



**REPUBLIC OF KENYA
MINISTRY OF EDUCATION**

JUNIOR SECONDARY SCHOOL CURRICULUM DESIGN

GRADE 7

AGRICULTURE FOR LEARNERS WITH VISUAL IMPAIRMENT



KENYA INSTITUTE OF CURRICULUM DEVELOPMENT

First Published in 2022

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FOREWORD

Curriculum is a tool, which a country employs to empower its citizens. The Kenya Institute of Curriculum Development in meeting its core mandate ‘*to develop curriculum and curriculum support materials*’ has spearheaded curriculum reforms in the education sector. The reforms are based on rigorous research, monitoring and evaluation activities conducted on the 8-4-4 system of education to inform the Competency-Based Curriculum through a phase-in phase-out model. The reforms were informed by the Summative Evaluation Survey (2009), Needs Assessment Study (2016) and the Task Force Report on Re-alignment of Education Sector (2012), 21st century learning and approaches, the East Africa Protocol on harmonisation of education, among many others.

The curriculum reforms aim at meeting the needs of the Kenyan society by aligning the curriculum to the Constitution of Kenya 2010, the Kenya Vision 2030 and the East African Protocol, among other policy requirements as documented by the Sessional Paper No. 1 of 2019 on ‘Reforming Education and Training in Kenya for Sustainable Development’. The reforms adopted the Competency-Based Curriculum (CBC) to achieve development of requisite knowledge, skills, values and attitudes that will drive the country’s future generations as documented by the Basic Education Curriculum Framework (BECF). Towards achieving the mission of Basic Education, the Ministry of Education has successfully and progressively rolled out curriculum implementation for Early Years Education and Foundation level, Grades 4, 5 and Intermediate Level. The roll out for Grade 6, Junior Secondary (Grade 7-9) , and Prevocational Level will subsequently follow.

It is my hope that the curriculum designs for learners with Visual Impairment in Grade 7 will guide the teachers, among other educational stakeholders, for progressive achievement of the curriculum vision, which seeks to have engaged, empowered and ethical citizens.

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PREFACE

The Government of Kenya embarked on the national implementation of the Competency Based Curriculum in January, 2019 for Early Years Education (Pre-Primary 1 and 2, and Lower Primary Grade 1, 2 and 3) and Foundation Level. The implementation progressed to Upper Primary (Grade 4, 5 and 6) and Intermediate Level based on the reorganisation of the Basic Education structure. Grade 7 curriculum furthers implementation of the Competency-Based Curriculum to Junior Secondary education. This level marks the zenith of Middle School education whose main feature is to offer a broad opportunity for the learner to explore talents, interests and abilities before selection of pathways and tracks in Senior Secondary education level. This is similar to the Pre-vocational and Vocational Level.

The Grade 7 curriculum designs for learners with Visual Impairment in the respective learning areas will enable the development of 21st Century competencies. Ultimately, this will lead to the realization of the vision and mission of the Competency Based Curriculum as documented in the Basic Education Curriculum Framework (KICD, 2017).

It is my hope that all Government agencies among other stakeholders in education will use the designs to guide effective and efficient implementation of the learning activities as well as provide relevant feedback on various aspects of the curriculum. Successful implementation of the Grade 7 curriculum for learners with Visual Impairment will be a significant milestone towards realization of the curriculum mission ‘Nurturing Every Learner’s Potential’.

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ACKNOWLEDGEMENTS

The Kenya Institute of Curriculum Development (KICD) Act Number 4 of 2013 (Revised 2019) mandates the Institute to develop curricula and curriculum support materials for basic and tertiary education and training, below the university level. The curriculum development process for any level involves thorough research, international benchmarking, and robust stakeholder engagement. Through this systematic and consultative process, KICD conceptualised the Competency Based Curriculum (CBC) as captured in the Basic Education Curriculum Framework (BECF). The CBC responds to the demands of the 21st Century and the aspirations captured in the Constitution of Kenya 2010, Kenya Vision 2030, East African Commission Protocol and the United Nations Sustainable Development Goals.

The Kenya Institute of Curriculum Development has developed and adapted the Grade 7 curriculum designs for learners with Visual Impairment taking cognisance of the tenets of the CBC, key among them being the need to ensure that learners are provided with learning experiences that call for higher order thinking, thereby ensuring they become engaged, empowered and ethical citizens as articulated in the BECF Vision. The Grade 7 designs for learners with Visual Impairment also provide opportunities for learners to develop the core competencies as well as engage in Community Service Learning. The designs present an assessment rubric linked to sub strands in the individual subjects. Teachers are encouraged to use varied assessment tools when assessing learners.

KICD obtains its funding from the Government of Kenya to enable the achievement of its mandate and implementation of the Government and Sector (Ministry of Education (MoE) plans. The Institute also receives support from development partners targeting specific programmes. The Grade 7 curriculum designs have been developed and adapted with the support of the World Bank through the Kenya Secondary Education Quality Improvement Program (SEQIP) commissioned by the MoE. The Institute is grateful for the support accorded to the process by the Government of Kenya, through the MoE and the development partners for the policy, resource, and logistical support.

I acknowledge the KICD curriculum developers and other staff, teachers and all the educators who participated, as panelists, in the development and adaptation of the designs. I also appreciate the contribution of the Semi-Autonomous Government Agencies (SAGAs) and representatives of various stakeholders for their various roles in the development and adaptation of the Grade 7 curriculum designs.

My special thanks to the Cabinet Secretary, Ministry of Education; the Principal Secretary State Department of Early Learning and Basic Education; the Secretary, Teachers' Service Commission (TSC) and the Chief Executive Officer, Kenya National Examinations Council (KNEC) for their support in the process. Finally, I am grateful to the KICD Governing Council for their consistent guidance during the development and adaptation of the curriculum designs. The Institute assures all curriculum implementers, parents, and other stakeholders that the designs will ensure effective implementation of the CBC at Grade 7.

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TIME ALLOCATION

	Subject	Number of Lessons Per Week (40 minutes per lesson)
1.	English	5
2.	Kiswahili/KSL	4
3.	Mathematics	5
4.	Integrated Science	4
5.	Health Education	2
6.	Pre technical Studies	4
7.	Social Studies	3
8.	Religious Education (CRE/IRE/HRE)	3
9.	Business Studies	3
10.	Agriculture	3
11.	Life Skills Education	1
12.	Physical Education and Sports	2
13.	Optional Subject including Sign Language Skills	3
14.	Optional Subject	3
	Total	45

NATIONAL GOALS OF EDUCATION

Education in Kenya should:

i) Foster nationalism and patriotism and promote national unity.

Kenya's people belong to different communities, races and religions, but these differences need not divide them. They must be able to live and interact as Kenyans. It is a paramount duty of education to help young people acquire this sense of nationhood by removing conflicts and promoting positive attitudes of mutual respect, which enable them to live together in harmony and foster patriotism in order to make a positive contribution to the life of the nation.

ii) Promote the social, economic, technological and industrial needs for national development.

Education should prepare the youth of the country to play an effective and productive role in the life of the nation.

a) Social Needs

Education in Kenya must prepare children for changes in attitudes and relationships, which are necessary for the smooth progress of a rapidly developing modern economy. There is bound to be a silent social revolution following in the wake of rapid modernization. Education should assist our youth to adapt to this change.

b) Economic Needs

Education in Kenya should produce citizens with the skills, knowledge, expertise and personal qualities that are required to support a growing economy. Kenya is building up a modern and independent economy, which is in need of an adequate and relevant domestic workforce.

c) Technological and Industrial Needs

Education in Kenya should provide learners with the necessary skills and attitudes for industrial development. Kenya recognizes the rapid industrial and technological changes taking place, especially in the developed world. We can only be part of this development if our education system is deliberately focused on the knowledge, skills and attitudes that will prepare our young people for these changing global trends.

iii) Promote individual development and self-fulfilment

Education should provide opportunities for the fullest development of individual talents and personality. It should help children to develop their potential interests and abilities. A vital aspect of individual development is the building of character.

iv) Promote sound moral and religious values.

Education should provide for the development of knowledge, skills and attitudes that will enhance the acquisition of sound moral values and help children to grow up into self-disciplined, self-reliant and integrated citizens.

- v) **Promote social equality and responsibility.**
Education should promote social equality and foster a sense of social responsibility within an education system, which provides equal educational opportunities for all. It should give all children varied and challenging opportunities for collective activities and corporate social service irrespective of gender, ability or geographical environment.
- vi) **Promote respect for and development of Kenya's rich and varied cultures.**
Education should instil in the youth of Kenya an understanding of past and present cultures and their valid place in contemporary society. Children should be able to blend the best of traditional values with the changing requirements that must follow rapid development in order to build a stable and modern society.
- vii) **Promote international consciousness and foster positive attitudes towards other nations.**
Kenya is part of the international community. It is part of the complicated and interdependent network of peoples and nations. Education should therefore lead the youth of the country to accept membership of this international community with all the obligations and responsibilities, rights and benefits that this membership entails.
- viii) **Promote positive attitudes towards good health and environmental protection.**
Education should inculcate in young people the value of good health in order for them to avoid indulging in activities that will lead to physical or mental ill health. It should foster positive attitudes towards environmental development and conservation. It should lead the youth of Kenya to appreciate the need for a healthy environment.

LEARNING OUTCOMES FOR MIDDLE SCHOOL

By the end of Middle School, the learner should be able to;

1. Apply literacy, numeracy and logical thinking skills for appropriate self-expression.
2. Communicate effectively, verbally and non-verbally, in diverse contexts.
3. Demonstrate social skills, spiritual and moral values for peaceful co-existence.
4. Explore, manipulate, manage and conserve the environment effectively for learning and sustainable development.
5. Practice relevant hygiene, sanitation and nutrition skills to promote health.
6. Demonstrate ethical behaviour and exhibit good citizenship as a civic responsibility.
7. Appreciate the country's rich and diverse cultural heritage for harmonious coexistence.
8. Manage pertinent and contemporary issues in society effectively.
9. Apply digital literacy skills for communication and learning.

ESSENCE STATEMENT

Kenya Vision 2030 recognizes Agriculture as a core factor to development of the country's economy. The vision resonates with the United Nations Sustainable Development Goal No. 2, which aims *to end hunger, achieve food security, improve nutrition and promote sustainable agriculture*. The vision is further aligned to the Comprehensive Africa Agriculture Development Programme (CAADP) which aims to achieve sustainable food production systems through resilient agricultural practices for food security and nutrition. This therefore calls for education that develops agricultural competencies to provide competent human resource for Kenya's agro-based economy.

Agriculture for learners with visual impairment in Junior Secondary level will build on competencies introduced in the Upper Primary curriculum contributing to human capacity development. The learning experiences have been adapted to ensure active participation of learners through practical, project and Community Service Learning (CSL) activities to develop applicable competencies for sustainable agriculture. The curriculum will focus on developing knowledge, skills, attitudes and values for conservation of agricultural environment, crop production, and animal production through innovative and adaptive agricultural technologies using limited resources to enhance food security. The acquired knowledge, skills, attitudes and values will form a broad-spectrum foundation for development of agricultural competencies for senior school and beyond.

SUBJECT GENERAL LEARNING OUTCOMES

By the end of Junior Secondary School, the learner with visual impairment should be able to;

1. Participate actively in activities for the conservation of the agricultural environment.
2. Use scarce agricultural resources through innovative and adaptive practices to contribute towards health, nutrition and food security.
3. Grow crops and rear animals as profitable agricultural enterprises through sustainable and ethical practices for self-reliance and economic development.
4. Apply existing and emerging technology in agriculture, digital and media resources to enhance sustainable agricultural practices.
5. Appreciate agriculture as a worthy niche for hobby, career development, further education and training

STRAND 1.0: CONSERVING AGRICULTURAL ENVIRONMENT

Strand	Sub Strand	Specific Learning Outcomes	Suggested Learning Experiences	Key Inquiry Question(s)
<p>1.0 Conserving Agricultural Environment</p>	<p>1.1 Soil Pollution Control (6 lessons)</p>	<p>By the end of the sub strand the learner should be able to:</p> <p>a) explain the causes of soil pollution in farming;</p> <p>b) control soil pollution in an agricultural environment;</p> <p>c) promote safe farming practices to prevent soil pollution in the environment;</p> <p>d) demonstrates responsibility in using safe farming practices to conserve soil.</p>	<ul style="list-style-type: none"> ● In pairs or in groups, learners discuss causes of soil pollution in farming such as excessive use of artificial fertilizers, agricultural chemicals and plastic waste. ● In pairs or in groups, learners with low vision be guided to search, watch and listen to audio-visual clips on causes of soil pollution. Learners with blindness be guided and given clear verbal descriptions as they listen to the audio-visual clips on causes of soil pollution. ● In pairs or in groups, learners with low vision use digital devices to Learners with blindness use digital devices with assistive technology to search and listen to audio clips on causes of soil pollution in farming. ● In pairs or in groups, learners with low vision could be guided to engage in safe soil pollution control practices such as safe disposal of used chemical containers and plastic waste. Learners with blindness be guided to touch, explore and given one on one demonstration to carry out safe soil pollution control practices. ● In groups, learners compose songs and poems to create awareness on dumping of soil pollutants, safe disposal of used chemical containers and plastic waste and use of the correct type and amount of farm chemicals and fertilizers during community barazas and other social gatherings. 	<ol style="list-style-type: none"> 1. How do farming practices cause soil pollution? 2. How can we control soil pollution through agricultural practices?
<p>Core Competencies to be Developed: Citizenship as learners creates awareness in the community to ensure safe disposal of agricultural wastes for a clean environment.</p>				
<p>Pertinent and Contemporary Issues (PCIs): Environmental education is enhanced as learners create awareness in the community against dumping of agricultural wastes.</p>			<p>Values: Responsibility is achieved as learners promote safe farming practices to conserve the soil.</p>	

<p>Link to other Subjects:</p> <ul style="list-style-type: none"> ● Integrated Science as learners relate environmental pollutants to soil pollution. ● Pre-Technical Studies as learners exercise safety when handling and disposing of used chemical containers. 	<p>Suggested Community Service Learning:</p>
<p>Non formal Activities to support Learning:</p> <ul style="list-style-type: none"> ● Learners to initiate campaigns to create awareness on protecting soil from pollution. ● Learners participate in environmental club activities such as proper disposal of plastic waste. ● Encourage learners to participate in music clubs to sing and recite poems on safe farming practices. 	<p>Suggested Modes of Assessment</p> <ul style="list-style-type: none"> ● Written assessment ● Oral questions
<p>Suggested Learning Resources:</p> <ul style="list-style-type: none"> ● Digital devices ● Relevant audio visual clips on causes of soil pollution 	

Assessment Rubric

Criteria	Exceeds Expectation	Meets Expectation	Approaches Expectation	Below Expectation
Explaining causes of soil pollution in farming.	Explains the causes of soil pollution in farming and suggests some control measures.	Explains the causes of soil pollution in farming.	Identifies causes of soil pollution in farming.	States causes of soil pollution in farming.
Controlling soil pollution in agricultural environment.	Control different types of soil pollution in the agricultural environment using appropriate measures.	Controls soil pollution in agricultural environment.	Explains control measures of soil pollution in agricultural environment.	Identifies control measures of soil pollution in agricultural environment.
Promoting safe farming practices to prevent soil pollution.	Promotes safe farming practices to prevent soil pollution with examples.	Promotes safe farming practices to prevent soil pollution.	Explains safe farming practices to prevent soil pollution.	Identify safe farming practices to prevent soil pollution.

Strand	Sub Strand	Specific Learning Outcomes	Suggested Learning Experiences	Key Inquiry Question(s)
1.0 Conserving Agricultural Environment	1.2 Water Conservation Measures (9 lessons)	<p>By the end of the sub strand the learner should be able to:</p> <p>a) outline the importance of water conservation in farming;</p> <p>b) construct water retention structures to conserve surface runoff in farming;</p> <p>c) use minimum tillage practices to conserve water in farming;</p> <p>d) appraise water conservation measures in agricultural environment.</p>	<ul style="list-style-type: none"> ● In pairs or in groups, learners discuss the importance of water conservation in farming (such importance to include making water available longer after the rains). ● In pairs or in groups, learners discuss ways of conserving surface runoff to prevent damage of property and collect it in structures such as water retention ditches, earth basins and water retention pits. ● In pairs or in groups, learners with low vision use digital devices and print materials while learners with blindness use digital devices with assistive technology and braille materials to search for information on minimum tillage practices for water conservation in farming; to include practices such as slashing weeds, restricted cultivation and mulching. ● In groups, learners with low vision could be guided to take an excursion to evaluate community farming activities for water conservation. Learners with blindness could be paired with their sighted peers during the excursion. ● Project: In pairs or in groups, learners with low vision could be guided to construct structures for water conservation such as water retention ditches, earth basins and retention pits, then plant a crop such as bananas, sugarcane, Napier grass and arrow roots. Learners with blindness be guided to touch, manipulate and given one on one demonstration to construct structures for water conservation. 	<ol style="list-style-type: none"> 1. How can we conserve surface runoff for farming? 2. How can we practice minimum tillage to conserve soil moisture?

<p>Core Competencies to be Developed: Critical thinking and problem solving as learners observe, analyse available information on water conservation challenges in the agricultural environment, design and construct appropriate runoff retention structures to solve the challenges.</p>	
<p>Pertinent and Contemporary Issues (PCIs): Environmental Education is enhanced as learners construct retention ditches and retention pits for water conservation in the local environment.</p>	<p>Values: Unity is achieved as learners work in groups when constructing water retention ditches and pits.</p>
<p>Link to other Subjects:</p> <ul style="list-style-type: none"> ● Integrated science as learners use tools, equipment and technology to construct water conservation structures. ● Pre-Technical Studies as learners exercise safety when using garden tools and equipment. 	<p>Suggested Community Service Learning:</p>
<p>Non formal Activities to support Learning: Learners to initiate water harvesting and conservation measures against runoff within the school.</p>	<p>Suggested Modes of Assessment</p> <ul style="list-style-type: none"> ● Oral assessment ● Written tests in print and braille ● Observation ● Project
<p>Suggested Learning Resources:</p> <ul style="list-style-type: none"> ● Garden tools such as jembes, fork jembes, spade, pangas, slashers ● Mulch materials ● Digital devices ● Print materials ● Braille materials ● Planting materials such as banana suckers and sugarcane cuttings 	

Assessment Rubric

Criteria	Exceeds Expectation	Meets Expectation	Approaches Expectation	Below Expectation
Outlining the importance of water conservation in farming.	Outlines the importance of water conservation in farming and gives examples of methods of conserving water.	Outlines the importance of water conservation in farming.	Outlines some importance of water conservation in farming.	Outlines the importance of water in farming.
Constructing water retention structures to conserve surface runoff.	Constructs water retention structures to conserve surface runoff and demonstrate how they work.	Constructs water retention structures to conserve surface runoff.	Sketches water retention structures to conserve surface runoff.	Identifies water retention structures to conserve surface runoff.
Using minimum tillage practices for water conservation in farming.	Uses minimum tillage practices for water conservation and apply the knowledge for other uses in farming.	Uses minimum tillage practices for water conservation in farming.	Explains minimum tillage practices for water conservation in farming.	Identifies minimum tillage practices for water conservation in farming.

Strand	Sub Strand	Specific Learning Outcomes	Suggested Learning Experiences	Key Inquiry Question(s)
1.0 Conserving Agricultural Environment	1.3 Agroforestry (9 lessons)	<p>By the end of the sub strand the learner should be able to:</p> <p>a) explain the meaning of agroforestry in conserving the environment;</p> <p>b) describe the importance of agroforestry in conserving the environment;</p> <p>c) examine the characteristics of agroforestry trees for conservation of the environment;</p> <p>d) choose appropriate agroforestry trees for conserving the environment;</p> <p>e) establish agroforestry trees for conservation of the environment;</p> <p>f) embrace the use of agroforestry in conserving the environment.</p>	<ul style="list-style-type: none"> ● In pairs or in groups, learners discuss the meaning of the term agroforestry. ● In pairs or in groups, learners with low vision use digital devices and print materials while learners with blindness use digital devices with assistive technology and braille materials to search for information on the importance of agroforestry and make presentations in class. ● Learners with low vision could be guided to take a field excursion to observe the uses of various trees as grown in crop and pasture fields. Learners with blindness be guided alongside clear verbal instruction to take a field excursion and identify the uses of various trees as grown in crop and pasture fields. ● In pairs or in groups, learners with low vision be guided to watch and listen to audio visual clips on agroforestry trees as used in crops and pasture fields. Learners with blindness be guided and given clear verbal descriptions as they listen to the audio visual clips on agroforestry trees as used in crops and pasture fields. ● In groups, learners make presentations on characteristics of a good agroforestry tree such as ability to grow alongside crops, fast growing and multiple uses. ● In pairs or in groups, learners with low vision explore the environment and choose trees that can provide planting material for establishing 	<ol style="list-style-type: none"> 1. Why should we practice agroforestry? 2. How do agroforestry trees conserve the environment? 3. How can we identify an agroforestry tree?

			<p>agroforestry. Learners with blindness be guided alongside clear verbal descriptions to explore the environment and choose trees that can provide planting material for establishing agroforestry.</p> <ul style="list-style-type: none"> ● Project: As a class, learners be guided to establish and manage at least one agroforestry tree in the school compound and prepare a schedule of responsibilities to take care of the tree until it is fully established. Learners with blindness be guided to touch, explore and given one on one demonstration to establish and manage at least one agroforestry tree in the school compound. 	
<p>Core Competencies to be Developed:</p> <ul style="list-style-type: none"> ● Communication and collaboration as learners work in groups to search for information on the importance of agroforestry. ● Self-efficacy as learners make presentations on characteristics of a good agroforestry tree. 				
<p>Pertinent and Contemporary Issues (PCIs):</p> <ul style="list-style-type: none"> ● Environmental education is enhanced as the learners carry out protection and conservation in establishing agroforestry trees to conserve and improve the environment within the school. 			<p>Values:</p> <ul style="list-style-type: none"> ● Responsibility is achieved as learners care for the class project until the tree is fully established. 	
<p>Link to other Subjects:</p> <p>Social Studies as learners expound their knowledge and skills in environmental conservation through agroforestry.</p> <p>Religious Education as learners take care of the environment by planting trees.</p>			<p>Suggested Community Service Learning:</p>	
<p>Non formal Activities to support Learning:</p> <ul style="list-style-type: none"> ● The learners initiate a 1-tree project within the school. ● Encourage learners to participate in music club to sing and recite poems on the importance of agroforestry in conserving the environment. 			<p>Suggested Modes of Assessment</p> <ul style="list-style-type: none"> ● Written tests in print and braille ● Project ● Observation 	

Suggested Learning Resources:

- Audio visual and audio clips on agroforestry trees
- Garden tools such as jembes, fork jembes, spades, pangas, slashers
- Print materials with photographs on agroforestry
- Braille materials

Assessment Rubric

Criteria	Exceeds Expectation	Meets Expectation	Approaches Expectation	Below Expectation
Describing the importance of Agroforestry in conserving the environment.	Describes with examples the importance of agroforestry in Conserving the environment.	Describes the importance of agroforestry in conserving the environment.	Identifies the importance of agroforestry in conserving the environment.	Outlines some importance of agroforestry in conserving the environment.
Choosing appropriate agroforestry trees for conserving the environment.	Chooses and establishes appropriate agroforestry trees for conserving the environment.	Chooses appropriate agroforestry trees for conserving the environment.	Identifies appropriate agroforestry trees for conserving the environment.	Names agroforestry trees for conserving the environment.
Establishing agroforestry trees for conservation of the environment.	Establishes and manages agroforestry trees for conservation of the environment.	Establishes agroforestry trees for conservation of the environment.	Describes the procedure of establishing agroforestry trees for conservation of the environment.	Identifies the practices for establishing agroforestry trees for conservation of the environment.

STRAND 2.0: CROP PRODUCTION

Strand	Sub Strand	Specific Learning Outcomes	Suggested Learning Experiences	Key Inquiry Question(s)
2.0 Crop Production	2.1 Preparation of planting site (7 lessons)	By the end of the sub strand the learner should be able to: a) identify planting sites for crops in the school environment; b) examine the planting site in relation to planting material in the school environment; c) prepare site for establishing selected planting material in the school environment; d) show responsibility in preparing the site for selected planting material in the school environment.	<ul style="list-style-type: none"> ● In pairs or in groups, learners with low vision could be guided to take excursions in the school compound to identify suitable sites for planting crops such as ground sites, container sites, on walls, along the fence or along the driveways. Learners with blindness be guided alongside clear verbal instruction to touch, explore and given one on one demonstration to identify suitable sites for planting crops. ● In pairs or in groups, learners with low vision could be guided to observe planting materials provided and suggest appropriate preparation of their planting sites such as fine tilth for small seeds, medium tilth for medium sized seeds, coarse tilth for large planting materials like tubers, suckers and cuttings. Learners with blindness are guided alongside clear verbal descriptions to explore, touch, manipulate and identify planting materials provided. ● Practical activity: In pairs or in groups, learners with low vision could be guided to prepare suitable sites for establishing selected planting materials on the identified areas. The sites include selected containers and ground seedbeds. Learners with blindness be guided and given one on one demonstration alongside clear verbal instructions to touch, explore and prepare the sites. 	<ol style="list-style-type: none"> 1. How can we prepare different types of planting sites? 2. How does planting material determine planting site preparation?
Core Competencies to be Developed: Critical thinking and problem solving as learners explore the school compound, identify and prepare a suitable planting site for a given planting material.				
Pertinent and Contemporary Issues (PCIs):			Values: Unity is achieved as the learners discuss and work in groups in the activity tasks for identifying and preparing planting sites	

Safety of self and others is enhanced as the learners observe and practice personal safety and safety of others while working with tools and equipment in preparing planting sites.	
Link to other subjects: Pre technical studies as learners work safely with various tools and equipment in preparing planting sites.	
Non formal Activities to support Learning: Learners to initiate display sites/crop museums within the school	Suggested Modes of Assessment <ul style="list-style-type: none"> • Written assignments in print and braille • Observation • Oral assessment
Suggested Learning Resources: <ul style="list-style-type: none"> • Seeds from different crops of various sizes • Suitable planting sites such as walls of buildings, fence lines, driveways in schools, suitable containers • Manure • Garden tools and equipment such as jembes, pangas and slashers 	

Assessment Rubric

Criteria	Exceeds Expectation	Meets Expectation	Approaches Expectation	Below Expectation
Identifying planting sites for establishing crops in the school environment.	Identifies sites for planting crops in the school environment in relation to the planting materials.	Identifies sites for planting crops in the school environment.	Identifies some sites for planting crops in the school environment.	Identifies a site for planting crops in the school environment.
Examining planting site in relation to planting material.	Examines planting site and suggests appropriate preparation of the site in relation to the planting material.	Examines planting sites in relation to planting material.	Identifies planting site in relation to planting material.	Names a planting site in relation to planting material.
Preparing site for establishing selected planting material.	Prepares site for establishing selected planting material using different techniques of site preparation.	Prepares site for establishing selected planting material.	Describes the procedure for preparing a site for establishing selected planting material.	Identifies a site for establishing selected planting material.

Strand	Sub Strand	Specific Learning Outcomes	Suggested Learning Experiences	Key Inquiry Question(s)
2.0 Crop Production	2.2 Crop establishment (7 lessons)	By the end of the sub strand the learner should be able to: a) categorise planting materials used for establishing various crops; b) select suitable planting materials for crop establishment; c) describe the methods of planting various crop materials in a planting site; d) determine the appropriate time of planting different types of propagation materials in a planting site; e) predict the appropriate time of planting using digital information centres; f) establish a selected planting material in a planting site.	<ul style="list-style-type: none"> ● In pairs or in groups, learners with low vision search for information on types of planting materials, collect and categorize planting materials as either seeds or vegetative materials. Learners with blindness be guided to explore, collect, touch, manipulate and categorize planting materials collected. ● In pairs or in groups, learners with low vision analyze and select from samples of planting materials provided such as overgrown woody cuttings, middle woody cuttings, young immature cuttings, mature seeds of different sizes, damaged seeds, wrinkled seeds, chemically treated seeds, and young immature seeds. Learners with blindness could be guided alongside clear verbal descriptions to tactually manipulate and explore samples of planting materials provided. ● In pairs or in groups, learners discuss and make presentations on how different materials are planted in a seedbed using methods such as dibbling, drilling and broadcasting. ● In pairs or in groups, learners discuss factors determining appropriate time of planting such as soil moisture, onset of rain, timed market, staggered planting and time of harvesting. ● In pairs or in groups, learners with low vision use digital devices, digital apps and corporate websites while learners with blindness use digital devices with assistive technology to search for information 	<ol style="list-style-type: none"> 1. How can planting materials be selected? 2. Why should planting materials be selected? 3. How can selected planting materials be established?

			<p>on expected time for onset of the rain to predict time of planting.</p> <ul style="list-style-type: none"> ● Practical activity: As a class, learners with low vision establish a crop of their choice on the site prepared in the previous sub strand (Preparation of planting site) and take care of the crop after germination. Learners with blindness be guided and given one on one demonstration alongside clear verbal instructions to touch, explore and establish a crop of their choice. 	
<p>Core Competencies to be Developed:</p> <ul style="list-style-type: none"> ● Learning to learn as learners conduct practical activities and make observations on germination and growth of selected crops. ● Digital literacy as learners use digital devices, select appropriate websites and application software to search for information for predicting time of planting. 				
<p>Pertinent and Contemporary Issues (PCIs): Social cohesion is enhanced as learners work in groups and interact, consult and conduct the practical activities of establishing a selected crop.</p>		<p>Values: Unity is achieved as learners work in groups to conduct practical activities and class presentations on establishing a crop from planting materials.</p>		
<p>Link to other Subjects: Integrated Science as learners apply the scientific concept of germination and viability of planting materials.</p>		<p>Suggested Community Service Learning:</p>		
<p>Non formal Activities to support Learning: Learners with visual impairment to initiate display sites/crop museums within the school.</p>		<p>Suggested Modes of Assessment</p> <ul style="list-style-type: none"> ● Written tests in print and braille ● Observation ● Project ● Self and peer assessment 		
<p>Suggested Learning Resources:</p> <ul style="list-style-type: none"> ● Seeds and vegetative planting materials ● Digital devices ● Print materials ● Braille materials 				

- Garden tools and equipment such as jembe, panga, planting line, tape measure

Assessment Rubric

Criteria	Exceeds Expectation	Meets Expectation	Approaches Expectation	Below Expectation
Categorizing planting materials used for establishing various crops.	Categorizes and selects viable planting materials used for establishing various crops.	Categorizes planting materials used for establishing various crops.	Describes planting materials used for establishing various crops.	Identifies planting materials used for establishing various crops.
Selecting suitable planting materials for crop establishment.	Selects and prepares suitable planting materials for crop establishment.	Selects suitable planting materials for crop establishment.	Identifies suitable planting materials for crop establishment.	Identifies planting materials for crop establishment.
Describing the methods of planting various crop materials on a seedbed.	Describes with illustrations the methods of planting various crop materials on a seedbed.	Describes the methods of planting various crop materials on a seedbed.	Identifies methods of planting various crop materials on a seedbed.	Names the methods of planting various crop materials on a seedbed.
Determining appropriate time of planting different types of propagation materials.	Determines appropriate time of planting and establishes different types of propagation materials.	Determines appropriate time of planting different types of propagation materials.	Determines appropriate time of planting some types of propagation materials.	Determines time of planting some types of propagation materials.

Strand	Sub Strand	Specific Learning Outcomes	Suggested Learning Experiences	Key Inquiry Question(s)
2.0 Crop Production	2.3 Crop Management (9 lessons)	<p>By the end of the sub strand the learner should be able to:</p> <ul style="list-style-type: none"> a) differentiate between a weed and a crop in a cultivated field; b) carry out weeding using physical methods in a cultivated field; c) carry out earthing up for a suitable crop; d) carry out thinning and gapping for optimum plant spacing; e) carry out hardening off on a suitable crop; f) appreciate the importance of various management practices in crop production. 	<ul style="list-style-type: none"> ● In pairs or in groups learners with low vision could be guided to take an excursion to a field with growing crops, observe and differentiate weeds from crops. Learners with blindness be guided and given clear verbal descriptions to explore and tactually manipulate weeds in the field to differentiate the weeds from crops during excursion. ● In pairs or in groups, learners with low vision use digital devices while learners with blindness be guided to use digital devices with assistive technology to take photographs of various weeds, compile and make class presentations about the compiled work. ● In pairs or groups, learners with low vision could be guided to carry out weeding on a selected crop using physical methods such as uprooting weeds, tilling and slashing. Learners with blindness be guided and given one on one demonstration alongside clear verbal instructions to carry out weeding on a selected crop using physical methods such as uprooting weeds, tilling and slashing. . ● In pairs or in groups, learners with low vision observe the germinated crop, carry out thinning and use the thinned-out plants to gap the wide spaces. Learners with blindness be guided and given one on one demonstration alongside clear verbal instructions to carry out thinning and use the thinned-out plants to gap the wide spaces. ● In pairs or in groups, learners with low vision could be guided to carry out earthing up for a suitable crop. 	<ol style="list-style-type: none"> 1. Why is it important to carry out crop management practices? 2. How can we carry out management practices in crop production?

			<p>Learners with blindness be guided and given one on one demonstration alongside clear verbal instructions to carry out earthing up for a suitable crop.</p> <ul style="list-style-type: none"> ● In pairs or in groups, learners with low vision could be guided to carry out hardening off on a suitable crop. Learners with blindness be guided and given one on one demonstration alongside clear verbal instructions to carry out hardening off on a suitable crop. ● In pairs or in groups, learners discuss the importance of management practices carried out in crop production. <p>Practical activity: As a class, learners with low vision could be guided to carry out management practices (at the opportune time) on a crop of their choice. Learners with blindness be guided and given one on one demonstration alongside clear verbal instructions to carry out management practices (at the opportune time) on a crop of their choice.</p>	
<p>Core Competencies to be Developed: Digital literacy as learners take photographs of weeds, compile the photographs and use digital devices to make class presentations.</p>				
<p>Pertinent and Contemporary Issues (PCIs): Life skills are enhanced as the learners plan and commit themselves to carry out tasks in management practices during practical lesson activities.</p>			<p>Values: Respect is achieved as learners carry out the various management practices for the group project.</p>	
<p>Link to other subjects:</p> <ul style="list-style-type: none"> ● Social studies as learners relate various management practices of selected crops to the elements of weather in their locality. 			<p>Suggested Community Service Learning:</p>	

<ul style="list-style-type: none"> ● Pre-Technical studies as learners work safely with various garden tools and equipment during weeding. 	
<p>Non formal Activities to support Learning: Learners with visual impairment to initiate display sites/crop museums within the school.</p>	<p>Suggested Modes of Assessment:</p> <ul style="list-style-type: none"> ● Written tests in print and braille ● Observation ● Project ● Self and peer assessment
<p>Suggested Learning Resources</p> <ul style="list-style-type: none"> ● Digital devices ● Garden tools and equipment 	

Assessment Rubric

Criteria	Exceeds Expectation	Meets Expectation	Approaches Expectation	Below Expectation
Carrying out weeding using physical method	Carries out weeding using physical and other methods.	Carries out weeding using physical methods.	Explains physical methods of weeding.	Outlines physical methods of weeding.
Carrying out earthing up for growing a suitable crop.	Carries out earthing up for a suitable crop and gives the importance of this practice.	Carries out earthing up for a suitable crop.	Explains the procedure of earthing up on a suitable crop.	Identifies crops that require earthing up as a management practice.
Carrying out hardening off on a suitable crop.	Carries out hardening off on a suitable crop and gives the importance of this practice.	Carries out hardening off on a suitable crop.	Explains the procedure of hardening off on a suitable crop.	Identifies crops that require hardening off as a management practice.

STRAND 3.0: ANIMAL PRODUCTION

Strand	Sub Strand	Specific Learning Outcomes	Suggested Learning Experiences	Key Inquiry Question(s)
3.0 Animal Production	3.1 Animal Handling (6 lessons)	By the end of the sub strand the learner should be able to: a) examine forms of animal handling in the community; b) protect animals against mistreatment in the community; c) handle animals humanely in the community; d) create awareness on the importance of humane treatment of animals in the community.	<ul style="list-style-type: none"> ● In pairs or in groups, learners with low vision could be guided to explore, identify and share experiences on forms of animal handling (humane and inhumane treatment of animals) in the community. Learners with blindness be guided to explore and given one on one demonstration alongside clear verbal instructions on forms of animal handling (humane and inhumane treatment of animals) in the community. ● In pairs or in groups, learners discuss and analyze inhumane treatments such as beating, poor restraining, inappropriate castration, poor transport methods, inappropriate harnessing, inhumane slaughtering, overloading draught animals, and overworking. ● In pairs or in groups, learners suggest solutions for protecting animals against inhumane treatments. Such solutions include proper handling, safe harnessing and castration using approved methods. ● In pairs or in groups, learners with low vision use print materials and digital devices while learners with blindness use braille materials and digital devices with assistive technology to search for information on how various animals should be handled and apply the knowledge to protect animals against mistreatment in the community. ● In pairs or in groups, learners be guided to role play and dramatise humane handling of various animals in the community. ● Learners could be guided to compose songs and poems to create awareness on the importance of humane 	<ol style="list-style-type: none"> 1. How can animals be handled safely? 2. Why is it important to handle animals in humane ways?

			<p>treatment of animals and present the songs and poems during community barazas and other social gatherings.</p> <ul style="list-style-type: none"> ● Practical activity: In pairs or in groups, learners with low vision could be guided to use safe animals (docile) to demonstrate humane and safe handling of animals. Learners with blindness be guided and given one on one demonstration alongside clear verbal instructions to carry out humane and safe handling of animals. 	
<p>Core Competencies to be Developed: Communication and collaboration as learners discuss and role play humane handling of animals.</p>				
<p>Pertinent and Contemporary Issues (PCIs): Animal welfare is enhanced as the learners create awareness on the importance of humane treatment of animals in the community.</p>			<p>Values: Love is achieved as learners demonstrate humane treatment of animals to the community during school open days.</p>	
<p>Link to other subjects: Religious Education as learners relate caring of God’s creation to humane treatment of animals.</p>				
<p>Non formal Activities to support Learning:</p> <ul style="list-style-type: none"> ● Learners observe pets in the community and note down the common management practices carried out on the pets. ● Encourage learners to participate in music clubs to sing and recite poems on humane handling of animals. ● Encourage learners to participate in wildlife clubs where they learn and practice more on safe handling of animals. 			<p>Suggested Modes of Assessment</p> <ul style="list-style-type: none"> ● Written assignments in print and braille ● Observation ● Oral questions ● Self and peer assessment 	
<p>Suggested Learning Resources:</p> <ul style="list-style-type: none"> ● Print materials ● Braille materials ● Digital devices 				

Assessment Rubric

Criteria	Exceeds Expectation	Meets Expectation	Approaches Expectation	Below Expectation
Protecting animals against mistreatment in the community.	Protects animals against mistreatment in the community and sensitizes the community.	Protects animals against mistreatment in the community.	Explains ways of protecting animals against mistreatment.	Outlines ways of protecting animals against mistreatment.
Handling animals humanely in the community.	Handles animals humanely and also shares the same information with the community.	Handles animals humanely in the community.	Explains ways of handling animals humanely in the community.	Outlines ways of handling animals humanely in the community.
Creating awareness on importance of humane treatment of animals in the community.	Creates awareness by making posters on the importance of humane treatment of animals in the community.	Creates awareness on the importance of humane treatment of animals in the community.	Explains the importance of humane treatment of animals in the community.	Outlines the importance of humane treatment of animals in the community.

Strand	Sub Strand	Specific Learning Outcomes	Suggested Learning Experiences	Key Inquiry Question(s)
3.0 Animal Production	3.2 General Management of Pets (6 lessons)	By the end of the sub strand the learner should be able to: a) identify pets reared in the community; b) describe factors considered in selecting a pet for rearing in the community; c) outline ways of acquiring a pet for rearing in the community;	<ul style="list-style-type: none"> Learners with low vision could be guided to visit the community and explore the pets that are reared by various households. Learners with blindness be guided and given clear verbal instruction to visit the community and explore the pets that are reared by various households. Learners be guided to acquire information from resource persons on animals reared as pets in the community. 	<ol style="list-style-type: none"> How can we rear pets? How can we choose pets for rearing?

		<p>d) describe various management practices in rearing of pets in the community;</p> <p>e) appreciate various management practices of rearing pets in the community.</p>	<ul style="list-style-type: none"> ● In pairs or in groups, learners with low vision use print materials and digital devices while learners with blindness be guided to use braille materials and digital devices with assistive technology to search for information on factors to consider in choosing a pet for rearing such as social, economic, safety and legal factors. ● In pairs or in groups, learners discuss various ways of acquiring a pet for rearing such as buying from other community members, gifts, and inheritance. ● As a class, learners with low vision could be guided to take an excursion in the community, observe pets and acquire information on management practices such as feeding, housing, sanitation, parasite and disease control. Learners with blindness be guided and given clear verbal instructions to take an excursion in the community, explore and identify pets and acquire information on management practices of pets. ● In pairs or in groups, learners with low vision be guided to watch and listen to audio-visual clips on selected management practices such as feeding, housing, sanitation, parasite and disease control. Learners with blindness be guided and given clear verbal descriptions as they listen to the audiovisual clips on selected management practices. 	
<p>Core Competencies to be Developed:</p> <ul style="list-style-type: none"> ● Learning to learn as the learners discuss various factors considered in choosing an appropriate pet for rearing and the management practices carried out on the pets. ● Communication and collaboration as learners work in groups to discuss ways of acquiring pets. 				

<p>Pertinent and Contemporary Issues (PCIs): Animal welfare is enhanced as the learners appreciate the importance of various management practices in rearing pets.</p>	<p>Values: Respect is achieved as learners appreciate factors to consider in ownership of pets.</p>
<p>Link to other subjects: Social studies as learners relate livestock keeping to rearing of various pets.</p>	
<p>Non formal Activities to support Learning:</p> <ul style="list-style-type: none"> ● Learners observe pets in the community and note down the common management practices carried out on them. ● Encourage learners to keep a pet of their choice and carry out management practices. 	<p>Suggested Modes of Assessment</p> <ul style="list-style-type: none"> ● Written assignments in print and braille ● Oral questions ● Observation ● Project
<p>Suggested Learning Resources:</p> <ul style="list-style-type: none"> ● Print materials ● Braille materials ● Digital devices 	

Assessment Rubric

Criteria	Exceeds Expectation	Meets Expectation	Approaches Expectation	Below Expectation
Describing factors considered in choosing a pet for rearing.	Describes factors considered in choosing a pet for rearing and acquiring a pet of their choice.	Describes factors considered in choosing a pet for rearing.	Identifies factors considered in choosing a pet for rearing.	Outlines factors considered in choosing a pet for rearing.
Outlining ways of acquiring a pet for rearing.	Outlines and explains the three ways of acquiring a pet for rearing.	Outlines the three ways of acquiring a pet for rearing.	Outline two ways of acquiring a pet for rearing.	Identifies one way of acquiring a pet for rearing.
Describing various management practices in rearing pets.	Describes and demonstrates various management practices in rearing pets.	Describes various Management practices in rearing pets.	Identifies management practices in rearing pets.	Names management practices in rearing pets.

Strand	Sub Strand	Specific Learning Outcomes	Suggested Learning Experiences	Key Inquiry Question(s)
3.0 Animal Production	3.3 Preparation of Animal Products (6 lessons)	By the end of the sub strand the learner should be able to: a) sort and grade eggs for various purposes; b) process raw honey from the combs; c) pack processed honey for storage and use; d) embrace the value of preparing animal products for use, storage and marketing.	<ul style="list-style-type: none"> ● In pairs or in groups, learners with low vision could be guided to analyze sampled eggs, brainstorm on factors to consider when grading eggs, then sort and grade the eggs. Learners with blindness be guided and given clear verbal instructions to tactually explore the provided eggs, brainstorm on factors to consider when grading eggs, then sort and grade the eggs. ● In pairs or in groups, learners with low vision be guided to process a provided sample of raw honey from combs using crushing and straining methods. Learners with blindness be guided and given one on one demonstrations alongside clear verbal instructions to process a provided sample of raw honey from combs using crushing and straining methods. ● In pairs or in groups, learners with low vision be guided to pack the processed honey in appropriate containers such as plastic, glass or aluminium containers. Learners with blindness be guided and given one on one demonstrations alongside clear verbal instructions to pack the processed honey in appropriate containers. ● In pairs or groups, learners discuss the importance of sorting and grading eggs and processing of raw honey. 	<ol style="list-style-type: none"> 1. Why should we sort and grade eggs? 2. How can raw honey be processed?
<p>Core Competencies to be Developed: Communication and collaboration as learners work in groups to analyse, sample eggs and brainstorm on factors to consider when grading and sorting eggs.</p>				
<p>Pertinent and Contemporary Issues (PCIs): Financial literacy is enhanced as learners add value of honey from raw to semi-processed honey and as they sort and grade eggs for various purposes.</p>			<p>Values: Integrity is achieved as learners apply ethical methods of preparing animal products such as processing of raw honey.</p>	

<p>Link to other subjects: Pre-Technical studies as learners use technology in processing of animal products.</p>	<p>Suggested Community Service Learning:</p>
<p>Non formal Activities to support Learning: Encourage learners to take part in activities of the Young Farmers club like collecting, sorting and grading of eggs, processing of raw honey, packaging and storing of honey.</p>	<p>Suggested Modes of Assessment</p> <ul style="list-style-type: none"> • Written assignments in print and braille • Oral questions • Observation • Self and peer assessment
<p>Suggested Learning Resources:</p> <ul style="list-style-type: none"> • Photographs of animal products • Realia 	

Assessment Rubric

Criteria	Exceeds Expectation	Meets Expectation	Approaches Expectation	Below Expectation
Sorting and grading eggs for various purposes.	Sorts and grades eggs for various purposes and explains factors to consider in sorting and grading.	Sorts and grades eggs for various purposes.	Sorts eggs for various purposes.	Outlines the importance of sorting eggs for various purposes.
Processing raw honey from the combs.	Processes and packs raw honey from the combs.	Processes raw honey from the combs.	Describes the methods for processing raw honey from the combs.	Outlines methods of processing raw honey from the combs.
Packing processed honey for storage and use.	Packs processed honey in appropriate containers for storage and use.	Packs processed honey for storage and use.	Describes how to pack processed honey for storage and use.	Outlines methods of packing processed honey for storage and use.

STRAND 4.0: AGRICULTURE AND TECHNOLOGY

Strand	Sub Strand	Specific Learning Outcomes	Suggested Learning Experiences	Key Inquiry Question(s)
4.0 Agriculture and Technology	4.1 Off-season Cropping Techniques (9 lessons)	By the end of the sub strand the learner should be able to: a) discuss the meaning of off-season cropping as a farming technique; b) explain the importance of off-season cropping in Agriculture; c) choose appropriate technology to support off-season cropping; d) describe appropriate techniques used in off-season cropping; e) appreciate the importance of off-season cropping techniques and technologies for food security.	<ul style="list-style-type: none"> ● In pairs or in groups, learners brainstorm on the meaning of off-season cropping and then share in plenary. ● In pairs or in groups, learners with low vision use print materials and digital devices while learners with blindness use braille materials and digital devices with assistive technology to search for the meaning of off-season cropping. ● In pairs or in groups, learners discuss the importance of off-season cropping and in a plenary share derived points such as continuous supply of food, regular income and high market value. ● In pairs or in groups, learners with low vision use print materials and digital devices while learners with blindness be guided to use braille materials and digital devices with assistive technology to search for information on applicable technologies for off-season cropping such as innovative drip irrigation and container gardening. ● In pairs or in groups, learners discuss the off-season crop production techniques such as timed planting, staggered planting and succession planting. ● In pairs or in groups, learners discuss the importance of off-season crop production techniques and technologies. 	<ol style="list-style-type: none"> 1. How can we ensure a continuous supply of vegetables in farming? 2. Why should we practice off-season cropping in farming?
<p>Core Competencies to be Developed:</p> <ul style="list-style-type: none"> ● Critical thinking and problem solving as learners deduce appropriate off-season techniques and technologies for continuous food supply in the community. ● Communication and collaboration as learners work in groups to discuss crop production techniques for off-season crops. 				

<p>Pertinent and Contemporary Issues (PCIs): Food security is enhanced as learners identify and choose appropriate techniques to support off-season cropping for food security.</p>	<p>Values: Respect is achieved as learners make presentations in turns on appropriate techniques and technologies for off-season cropping.</p>
<p>Link to other Subjects: Integrated Science as learners use appropriate techniques and technologies to produce off-season crops in the community for continuous food supply.</p>	
<p>Non formal Activities to support Learning: Learners initiate a beautification project through club activities of the school using crop plants on framed suspended gardens.</p>	<p>Suggested Modes of Assessment</p> <ul style="list-style-type: none"> • Oral questions • Written tests in print and braille • Observation
<p>Suggested Learning Resources:</p> <ul style="list-style-type: none"> • Digital devices • Print materials • Braille materials 	

Assessment Rubric

Criteria	Exceeds Expectation	Meets Expectation	Approaches Expectation	Below Expectation
Explaining the importance of off-season cropping in Agriculture.	Explains with examples the importance of off-season cropping in Agriculture.	Explains the importance of off-season cropping in Agriculture.	Identifies the importance of off-season cropping in Agriculture.	Outlines the importance of off-season cropping in Agriculture.
Choosing appropriate technology to support off-season cropping.	Chooses and applies appropriate technology to support off-season cropping.	Chooses appropriate technology to support off-season cropping.	Describes appropriate technology to support off-season cropping.	Identifies appropriate technology to support off-season cropping.
Describing appropriate techniques used in off-season cropping.	Describes with illustrations appropriate techniques used in off-season cropping.	Describes appropriate techniques used in off-season cropping.	Identifies appropriate techniques used in off-season cropping.	Outlines appropriate techniques used in off-season cropping.

Strand	Sub Strand	Specific Learning Outcomes	Suggested Learning Experiences	Key Inquiry Question(s)
4.0 Agriculture and Technology	4.2 Framed Suspended Gardens (9 lessons)	<p>By the end of the sub strand the learner should be able to:</p> <ul style="list-style-type: none"> a) identify off-season crops suitable for suspended gardening; b) select suitable site for framed structure suspended garden; c) design framed structure for suspended gardens; d) construct framed structures for suspended gardens; e) establish and manage selected off-season crop on suspended gardens; f) create educative messages about framed suspended gardens; g) appreciate the use of framed suspended gardens to establish off-season crops. 	<ul style="list-style-type: none"> ● In pairs or in groups, learners be guided to discuss and identify suitable crops that meet the following criteria: <ul style="list-style-type: none"> - Can be established on a suspended garden on framed structures sited in small spaces such as along the driveway, pathways or any other place in the school that receives regular visitors. - Can enhance beauty. - Can grow within a short period of time (not a perennial crop). ● Learners with low vision be guided to explore the school environment, identify various sites and select a suitable one to prepare framed structures for suspended gardens. Learners with blindness be guided and given clear verbal instructions to explore the school environment, identify various sites and select a suitable one to prepare framed structures for suspended gardens. ● In pairs or in groups, learners with low vision be guided to design and sketch plans for framed suspended gardens. Learners with blindness be guided and given one on one demonstration alongside clear verbal instructions to model a plan for framed suspended gardens. ● In pairs or in groups, learners be guided to source for locally available materials such as wires, wooden planks, metal bars and poles to construct framed suspended gardens. ● In groups, learners be guided to assign themselves tasks towards construction of the framed structures, 	<ol style="list-style-type: none"> 1. How can we innovatively grow crops in limited space? 2. How can we prepare a framed suspended garden?

			<p>establishment and management of selected off-season crops on the suspended garden.</p> <ul style="list-style-type: none"> ● Learners with low vision be guided to carry out assigned tasks to construct the framed structures and establish selected off-season crops. Learners with blindness be guided and given one on one demonstrations alongside clear verbal instructions to carry out assigned tasks to construct the framed structures and establish selected off-season crops. ● in pairs or in groups, learners with low vision be guided to carry out relevant tasks to manage the off-season crop. Learners with blindness and given one on one demonstrations alongside clear verbal instructions to carry out relevant tasks to manage the off-season crop. ● In groups, learners could be guided to create educative messages about the framed suspended gardens to pass to the school community. 	
<p>Core Competencies to be Developed:</p> <ul style="list-style-type: none"> ● Communication and collaboration as learners work in groups to identify and select a suitable site for suspended gardening. ● Critical thinking and problem solving as the learners plan, implement and manage various tasks such as designing, siting, construction, crop establishment and management on the suspended gardens. ● Creativity and imagination as the learners design, sketch/model framed structures and innovatively cite the structures within the school compound. 				
<p>Pertinent and Contemporary Issues (PCIs):</p> <ul style="list-style-type: none"> ● Food security is enhanced as learners establish and manage off-season crops on suspended gardens within the school environment for food production. ● Environmental education is enhanced as learners use locally available materials to construct framed suspended gardens. 			<p>Values:</p> <p>Unity is achieved as the learners carry out team work activities while planning, implementing and managing the framed suspended gardens.</p>	

Link to other subjects: Pre-Technical studies as learners apply hands-on skills to design, construct and manage framed suspended gardens.	
Non formal Activities to support Learning: Learners to initiate a beautification project through club activities of the school using crop plants on framed suspended gardens	Suggested Modes of Assessment <ul style="list-style-type: none"> • Oral questions • Written tests in print and braille • Project
Suggested Learning Resources: <ul style="list-style-type: none"> • Organic manure • Organic mulch materials • Garden tools and equipment • Materials for constructing framed suspended gardens - strings, pieces of wood 	

Assessment Rubric

Criteria	Exceeds Expectation	Meets Expectation	Approaches Expectation	Below Expectation
Designing framed structures for suspended gardening.	Designs and sketches framed structures for suspended gardening.	Designs framed structures for suspended gardening.	Describes the procedure for designing framed structures for suspended gardening.	Identifies framed structures for suspended gardening.
Constructing framed structures for suspended gardening in the school.	Constructs framed structures for suspended gardening in the school and establishes crops in them.	Constructs framed structures for suspended gardening in the school.	Describes the procedure of constructing framed structures for suspended gardening in the school.	Identifies framed structures for suspended gardening in the school.
Establishing and managing selected off-season crops on suspended gardens.	Establishes and manages selected off-season crops on suspended gardens and adds value on the crop.	Establishes and manages selected off-season crops on suspended gardens.	Establishes selected off-season crops on suspended gardens.	Identifies selected off-season crops on suspended gardens.
Creating educational messages on the framed suspended gardens.	Creates and shares educational messages on the framed suspended gardens.	Creates educative messages on the framed suspended gardens.	Creates some educative messages on the framed suspended gardens.	Outlines educational messages on the framed suspended gardens.

Strand	Sub Strand	Specific Learning Outcomes	Suggested Learning Experiences	Key Inquiry Question(s)
4.0 Agriculture and Technology	4.3 Value Addition Techniques (7 lessons)	By the end of the sub strand the learner should be able to: a) explain the meaning of value addition in crop produce; b) examine ways of adding value on crop produce; c) process a selected crop produce to add value; d) appreciate the importance of value addition on crop produce.	<ul style="list-style-type: none"> ● In pairs or in groups, learners with low vision use print materials and digital devices while learners with blindness be guided to use braille materials and digital devices with assistive technology to search and share information on meaning and examples of value addition in crop produce. ● In pairs or in groups, learners discuss ways of adding value to crop produce such as potatoes, mangoes, vegetables, cassava, groundnuts, simsim, sweet potatoes and pumpkins. ● In groups, learners with low vision be guided to process a provided sample of crop produce such as potatoes, mangoes, vegetables, cassava, groundnuts, simsim, sweet potatoes and pumpkins to add value using appropriate methods like drying and frying. Learners with blindness be guided and given one on one demonstration alongside clear verbal instructions to process a provided sample of crop produce to add value using appropriate methods like drying and frying. ● In pairs or in groups, learners compare the processed crop produce with raw crop produce in terms of monetary value and storage life. <p>Practical activity: In pairs or in groups, learners with low vision be guided to select a crop produce of their choice and process the produce for value addition using applicable techniques. Learners with blindness be guided and given one on one demonstration alongside clear verbal instructions to select a crop produce of their choice and process the produce for value addition using applicable techniques.</p>	<ol style="list-style-type: none"> 1. Why do we add value to crop produce? 2. How can we add value to crop produce?
<p>Core Competencies to be Developed:</p> <ul style="list-style-type: none"> ● Communication and collaboration as learners work in groups to process a sample of crop produce for value addition. ● Critical thinking and problem solving as learners search for information and select a suitable method of adding value to a crop produce. 				

<p>Pertinent and Contemporary Issues (PCIs): Nutrition, health and food security is enhanced as learners process crop produce to increase shelf life and reduce food spoilage through value addition processes.</p>	<p>Values: Integrity is achieved as learners observe hygiene and safety standards during processing of crop produce.</p>
<p>Link to other subjects: Pre-Technical studies as learners use technology to process crop produce.</p>	
<p>Non formal Activities to support Learning: Learners carry out extended activities on value addition of main crop produce available in the locality through school clubs</p>	<p>Suggested Modes of Assessment</p> <ul style="list-style-type: none"> ● Observation ● Oral questions ● Written tests in print and braille
<p>Suggested Learning Resources:</p> <ul style="list-style-type: none"> ● Digital devices ● Print resources ● Braille materials ● Crop produce that can be used for value addition e.g. potatoes, mangoes, cassava, tomatoes, groundnuts, pumpkins ● Utensils such as frying pans, spoons, knives 	

Assessment Rubric

Criteria	Exceeds Expectation	Meets Expectation	Approaches Expectation	Below Expectation
Explaining the meaning of value addition in crop produce.	Explains the meaning of value addition in crop produce and gives reasons why it is carried out.	Explains the meaning of value addition in crop produce.	Identifies methods of value addition in crop produce.	Outlines methods of value addition in crop produce.
Examining ways of adding value to crop produce.	Examines and demonstrates ways of adding value to crop produce.	Examines ways of adding value to crop produce.	Describes ways of adding value to crop produce.	Outlines ways of adding value to crop produce.
Processing a selected crop produce to add value.	Processes a selected crop produce to add value and packages it.	Processes a selected crop produce to add value.	Describes the procedure of processing a selected crop produce to add value.	Identifies a crop produce that can be processed to add value.

COMMUNITY SERVICE-LEARNING CLASS ACTIVITY

Community Service Learning (CSL) is an experiential learning strategy that integrates classroom learning and community service to enable learners to reflect, experience and learn from the community. The CSL project is expected to benefit the learner, the school and local community. Knowledge and skills on how to carry out a CSL project have been covered in Life Skills Education (LSE).

All learners with visual impairment in Grade 7 will be expected to participate in a CSL class activity. The activity will give learners an opportunity to practise the CSL Project skills covered under LSE. This activity will be undertaken in groups where learners with blindness will be grouped with those who have sight. Learners will be expected to apply the steps provided to carry out the CSL project.

The activity will take the form of a whole school approach, where the entire school community will be engaged in the learning process. Teachers will guide learners with visual impairment to execute a simple school based CSL class activity. This activity can be done in 4-6 weeks outside the classroom time. The duration may be adjusted accordingly to accommodate learners with blindness who may require more time to implement the CSL project.

CSL Skills to be covered

- i) **Research:** Learners will develop research skills as they investigate PCIs to address, ways and tools to use in collecting data, analysing information and presenting their findings.
- ii) **Communication:** Learners will develop effective communication skills as they engage with peers and school community members. These will include listening actively, asking questions, and presentation skills using varied modes.
- iii) **Citizenship:** Learners will be able to explore opportunities for engagement as members of the school community and provide a service for the common good.
- iv) **Leadership:** Learners will develop leadership skills as they take up various roles within the CSL activity.
- v) **Financial Literacy Skills:** Learners will consider how to source and utilise resources effectively and efficiently.
- vi) **Entrepreneurship:** Learners will consider ways of generating income through innovation for the CSL class activity.

Suggested PCIs	Specific Learning Outcomes	Suggested Learning Experiences (Customise to the focus of the grade)	Key Inquiry Questions
<p>Learners will be guided to consider the various PCIs provided in the subject in Grade 7 and choose one suitable to their context and reality</p>	<p>By the end of the CSL class activity, the learner should be able to:</p> <ol style="list-style-type: none"> identify a problem in the school community through research; develop a plan to solve the identified problem in the community; design solutions to the identified problem; implement solution to the identified problem; share the findings to relevant actors; reflect on own learning and relevance of the project; appreciate the need to belong to a community. 	<ul style="list-style-type: none"> ● In groups, learners brainstorm on pertinent and contemporary issues in the community that need attention. ● In groups, learners discuss various PCIs within the school community and identify the one that requires immediate attention giving reasons for their choice. ● In groups, learners discuss possible solutions to the identified issue and propose the most appropriate solution to the problem. ● Learners brainstorm on the resources needed for the activity and source for them. Learners with blindness to be guided in selecting materials that are safe and accessible such as tactile charts, pictures, graphs and braille. Those with low vision use reference materials with appropriate font size and contrasting colours as well as three-dimensional resources. ● In groups, learners discuss different methods and tools of collecting data and determine the ones suitable for the selected project. learners with visual impairments to be supported in preparation and use of data collection methods and tools such as questionnaires, focus discussions and interviews. ● in groups, learners develop appropriate tools for collecting data with the guidance of the teacher. ● In groups, learners collect data and record findings. Learners with blindness to work with 	<ol style="list-style-type: none"> How does one determine community needs? Why is it necessary to be part of a community?

		<p>sighted peers when collecting data. The sighted peers would support in explaining or describing aspects that require use of sight.</p> <ul style="list-style-type: none"> ● Learners with blindness use audio recorders to record the responses. ● In groups, learners discuss their findings, develop various reporting documents and use them to report on their findings. ● Based on the research report, learners implement a project to get solutions to the identified problem. Learners with blindness to work with sighted peers and ensure the project site is free from hazards such as hanging trees, sharp objects and potholes to ensure safe mobility. ● Learners use feedback from peers and the school community to improve on the implementation of the project. ● In groups, learners discuss the successes, challenges faced while implementing the project activities and lessons learnt; write a report and share through various media to peers and the school community. ● Learners reflect on how the project enhanced learning while at the same time facilitating service to the school by providing solutions to the identified issue(s). 	
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Assessment Rubric				
Criteria	Exceeds Expectation	Meets Expectation	Approaches Expectation	Below Expectation
Identifying a pertinent issue in school the community to be addressed.	Gives Justification for the identified pertinent issue in the school community to be addressed.	Identifies a pertinent issue in the school community to be addressed.	States a pertinent issue in the school community to be addressed.	Recalls a pertinent issue discussed in class.
Planning to solve the identified issue.	Designs and develops a step-by-step plan of the activities to be carried out in the process of solving the problem.	Develops a plan to solve the identified problem.	Gives an outline of a plan to solve the identified problem.	States some activities to be included in the plan to solve the identified problem.
Designing and implementing solutions to the identified problem.	Designs, implements and solves the identified problem.	Designs and implements solutions to the identified problem.	Designs solutions to the identified problem.	Suggests solutions to the identified problem.
Sharing findings to relevant actors.	Incorporates feedback from relevant actors to the findings.	Share findings to relevant actors.	Gives a brief description of findings to relevant actors.	States some aspects of the findings to relevant actors.