways of conserving land<br>• Effects of improper use of land<br>• Soil conservation<br>- afforestation<br>- reforestation | • Listing uses of land<br>• Discussing ways of conserving land<br>• Explaining how land can be misused<br>• Listing ways of conserving land<br>• Discussing cultural ways of conserving land<br>• Dramatizing ways of conserving land | •<br>• Charts<br>• Digital tools<br>• Local environment |
| Man-made resources | • identify man-made resources<br>• state importance of man-made resources<br>• construct models of man-made resources | • man-made resources<br>- dams<br>- roads<br>- airports<br>- seaports<br>- monuments | • Naming man-made resources<br>• Discussing the importance of man-made resources<br>• Constructing models of man-made resources | •<br>• Constructing materials<br>• Charts<br>• Resource persons<br>• Site visits |

9.5 **Tools, Equipment and Implements**

| KEY CONCEPT | OBJECTIVES<br>Pupils should be able to: | CONTENT<br>(Skills, attitudes, and knowledge values and positive dispositions) | SUGGESTED ACTIVITIES AND NOTES | SUGGESTED RESOURCES |
|---|---|---|---|---|
| Equipment and machinery | • identify farm machinery<br>• state uses of farm machinery<br>• list advantages of using farm equipment and machinery<br>• explain disadvantages of using farm equipment and machinery | • Farm equipment and machinery<br>• uses of farm equipment and machinery<br>• Advantages and disadvantages of farm equipment and machinery | • identifying farm equipment and machinery<br>• Stating uses of farm equipment and machinery<br>• Discussing advantages and disadvantages of using farm equipment and machinery<br>• Field trips | • Farm equipment and machinery<br>• ICT tools<br>• of farm equipment |
| Maintenance of farm equipment | ▪ Describe the maintenance of farm equipment<br>▪ State the importance of maintenance of farm equipment | • Maintenance of<br>• farm equipment<br>• Importance of farm equipment maintenance | • Explaining maintenance of farm equipment<br>• Discussing how to maintain farm equipment | • Farm equipment and machinery<br>• Field trips<br>• ICT tools<br>• of farm equipment |
| Measuring devices | • identify devices used to measure length and mass<br>• use measuring devices to measure<br>• length | • Measuring devices<br>• tape measure<br>• ruler<br>• balance<br>• measuring wheel<br>• string | • identifying devices used to measure<br>• length<br>• mass<br>• using measuring devices to measure<br>• length | • Charts<br>• ICT gadgets<br>• Measuring devices |

| KEY CONCEPT | OBJECTIVES<br>Pupils should be able to: | CONTENT<br>(Skills, attitudes, and knowledge values and positive dispositions) | SUGGESTED ACTIVITIES AND NOTES | SUGGESTED RESOURCES |
|---|---|---|---|---|
| | • mass<br>• demonstrate use of measuring devices | | • mass<br>• demonstrating proper use of measuring devices | |
| Digital devices | • state entertainment devices<br>• explain the uses of entertainment devices<br>• outline computer peripherals | • Entertainment devices<br>• Television<br>• Gaming consoles<br>• Streaming devices<br>• Computer peripherals<br>• Input /output<br>• Storage | • naming of entertainment devices<br>• matching entertainment devices to their names<br>• discussing the uses of entertainment devices<br>• identifying computer peripherals<br>• classifying computer peripherals | • ICT devices<br>• Computers<br>• Print media<br>• Computer peripherals |
| Digital tools | • create a presentation<br>• import images into presentation<br>• change slide layout<br>• add text description to the slides | • Presentation<br>- PowerPoint | • Designing presentation with drawing<br>• Editing the layout of slides<br>• Entering descriptive text on slides. | • PowerPoint packages<br>• -Ms PowerPoint and Google sheets<br>• Computers |
| Career opportunities | • name career opportunities in ICT<br>• discuss roles of personnel in different careers | • Career opportunities<br>• graphics designer<br>• digital media specialists<br>• computer Science teacher | • Naming career opportunities in ICT<br>• Explaining the roles of ICT personnel listed.<br>• Demonstrating roles by the ICT personal | • ICT personnel<br>• Computers |

9.6 **Energy and Fuels**

| **KEY CONCEPT** | **OBJECTIVES** Pupils should be able to: | **CONTENT** (Skills, attitudes, and knowledge values and positive dispositions) | **SUGGESTED ACTIVITIES AND NOTES** | **SUGGESTED RESOURCES** |
|---|---|---|---|---|
| Forms of energy | • identify forms of energy<br>• describe forms of energy<br>• demonstrate kinetic energy | • Forms of energy<br>- Heat<br>- Light<br>- Sound<br>- Kinetic<br>- potential | • Identifying forms of energy<br>• Describing forms of energy<br>• Illustrating kinetic energy<br>• Discussing uses of energy | • Batteries<br>• Heaters<br>• Solar cooker<br>• Solar panel<br>• ICT tools |
| Fuels | • explain conditions necessary for fuel to burn<br>• identify fuel hazards<br>• suggest safety precautions when using fuel | • Conditions necessary for fuel to burn<br>• Potential hazards associated with fuels<br>• Fuel handling | • Discussing conditions necessary for fuel to burn<br>• Identifying fuel hazards<br>• Suggesting safety precautions | • Wood<br>• Candle<br>• Work cards<br>• Paraffin<br>• Spirit<br>• Gas |

**9.7 Disaster Risk Management and Resilience**

| KEY CONCEPT | OBJECTIVES<br>Pupils should be able to: | CONTENT<br>(Skills, attitudes, and knowledge values and positive dispositions) | SUGGESTED ACTIVITIES AND NOTES | SUGGESTED RESOURCES |
|---|---|---|---|---|
| Hazards | • identify man-made hazards<br>• describe different man - made hazards<br>• discus the impact of hazards | • Man-made hazards<br>- At home<br>- School<br>- community<br>• Impact of the hazards | • Identifying man-made hazards<br>• Discussing the different man-made hazards<br>• Showing videos and images of some of the occurrences<br>• Explaining effects of man-made hazards<br>• Suggesting ways to lessen the hazards<br>• Compiling a list of ways to mitigate against man-made hazards<br>• Conducting a field trip | • Images of natural hazards scenarios<br>• Visual aids<br>• Digital tools<br>• Newspapers<br>• Local environment |
| Safety and Evacuations | • state different disaster mitigation measures of given hazards<br>• discuss possible interventions to mitigate against man-made hazards<br>• produce a hazards mitigation guideline | • Safety and evacuations<br>- Disaster mitigation interventions<br>- Mitigation measures of selected hazards | • Stating different disaster mitigation measures<br>• Discussing intervention measures<br>• Producing a guideline to mitigate against man-made disasters of choice | • videos<br>• newspaper cuttings<br>• sample guidelines<br>• Digital tools<br>• Disaster map |
| Emergency Professionals | • list emergency responders<br>• discuss their roles in keeping the community safe. | • Emergency responders such as:<br>-Civil Protection Unit<br>- police<br>- firefighters | • Discussing the roles of different emergency responders (firefighters, police officers, game rangers) using and stories.<br>• Inviting local emergency responders to the classroom to talk about their jobs and | • Digital tools<br>• Toy helmets<br>• badges |

| KEY CONCEPT | OBJECTIVES<br>Pupils should be able to: | CONTENT<br>(Skills, attitudes, and knowledge values and positive dispositions) | SUGGESTED ACTIVITIES AND NOTES | SUGGESTED RESOURCES |
|---|---|---|---|---|
| | | - health personnel<br>-Traditional leaders<br>• Roles of emergency professionals | demonstrate their equipment.<br>• Role-playing activities where children act as emergency responders, using props like toy helmets and badges | |
| Psycho-emotional support | • explain what psycho social support entails<br>• outline the impact of hazards<br>• identify needs of victims<br>• classify the types of psycho-social support needed | • Psychosocial support<br>• Impact of man-made hazard<br>• Areas of concern on hazard victims<br>• Service provision to affected people<br>• Types of psycho - social support to be given | • Explaining what psycho social support is<br>• Discussing the impact of man-made hazards<br>• Outlining the needs of victims after a disaster<br>• Classifying the different types of support that can be extended | • First aid kit<br>• videos<br>• drawing and painting materials<br>• digital tool |
| Emotional Resilience (psycho-emotional support after a disaster) | • identify sources of support when affected by a disaster<br>• explain the importance of emotional resilience | • Sources of emotional support<br>- family<br>- school<br>- community<br>- government<br>• Ways of coping with emotional trauma after a disaster<br>• Importance of emotional resilience | • Identifying sources of emotional support<br>• Discussing emotions that might arise after disasters and ways to manage them.<br>• Role playing scenarios where characters experience and manage fear, stress, anxiety and seek comfort.<br>• Discussing the importance of seeking comfort and support.<br>• Practising deep breathing, singing, or playing calming games that can help reduce anxiety during stressful situations | • Puppets or dolls for role-playing emotional resilience scenarios.<br>• Posters<br>• Calming music and songs<br>• Music player |

9.8 Educational Technology and Innovation

| **KEY CONCEPT** | **OBJECTIVES** Pupils should be able to: | **CONTENT** (Skills, attitudes, and knowledge values and positive dispositions) | **SUGGESTED ACTIVITIES AND NOTES** | **SUGGESTED RESOURCES** |
|---|---|---|---|---|
| Everyday Technology Interaction | • name the messaging applications<br>• use messaging applications<br>• research using child-friendly search engines<br>• identify online safety rules | • applications and software:<br>- Messaging applications<br>- whatsApp<br>- facebook<br>- Gmail<br>• Digital citizenship<br>- Online safety<br>- Cyber-bullying | • Naming the various messaging applications<br>• Practising using messaging applications for learning<br>• Explaining online safety rules<br>• Discussing cyber-bullying | • Computers<br>• Smartphones<br>• Tablets<br>• Interactive boards<br>• ICT tools |
| Robotics and Coding | • state basic components of robotics<br>• identify block based coding platforms<br>• explain making robots using block based coding platforms | • Robotics and coding<br>• Components<br>- sensors ( light, sound, touch)<br>- actuators (motors, wheels)<br>• Simple Programming Language<br>• Block based coding platform<br>- Scratch<br>- Scratch Jr<br>- Tinker | • Naming the basic components of robotics<br>• Discussing using basic robots components to make games<br>• Exploring block based coding platforms such as Scratch, Scratch Jr and tinker<br>• Explaining making of games using block based coding platforms<br>• Designing games using bock based coding platforms | • Visual aids<br>• Puzzles<br>• Digital tools<br>• Coding software |
| Technology design and safety | • state safety rules when using tools<br>• design an artifact<br>• make an artefact | • Safety rules<br>• Artefact designing (age appropriate)<br>• Artefact making | • Stating safety rules when using tools<br>• Designing an artefact<br>• Preparation of materials<br>• Making an artefact | • Tools and equipment<br>• Materials<br>• Resource person/ mastercraft |
| Cyber security | • identify | • Software security | • stating different types of | • ICT tools |

| KEY CONCEPT | OBJECTIVES<br>Pupils should be able to: | CONTENT<br>(Skills, attitudes, and knowledge values and positive dispositions) | SUGGESTED ACTIVITIES AND NOTES | SUGGESTED RESOURCES |
|---|---|---|---|---|
| | malware and how it affects computers<br>• list types of malware<br>• name antiviruses software<br>• explain how antiviruses work | - malware<br>- Viruses<br>- antivirus | malware<br>• explaining effects of malware on computers<br>• identifying antivirus software<br>• discussing how antivirus protects computers against harm | • ICT devices |

**Grade 5**

10.1 **Health and Hygiene**

| KEY CONCEPT | OBJECTIVES<br>Pupils should be able to: | CONTENT<br>(Skills, attitudes and knowledge, values and positive disposition) | SUGGESTED ACTIVITIES AND NOTES | SUGGESTED RESOURCES |
|---|---|---|---|---|
| Human body<br>Digestive system | • identify parts of the digestive system<br>• state the functions of parts of the digestive system | • Digestive system<br>- Mouth<br>- Stomach<br>- Intestines<br>- anus<br>• Functions of digestive system parts<br>• Modelling digestive system parts | • Discussing what happens to the food they eat<br>• Naming and identifying parts of the digestive system<br>• Discussing the functions of parts of the digestive system<br>• Modelling parts of the digestive system | • Digital tools<br>• Model<br>• Print media |

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| Unhealthy eating habits /eating disorders | • define unhealthy eating habits<br>• Identify eating disorders<br>• explain consequences of unhealthy eating habits<br>• engage in activities that promote healthy lifestyle | • Definition of unhealthy eating habits<br>• Eating disorders<br>- Obesity<br>- anorexia nervosa<br>- Bulimia<br>• Promotion of a healthy lifestyle | • Discussing unhealthy eating habits<br>• Identifying eating disorders<br>• explaining consequences of unhealthy eating habits<br>• stating good eating habits<br>• Demonstrating physical activities that promote healthy lifestyle | • Print media<br>• Digital tools<br>• Food<br>• Resource person |
| Environmental hygiene Water pollution | • define water pollution<br>• identify the causes of water pollution<br>• state the effects of water pollution<br>• discuss the measures of reducing water pollution | • Definition of water pollution<br>• Causes of water pollution<br>• Effects of water pollution<br>• Measures to reduce water pollution<br>- clean up events<br>- proper disposal of waste | • Defining water pollution<br>• Identifying the causes of water pollution<br>• Stating the effects of water pollution<br>• Demonstrating measures to reduce water pollution<br>• Field trips<br>• Experiments | • Digital media<br>• Print media<br>• Resource person |
| Emotional health | • define emotional health<br>• discuss the signs of emotional health<br>• explain the factors influencing emotional health<br>• state emotional health copying | • Emotional health<br>- Signs<br>• Factors influencing emotional health<br>• Emotional health copying mechanisms<br>- setting boundaries<br>- exercise and | • Defining emotional health<br>• Discussing signs of emotional health<br>• Stating factors influencing emotional health | • Print media<br>• Digital tools<br>• Resource person |

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| | mechanisms | physical activity<br>- seeking psycho-social support<br>- therapy | • Demonstrating/ role playing healthy copying mechanisms | |
| Sexually transmitted infections | • define Sexually Transmitted Infections (STIs)<br>• list STIs<br>• identify signs and symptoms of STIs<br>• state STIs prevention measures | • Sexually Transmitted Infections (STIs) :<br>- Gonorrhoea<br>- Syphilis<br>- Genital warts<br>- Herpes<br>• Signs and symptoms STIs<br>• Protection and safety measures<br>-abstinence | • Defining STIs<br>• Listing STIs<br>• Discussing signs and symptoms of STIs<br>• Stating STIs prevention measures | • Digital tools<br>• Print media<br>• Resource person |

**10.2 Food and Nutrition**

| **KEY CONCEPT** | **OBJECTIVES**<br>Pupils should be able to: | **CONTENT**<br>(Skills, attitudes and knowledge, values and positive disposition) | **SUGGESTED ACTIVITIES AND NOTES** | **SUGGESTED RESOURCES** |
|---|---|---|---|---|
| Nutrient deficiency and excess | • identify nutrients<br>• explain nutrient deficiency<br>• list nutrient deficiency diseases<br>• identify the importance of nutrients for growth and development<br>• discuss the causes of nutrient deficiency diseases<br>• outline the consequences of | • Nutrients<br>- vitamin C and D<br>- proteins<br>- minerals (iodine and iron)<br>• Nutrient deficiency diseases<br>- kwashiorkor<br>- marasmus<br>- night blindness<br>- rickets<br>- scurvy | • Naming nutrients<br>• Explaining nutrient deficiency<br>• Naming nutrient deficiency diseases<br>• Stating the Importance of nutrients for growth and development<br>• Discussing causes of nutrient deficiency diseases<br>• Outlining consequences of | • Digital tools<br>• Resource person<br>• Print media<br>• Food items |

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| | nutrient deficiency diseases<br>• define nutrient excess<br>• state the effects of nutrient excess<br>• explain the importance of nutrient moderation | • Importance of nutrients for growth and development<br>• Causes of nutrient deficiency<br>• Consequences of nutrient deficiency<br>• Nutrient excess<br>• Effects of nutrient excess<br>- weight gain<br>- high blood pressure<br>- liver damage<br>- kidney damage<br>• Importance of nutrient moderation | nutrient deficiency diseases<br>• Defining nutrient excess<br>• Discussing the effects of nutrient excess<br>• Explaining the importance of nutrient moderation | |
| Food preservation | • define food preservation<br>• state the importance of food preservation<br>• explain the methods of preserving food in the home<br>• explain how food can be spoiled and contaminated | • Food preservation<br>- importance<br>• Methods of preserving food at home<br>- indigenous<br>- modern<br>• Food spoilage and contamination | • Defining food preservation<br>• Discussing the importance of food preservation<br>• Demonstrating the methods of preserving food at home<br>• Experimenting on food spoilage and contamination | • Print media<br>•<br>• Food<br>• Salt<br>• Resource person<br>• Kitchen utensils<br>• |
| Meal planning and budgeting | • identify types of meals<br>• plan a simple meal<br>• state the benefits of meal planning | • Types of meals<br>- Breakfast<br>- Lunch<br>- supper<br>• Benefits of meal | • Naming types of meals<br>• Discussing benefits of meal planning<br>• Planning a meal | • Meal card<br>• Print media<br>• Digital tools<br>• Resource person |

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| | • discuss budget goals when planning for a meal | planning<br>- reduce food waste<br>- portion control<br>- balanced nutrition<br>• Budget goals<br>- cost control<br>- saves money<br>- avoid impulse buying | • budgeting for a meal | |

**10.3 Crops, Plants and Animals**

| **KEY CONCEPT** | **OBJECTIVES**<br>Pupils should be able to: | **CONTENT**<br>(Skills, attitudes and knowledge, values and positive disposition) | **SUGGESTED ACTIVITIES AND NOTES** | **SUGGESTED RESOURCES** |
|---|---|---|---|---|
| Plant reproduction | • define plant reproduction<br>• describe the process of pollination<br>• explain fertilization<br>• outline seed formation | • Plant reproduction:<br>- flowering<br>- non-flowering<br>• Flowers and pollination<br>• Fertilization and seed formation<br>• Seed and fruits | • Explaining plant reproduction<br>• Illustrating the process of pollination<br>• Explaining fertilization<br>• Discussing seed formation<br>• Field trip | • Print media<br>• Resource person<br>• Digital tools<br>• Apparatus<br>• Local environment |
| Plant nutrients | • state plant nutrients<br>• discuss plant nutrients<br>• explain functions of nutrients in plants | • Plant nutritional needs<br>• Plant nutrients<br>- Nitrogen<br>- Phosphorus<br>- potassium<br>• Nutrient function | • Discussing plant nutrients<br>• Listing nutrients<br>• Describing the functions of nutrients in plants | • Local environment<br>• Fertilisers<br>• |
| Animal reproduction | • describe mating<br>• define gestation | • Mating<br>• Gestation period | • Discussing mating<br>• Discussing gestation | • Print media<br>• Digital tools |

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| | period<br>• compare the gestation periods for domestic animals | - cow<br>- rabbits<br>- poultry | period<br>• Comparing the gestation period for animals | • Resource person<br>• |
| Ecological pyramid | • identify organisms in the levels of the food pyramid<br>• describe a food pyramid<br>• discuss the importance of a food pyramid | • Ecological pyramid<br>- Producers<br>- primary consumers<br>- secondary consumers<br>- tertiary consumers<br>- decomposers<br>• Organisms in the food pyramid<br>• Importance of a food pyramid | • Identifying organisms in a food pyramid<br>• Describing the food pyramid<br>• Constructing a food pyramid<br>• Discussing the importance of a food pyramid | • Locally available materials<br>• Print media<br>• Digital tools<br>• |

**10.4 Environmental awareness and conservation**

| **KEY CONCEPT** | **OBJECTIVES**<br>Pupils should be able to: | **CONTENT**<br>(Skills, attitudes and knowledge, values and positive disposition) | **SUGGESTED ACTIVITIES AND NOTES** | **SUGGESTED RESOURCES** |
|---|---|---|---|---|
| Weather conditions | • define weather forecasting<br>• state the importance of weather forecast<br>• list weather instruments<br>• explain functions of weather instruments<br>• record weather conditions | • Weather forecast<br>• Weather instruments<br>- rain gauge<br>- wind vane<br>- cup anemometer<br>- thermometer<br>• Weather recording | • Discussing weather forecasting methods<br>- Indigenous<br>- contemporary<br>• Describing the importance of weather instruments<br>• Stating weather instruments<br>• Explaining functions of weather | • Weather station<br>• Digital tools<br>• Print media<br>• Local environment |

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| | | | instruments<br>• Recording weather conditions<br>• Field trip | |
| Soil as an ecosystem | • identify soil organisms<br>• extract soil organisms from garden soil<br>• record findings<br>• describe the importance of soil organisms | • Soil organisms<br>- earth worms<br>- termites<br>- ants<br>- white grubs<br>• Importance of soil organisms | • Identifying soil organisms<br>• Using apparatus to extract organisms from a soil sample<br>• Recording findings<br>• Describing the importance of soil organisms | • Compost<br>• Garden<br>• Flower bed<br>• Digital tools<br>• Apparatus<br>• Print media<br>• Digging tools |
| Uses of soil | • identify uses of soil | • Uses of Soil in<br>- agriculture<br>- construction<br>- pottery<br>- soil as a habitat | • Discussing uses of soil<br>• Moulding<br>• Construction<br>• Planting trees<br>• Field trip | • Local environment<br>• Soil samples<br>• Picture<br>• Digital tools<br>• Models<br>• Resource person |
| Water conservation methods | • identify water conservation methods<br>• explain the importance of water conservation<br>• demonstrate responsible water usage | • Importance of water conservation<br>• Water conservation<br>- Household water conservation<br>- Outdoor water conservation<br>• Responsible water usage | • Stating water conservation methods<br>• Discussing the importance of water conservation<br>• Demonstrating responsible water usage | • Digital tools<br>• Print media<br>• Apparatus<br>• Buckets<br>• Water |
| Commercial land use | • define commercial land use<br>• discuss types of commercial land use | • Commercial land use<br>• Types<br>- retail<br>- industrial | • Discussing commercial land use<br>• Describing types of commercial land use | • Digital tools<br>• Print media<br>• |

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| | • outline the importance of commercial land use | - recreation<br>- agriculture<br>• Importance<br>- economic<br>- social<br>- environmental | • Explaining the importance of commercial land use<br>• Field trip | |
| Conservation of natural resources | • define natural resources<br>• identify types of natural resources<br>• explain types of natural resources<br>• describe the conservation strategies<br>• discuss the importance of conserving natural resources | • Natural resources<br>- Types<br>- Importance<br>- Importance of conserving natural resources<br>- Ways of conserving natural resources | • Explaining natural resources<br>• Naming the types of natural resources<br>• Explaining the importance of conserving natural resources<br>• Discussing the conservation strategies | • Digital tools<br>• Print media<br>• Local environment |

**10.5 Tools, Equipment and Implements**

| **KEY CONCEPT** | **OBJECTIVES**<br>Pupils should be able to: | **CONTENT**<br>(Skills, attitudes and knowledge, values and positive disposition) | **SUGGESTED ACTIVITIES AND NOTES** | **SUGGESTED RESOURCES** |
|---|---|---|---|---|
| Uses of tools and safety | • identify uses of tools<br>• explain safe handling of tools<br>• demonstrate safe handling of tools | • Uses of tools<br>- cooking and food preparation tools<br>- garden and landscaping tools<br>• Safety of tool handling | • Explaining uses of tools<br>• Discussing safe handling of tools<br>• Demonstrating safe handling of tools | • Locally available tools<br>• Digital tools<br>• Print media<br>• Tool manuals |

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|---|---|---|---|---|
| Measuring tools | • identify the tools used for measuring temperature and mass<br>• measure temperature and mass<br>• record findings | • Measuring<br>- temperature<br>o thermometer<br>- mass<br>o balance | • naming tools used for measuring temperature and mass<br>• measuring temperature and mass<br>• recording findings | • Thermometer<br>• Balance<br>• Objects<br>- agricultural produce |
| Digital devices | • name communication devices<br>• describe function of communication devices<br>• group storage devices according to use | • Communication devices<br>- Smartphone<br>- Two-way<br>- radios<br>• storage devices | • stating different types of communication devices<br>• discussing function of communication devices<br>• practising usage of communication devices<br>• stating storage devices | ICT tools<br>Smartphones<br>Print media<br>Digital devices |
| Digital tools | • create a flyer promoting school event<br>• design a certificate of excellence | • Publisher<br>- flyers<br>- invitation cards<br>- certificates | • Selecting the appropriate template to design a card<br>• Creating a flyer promoting a school event<br>• Design a certificate of excellence for other learners.<br>• Modifying text on cards, certificates to enhance appearing | Microsoft Publisher<br>• . Adobe InDesign<br>• computers |

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| Career opportunities | • state career opportunities in ICT<br>• describing roles of ICT personal | Career opportunities<br>- desktop publisher<br>- document designer<br>- web publisher<br>- print designer | • Discussing the roles of different careers<br>• Asking questions and responding to questions from Resource personal<br>• . Conducting educational tours to ICT companies | • Expert guest presentation<br>• Print and electronic media |

**10.6 ENERGY AND FUELS**

| **KEY CONCEPT** | **OBJECTIVES**<br>Pupils should be able to: | **CONTENT**<br>(Skills, attitudes and knowledge, values and positive disposition) | **SUGGESTED ACTIVITIES AND NOTES** | **SUGGESTED RESOURCES** |
|---|---|---|---|---|
| **Solar energy** | • identify solar powered gadgets<br>• explain the concept of solar energy<br>• describe the importance of Solar energy<br>• identify safety precautions when using solar energy | • Solar energy<br>- Solar-powered gadgets<br>• Importance of solar energy<br>• Safety precautions | • Identifying solar powered gadgets<br>• Explaining the concept of solar energy<br>• Describing the importance of Solar energy<br>• Identifying safety precautions when using Solar energy | • Digital tools<br>• Print media<br>• Solar panel<br>• Environment<br>• Solar gadgets |
| Renewable and non-renewable fuels | • discuss renewable and non-renewable fuels<br>• explain the | • Renewable fuels<br>• Non-renewable fuels<br>• Importance of conserving fuels | • Discussing the concept of renewable and no-renewable fuels | • Resource person<br>• Print media<br>• Digital media<br>• Environment |

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| | importance of fuel conservation<br>• state the advantages and disadvantages of renewable and non-renewable fuels | | • Explaining the importance of renewable fuel<br>• Describing the advantages and disadvantages of renewable and non-renewable fuel<br>• Discussing indigenous beliefs that help conserve fuels | |

**10.7 Disaster Risk Management and Resilience**

| **KEY CONCEPT** | **OBJECTIVES Pupils should be able to:** | **CONTENT (Skills, attitudes and knowledge, values and positive disposition)** | **SUGGESTED ACTIVITIES AND NOTES** | **SUGGESTED RESOURCES** |
|---|---|---|---|---|
| Natural hazards | • identify natural hazards<br>• explain the effects of natural hazards | • Natural hazards<br>• Effects of natural hazards | • Discussing natural hazards<br>• Explaining the effects of natural hazards | • Digital tools<br>• Print media<br>• Resource person |
| Safety and evacuations | • discuss safety measures<br>• state importance of safety procedures<br>• describe evacuation procedures<br>• practice evacuation procedures | • Safety measures<br>- importance<br>• Evacuation procedures<br>- emergency exits<br>- route<br>- assembly points | • Stating safety measures<br>• Discussing importance of safety procedures<br>• Outlining evacuation procedures<br>• Demonstrating evacuation procedures | • Digital tools<br>• Digital devices<br>• Print media<br>• Resource person<br>• Sample guidelines<br>• Local environment |
| Emergency | • list emergency | • Emergency | • Discussing the roles | • Digital tools |

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|---|---|---|---|---|
| Professionals | responders<br>• discuss their roles in keeping the community safe. | responders such as:<br>-Civil Protection Unit<br>- police<br>- firefighters<br>- health personnel<br>-Traditional leaders<br>• Roles of emergency professionals | of different emergency responders (firefighters, police officers, game rangers) using and stories.<br>• Inviting local emergency responders to the classroom to talk about their jobs and demonstrate their equipment.<br>• Role-playing activities where children act as emergency responders, using props like toy helmets and badges | • Toy helmets<br>• badges |
| Psycho-emotional support | • explain what psycho social support entails<br>• outline the impact of hazards<br>• identify needs of victims<br>• classify the types of psycho-social support needed | • Psychosocial support<br>• Impact of man-made hazard<br>• Areas of concern on hazard victims<br>• Service provision to affected people<br>• Types of psycho - social support to be given | • Explaining what psycho social support is<br>• Discussing the impact of man-made hazards<br>• Outlining the needs of victims after a disaster<br>• Classifying the different types of support that can be extended | • First aid kit<br>• videos<br>• drawing and painting materials<br>• digital tool |
| Emotional Resilience (psycho-emotional support after a disaster) | • identify sources of support when affected by a disaster | • Sources of emotional support<br>- family | • Identifying sources of emotional support<br>• Discussing emotions | • Puppets or dolls for role-playing emotional resilience |

| | | | | |
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| | • explain the importance of emotional resilience | - school<br>- community<br>- government<br>• Ways of coping with emotional trauma after a disaster<br>• Importance of emotional resilience | that might arise after disasters and ways to manage them.<br>• Role playing scenarios where characters experience and manage fear, stress, anxiety and seek comfort.<br>• Discussing the importance of seeking comfort and support.<br>• Practising deep breathing, singing, or playing calming games that can help reduce anxiety during stressful situations | scenarios.<br>• Posters<br>• Calming music and songs<br>• Music player |

**10.8 Educational Technology and Innovation**

| KEY CONCEPT | OBJECTIVES<br>Pupils should be able to: | CONTENT<br>(Skills, attitudes and knowledge, values and positive disposition) | SUGGESTED ACTIVITIES AND NOTES | SUGGESTED RESOURCES |
|---|---|---|---|---|
| Research and innovation | • identify search engines<br>• state the benefits of using search engines<br>• research using | • Search engines<br>• benefits of using search engines<br>• Research using different search | • Identifying search engines<br>• Stating the benefits of using search engines | • Digital tools<br>• Print media<br>• ICT tools |

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|---|---|---|---|---|
| | different search engines<br>• conduct effective research and innovation | engines | • Researching using different search engines<br>• Conducting effective research and innovation | |
| Robotics and coding | • list robotics design process<br>• describe robotics design process<br>• design and develop games using Scratch<br>• discuss careers in robotics | • Coding concept<br>• Robot design process<br>- planning<br>- building<br>- testing<br>• Game development<br>- Scratch<br>• Career in robotics<br>- Research and development<br>- Design and engineering<br>- Robotics engineer<br>- Software developer | • Stating robotics design process<br>• Explaining the robotics design process<br>• Designing and developing games using Scratch<br>• Explaining the careers in robotics | • Digital tools<br>• Print media<br>• Resource person<br>• Robotics models |
| Cyber security | • explain the dangers associated with using the internet<br>• suggest ways of ensuring cyber security<br>• design posters on cyber wellness | • Cyber wellness<br>• Surfing the internet<br>- Best practices | • Discussing dangers associated with the internet<br>• Practising safety precautions when surfing the internet<br>• Carrying out awareness campaigns on cyber wellness | • Posters<br>• digital devices<br>• digital tools |
| Technology design and safety | • state safety rules when using tools | • Safety rules<br>• Artifact design (age | • Stating safety rules when using tools | • Tools and equipment<br>• Resource person |

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| | • design an artifact<br>• make an artifact | appropriate)<br>• Artefact making | • Preparation of materials<br>• Designing an artifact<br>• Making an artifact | • Materials<br>• Artefacts |

GRADE 6

11.1 **Health and Hygiene Practices**

| **KEY CONCEPT** | **OBJECTIVES**<br>**Pupils should be able to:** | **CONTENT**<br>**(Skills, attitudes and knowledge, values and positive disposition)** | **SUGGESTED ACTIVITIES AND NOTES** | **SUGGESTED RESOURCES** |
|---|---|---|---|---|
| Human reproductive system | • identify human reproductive parts<br>• draw reproductive parts<br>• explain the gestation | • Human reproductive system<br>- Female<br>- Male<br>• Puberty | • Naming human reproductive parts<br>• Drawing human reproductive parts<br>• Discussing the | • Digital tools<br>• Print media<br>• Models<br>• Hygiene product samples |

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| | period in humans<br>• describe the process of puberty and physical changes<br>• identify hygiene practices at puberty stage<br>• discuss the importance of personal hygiene | - physical changes<br>- hygiene practices<br>- importance of personal hygiene<br>- make reusable pads | process of puberty and its physical changes<br>• Explaining the gestation in humans (pregnancy)<br>• Making reusable pads<br>• Explaining hygiene practices at puberty stage<br>• Discussing the importance of personal hygiene<br>• Discussing proper care of reusable pads<br>• Explaining proper disposal of sanitary wear | • Sanitary wear<br>• Resource person<br>• Fleece<br>• Waterproof material<br>• Thread<br>• Needles |
| Foodborne diseases | • define foodborne diseases<br>• state the signs and symptoms of foodborne diseases<br>• discuss prevention and control of foodborne diseases | • Foodborne diseases<br>○ Salmonella<br>○ Botulism<br>○ E-coli infection<br>- Signs and symptoms<br>- Prevention and control | • Discussing Foodborne diseases<br>• Identifying signs and symptoms of foodborne diseases<br>• Discussing prevention and control of foodborne diseases | • Food samples<br>• Digital media<br>• Print media |
| Environmental hygiene | • define land pollution<br>• identify types of land pollution<br>• explain effects of land pollution<br>• discuss ways to | • Land pollution<br>- Types<br>- Effects<br>- Ways to reduce land pollution | • Discussing land pollution<br>• Stating types of land pollution<br>• Discussing effects of land pollution | • Local environment<br>• Resource person<br>• Digital tools<br>• Print medial |

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|---|---|---|---|---|
| | reduce land pollution | | • Explaining ways to reduce land pollution | |
| Emotional intelligence | • define emotional intelligence<br>• explain various emotions<br>• define self-awareness<br>• explain the importance of self-awareness<br>• discuss how to react to various situations<br>• define self-regulation<br>• explain the importance of self-regulation<br>• demonstrate self-regulation techniques | • Components of emotional intelligence<br>- Self-awareness<br>- importance of self-awareness<br>- Self-regulation<br>- Importance of self-regulation<br>- self-regulation techniques | • Discussing emotional intelligence<br>• Identifying various emotions<br>• Explaining self-awareness<br>• Discussing the importance of self-awareness<br>• Role playing reacting to various situations<br>• Explaining self-regulation<br>• Discussing the importance of self-regulation<br>• Demonstrating self-regulation techniques | • Digital tools<br>• Print media<br>• Statues |
| HIV and AIDS | • define HIV/AIDS<br>• discuss how HIV/AIDS can be transmitted<br>• describe how HIV/AIDS can be prevented<br>• discuss how HIV/AIDS infected persons can be managed | • Transmission<br>• Prevention<br>• Management | • Discussing HIV/AIDS<br>• Describing ways in which HIV/AIDS is transmitted<br>• Discussing how HIV/AIDS is prevented<br>• Outlining how HIV/AIDS infected persons can be managed | • Digital tools<br>• Print media |

**11.2 Food and Nutrition**

| **KEY CONCEPT** | **OBJECTIVES Pupils should be able** | **CONTENT (Skills, attitudes and** | **SUGGESTED ACTIVITIES AND** | **SUGGESTED RESOURCES** |
|---|---|---|---|---|

| | to: | knowledge, values and positive disposition) | NOTES | |
|---|---|---|---|---|
| Balanced diet | • define a balanced diet<br>• identify components of a balanced diet in an indigenous meal<br>• discuss the health benefits of indigenous foods | • Indigenous food<br>• Balanced diet<br>- Components<br>- Health benefits | • Explaining a balanced diet<br>• Discussing components of a balanced diet in an indigenous meal<br>• Explaining the health benefits of indigenous foods | • Digital tools<br>• Print media<br>• Local environment |
| Packaging and storage | • identify storage methods<br>• discuss the importance of food packaging and storage<br>• practice food packaging<br>• list modern and indigenous storage methods<br>• identify reasons for packaging | • Reasons for packaging<br>• Materials used for packaging<br>• Storage<br>- Indigenous<br>- Modern | • Describing storage methods<br>• Explaining the importance of food packaging and storage<br>• Demonstrating food packaging<br>• Outlining modern and indigenous storage methods<br>• Discussing reasons for packaging | • Food guides<br>• Locally available materials |
| Food preparation | • list ingredients to be used<br>• state utensils used to prepare indigenous meal<br>• discuss cooking methods to be used<br>• prepare an indigenous meal | • Ingredients<br>• Utensils<br>• Cooking methods<br>• Preparing an indigenous meal | • Naming ingredients to be used<br>• Identifying utensils to be used<br>• Explaining cooking methods to be used<br>• preparing an indigenous meal | • Locally available materials<br>• Digital tools<br>• Print media |

**11. 3 Crops, Plants and Animals**

| KEY CONCEPT | OBJECTIVES<br>Pupils should be able to: | CONTENT<br>(Skills, attitudes and knowledge, values and positive disposition) | SUGGESTED ACTIVITIES AND NOTES | SUGGESTED RESOURCES |
|---|---|---|---|---|
| Germination | • define germination<br>• discuss conditions necessary for germination<br>• describe germination stages<br>• carry out an experiment on seed germination | • Germination -definition of germination<br>• Conditions necessary for germination<br>- Moisture<br>- Warmth<br>- Air<br>• Germination stages<br>• Experiment | • Explaining germination<br>• Discussing conditions necessary for germination<br>• Explaining germination stages<br>• Experimenting on seed germination | • Digital tools<br>• Local environment<br>• Water<br>• Seeds<br>• Apparatus |
| Nutrient deficiency | • identify plants nutrients<br>• define plant nutrient deficiency<br>• identify signs of plant nutrient deficiency<br>• discuss ways to curb plant nutrient deficiency<br>• carry out an experiment on plant nutrient deficiency | • Plant nutrients<br>- nitrogen<br>- potassium<br>- phosphorus<br>• Signs of plant nutrient deficiency<br>- nitrogen<br>- potassium<br>- phosphorous<br>• How to curb nutrient deficiency<br>• Experiment | • Listing Plant nutrients<br>• Explaining plant nutrient deficiency<br>• Identifying signs of plant nutrient deficiency<br>• Explaining how to curb plant nutrient deficiency<br>• Experimenting on plant nutrient deficiency | • Local environment<br>• Fertilisers<br>• Digital tools<br>• Print media<br>• Garden tools<br>• Garden |
| Animal nutrients | • identify animal nutrients<br>• explain the importance of animal nutrients | • Animal nutrients<br>- Carbohydrates<br>- Proteins<br>- fats<br>• Importance of | • Listing animal nutrients<br>• Discussing the importance of animal nutrients | • Digital tools<br>• Print media<br>• Local environment |

| | | | | |
|---|---|---|---|---|
| | • classify animals according to their diets | nutrients<br>• Animal diet<br>- Herbivores<br>- Carnivores<br>- Omnivores | • Grouping animals according to their diets | |
| Predator-prey relationship | • explain roles of predators and prey in an ecosystem<br>• discuss the importance of balance in an ecosystem<br>• describe adaptation of predators and prey to their relationship | • Predator-prey relationship<br>• Adaptation of<br>- predators (sharp teeth, camouflage, agility, strength)<br>- prey (speed, defense mechanisms) | • Discussing predator-prey relationship<br>• Explaining the importance of balance in an ecosystem<br>• Describing adaptation of predators and prey | • Digital tools<br>• print media<br>• Local environment |

**11.4 ENVIRONMENTAL AWARENESS AND CONSERVATION**

| **KEY CONCEPT** | **OBJECTIVES Pupils should be able to:** | **CONTENT (Skills, attitudes and knowledge, values and positive disposition)** | **SUGGESTED ACTIVITIES AND NOTES** | **SUGGESTED RESOURCES** |
|---|---|---|---|---|
| Weather Patterns | • describe weather patterns<br>• explain how weather changes seasonally<br>• identify factors that influence local weather<br>• describe effects of seasonal changes on | • Weather patterns development and change<br>• Factors that influence local weather<br>• Seasonal changes | • Explaining weather patterns<br>• Discussing how weather changes seasonally<br>• Stating factors that influence local weather<br>• Explaining effects of seasonal changes on | • Local environment<br>• Digital tools<br>• Digital devices<br>• Print media |

| | | | | |
|---|---|---|---|---|
| | human activities | | human activities | |
| Soil erosion | • define soil erosion<br>• identify agents of soil erosion<br>• explain types of soil erosion<br>• describe effects of soil erosion<br>• discuss ways of preventing soil erosion | • Soil erosion<br>- Agents<br>- Types<br>- Effects<br>- Prevention | • Explaining soil erosion<br>• Describing how agents of soil erosion contribute towards soil erosion<br>• Discussing types of soil erosion<br>• Describing effects of soil erosion<br>• Discussing ways of preventing soil erosion | • Digital tools<br>• Digital devices<br>• Local environment<br>• Print media |
| Ground water extraction | • discuss the importance of ground water<br>• explain methods of ground water extraction<br>• discuss ground water conservation | • Importance of ground water<br>• Methods of ground water extraction<br>• Ground water conservation | • Explaining the importance of ground water<br>• Discussing methods of ground water extraction<br>• Explaining ground water conservation | • Digital tools<br>• Print media<br>• Local environment |
| Natural Land use | • explain ways of conserving natural resources<br>• explain the importance of natural resources<br>• describe how human activities destroy natural resources<br>• discuss ways of | • Natural land use<br>- flora<br>- fauna<br>• Importance of natural land use<br>• Conservation of natural resources<br>• Recreation | • Describing natural land use<br>• Explaining the importance of natural land use<br>• Discussing ways of conserving natural resources<br>• Field trips/ educational tours | • Digital tools<br>• Print media<br>• Local environment |

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|---|---|---|---|---|
| | reclaiming | | | |
| Natural resources | • identify natural resources<br>• state the importance of natural resources<br>• list human activities that destroy natural resources<br>• describe reclamation methods | • Natural resources<br>• Importance of natural resources<br>• Human activities that destroy natural resources<br>- mining<br>- agriculture<br>- urbanization<br>• Reclamation methods | • Listing ways of conserving natural resources<br>• Discussing the importance of natural resources<br>• Explaining how human activities destroy natural resources<br>• Discussing ways of reclamation | • Digital tools<br>• Digital devices<br>• Print media<br>• Local environment |

**11.5 TOOLS, EQUIPMENT AND IMPLEMENTS**

| **KEY CONCEPT** | **OBJECTIVES**<br>**Pupils should be able to:** | **CONTENT**<br>**(Skills, attitudes and knowledge, values and positive disposition)** | **SUGGESTED ACTIVITIES AND NOTES** | **SUGGESTED RESOURCES** |
|---|---|---|---|---|
| Machine designs and models | • identify types of farm machines<br>• discuss the importance of farm machines<br>• discuss the functions of farm machines<br>• construct models of farm machines<br>• discuss the storage of farm | • Types of farm machines<br>• Importance of farm machines<br>• Functions of farm machines<br>• Storage of farm machines | • Stating types of farm machines<br>• Discussing the importance of farm machines<br>• Discussing the functions farm machines<br>• Constructing models of farm machines<br>• Describing the storage of farm | • Digital media<br>• Print medial<br>• Local environment<br>• Local available materials |

| | | | | |
|---|---|---|---|---|
| | machines | | machines | |
| Farm implements | • identify farm implements<br>• explain the functions of farm implements<br>• discuss the storage of implements | • Farm implements<br>- ploughs<br>- cultivators<br>- harrows<br>- planters<br>• Functions of farm implements<br>• Storage | • Identifying farm implements<br>• Discussing the functions of farm implements<br>• Explaining the storage of implements<br>• Manipulating farm implements<br>• Modelling of farm implements<br>• Field trip | • Digital medial<br>• Farm implements<br>• Print media<br>• Local environment<br>• Resource person |
| Measuring tools | • identify the tools used for measuring temperature, mass and volume<br>• measure , mass and volume<br>• record findings | • Measuring<br>- temperature<br>o thermometer<br>- mass<br>o balance<br>- volume<br>o displacement cans | • naming tools used for measuring temperature, mass and volume<br>• measuring temperature, mass and volume<br>• recording findings | • Thermometer<br>• Balance<br>• Displacement cans<br>• Water<br>• Objects<br>- agricultural produce |
| Digital devices | • identify a digital camera<br>• capture photos<br>• record videos<br>• edit photos and videos | • Digital creative devices<br>- Digital camera<br>- Creative task<br>- photo editing<br>- video editing<br>- graphics<br>- music<br>• features of digital devices | • identifying a creative devices<br>• capturing photos and recording videos for various events<br>• editing photos and videos<br>• printing photos<br>• discussing the features of digital devices | • digital camera<br>• scanner<br>• photo shop<br>• printer<br>• movie maker |
| Digital tools | • create a | • Spreadsheet | Entering data onto a | Spreadsheet programs |

| | | | | |
|---|---|---|---|---|
| - spreadsheet | spreadsheet<br>• use formula to perform calculations<br>• produce graphs from data<br>• search data to solve a problem<br>• sort data to solve a problem<br>• filter data to solve a problem | - structure<br>-Formulas: MAX, MIN, AVE, COUNT, SUM<br>-chart<br>• -sorting | spreadsheet<br>. Perform mathematical calculations using spreadsheet formula<br>. Creating charts from data<br>. Applying sort and filter to data | like Microsoft Excel and Google sheets<br>• . Computers |
| Career opportunities | • identify careers in ICT<br>• explain roles of ICT personal | • Career opportunities<br>- data analyst<br>- data scientist<br>- statistical analyst<br>- accountant | • Identifying career opportunities.<br>• Discussing the roles of ICT personal identified<br>• Role playing careers | Print media<br>electronic media |

**11.6 ENERGY AND FUELS**

| **KEY CONCEPT** | **OBJECTIVES**<br>**Pupils should be able to:** | **CONTENT**<br>**(Skills, attitudes and knowledge, values and positive disposition)** | **SUGGESTED ACTIVITIES AND NOTES** | **SUGGESTED RESOURCES** |
|---|---|---|---|---|
| Heat, light and electrical energy | • discuss sources of electrical, light and heat energy<br>• describe the transfer of heat, light and electrical energy<br>• demonstrate heat, electricity and light transfer | • Transfer of heat, light and electrical energy<br>• Sources of heat, light and electrical energy<br>• Experiment on heat, light and electrical energy transfer | • Explaining how heat, light and electrical energy can be transferred<br>• Discussing sources of electrical energy and heat energy<br>• Carrying out an | • Digital tools<br>• Print media<br>• Science kits<br>• Local environment |

| | | | | |
|---|---|---|---|---|
| | | | experiment on heat, light and electrical energy transfer | |
| Electrical circuits | • identify components of an electrical circuit<br>• discuss types of electrical circuits<br>• create an electrical circuit | • Components of an electrical circuit<br>- Cell<br>- Conductors<br>- Bulb<br>- switch<br>• Types of circuits<br>- parallel<br>- series<br>• An electrical circuit using electrical components | • Identifying Components of an electrical circuit<br>• Discussing types of electrical circuits<br>• Creating an electrical circuit | • Science kits<br>• Digital media<br>• Print media<br>• Chart |
| Sustainable use of fuels | • identify fuel types<br>• discuss the importance of sustainable use of fuels<br>• discuss conservation measures when using fuels | • Fuel types<br>• Importance of sustainable use of fuels<br>• Conservation measures | • Discussing fuel types<br>• Explaining the importance of sustainable use of fuels<br>• Discussing conservation measures when using fuels | Digital tools<br>Digital devices<br>Realia |

**8.7 DISASTER RISK MANAGEMENT AND RESILIENCE**

| KEY CONCEPT | OBJECTIVES<br>Pupils should be able to: | CONTENT<br>(Skills, attitudes and knowledge, values and positive disposition) | SUGGESTED ACTIVITIES AND NOTES | SUGGESTED RESOURCES |
|---|---|---|---|---|

| | | | | |
|---|---|---|---|---|
| Hazards preparedness | • identify emergency response plans<br>• discuss preparedness activities<br>• list emergency supplies<br>• explain the importance of updating of emergency plans | • Emergency response plans<br>- Evacuation routes<br>- Training sessions<br>• Preparedness activities<br>• Emergency supplies<br>• Updating of emergency plans | • Outlining emergency response plans<br>• Discussing preparedness activities<br>• Listing emergency supplies<br>• Explaining the importance of updating of emergency plans<br>• Draw an evacuation map | • Digital tools<br>• Print media<br>• Local environment<br>• Evacuation maps |

**11.8 EDUCATIONAL TECHNOLOGY AND INNOVATION**

| **KEY CONCEPT** | **OBJECTIVES**<br>**Pupils should be able to:** | **CONTENT**<br>**(Skills, attitudes and knowledge, values and positive disposition)** | **SUGGESTED ACTIVITIES AND NOTES** | **SUGGESTED RESOURCES** |
|---|---|---|---|---|
| Robotics and coding | • identify text based programing tools<br>• make simple scripts to control movement<br>• create interactive stories and games using text base programming tools | • Robotics and coding<br>• Text based programming<br>- Python<br>- JavaScript<br>- Simple scripts to control robotic movements<br>• Project based learning<br>- Interactive stories<br>- games | • Stating text based programming tools<br>• Formulating simple scripts to control robotics movement<br>• Using text based programming language to develop interactive stories and games | • JavaScript<br>• Digital tools<br>• Digital devices<br>• Models<br>• Python<br>• Scratch |

| | | | | |
|---|---|---|---|---|
| Technology design and safety | • state safety rules when using tools<br>• design an artifact<br>• make an artifact | • Safety rules<br>• Artifact design (age appropriate)<br>• Artefact making | • Discussing safety rules when using tools<br>• Preparation of materials<br>• Designing an artifact<br>• Making an artifact | • Tools and equipment<br>• Resource person<br>• Materials<br>• Artefacts |
| Cyber security | • define hacking<br>• find out on types of hacker<br>• identify the effects of hacking<br>• outline methods of minimizing effects of hacking | • Cyber security<br>• Hacking<br>• Types of hacking<br>- Black hat<br>- White hat<br>- Grey hat<br>• Hacking prevention<br>- Firewalls<br>- Encryption | • Defining hacking<br>• Listing the types of hackers<br>• Explaining the effects of hacking<br>• Demonstrating ways of reducing effects hacking | • Internet<br>• Digital devices<br>• Digital tools<br>• Print media<br>• Video clips |

**GRADE 7**

**12.1 HEALTH AND HYGIENE PRACTICES**

| KEY CONCEPT | OBJECTIVES<br>Pupils should be able to: | CONTENT<br>(Skills, attitudes and knowledge, values and positive disposition) | SUGGESTED NOTES AND ACTIVITIES | SUGGESTED RESOURCES |
|---|---|---|---|---|
| Respiratory system | • identify parts of the respiratory system<br>• explain functions of parts of the respiratory system<br>• identify respiratory diseases<br>• explain the effects of air pollution to | • Respiratory system<br>- nose<br>- trachea/windpipe<br>- lungs<br>- diaphragm<br>• Functions of parts of the respiratory system<br>• Respiratory diseases<br>• Effects of air pollution | • Listing parts of the respiratory system<br>• Discussing functions of parts of the respiratory system<br>• Discussing respiratory diseases<br>• Outlining the effects of air | • Digital tools<br>• Print media<br>• Balloons<br>• Rubber tubing<br>• Models |

| | | | | |
|---|---|---|---|---|
| | the respiratory system | | pollution | |
| Circulatory system | • naming the parts of the circulatory system<br>• explain the circulatory system | • Circulatory system<br>- Heart<br>- Arteries<br>- Veins<br>- Capillaries<br>- Blood | • Identifying the parts of the circulatory system<br>• Discussing the circulatory system | • Digital tools<br>• Print media<br>• Models |
| Food safety | • define food safety<br>• outline the importance of food safety<br>• explain safe food handling practices | • Food safety<br>- importance<br>• Safe food handling practices | • Explaining food safety<br>• Discussing the importance of food safety<br>• Identifying safe food handling practices | • Digital tools<br>• Print media<br>• Food samples |
| Environmental health | • define noise pollution<br>• list sources of noise pollution<br>• explain effects of noise pollution<br>• list ways of reducing noise pollution | • Noise pollution<br>- sources<br>- effects<br>- reduction strategies | • Describing noise pollution<br>• Explaining sources of noise pollution<br>• Outlining effects of noise pollution<br>• Discussing ways of reducing noise pollution | • Digital tools<br>• Print media<br>• Local environment |
| Emotional intelligence | • discuss components of emotional intelligence<br>• demonstrate social skills | • Empathy<br>• Social skills<br>• Motivation<br>• Role play empathy<br>• Role play empathy walk | • Identifying components of emotional intelligence<br>• Demonstrating social skills | • Digital tools<br>• Print media |
| Chronic diseases | • define chronic | • Chronic diseases | • Identifying chronic | • Digital tools |

| | | | | |
|---|---|---|---|---|
| | diseases<br>• identify types of chronic diseases<br>• explain causes of chronic diseases<br>• discuss prevention and management | • Types<br>- Hypertension<br>- Cancer<br>- Diabetes<br>• Causes<br>• Prevention | diseases<br>• Discussing types of chronic diseases<br>• Explaining causes of chronic diseases<br>• Discussing prevention and management | • Print media |
| Epidemic diseases | • define epidemic diseases<br>• identify types of epidemic diseases<br>• explain causes of epidemic diseases<br>• suggest ways of preventing and controlling epidemic diseases | • Epidemic diseases<br>- Types<br>- Causes<br>- Prevention and control | • Identifying epidemic diseases<br>• Discussing the impact of epidemic diseases<br>• Explaining causes of epidemic diseases<br>• Discussing prevention and control of epidemic diseases | • Digital tools<br>• Resource person<br>• Print media |

**12.2 FOOD AND NUTRITION**

| **KEY CONCEPT** | **OBJECTIVES**<br>**Pupils should be able to:** | **CONTENT**<br>**(Skills, attitudes and knowledge, values and positive disposition)** | **SUGGESTED ACTIVITIES AND NOTES** | **SUGGESTED RESOURCES** |
|---|---|---|---|---|
| Food choices | • identify cultural and religious factors influencing food choices | - Cultural factors<br>- Totem<br>- Traditions and customs | • Examining cultural and religious factors influencing food | Digital tools<br>Print media |

| | | | | |
|---|---|---|---|---|
| | • explain the impact of traditions and customs on food choices<br>• discuss the impact of media in food choices<br>• research on how socio-economic factors affect food choices | - Religion<br>• Impact of media<br>• Socio-economic | choices<br>• Discussing the impact of traditions and customs on food choices<br>• Discussing the impact of media in food choices<br>• Researching on how socio-economic factors affect food choices | |
| Food Storage and Hygiene | • identify indigenous ways of storing food<br>• discuss contemporary ways of food storage<br>• compare indigenous and contemporary ways of storing food | • Storage<br>- Indigenous ways<br>- Contemporary | • Discussing indigenous ways of storing food<br>• Describing contemporary ways of storing food<br>• Comparing indigenous and contemporary ways of storing food<br>• Field trip | • Granaries<br>• Silos<br>• Resource person |
| Food preparation | • prepare any contemporary dish | • Contemporary dish | • Preparing any contemporary dish | • Digital tools<br>• Utensils |

## 12.3 CROPS, PLANTS AND ANIMALS

| KEY CONCEPT | OBJECTIVES<br>Pupils should be able to: | CONTENT<br>(Skills, attitudes and knowledge, values and positive disposition) | SUGGESTED ACTIVITIES AND NOTES | SUGGESTED RESOURCES |
|---|---|---|---|---|
| Photosynthesis | • describe the process of photosynthesis<br>• test a leaf for starch<br>• explain factors necessary for photosynthesis to take place | • Photosynthesis<br>• Word equation<br>• Factors necessary for photosynthesis<br>• Testing for starch | • Describing the process of photosynthesis<br>• Carrying out an experiment (presence of starch)<br>• Explaining factors necessary for photosynthesis to take place | • Methylated spirit<br>• Apparatus<br>• Iodine solution<br>• Digital tools<br>• Print media |

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|---|---|---|---|---|
| Uses of plants | • discuss plants as source of food and nutrition<br>• explain plants as a source of medicine and health<br>• describe plants as a source of shelter and construction | • importance of plants<br>-food and nutrition<br>-medicine and health<br>-shelter and construction | • Identifying plants that are food sources<br>• Discussing plants as a source of medicine and health<br>• Describing plants as a source of shelter and construction | • Digital tools<br>• Print media<br>• Local environment<br>• Food sample |
| Uses of animals | • discuss importance of animals as sources of food and nutrition<br>• explain the importance of animals as source of clothing and textile<br>• describe animals as companionship and assistance | • Importance of animals<br>-food and nutrition<br>-clothing and textile<br>-companionship and assistance | • Identifying animals as sources of food and nutrition<br>• Discussing animals as source of clothing and textile<br>• Describing animals as companionship and assistance | • Digital tools<br>• Print media<br>• Local environment |

**12.4 ENVIRONMENTAL AWARENESS AND CONSERVATION**

| KEY CONCEPT | OBJECTIVES<br>Pupils should be able to: | CONTENT<br>(Skills, attitudes and knowledge, values and positive disposition) | SUGGESTED ACTIVITIES AND NOTES | SUGGESTED RESOURCES |
|---|---|---|---|---|
| Climate change | • define climate change<br>• identify cause of climate change<br>• explain effects of climate change<br>• discuss mitigation measures | • Climate change<br>• Cause of climate change<br>• Effects of climate change<br>• Mitigation measures | • Defining climate change<br>• Stating cause of climate change<br>• Discussing effects of climate change<br>• Discussing mitigation measures | • Print media<br>• Digital media<br>• Local environment |
| Weathering | • state the three types of weathering<br>• describe different types of weathering | • Types of weathering<br>-physical<br>-biological<br>-chemical | • Naming different types of weathering<br>• Demonstrating physical and chemical weathering<br>• Discussing the effects of biological weathering<br>• Analyzing results | • Digital media<br>• Print media<br>• Weathered rock samples<br>• ICT tools |
| Soil profile | • define soil profile<br>• identify the layers of the soil profile<br>• discuss the importance of the soil profile | • Soil profile<br>• Importance of soil profile | • explaining soil profile<br>• identifying the layers of the soil profile<br>• Explaining the importance of the soil profile | • Local environment<br>• Digital tools<br>• Print media |
| Water scarcity | • explain the effects of water scarcity | • Effects of water scarcity | • Outlining the effects of water | • Digital tools<br>• Print media |

| | | | | |
|---|---|---|---|---|
| | • identify water conservation methods | • Water conservation | scarcity<br>• Discussing water conservation methods<br>• Demonstrating water conservation methods | • Buckets<br>• Mulching methods<br>• Wood shavings<br>• Water bottles |
| Land use | • define mining<br>• discuss the impacts of mining to the environment<br>• explain the benefits of mining | • Mining<br>• Environmental impacts of mining<br>• Benefits of mining | • Defining mining<br>• Explain the impacts of mining to the environment<br>• Discussing the benefits of mining | • Digital tools<br>• Print media |

**12.5 TOOLS EQUIPMENT AND IMPLIMENTS**

| **KEY CONCEPT** | **OBJECTIVES**<br>**Pupils should be able to:** | **CONTENT**<br>**(Skills, attitudes and knowledge, values and positive disposition)** | **SUGGESTED ACTIVITIES AND NOTES** | **SUGGESTED RESOURCES** |
|---|---|---|---|---|
| Farm implements | • identify farm implements<br>• explain safety procedures for operating farm implements<br>• describe maintenance procedures | • Farm implements<br>• Safety procedures<br>• Repair and maintenance | • Stating farm implements<br>• Discussing safety procedures for operating farm implements<br>• Outlining maintenance procedures | • Digital tools<br>• Print media |
| Digital devices | • define servers<br>• list different types of servers<br>• explain uses of servers | • Digital devices<br>• Types Severs<br>- Web servers<br>- Mail servers<br>- File servers | • Stating the different types of savers<br>• Differentiating different types of | • Print media<br>• Environment<br>• Computer<br>• Compass<br>• GPS system |

| | | | | |
|---|---|---|---|---|
| | • discuss advantages and disadvantages of different savers<br>• explain purpose of servers<br>• explore importance and use of Global Positioning System (GPS) | - Print screen servers<br>• Purpose<br>- Word processing<br>- Desktop publishing<br>- Database Management System(DBMS<br>• Global Positioning System (GPS) | savers<br>• Discussing advantages and disadvantages of different savers<br>• Explain purposes of servers<br>• Exploring uses and importance of Global Positioning System (GPS) | |
| Digital tools | • create and enter data into a database table<br>• filter data according to different attributes<br>• using sorting tools in response to a problem<br>• design forms and reports using wizard | • Database<br>- Table<br>- Forms<br>- reports | • Capturing data onto a database table<br>• Extracting records using a required criteria<br>• Presenting records in either ascending or descending order.<br>• Creating forms and reports using wizard | • Microsoft Access<br>• MySQL<br>• Oracle database<br>• Computer<br>• Computer |
| Career opportunity | • name career opportunities in ICT<br>• explain role of ICT personal | • Career opportunities<br>- web developer<br>- database administrator<br>- software developer<br>• - network engineer | • Discussing the roles of different careers<br>• Asking questions and responding to questions from Resource personal<br>• conducting educational tours. | Print and electronic media<br>• . Resource Personal |

**12.6 ENERGY AND FUELS**

| KEY CONCEPT | OBJECTIVES<br>Pupils should be able to: | CONTENT<br>(Skills, attitudes and knowledge, values and positive disposition) | SUGGESTED ACTIVITIES AND NOTES | SUGGESTED RESOURCES |
|---|---|---|---|---|
| Sound Energy | • demonstrate that sound travels through air, solids and water<br>• illustrate different ways of producing sound | • Sound energy<br>• Producing sound | • Demonstrating that sound travels in air, water and solids<br>• Producing sound using various objects<br>• Playing musical instruments<br>• Simulating a telephone line | • Building<br>• Empty rooms<br>• Mountains<br>• Wire/string<br>• Tins<br>• Marimba<br>• Drums<br>• Guitar<br>• Piano<br>• Digital tools<br>• Print media |
| Energy conversion | • describe how energy is converted from one form to another | • Energy conversion<br>-energy chains | • Illustrating how energy is converted from one form to another | • Solar panel<br>• Battery<br>• Heater<br>• Stoves<br>• Light bulb<br>• Wood |
| Impacts of fuels in the environment | • explain the causes of wild fires and their effects<br>• suggest ways of controlling wild fires | • Impacts of fuels in the environment | • Discussing causes of wild fires | • ICT tools<br>• Local environment<br>• Print media |

## 12.7 DISASTER RISK MANAGEMENT AND RESILIENCE

| KEY CONCEPT | OBJECTIVES<br>Pupils should be able to: | CONTENT<br>(Skills, attitudes and knowledge, values and positive disposition) | SUGGESTED ACTIVITIES AND NOTES | SUGGESTED RESOURCES |
|---|---|---|---|---|
| Disasters | • identify different types of disasters<br>• discuss the impacts of disasters<br>• explain disaster response efforts | • Types of disasters -natural and Man-made<br>• Man-made impacts of disasters<br>• Disaster response efforts | • Explaining different types of disasters<br>• Discussing impacts of disasters<br>• Explaining disaster response efforts | • Digital tools<br>• Print media<br>• Local environment |

## 12 .8 EDUCATIONAL TECHNOLOGY AND INNOVATION

| KEY CONCEPT | OBJECTIVES<br>Pupils should be able to: | CONTENT<br>(Skills, attitudes and knowledge, values and positive disposition) | SUGGESTED ACTIVITIES AND NOTES | SUGGESTED RESOURCES |
|---|---|---|---|---|
| Emerging technologies -Artificial intelligence | • define Artificial intelligence (AI)<br>• identify Artificial Intelligence applications<br>• demonstrate use of Artificial Intelligence | • Artificial intelligence<br>• AI Applications<br>• Impact of artificial intelligence<br>• AI powered devices | • Defining Artificial intelligence (AI)<br>• Discussing Artificial Intelligence applications<br>• Demonstrating use of Artificial | • ICT tools<br>• Gamification<br>• Print media |

| | | | | |
|---|---|---|---|---|
| | • discuss impacts of Artificial Intelligence in everyday life | | Intelligence<br>• Explaining impacts of Artificial Intelligence in everyday life | |
| Coding and robotics | • design mobile applications and games<br>• discuss robotics engineering principles<br>• explaining ethics in robotics | • Robotics concept<br>• Application development<br>- Mobile application<br>- Game development<br>• Robotics engineering principles<br>- Design<br>- Mechanics<br>- Electronics<br>• Ethics in robotics<br>- Impact | • Stating coding tools for mobile application and game development<br>• Discussing robotics engineering principles<br>• Developing mobile application or games<br>• Discussing impact of robotics on Zimbabwean society | • Digital tools<br>• Print media<br>• Resource person<br>• Robotics models |
| Technology design and safety | • state safety rules when using tools<br>• design an artifact<br>• make an artifact | • Safety rules<br>• Artifact design (age appropriate)<br>• Artefact making | • Discussing safety rules when using tools<br>• Preparation of materials<br>• Designing an artifact<br>• Making an artifact | • Tools and equipment<br>• Resource person<br>• Materials<br>• Artefacts |
| | • explain the importance of data protection legislation<br>• install antivirus software<br>• use Firewalls and Antivirus | • Data legislation<br>• Firewalls<br>• antivirus | • discussing data protection laws in Zimbabwe<br>• identifying commercial antivirus software<br>• demonstration installing and using antivirus | • firewall<br>• internet<br>• registered antivirus software |

| | | | | |
|---|---|---|---|---|
| | | | • scanning ICT tools (hardware and software) | |

**13.0 ASSESSMENT**

Science and Technology learning area at Junior level shall be assessed through School Based Continuous Assessment (SBCA) and Summative Assessment (SA). These assessments shall be guided by the principles of inclusivity, practicability, authenticity, transparency,

flexibility, validity and reliability. The principles are crucial for creating a supportive and effective learning environment that fosters growth and development in learners at junior level. In addition to SBCA and SA those aspects that cannot be assessed through the continuous and summative modes will be assessed through learner profiling. The aspect to be profiled involves soft skills. Arrangements, accommodations and modifications must be visible to enable candidates with special needs to access assessments. This section covers the assessment objectives, the assessment model, the scheme of assessment, and the specifications for continuous assessment.

## 13.1 ASSESSMENT OBJECTIVES

Pupils will be assessed on their ability to:

**13.1.1** demonstrate an understanding of scientific and technological concepts.

**13.1.2** apply indigenous knowledge systems, scientific and technological concepts to solve real life problems

**13.1.3** analyse scientific and technological concepts

**13.1.4** describe integration of heritage-based knowledge with scientific and technological education.

**13.1.5** evaluate hands-on skills through practical activities that encourage exploration, experimentation, and creativity.

**13.1.6** use different forms of data presentation methods to give scientific explanation to a phenomena

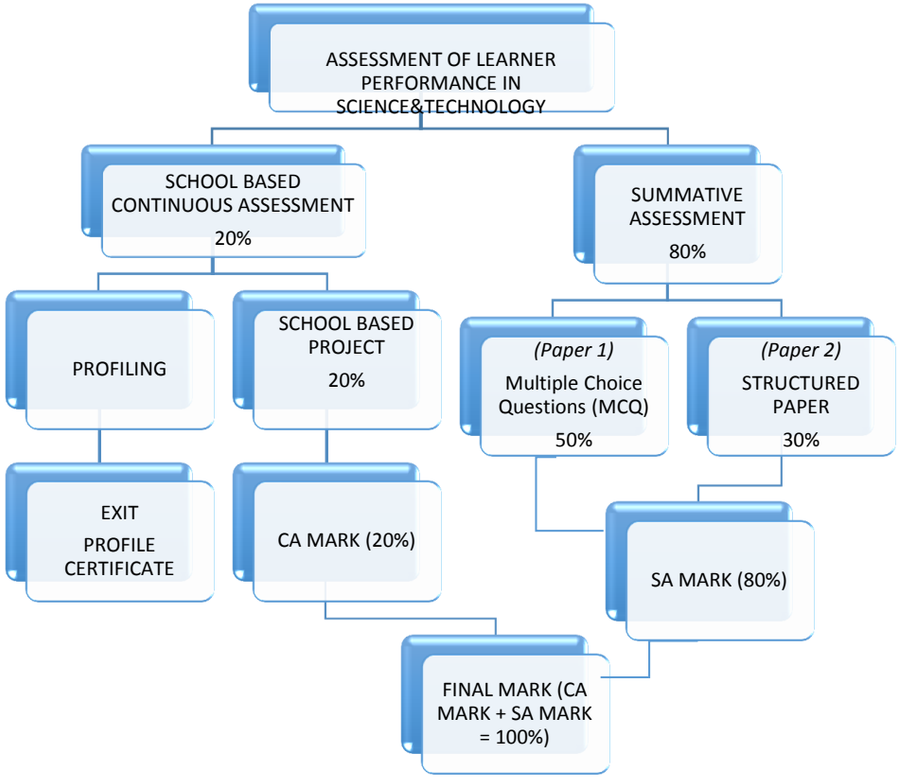
**13.1.7** demonstrate knowledge of scientific instruments and apparatus including techniques of operations

**13.1.8** communicate scientific and technological information logically and effectively.

## 13.2 ASSESSMENT MODEL

The assessment of learners in Science and Technology at Junior School module will follow both Continuous and Summative assessment. Continuous Assessment will include recorded activities from the School Based Project done by the learners while summative will include terminal examinations.

**ASSESSMENT MODEL AT JUNIOR LEVEL**




## 13.3 Scheme of Assessment

Learners at Junior School module will be assessed using both School Based Continuous Assessment and Summative Assessment. From grade 3 to 6, learners will do a school-based project per grade, per year and per learning area which will

contribute 20% to the end of term and year mark. Public examination candidates at Junior School module are expected to complete 2 school-based projects per learning area at grade 6 and grade 7 level, which will contribute 20% to the final mark at Grade 7.

| FORM OFASSESSMENT | WEIGHTING |
|---|---|
| **School Based Continuous Assessment** | **20%** |
| **Summative Assessment** | **80%** |
| **Total** | **100%** |

### 13.4 School – Based Project: Continuous Assessment Scheme

| | Project Stage | Completion Date by end of each stated month below: | Marks | Project Mark Weight |
|---|---|---|---|---|
| Project Execution Stages from Grade 3-6 | | | | |
| **1** | Problem Identification and its context | January-February | 5 | |
| **2** | Possible methods of solving the problem | February-March | 10 | |
| **3** | Selecting the most suitable method | March-April | 5 | |
| **4** | Development of Ideas | May-July | 15 | |
| **5** | Presentation of Results | July-September | 10 | |
| **6** | Evaluation and Recommendations | October | 5 | |
| | **TOTAL** | | **50** | **10%** |
| **Project Two** at Grade 7 | | | | |
| **1** | Problem Identification and its context | January-February | 5 | |
| **2** | Possible methods of solving the problem | February-March | 10 | |
| **3** | Selecting the most suitable method | March-April | 5 | |
| **4** | Development of Ideas | May-June | 15 | |
| **5** | Presentation of Results | June-July | 10 | |

| | | | | |
|---|---|---|---|---|
| **6** | Evaluation and Recommendations | July-September | 5 | |
| | **Total** | | **50** | **10%** |
| **Grand Total** | | | **100** | **20 %** |

**Summative Assessment: 80%**

| Paper | Description | Duration | Marks | Paper Weighting % | Weighting % |
|---|---|---|---|---|---|
| **1** | 40 Multiple Choice Questions | 1 hour 30 minutes | 40 | 50 | 80 |
| **2** | Structured Questions | 1 hour 30 minutes | 50 | 30 | |

**Paper 1**

There are 40 multiple Choice Questions and Candidates are expected to answer all questions. The total marks for this component is 40 marks.

**Paper 2**

This component comprises sections **A** and **B.**

**Section A** shall consist of 15 compulsory structured questions. Candidates must answer all questions. The total for this section is 30 marks.

**Section B** shall consist of 6 semi-structured questions worth 5 marks each. Candidates must choose and answer 4 questions. The total for this section is 20 marks.

**Skills Weighting**

| | Skill | Weight % |
|---|---|---|
| **1** | Knowledge and comprehension | 50 |
| **2** | Application | 30 |
| **3** | Analysis, evaluation and creativity | 20 |

**Specification grid**

**Paper 1**

| **Topic** | **Skill 1** | **Skill 2** | **Skill 3** | **total** |
|---|---|---|---|---|
| Health and hygiene practices | 3 | 2 | 1 | 6 |
| Food and nutrition | 3 | 2 | 1 | 6 |
| Crops, Plants and animals | 3 | 2 | 1 | 6 |
| Environmental awareness and conservation | 2 | 1 | 1 | 4 |
| Tools, equipment and implements | 2 | 2 | 1 | 5 |
| Energy and fuels | 3 | 1 | 1 | 5 |
| Disaster, risk management and resilience | 2 | 1 | 1 | 4 |
| Educational technology and innovation | 2 | 1 | 1 | 4 |
| **Total** | **20** | **12** | **8** | **40** |

**Paper 2**

| **Topic** | **Skill 1** | **Skill 2** | **Skill 3** | **total** |
|---|---|---|---|---|
| **Section A** | | | | |
| Health and hygiene practices | 2 | 2 | 1 | 5 |
| Food and nutrition | 2 | 1 | 2 | 5 |
| Crops, Plants and animals | 2 | 1 | 1 | 4 |
| Environmental awareness and conservation | 2 | 1 | 1 | 4 |
| Tools, equipment and implements | 1 | 1 | 1 | 3 |
| Energy and fuels | 1 | 1 | 1 | 3 |
| Disaster, risk management and resilience | 1 | 1 | 1 | 3 |
| Educational technology and innovation | 1 | 1 | 1 | 3 |
| **Total** | **12** | **9** | **9** | **30** |

**Paper 2**

| **Topic** | **Skill 1** | **Skill 2** | **Skill 3** | **total** |
|---|---|---|---|---|
| **Section B** | | | | |
| Health and hygiene practices | 2 | 2 | 1 | 5 |
| Food and nutrition | 2 | 1 | 2 | 5 |
| Crops, Plants and animals | 2 | 2 | 1 | 5 |
| Disaster, risk management and resilience<br>Environmental awareness and conservation | 2 | 1 | 2 | 5 |

| | | | | |
|---|---|---|---|---|
| Tools, equipment and implements<br>Energy and fuels | 2 | 2 | 1 | 5 |
| Educational technology and innovation | 2 | 1 | 2 | 5 |
| **Total** | | | | |

## 13.5 Assessment Instruments/Tools:

The following are suggested tools

- Check list
- Observation schedules
- Tests
- Rating Scale
- Exercises
- Practical activities
- School based project