REPUBLIC OF KENYA

MINISTRY OF EDUCATION

JUNIOR SCHOOL CURRICULUM DESIGN

AGRICULTURE & NUTRITION
FOR LEARNERS WITH VISUAL IMPAIRMENT

GRADE 8

KENYA INSTITUTE OF CURRICULUM DEVELOPMENT

A Skilled and Ethical Society

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FOREWORD

The Government of Kenya is committed to ensuring that policy objectives for Education, Training and Research meet the aspirations of the Constitution of Kenya 2010, the Kenya Vision 2030, National Curriculum Policy 2019, the United Nations Sustainable Development Goals (SDGs) and the Regional and Global conventions to which Kenya is a signatory. Towards achieving the mission of Basic Education, the Ministry of Education (MoE) has successfully and progressively rolled out the implementation of the Competency Based Curriculum (CBC) at Pre-Primary, Primary and Junior School levels.

The implementation of Competency Based Curriculum involves monitoring and evaluation to determine its success. After the five-year implementation cycle, a summative evaluation of the primary education cycle was undertaken to establish the achievement of learning outcomes as envisaged in the Basic Education Curriculum Framework. The Government of Kenya constituted a Presidential working Party on Education Reforms (PWPER) in 2022 to address salient issues affecting the education sector. PWPER made far reaching recommendations for basic education that necessitated curriculum review. The recommendations of the PWPER, monitoring reports, summative evaluation, feedback from curriculum implementers and other stakeholders led to rationalisation and review of the basic education curriculum.

The reviewed Grade eight curriculum designs for learners with visual impairment build on competencies attained by learners at Grade 7. Emphasis at this grade is the development of skills for exploration and making informed decision on pathways based on careers.

The curriculum designs present National Goals of Education, essence statements, general and specific expected learning outcomes for the subjects as well as strands and sub strands. The designs also outline suggested learning experiences, key inquiry questions, core competencies, Pertinent and Contemporary Issues (PCIs), values, and assessment rubric.

It is my hope that all Government agencies and other stakeholders in Education will use the designs to plan for effective and efficient implementation of the CBC.

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PREFACE

The Ministry of Education (MoE) nationally implemented Competency Based Curriculum (CBC) in 2019. Grade seven is the first grade of Junior school while Grade 9 is the final grade of the level in the reformed education structure.

The reviewed Grade eight curriculum furthers implementation of the CBC from Grade seven. The curriculum provides opportunities for learners to focus in a field of their choice to form a foundation for further education and training and/or gain employable skills. This is very critical in the realisation of the Vision and Mission of the on-going curriculum reforms as enshrined in the Sessional Paper No. I of 2019 whose title is: Towards Realizing Quality, Relevant and Inclusive Education and Training for Sustainable Development in Kenya. The Sessional Paper explains the shift from a content-focused curriculum to a focus on **nurturing every learner's potential.**

Therefore, the Grade eight curriculum designs for learners with visual impairment are intended to enhance the learners' development in the CBC core competencies, namely: Communication and Collaboration, Critical Thinking and Problem Solving, Creativity and Imagination, Citizenship, Digital Literacy, learning to Learn and Self-efficacy.

The curriculum designs provide suggestions for interactive and differentiated learning experiences linked to the various sub strands and the other aspects of the CBC. They also offer several suggested learning resources and a variety of assessment techniques. It is expected that the designs will guide teachers to effectively facilitate learners to attain the expected learning outcomes for Grade eight and prepare them for smooth transition to Grade nine. Furthermore, it is my hope that teachers will use the adapted designs to make learning interesting, exciting and enjoyable.

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ACKNOWLEDGEMENT

The Kenya Institute of Curriculum Development (KICD) Act Number 4 of 2013 (Revised 2019) mandates the Institute to develop and review curricula and curriculum support materials for basic and tertiary education and training. The curriculum development process for any level of education involves thorough research, international benchmarking and robust stakeholder engagement. Through a systematic and consultative process, the KICD conceptualised the Competency Based Curriculum (CBC) as captured in the Basic Education Curriculum Framework (BECF) 2017, that responds to the demands of the 21st Century and the aspirations captured in the Constitution of Kenya 2010, the Kenya Vision 2030, East African Community Protocol, International Bureau of Education Guidelines and the United Nations Sustainable Development Goals (SDGs).

KICD receives its funding from the Government of Kenya to facilitate successful achievement of the stipulated 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 revised Grade eight curriculum designs for learners with visual impairment were developed and adapted with the support of the World Bank through the Kenya Primary Education Equity in Learning Programme (KPEELP); a project coordinated by MoE. Therefore, the Institute is very grateful for the support of the Government of Kenya, through the MoE and the development partners for policy, resource and logistical support. Specifically, special thanks to the Cabinet Secretary-MoE and the Principal Secretary – State Department of Basic Education,

I also wish to acknowledge the KICD curriculum developers and other staff, all teachers, educators who took part as panelists; the Semi-Autonomous Government Agencies (SAGAs) and representatives of various stakeholders for their roles in the development and adaptation of the Grade eight curriculum designs for learners with visual impairment. In relation to this, I acknowledge the support of the Chief Executive Officers of the Teachers Service Commission (TSC) and the Kenya National Examinations Council (KNEC) for their support in the process of developing and adapting these designs. Finally, I am very grateful to the KICD Council Chairperson and other members of the Council for very consistent guidance in the process.

I assure all teachers, parents and other stakeholders that this curriculum design will effectively guide the implementation of the CBC at Grade eight and preparation of learners with visual impairment for transition to Grade nine.

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NATIONAL GOALS OF EDUCATION

Education in Kenya should:

1. **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.

2. **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 the wake of rapid modernisation. 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 recognises 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.

3. **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.

4. **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.

5. **Promote social equity 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.

6. **Promote respect for and development of Kenya's rich and varied cultures.**

Education should instill 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.

7. **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.

8. **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.

LESSON ALLOCATION AT JUNIOR SCHOOL

S/No	Learning Area	Number of Lessons per week
1.	English for Learners with Visual Impairment	5
2.	Kiswahili for Learners with Visual Impairment	4
3.	Mathematics for Learners with Visual Impairment	5
4.	Religious Education	4
5.	Integrated Science for Learners with Visual Impairment	5
6.	Agriculture and Nutrition for Learners with Visual Impairment	4
7.	Social Studies for Learners with Visual Impairment	4
8.	Creative Arts and Sports for Learners with Visual Impairment	5
9.	Pre-Technical Studies for Learners with Visual Impairment	4
	Pastoral / Religious Instructional Programme	1
Total		**41**

NOTE: Braille skills for learners with blindness to be implemented as Non formal (Co-Curricular) Programme

LEARNING OUTCOMES FOR JUNIOR SCHOOL

By end of Junior 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. Practise 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 co-existence.
8. Manage pertinent and contemporary issues in society effectively.
9. Apply digital literacy skills for communication and learning.

ESSENCE STATEMENT

Agriculture and nutrition is a learning area that anchors on the United Nation Sustainable development goals and the socio-economic pillar of Kenya Vision 2030 to promote health, hygiene, food and nutrition security through education. It is an integrated learning area comprising agriculture and home science concepts introduced in the upper primary curriculum. The learners will deepen the acquired knowledge, skills, attitudes and values in conservation of resources, food production, hygiene and innovative production techniques. The curriculum will enrich learner's competencies in conservation of resources, crop and animal production, foods and nutrition, personal and environmental hygiene, basic clothing construction and laundry work. Agriculture and nutrition curriculum will form a foundation for specialization in respective career pathways in senior school and beyond.

Agriculture and Nutrition for learners with visual impairment in Junior School 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 resources, food production, hygiene and production techniques through innovative and adaptive technologies. The acquired knowledge, skills, attitudes and values will form a broad-spectrum foundation for development of agricultural competencies for senior school and beyond.

This design has been adapted to ensure that learners with visual impairment learn effectively. The adaptations include suggestions for provision of verbal descriptions on aspects that require use of sight, use of digital devices with assistive technology, models, print with appropriate colour contrast, font size and font types, hands on demonstrations and adapted learning resources.

SUBJECT GENERAL LEARNING OUTCOMES

By the end of Junior School, the learner should be able to:

1. Participate actively in agricultural and household activities in conservation of resources.
2. Use scarce resources through innovative and adaptive practices to contribute towards health, nutrition and food security.
3. Engage in food production processes for self-sustainability, health and economic development.
4. Adopt personal and environmental hygiene practices for healthy living.
5. Apply appropriate production techniques, innovative technologies, digital and media resources to enhance sustainable agricultural and household practices.
6. Appreciate agricultural and household skills as a worthy niche for hobby, career development, further education and training.

SUMMARY OF STRANDS AND SUB STRANDS

Strands	Sub Strands	Suggested Number of Lessons
1.0 Conservation of Resources	1.1 Soil Conservation Measures	10
	1.2 Water Harvesting and Storage	9
2.0 Food Production Processes	2.1 Kitchen and Backyard Gardening	9
	2.2 Poultry Rearing in a Fold	11
	2.3 Crop Pest and Disease Control	10
	2.4 Preparation of Animal Products	9
	2.5 Preserving Animal Products	9
	2.6 Cooking: Preparing a Balanced Meal	11
3.0 Hygiene Practices	3.1 Cleaning the Kitchen	9
4.0 Production Techniques	4.1 Sewing Skills: Constructing Household Items	14
	4.2 Constructing Innovative Animal Waterer	10
	4.3 ICT Support Services	9
Total Number of Lessons		120

NOTE:
The suggested number of lessons per sub strand may be more or less depending on the context.

1.0 CONSERVATION OF RESOURCES

Strand	Sub strand	Specific learning outcomes	Suggested learning experiences	Suggested Key Inquiry Question(s)
1.0 Conservation of Resources	**1.1 Soil conservation measures**	By the end of the sub strand, the learner should be able to: a) describe methods of soil conservation in agricultural environment, b) carry out soil conservation activities in the environment, c) appreciate importance of conserving soil in the environment.	• In groups, learners with low vision use digital devices with assistive technology or appropriate print materials to search for information on methods of soil conservation such as strip cropping, grassed waterways, stone lines, trash lines, soil bunds while learners with blindness use digital devices with assistive technology or Braille materials to search for information on methods of soil conservation such as strip cropping, grassed waterways, stone lines, trash lines, soil bunds then share the information with their peers. • Learners with low vision observe pictures showing various methods of soil conservation in an agricultural environment. Learners with blindness are given one on one support to touch and explore models or tactile diagrams of soil conservation structures in order to familiarize with designs and materials used to construct various soil conservation methods. • In groups, learners with low vision are guided to explore the school environment and carry out activities on soil conservation in the school such as strip cropping, grassed waterways, stone lines, trash lines and soil bunds. Learners with blindness are guided to touch, explore and feel the nature of areas where soil conservation measures such as strip cropping, grassed waterways, stone lines, trash lines and soil bunds have been carried out in the environment then be given one	How can you conserve soil in the environment?

			on one support and clear verbal instructions to carry out activities on soil conservation in the school. • In groups, learners with low vision are guided to construct a farm model using materials such as cartons, cardboards, soil and papier-mâché to demonstrate farm layout with various soil conservation measures. Learners with blindness are guided to touch and feel materials such as cartons, cardboards, soil, gravel/ballast and papier-mâché then given clear verbal instructions and one on one support to construct a farm model to demonstrate farm layout with various soil conservation measures.	

Core competencies to be Developed:

- Creativity and imagination: A learner develops creativity skills when constructing a farm model using locally available materials to demonstrate a farm layout with various soil conservation measures.
- Self-efficacy: A learner develops leadership skills when they share and carry out tasks in groups to use locally available materials to construct farm models illustrating soil conservation measures.

Values:

- Unity: Learners cooperate with others when working together in groups to carry out soil conserve measures.

Pertinent and contemporary issues:

- Environmental education and climate change: Learners promote environmental awareness as they explore the school environment to observe soil erosion and carry out conservation measures.

Link to other subjects:

- English and Kiswahili: Communication skills are reinforced as learners express their opinions in both languages when constructing farm models illustrating soil conservation measures.
- Mathematics: Learners use knowledge on measurement to construct farm models illustrating various soil conservation measures.

Suggested Learning Resources:

- Gravel
- Ballast
- Sand
- Sand paper
- Tactile diagrams of various soil conservation measures
- Models of various soil conservation measures
- Tactile ruler
- Garden tools and equipment such as shovels, jembe
- Planting material for grass or any cover crop
- Waste papers
- Soil
- Cartons or cardboards
- Digital devices with assistive technology such as screen readers, talk back, screen magnifiers, refreshable braille display
- Reference materials in print with appropriate font size and colour contrast
- Braille reference materials
- Dry grass
- Pair of scissors

Strand	Sub strand	Specific learning outcomes	Suggested learning experiences	Suggested Key Inquiry Question(s)
1.0 Conservation of Resources	**1.2 Water harvesting and storage**	By the end of the sub strand, the learner should be able to: a) describe ways of storing harvested water for domestic use, b) take part in harvesting and storing water in the school for domestic use, c) appreciate importance of harvesting and storing water for domestic use.	• Learners with low vision use digital devices with assistive technology or appropriate print materials while learners with blindness use digital devices with assistive technology or Braille materials to search for information on how harvested water can be stored for domestic purposes, using methods such as shallow water pans, water ponds and suitable water containers then share the information with their peers in class. • Learners with low vision are guided to observe pictures showing methods of harvesting and storing water. Learners with blindness are guided to touch and explore different types and sizes of containers used to store water, water ponds and shallow water pans or models of these structures in order to familiarise with their sizes in terms of depth, length and width. • In groups, learners with low vision are guided to initiate measures of water harvesting and storage in the school.	How can you harvest and store water for domestic purposes?

			Learners with blindness are given one on one support to measure the correct depth, length and width of the structures as they initiate measures towards water harvesting and storage in the school. • In groups, learners make class presentations on possible initiatives that can be made to harvest and store rainwater and surface runoff in the school environment.	
Core competencies to be developed: • Critical and problem solving skills: A learner creates solutions for water problems by initiating water harvesting and storage measures. • Digital literacy: A learner uses digital devices with assistive technology to search for information on ways of storing harvested water for domestic use. • Self-efficacy: A learner develops effective communication skills as they make presentations on possible initiatives that can be made to harvest and store rainwater and surface runoff.				
Values: • Responsibility: A learner carries out assigned roles and duties during group activities as they initiate and maintain water harvesting structures.				
Pertinent and contemporary issues: • Environment education and climate change: Learners observe environmental conservation when adopting water harvesting and storage initiatives. • Safety and Security**:** Learners observe safety for self and others when using garden tools and equipment to construct water harvesting and storage structures.				
Link to other subjects:				

- Mathematics: Learners use knowledge on measurement to construct water harvesting and storage structures such as water pans and water ponds.
- English and Kiswahili**:** Learners enhance their communication skills while making class presentations on possible initiatives and maintenance practices that can be made to harvest and store rainwater and surface runoff in the school environment

Suggested Learning Resources:

- Garden tools such as jembe, fork jembes, spade, panga, slasher
- Containers with lids for water storage such as tanks, drums, jerrycans, buckets
- Gutters
- Water pans
- Water ponds
- Models of water pans and water ponds
- Tactile ruler
- Pictures of water harvesting and storage structures
- Manilla papers and marker pens
- Digital devices with assistive technology such as screen readers, talk back, screen magnifiers, refreshable braille display
- Reference materials in print with appropriate font size and colour contrast
- Braille reference materials

Suggested Assessment rubric

Level / **Indicator**	**Exceeds Expectations**	**Meets Expectations**	**Approaches Expectations**	**Below Expectations**
Ability to carry out cultural soil erosion control measures in the environment	Carries out five cultural soil erosion control measures.	Carries out four cultural soil erosion control measures.	Carries out three cultural soil erosion control measures.	Carries out two or less cultural soil erosion control measures.
Ability to carry out water harvesting and storage practices in the school	Carries out four water harvesting and storage practices	Carries out three water harvesting and storage practices	Carries out two water harvesting and storage practices	Carries out one or no water harvesting and storage practice.

STRAND 2.0 FOOD PRODUCTION PROCESSES				
Strand	**Sub strand**	**Specific learning outcomes**	**Suggested learning experiences**	**Suggested Key Inquiry Question(s)**
2.0 Food Production Processes	**2.1 Kitchen and backyard gardening**	By the end of the sub strand, the learner should be able to: a) explain the role of kitchen and backyard garden in food production, b) establish a kitchen and backyard garden for food production, c) appreciate the role of a kitchen and backyard garden in food production.	• Learners with low vision use digital devices with assistive technology or appropriate print materials while learners with blindness use digital devices with assistive technology or braille materials to search for information on the roles of kitchen and backyard garden in food production such as production of fresh healthy foods, saving money and readily accessible then share the information with their peers in class. • Learners with low vision are guided to tour households growing crops in kitchen and backyard gardens in order to observe how crops are innovatively grown in such gardens. Learners with blindness are guided to touch, explore, feel various container gardens and given clear verbal descriptions in order to familiarize and understand how crops are innovatively grown in kitchen and backyard gardens. • Learners are guided to enquire from a resource person on how backyard gardens can be established. • In groups, learners with low vision are guided to use locally available materials to innovatively prepare a kitchen or backyard garden and grow various crops such as vegetables, herbs and spices. Learners with blindness are guided to touch, explore and feel materials such as sacks, old tyres,	How does a kitchen garden contribute to food production?

			containers, plastic bottles and given clear verbal instructions and one and one support to innovatively prepare a kitchen or backyard garden and grow various crops such as vegetables, herbs and spices.	

Core competencies to be developed:

- **Critical and problem solving**: A learner creates options for food production by establishing a kitchen or backyard garden to produce fresh foods.
- **Digital literacy:** A learner uses digital devices with assistive technology to search for information and share information on the roles of kitchen and backyard garden in food production.
- **Communication and Collaboration:** A learner develops speaking skills and cooperates with others as they prepare kitchen or backyard gardens.

Values:

Unity: A learner cooperates with others when working in groups to prepare a kitchen or backyard garden and grow various crops such as vegetables, herbs and spices.

Pertinent and contemporary issues:

Health Promotion Issues: Learners promote nutrition and food security when growing fresh vegetables for food in their kitchen or backyard gardens.

Link to other subjects:

Pre-technical Studies: A learner relates the concept of safety for self and others as they use garden tools, equipment and pesticides in the kitchen or backyard garden.

Suggested Learning Resources:

- Reference materials in print with appropriate font size and colour contrast
- Braille reference materials
- Digital devices with assistive technology such as screen reader, talkback, refreshable braille display, screen magnifiers
- Resource person
- Improvised modern gardening materials and equipment- sacks, old tyres, containers, plastic bottles
- Gardening tools and equipment - Watering cans, jembe, panga, garden trowel, garden line,

• Tactile ruler • Suitable garden soil • Organic manure • Fertiliser • Water • Planting materials - seeds, seedlings, cuttings, suckers • Container gardens with established crops

Strand	**Sub strand**	**Specific learning outcomes**	**Suggested learning experiences**	**Suggested Key Inquiry Question(s)**
2.0 Food Production Processes	**2.2 Poultry Rearing in a Fold**	By the end of the sub strand, the learner should be able to: a) describe a fold in poultry rearing, b) construct a fold for rearing poultry, c) rear poultry in a fold, d) show responsibility in rearing poultry.	• Learners with low vision use digital devices with assistive technology to search and watch audio-visual clips or images on poultry folds and share experiences on how poultry folds look like. Learners with blindness are guided to use digital devices with assistive technology to search and listen to audio-visual clips on poultry folds. Learners with blindness are provided with verbal descriptions of the visual elements in the clips. • Learners with low vision are guided to observe diagrams showing poultry folds. Learners with blindness are guided to touch and explore tactile diagrams or models of poultry folds to familiarize with the designs. • Learners with low vision are guided to visit households rearing poultry in folds and observe various types of poultry folds. Learners with blindness visit households rearing poultry in folds and are guided to tactually explore poultry in order to	How can you rear poultry in a fold for food production?

			familiarize with the sizes, shapes, materials used to construct the folds then given clear verbal descriptions of the folds. • In groups, learners with low vision are guided to use locally available materials such as reused and recycled wires, plastic and wood materials to construct a poultry fold while observing safety. Learners with blindness are guided to touch, explore and feel the locally available materials for constructing a poultry fold then be given one on one support and clear verbal instructions to use the materials to construct a poultry fold. • **Conduct a project:** In pairs or in groups, learners with low vision are guided to rear poultry of their choice in a fold unit and carry out rearing practices such as moving of the folds, feeding, watering, sanitation, protection from predators and harsh weather. Learners with blindness are given one on one support and clear instructions to rear poultry of their choice in a fold unit and carry out rearing practices such as moving of the folds, feeding, watering, sanitation, protection from predators and harsh weather.	

Core competencies to be developed:
Digital literacy: A learner uses digital devices with assistive technology to search for information and audiovisual clips on poultry folds.

Values:
- Unity: A learner cooperates with others when constructing a poultry fold.
- Responsibility: Learners observe safety precautions while using objects with sharp edges (wires, plastic and wood) to construct a poultry fold.

Pertinent and contemporary issues:
- Environmental education and climate change: A learner uses recycled locally available materials to construct a poultry fold.
- Safety and Security: Learners observe safety for self and others when using tools and equipment to construct poultry fold.

Link to other subjects:

- Mathematics: Learners use knowledge on measurement to construct poultry folds.
- Pre-Technical Studies: A learner relates the concept of safety to safety and security for self and others as they use cutting tools when constructing poultry folds.
- Creative Arts and Sports: A learner innovatively designs and constructs poultry fold.

Suggested Learning Resources:

- Reference materials in print with appropriate font size and colour contrast
- Braille reference materials
- Digital devices with assistive technology such as screen readers, talkback, refreshable braille display, screen magnifiers
- Materials for construction a fold such as recycled wood, wires, nails, thin metal sheets, mesh wire/chicken wire
- Tools - hand saw, claw hammer, pliers, hack saw, hammer
- Chicken feeds
- Pictures of poultry folds
- Models of poultry folds
- Tactile diagrams of poultry folds
- Actual poultry folds
- Feeders
- Waterers
- First aid kit

Strand	**Sub strand**	**Specific learning outcomes**	**Suggested learning experiences**	**Suggested Key Inquiry Question(s)**

2.0 Food Production Processes	**2.3 Crop Pest and disease control**	By the end of the sub strand, the learner should be able to: a) identify vegetable crops attacked by pests and diseases in a garden, b) control pests and diseases on vegetable crops in a garden, c) acknowledge the importance of controlling pests and diseases in vegetable production.	• In groups, learners discuss symptoms of pest and disease attack in vegetable crops. • Learners with low vision are guided to take a field excursion to observe and identify vegetable crops that are attacked by pests (punctured leaves, cut-off seedlings, curling leaves) and the common sites where the pests are found. Learners with blindness are guided to take a field excursion to a vegetable garden, given one on one support to tactually explore and manipulate vegetable seedlings and leaves to feel symptoms of pest attack such as punctured leaves, cut-off seedlings, curling leaves in order to identify vegetable crops attacked by pests and the common sites where the pests are found. • Learners with low vision are guided to take a field excursion to a vegetable garden, observe and identify vegetable crops affected by disease (wilting plants, black and brown spots and rotting of plant parts). Learners with blindness are guided to take a field excursion to a vegetable garden, given one on one support to tactually explore and manipulate vegetable crops to feel symptoms of disease attack and identify vegetable crops affected by various diseases. • In groups, learners with low vision are guided to control pests on vegetables using methods such as handpicking, removing affected crop parts, uprooting heavily affected crops and applying natural pesticides such as ash. Learners with blindness are given clear verbal descriptions and one on one support to control pests on vegetables using methods such as handpicking,	1. How can you identify vegetable crops attacked by pests and diseases? 2. How can you control pests and diseases in crops?

			removing affected crop parts, uprooting heavily affected crops and applying natural pesticides such as ash. • In groups, learners with low vision are guided to control diseases on vegetables using methods such as removing affected parts and uprooting heavily affected crops. Learners with blindness are given clear verbal descriptions and one on one support to control diseases on vegetables using methods such as removing affected parts and uprooting heavily affected crops. Guide learners with blindness on how to properly hold cutting tools such as secateurs or a pruning knife and touch to feel the crop part affected by disease and cut it off.	

Core competencies to be developed:

- Critical thinking and problem solving: A learner identifies vegetables affected by pests and diseases, formulates and implements control measures for the pests and diseases.
- Communication and collaboration: A learner develops listening and speaking skills as they communicate, interact and support one another while working together as well when discussing and making presentations on the importance of controlling crop pests and diseases in vegetable production.
- Self-efficacy: Learners express themselves and give their opinions during discussion on the importance of controlling crop pests and diseases in vegetable production.

Values:

- Unity: Learners cooperate with others when working together to control diseases on vegetables using appropriate methods.
- Responsibility**:** A learner takes care of vegetables by controlling pests and diseases.

Pertinent and contemporary issues:

● Disaster risk reduction: Learners reduce risk by controlling pests and disease in vegetable production.

● Learner Support Programme**:** Learners enhance peer education and mentorship to support one another as they control pests and diseases in vegetables.

Link to other subjects: English and Kiswahili: Learners enhance their communication skills as they discuss in groups and make presentations on the importance of controlling crop pests and diseases in vegetable production.
Suggested Learning Resources ● Samples of crop materials affected by crop pests and diseases ● Field with growing vegetable crops. ● Magnifying lenses ● Hand lens ● Charts displaying various crop pests and vegetable crops with symptoms of different diseases. ● Ash ● Reference materials in print with appropriate font size and colour contrast ● Braille reference materials

Strand	**Sub strand**	**Specific learning outcomes**	**Suggested learning experiences**	**Suggested Key Inquiry Question(s)**
2.0 Food Production Processes	**2.4 Preparation of Animal Products** • *Processing fish* • *Dressing poultry*	By the end of the sub strand, the learner should be able to: a) explain the importance of processing fish and dressing poultry carcass, b) process fresh fish for various purposes,	• In groups, learners are guided to discuss and share experiences on the importance of processing fish and dressing poultry. • Learners with low vision are guided to use digital devices with assistive technology or appropriate print materials while learners with blindness use digital devices with assistive technology or braille materials to search for information on how to process fish for various purposes (storage, consumption, transportation) and share in class.	1. How can you process fresh fish? 2. How do you dress a poultry carcass?

		c) dress poultry carcass for various purposes, d) appreciate the importance of processing fish and dressing poultry carcass for various purposes.	• In pairs or groups, learners with low vision are guided to process fresh fish through scaling, gutting, cleaning, salting, and frying. Learners with blindness be guided to tactually manipulate and explore a fresh fish, then given one on one support and clear verbal descriptions as they process fresh fish through scaling by properly guiding the learners on how to hold the scaling tools and direction of removing scales, gutting by guiding learners to insert the index and middle fingers to removal the abdominal offals, cleaning, salting and frying. • In groups, learners are guided to discuss how to dress poultry carcass (beheading, defeathering, removal of offal, cleaning) for various uses. • In groups, learners with low visual use digital devices with assistive technology to search and watch an audio-visual clip on the process of dressing a poultry carcass. Learners with blindness are guided to use digital devices with assistive technology to search and listen to an audio-visual clip on the process of dressing a poultry carcass. Learners with blindness are provided with verbal descriptions of the visual elements inthe clip. • In groups, learners with low vision are guided to dress poultry carcass (beheading, defeathering, removal of offal, cleaning) for various uses. Learners with blindness be guided to tactually explore and manipulate a poultry carcass, then given one on one support and clear verbal	

			descriptions as they dress poultry carcass for various uses using the following procedure: - beheading by guiding learners on the right position to cut on the neck or on the correct way of twisting the head for dislocation at the neck region, - defeathering by guiding learners to touch and feel the direction of pulling feathers, - removal of offal by guiding learners to insert the index and middle finger into the abdominal cavity and removal the offals, - cleaning by guiding learners to put clean water into the abdominal cavity and rinsing the fish as a whole.	

Core competencies to be developed:

- Learning to learn**:** A learner applies knowledge of dressing poultry and processing fish to dress a poultry carcass and process a fresh fish.
- Self-efficacy**:** A learner develops leadership skills when they share their thoughts and carry out tasks in groups to dress poultry and process fish.
- Digital literacy: A learner uses digital devices with assistive technology to search for information on how to process fresh fish and dress poultry carcass.

Values:

- Integrity: Learners observe the laid down procedures of processing fresh fish and dressing poultry.
- Respect: Learners appreciate diverse opinions when discussing in groups on how to dress poultry and process fish.

Pertinent and contemporary issues:

Health Promotion Issues: Learners promote nutrition and food security as they observe the laid down procedures of dressing poultry and processing fish to maintain hygiene.

Link to other subjects:

Integrated science: Learners appreciate the concept of hygiene in food handling as they dress poultry and processing fish.

Suggested Learning Resources:

- Fresh fish
- Live poultry
- Knife
- Basin.
- Digital devices with assistive technology such as screen readers, talk back, screen magnifiers, refreshable braille display
- Reference materials in print with appropriate font size and colour contrast
- Braille reference materials
- Salt
- Clean water
- Packaging containers
- Frying equipment
- Cooking oil
- Sources of fire

Strand	**Sub strand**	**Specific learning outcomes**	**Suggested learning experiences**	**Suggested Key Inquiry Question(s)**
2.0 Food Production Processes	**2.5 Preserving animal products** • *Milk* • *Meat*	By the end of the sub strand, the learner should be able to: a) explain the importance of preserving milk and meat at household level,	• In groups, learners discuss and share their experiences on the importance of preserving milk and meat at household level. • Learners with low vision are guided to use digital devices with assistive technology or appropriate print materials while learners with blindness are guided to use digital devices with assistive technology or braille materials to search for information on how milk and meat are preserved.	How can we preserve milk and meat at household level?

		b) preserve meat to prolong shelf life at household level, c) preserve milk to prolong shelf life at household level, d) acknowledge the importance of preserving milk and meat for food security.	• Learners with low vision are guided to observe samples of milk and meat that have been preserved through various methods. Learners with blindness are guided to tactually explore, smell and taste samples of milk and meat that have been preserved through various methods in order to get a deeper understanding of the final product of preservation in each method. • Learners with low vision are guided while learners with blindness are given clear verbal instructions and one on one support to preserve milk through methods such as boiling, fermenting and home cooling while observing safety for self and others. • Individually, learners with low vision are guided to preserve meat through methods such as salting, boiling, drying and smoking. Learners with blindness be given clear verbal instructions and one on one support to preserve meat through methods such as salting by being guided to evenly sprinkle the right amount of salt, boiling, drying by guiding learners to turn the fish to allow for proper penetration of heat and smoking while observing safety for self and others.	

Core competencies to be developed:

- Digital literacy: A learner uses digital devices with assistive technology to search for information on how milk and meat are preserved.
- Communication and collaboration**:** A learner cooperates with others as they work in groups to preserve meat through methods such as salting, boiling, drying and smoking.

Values:

- Integrity: A learner displays honesty in preserving meat and milk using hygienic and ethically acceptable procedures.
- Unity: A learner collaborates with others when working in groups to preserve milk through methods such as boiling, fermenting and home cooling.

Pertinent and contemporary issues:

- Disaster Risk Reduction: Learners observe safety to prevent fire disaster while using fire to boil as a method of preservation.
- Health Promotion **Issues:** Learners promotes health and observes hygiene as they use ethically acceptable procedures and methods to preserve milk and meat.

Link to other subjects:
- English and Kiswahili: Learners can express their opinions in both languages, reinforcing communication skills.
- Integrated science: A learner preserves foods for consumption through methods such as boiling to avoid spoilage.

Suggested Learning Resources:
- Fresh milk
- Fresh meat
- Samples of preserved milk through boiling, fermenting and home cooling
- Samples of preserved meat through salting, boiling, drying and smoking
- Digital devices with assistive technology such as screen readers, talkback, braille display, screen magnifiers
- Resource person
- Source of heat
- Salt
- Utensils such as sufurias, sieves
- Gourds
- Bottles with lids
- Reference materials in print with appropriate font size and colour contrast
- Braille reference materials
- Sources of fire

Strand	**Sub strand**	**Specific learning outcomes**	**Suggested learning experiences**	**Suggested Key Inquiry Question(s)**

2.0 Food Production Processes	**2.6 Cooking: Preparing a Balanced Meal**	By the end of the sub strand, the learner should be able to: a) explain factors to consider in preparing a balanced meal for healthy living, b) prepare a balanced meal for healthy living, c) resent the meal using various styles for healthy living, d) appreciate importance of a balanced meal in day to day life.	• In groups, learners are guided to discuss and share experiences on factors to consider in preparing a balanced meal such as age, health status, occasion and gender. • Learners with low vision use digital devices with assistive technology or appropriate print materials while learners with blindness use digital devices with assistive technology or braille materials to search for information on how to plan and cook a balanced meal (with protein, carbohydrate and vegetables). • In pairs, learners with low vision are guided to plan, and cook a balanced meal (with protein, carbohydrate and vegetables). Learners with blindness be guided to touch, explore and feel the ingredients and kitchen utensils required to prepare a balanced meal then be given one on one support to measure and cut the ingredients as they plan as well as to observe safety when placing the meal on a source of fire to cook the meal. • Learners with low vision are guided to serve the balanced meal using a serving style such as family or blue plate to present the meal. Learners with blindness be guided to touch, explore and feel tables that have been set in order to familiarise with various serving styles such as family or blue plate then be given one on one support and clear verbal descriptions to serve the prepared balanced meal and present it. • Learners are guided to make various menus on a balanced diet and present them in class.	How can we prepare a balanced meal for healthy living?

Core competencies to be developed:

- Communication and collaboration: A learner develops listening and speaking skills as they communicate, interact and support one another while working together in groups to plan, and cook a balanced meal (with protein, carbohydrate and vegetables).
- Self-efficacy: A learner shows concerted attention as they serve the balanced meal using a serving style such as family or blue plate to present the meal.

Values:

- Responsibility: A learner performs assigned tasks and observes safety when working with kitchen tools and equipment.
- Unity: Learners work together exchanging ideas and supporting one another when planning and cooking a balanced meal (with protein, carbohydrate and vegetables).

Pertinent and contemporary issues:

- Disaster Risk Reduction: Learners observe safety to prevent fire disaster in the kitchen when using fire to prepare meals.
- Health Promotion Issues: Learners plan and cook a balanced meal (with protein, carbohydrate and vegetables) for healthy living.
- Safety and Security**:** Learners observe safety for self and others when using sharp kitchen tools and equipment and as they use fire to prepare meals.

Link to other subjects:

- Pre-technical Studies: A learner relates the concept of safety to safety and security for self and others as they use fire to prepare meals.
- English and Kiswahili: Learners express their opinions in both languages. This reinforces communication skills as they make presentations on factors to consider in preparing a balanced meal such as age, health status, occasion and gender.

Suggested Learning Resources:

- Digital devices with assistive technology such as screen readers, talkback, refreshable braille display, screen magnifiers
- Reference materials in print with appropriate font size and colour contrast
- Braille reference materials
- Manila papers
- Pens, pencils
- Braille machines
- Braille papers
- Slate and stylus
- Furniture - table and several chairs
- Locally available source of protein, carbohydrates and vitamins
- Kitchen equipment such as cutlery, saucepans, ladle
- Fuel and respective cooking equipment

Suggested Assessment rubric

Level / Indicator	Exceeds Expectations	Meets Expectations	Approaches Expectations	Below Expectations
Ability to explain the aspects of food production processes: *(kitchen and backyard gardening, rearing poultry in a fold, pest and disease control in vegetables, preparation of fish and poultry, preserving milk and meat, cooking a balanced meal).*	Explains eight food production processes.	Explains six to seven food production processes.	Explains three to five food production processes.	Explains two or less food production processes.
Ability to carry out various food production processes: *(kitchen and backyard gardening, rearing poultry in a fold, pest and disease control in vegetables, preparation of fish and poultry, preserving milk and meat, cooking a balanced meal).*	Carries out eight food production processes.	Carries out six to seven food production processes.	Carries out three to five food production processes.	Carries out two or less food production processes.
Ability to exhibit integrity in carrying out the various food production processes: *(adherence to ethical procedures, use of resources prudently, is honest and accountable in allocated tasks).*	Exhibits four indicators of integrity in carrying out food production processes.	Exhibits three indicators of integrity in carrying out food production processes.	Exhibits two indicators of integrity in carrying out food production processes.	Exhibits one or no indicators of integrity in carrying out food production processes.

STRAND 3.0: HYGIENE PRACTISES				
Strand	**Sub strand**	**Specific learning outcomes**	**Suggested learning experiences**	**Suggested Key Inquiry Question(s)**
3.0 Hygiene Practices	**3.1 Cleaning the Kitchen**	By the end of the sub strand, the learner should be able to: a) explain the routine cleaning practices of a kitchen to maintain hygiene, b) carry out cleaning of a kitchen to maintain hygiene, c) appreciate a clean kitchen for healthy living.	• In pairs or groups, learners discuss and share experiences on routine cleaning of the kitchen (daily, weekly, special cleaning). • Learners with low vision use digital devices with assistive technology or appropriate print materials while learners with blindness use digital devices with assistive technology or braille materials to search for information on methods of removing types of dirt from kitchen surfaces such as sweeping, dusting, wiping, mopping, vacuum cleaning then share the information with their peers in class. • Learners with low visual use digital devices with assistive technology to search and watch an audio-visual clip on the process of cleaning a kitchen. Learners with blindness are guided to use digital devices with assistive technology to search and listen to an audio-visual clip on the process of cleaning a kitchen. Provide verbal descriptions of the visual elements in the clip. • In groups, learners with low vision are guided to clean the kitchen to maintain hygiene applying daily, weekly and special cleaning. Learners with blindness to touch, explore and feel materials required to clean a kitchen then be given clear verbal instructions and one on one support to clean the kitchen to maintain hygiene applying daily, weekly and special cleaning. Guide learners with blindness on the correct way of holding the cleaning equipment and direction of sweeping, mopping i.e. from	How can cleaning enhance hygiene in the kitchen?

			far corners towards the door and also on how to remove cobwebs and wipe walls from top to bottom.	

Core competencies to be developed:

- Digital literacy: A learner uses digital devices with assistive technology to search for information on methods of removing types of dirt from kitchen surfaces.
- Communication and collaboration: Listening and speaking skills are developed when learners communicate, interact and support one another while working together in groups to maintain cleanliness in the kitchen.

Values:

- Unity: Learners work together exchanging ideas and supporting one another when cleaning a kitchen to maintain hygiene.
- Responsibility: A learner takes care of the kitchen by undertaking routine cleaning to promote health and hygiene at household level.

Pertinent and contemporary issues:

Health Promotion Issues: Learners promote health by carrying out cleaning of a kitchen to maintain hygiene.

Link to other subjects:

Integrated Science: A learner relates the concept of health and hygiene to kitchen cleaning to maintain hygiene.

Suggested Learning Resources:

- Detergents (forms of soap and soapless detergents (liquid, foam, bar, powder, flakes)
- Water (soft and hard)
- Cleaning equipment (Sweeping brooms, scrubbing brushes, basins, dustpan)
- Cleaning materials (Dusters, mopping cloth/mops)
- Improvised abrasives such as crushed egg shells, fine sand, rough leaves, ashes
- Different surface to be cleaned (Earthenware, cemented, wooden, tiled, terrazzo)
- Safety gear such as aprons/overall, dust masks,
- Head gear such as head scarf, hats, hair covers and hand gloves.
- Digital devices with assistive technology such as screen readers, talkback, refreshable braille display, screen magnifiers
- Reference materials in print with appropriate font size and colour contrast
- Braille reference materials

Suggested Assessment Rubric

Level / Indicator	Exceeds Expectations	Meets Expectations	Approaches Expectations	Below Expectations
Ability to explain routine cleaning practices of a kitchen *(daily, weekly, special cleaning).*	Explains four routine cleaning practices of a kitchen.	Explains three routine cleaning practices of a kitchen.	Explains two routine cleaning practices of a kitchen.	Explains one or no routine cleaning practice of a kitchen.
Ability to carry out routine cleaning of kitchen to maintain hygiene: *(daily, weekly and special).*	Carries out four routine cleaning procedures of the kitchen to maintain hygiene.	Carries out three routine cleaning procedures of the kitchen to maintain hygiene.	Carries out two routine cleaning procedure of the kitchen to maintain hygiene.	Carries out one or no routine cleaning procedure of the kitchen to maintain hygiene.
Ability to shows responsibility while cleaning the kitchen: *(engages in assigned roles, cares for kitchen surfaces, observes safety, offers leadership in cleaning).*	Shows four aspects of responsibility while cleaning the kitchen.	Shows three aspects of responsibility while cleaning the kitchen.	Shows two aspects of responsibility while cleaning the kitchen.	Shows one or no aspect of responsibility while cleaning the kitchen.

STRAND 4.0: PRODUCTION TECHNIQUES				
Strand	**Sub strand**	**Specific learning outcomes**	**Suggested learning experiences**	**Suggested Key Inquiry Question(s)**

4.0 Production Techniques	**4.1 Sewing skills: Constructing household items**	By the end of the sub strand, the learner should be able to: a) identify the types of seams used for making clothes, b) make samples of seams on a piece of cloth (for learners with low vision), c) make sample seams used to join knitwear (for learners with blindness), d) construct a household item using seams, e) appreciate the use of seams in constructing household items.	• Learners with low vision are guided to use digital devices with assistive technology or appropriate print materials to search for information on different types of seams used for making household items (open and plain seams). Learners with blindness are guided to use digital devices with assistive technology or braille materials to search for information on the different categories of seams for joining knitwear such as backstitch, overcasting, edge to edge, purl to purl, knit to knit and purl to knit. • Learners with low vision observe samples of household articles that have open and plain seams. Learners with blindness are guided to tactually explore samples of knitwear with joining seams such as backstitch, overcasting, edge to edge, purl to purl, knit to knit and purl to knit. • In pairs or groups, learners with low vision are guided to insert sewing thread into sewing hand needles and hold a piece of fabric in the correct position then be given one on one support to make samples of open and plain seams on a piece of cloth using hand sewing. Use dark coloured fabrics onto which seams will be made using sewing threads with contrasting colour from that of the fabric for ease of identification of seams for learners with low vision. • Learners with blindness are guided to hold knitting needles in the correct position then be given one on one support with clear verbal instructions to cast on yarns with multiple plies onto the knitting needles and to make samples of simple knitwear and join the knitwear using different joining stitches (backstitch, overcasting, edge to edge, purl to purl, knit to knit and purl to knit) with knitting needles or crochets. • Individually, learners with low vision be given one on one support to cut fabric following the right pattern and join the	How can a household item be made using seams?

			cut pieces together to make a simple household article such as a lap bag, work bag, pillow case, cushion cover using plain or open seams and to make. A learner with blindness is guided hold the knitting needles in the correct position, to cast on, purl and knit to make simple knitwear such as lap bags, hats, table mats and join using different stitches such as backstitch, overcasting, edge to edge, purl to purl, knit to knit and purl to knit.	

Core competencies to be developed:

- Digital literacy: A learner uses digital devices with assistive technology to search information on the different categories of seams for joining knitwear
- Creativity and imagination**:** Learners develop creativity skills as they make samples of open and plain seams or make samples of simple knitwear and join the knitwear using different joining stitches.

Values:

- Integrity: A learner prudently utilizes materials to construct a household item using seams.
- Responsibility: Learners take care of the materials used during construction of household items.

Pertinent and contemporary issues:

- Safety and security: Learners observe safety for self and others as they use sharp tools for constructing household items using seams.

Link to other subjects:

- Creative Arts and Sports: A learner relates sewing and knitting to weaving as they make simple tools bags for storing painting brushes.

Suggested Learning Resources:

- Digital devices with assistive technology such as screen readers, talkback, braille display, screen magnifiers
- Reference materials in print with appropriate font size and colour contrast
- Braille reference materials
- Samples of household articles with open and plain seams - *lap bag, pillowcase, cushion cover*
- Samples of knitwear with joining seams such as backstitch, overcasting, edge to edge, purl to purl, knit to knit and purl to knit - *sweaters, socks*

- Knitting needles of appropriate thickness
- Crotchets of appropriate thickness
- Sewing hand needles of appropriate thickness
- Spur wheels
- Tracing paper
- Carbon Papers
- Sewing patterns
- Scissors
- Tape measure with appropriate colour contrast
- Tactile rulers
- Knitting yarns with multiple plies for learners with blindness
- Samples of knitwear
- Various clothing and household items made using different seams
- Fabrics/material with appropriate colour contrast
- Machine sewing threads with appropriate colour contrast
- Charts with pictures of open and plain seams
- Tactile charts
- Embossed charts
- Manilla papers
- Darning needles

Strand	**Sub strand**	**Specific learning outcomes**	**Suggested learning experiences**	**Suggested Key Inquiry Question(s)**

4.0 Production Techniques	**4.2 Constructing Innovative Animal waterer**	By the end of the sub strand, the learner should be able to: a) explain challenges with animal waterers used in the community, b) design and construct an innovative waterer for water conservation, c) appreciate the use of innovative waterers in animal rearing.	• In pairs or groups, learners with low vision be guided to visit farms rearing domestic animals in the community, observe the waterers, enquire from the farmers the challenges of the animal waterers and make presentations of their findings in class. Learners with blindness be guided to visit nearby farms rearing domestic animals, tactually explore and feel the waterers in order to familiarize with shape, sizes, materials used to make the waterers and functionality of the waterers, then enquire from the farmers the challenges of the animal waterers and make presentations of their findings in class. • Learners with low vision use digital devices with assistive technology or appropriate print materials while learners with blindness use digital devices with assistive technology or braille materials to search for information on how to design and construct innovative waterers. • In pairs or groups, learners with low vision are guided to design and sketch an innovative waterer for a target animal. Learners with blindness be guided, given clear verbal description and one on one support to touch, explore and feel different innovative waterers for familiarization in terms of size, shape, materials used and designs of the waterers. • In pairs or groups, learners with low vision are guided to interpret the designs they made, collect locally available materials required then given support to measure, cut the various parts from the materials and construct a waterer	How can we make an innovative waterer for small domestic animals?

			for small domestic animals to solve the identified problem. Learners with blindness are guided to touch, feel locally available materials, measure the materials using tactile rulers and hold the cutting tools in the correct manner to cut the different parts for the waterer from the materials. The learners are further given clear verbal instructions and one on one support to construct a waterer for small domestic animals using locally available materials to solve the identified problem. ● Learners with low vision are guided to use the constructed innovative waterer to test functionality, make adjustments and provide water to a target animal either at home, in the school or selected household. Learners with blindness are given one on one support to put water in the waterer, touch to feel the water level in the water and how the water flows from the waterer in order to test functionality, make adjustments and provide water to a target animal either at home, in the school or selected household.	

Core competencies to be developed:

- Digital literacy: A learner uses digital devices with assistive technology to search for information on innovative waterers for water conservation.
- Critical thinking and problem solving**:** A learner develops problem solving skills as they construct innovative a waterer for a target animal.

Values:

- Unity: A learner cooperates with others when working in groups to construct innovative waterers for a target animal.
- Social justice: Learners demonstrate equity in allocation of tasks when constructing innovative waterers.

Pertinent and contemporary issues:

Safety & Security: Learners observe safety for self and others when using tools and equipment to construct a waterer for a target animal.

Link to other subjects:

- Pre-technical Studies: A learner relates the concept of safety and security for self and others when using tools and equipment to construct an innovative waterer for a target animal.
- Mathematics: Learners use knowledge on measurement when measuring and cutting various parts needed to construct innovative waterers.

Suggested Learning Resources:

- Digital devices with assistive technology such as screen readers, talkback, braille display, screen magnifiers
- Reference materials in print with appropriate font size and colour contrast
- Braille reference materials
- Innovative poultry waterers.
- Materials for constructing selected innovative waterer - used plastic containers, wires, wood planks
- Tape measure
- Tactile rulers
- Workshop tools and equipment such as hand saws, hack saws, claw hammer, pliers,
- Scissors
- Water
- Sisal twines or string

Strand	Sub strand	Specific learning outcomes	Suggested learning experiences	Suggested Key Inquiry Question(s)
4.0 Production Techniques	**4.3 ICT support services**	By the end of the sub strand, the learner should be able to: a) describe production support services that can be accessed through use of ICT, b) access support services using ICT, c) show responsibility in use of ICT in accessing support services.	● In pairs or groups, learners are guided to discuss and share experiences of how ICT can be used to access supplies and information for appropriate decision making in production. ● Learners are guided to use digital devices with assistive technology connected to the internet to install various applications, software or use various search engines to access online platforms for ICT support services such as weather forecast, veterinary services, supply services, extension services, market information and banking services, catering services, cleaning services. ● In pairs or groups, learners are guided to discuss and adhere to responsible use of ICT platforms by observing ethical and security considerations when accessing online platforms.	How can we access support services using ICT?
Core competencies to be developed: ● Digital literacy: A learner uses digital devices with assistive technology to access online platforms for ICT support services in production techniques. ● Communication and collaboration: Listening and speaking, group dynamic and teamwork skills are enhanced when learners work together to access online platforms for ICT support services in production techniques.				
Values: • Responsibility: A learner observes safety precautions when using safe and secure online sites to access ICT support services in production techniques. • Unity: A learner cooperates with others when working in groups to access ICT support services in production techniques.				
Pertinent and contemporary issues:				

Safety and security: A learner observes internet safety and security when using safe and secure online sites to access ICT support services in production techniques.
Link to other subjects: Pre-Technical Studies: A learner uses digital devices with assistive technology to access online platforms for ICT support services in production techniques.
Suggested Learning Resources: ● Smartphones with assistive technology such as screen readers, talkback, screen magnifiers ● Orbit Readers with refreshable braille display ● Internet Connectivity ● Source of Power ● Tablets with assistive technology such as screen readers, talkback, screen magnifiers ● Laptops with assistive technology such as screen readers, talkback, screen magnifiers ● Computers with assistive technology such as screen readers, talkback, screen magnifiers ● Software/Applications

Suggested Assessment Rubric

Level / Indicator	Exceeds Expectations	Meets Expectations	Approaches Expectations	Below Expectations
Ability to describe various production techniques at household level. *(Construction of household items using seams, constructing animal waterer, using ICT support services).*	Describes four production techniques at household level.	Describes three production techniques at household level.	Describes two production techniques at household level.	Describes one or no production technique at household level.
Ability to carry out various production techniques at household level. *(Construction of household items using seams, constructing animal waterer, using ICT support services).*	Carries out four production techniques at household level.	Carries out three production techniques at household level.	Carries out two production techniques at household level.	Carries out one or no production technique at household level.
Ability to exhibits integrity in the use of production techniques: *(Prudent use of resources, adherence to ethical procedures, is accountable in the allocated task and self-disciplined).*	Exhibits four indicators of integrity in the use of production techniques.	Exhibits three indicators of integrity in the use of production techniques.	Exhibits two indicators of integrity in the use of production techniques.	Exhibits one or no indicator of integrity in the use of production techniques.

APPENDIX 1: GUIDELINES FOR INTEGRATING COMMUNITY SERVICE LEARNING PROJECT

Introduction

In Grade 8, learners will undertake an integrated Community Service Learning (CSL) project of choice from a single or combined learning area. The CSL project will enable the learner to apply knowledge and skills from other learning areas to address a problem in the community. The implementation of the integrated CSL project will take a Whole School Approach, where all members of the school community including teachers, school administration, parents/guardians/ local community and support staff. It will be a collaborative effort where the teacher of Social Studies coordinates and works with other subject teachers to design and implement the integrated CSL projects. The teachers will select a theme drawn from different Learning Areas and the broader categories of Pertinent and Contemporary Issues (PCIs) for the CSL project. It should also provide an opportunity for development of core competencies and nurturing of values. Learners will undertake **one common** integrated class CSL project following a 6-step milestone approach as follows:

Milestone	**Description**
Milestone 1	**Problem Identification** Learners study their community to understand the challenges faced and their effects on community members. Some of the challenges in the community can be: · Environmental degradation · Lifestyle diseases, Communicable and non-communicable diseases · Poverty · Violence and conflicts in the community · Food security issues

Milestone 2	**Designing a solution** Learners create an intervention to address the challenge identified.
Milestone 3	**Planning for the Project** Learners share roles, create a list of activities to be undertaken, mobilise resources needed to create their intervention and set timelines for execution
Milestone 4	**Implementation** The learners execute the project and keep evidence of work done.
Milestone 5	Showcasing /Exhibition and Report Writing Exhibitions involve showcasing learners' project items to the community and reflecting on the feedback Learners write a report detailing their project activities and learnings from feedback
Milestone 6	Reflection Learners review all project work to learn from the challenges faced. They link project work with academic concepts, noting how the concepts enabled them to do their project as well as how the project helped to deepen learning of the academic concepts.

Note: The milestones will be staggered across the 3 terms of the academic calendar.

Assessment of CSL integrated Project

Assessment for the integrated CSL project will be conducted formatively. The assessment will consider both the process and end product. This entails assessing each of the milestone stages of the integrated CSL class project. It will focus on 3 components namely: skills from various learning areas applied in carrying out the project, core competencies developed and values nurtured.

APPENDIX 2: LIST OF SUGGESTED ASSESSMENT METHODS, SUGGESTED LEARNING RESOURCES AND SUGGESTED NON-FORMAL ACTIVITIES

Strand	Sub strand	Suggested assessment methods	Suggested Learning Resources	Suggested Non-formal Activities to Support Learning
1.0 CONSERVATION OF RESOURCES	**1.1 Soil Conservation Measures**	a) Written assignments in print and in Braille b) Oral questioning c) Observation d) Self and peer assessment e) Project	• Gravel • Ballast • Sand • Sand paper • Tactile diagrams of various soil conservation measures • Models of various soil conservation measures • Tactile ruler • Garden tools and equipment such as shovels, jembe • Planting material for grass or any cover crop • Waste papers • Soil • Cartons or cardboards • Digital devices with assistive technology such as screen readers, talk back, braille display and screen magnifiers	• Learners to initiate campaigns within the school to sensitize members of the school community on soil conservation • Learners participate in environmental club activities such as constructing stone lines and trash lines within the school environment.

			• Reference materials in print with appropriate font size and colour contrast • Braille reference materials • Dry grass • Pair of scissors	
	a) **1.2 Water Harvesting and Storage**	b) Written assignments in print and in Braille c) Oral questioning d) Observation e) Self and peer assessment f) Project	• Garden tools such as jembe, fork jembes, spade, panga, slasher • Containers with lids for water storage such as tanks, drums, jerrycans, buckets • Gutters • Water pans • Water ponds • Models of water pans and water ponds • Tactile ruler • Pictures of water harvesting and storage structures • Digital devices with assistive technology such as screen reader, talkback, braille display and screen magnifiers	Learners to initiate water harvesting and storage structures to influence the school community to conserve water.

			• Reference materials in print with appropriate font size and colour contrast • Braille reference materials	
2.0 FOOD PRODUCTION PROCESSES	g) **2.1 Kitchen and Backyard Gardening**	a) Written assignments in print and in Braille b) Oral questioning c) Observation d) Self and Peer assessment e) Project	• Reference materials in print with appropriate font size and colour contrast • Braille reference materials • Digital devices with assistive technology such as screen reader, talkback, braille display, screen magnifiers • Resource person • Improvised modern gardening materials and equipment- sacks, old tyres, containers, plastic bottles • Gardening tools and equipment - Watering cans, Jembe, panga, garden trowel, garden line, • Tactile ruler • Suitable garden soil • Organic manure • Fertiliser • Water	Learners to prepare and manage a sample kitchen or backyard garden in the school for display.

			• Planting materials - seeds, seedlings, cuttings, suckers	
	h) **2.2 Poultry Rearing in a Fold**	a) Written assignments in print and in Braille b) Oral questioning c) Observation d) Self and Peer assessment e) Project	● Reference materials in print with appropriate font size and colour contrast ● Braille reference materials ● Digital devices with assistive technology such as screen reader, talkback, braille display, screen magnifiers ● Pictures of poultry folds ● Models of poultry folds ● Tactile diagrams of poultry folds ● Materials for construction a fold such as recycled wood, wires, nails, thin metal sheets, mesh wire/chicken wire ● Tools - hand saw, claw hammer, pliers, hack saw, hammer ● Chicken feeds ● Feeders ● Waterers ● First aid kit	In theYoung farmer's club encourage learners to participate in rearing practices of poultry in a fold such as moving the folds for feeding, watering, sanitation, protection from predators and harsh weather.

	i) **2.3 Crop Management - Pest and Disease Control** j)	a) Written assignments in print and in Braille b) Oral questioning c) Observation d) Self and Peer assessment	● Samples of crop materials affected by crop pests and diseases ● Field with growing vegetable crops. ● Magnifying lenses ● Hand lens ● Charts displaying various crop pests and vegetable crops with symptoms of different diseases. ● Ash ● Reference materials in print with appropriate font size and colour contrast ● Braille reference materials	Encourage learners to participate in music clubs to sing and recite poems to sensitize members of the school community on the ethically acceptable and environmentally friendly methods to control pests and diseases in vegetable crops.
	k) **2.4 Preparation of Animal Products**	a) Written assignments in print and in Braille b) Oral questioning c) Observation d) Self and Peer assessment	● Fresh fish ● Live poultry ● Knife ● Basin. ● Digital devices with assistive technology such as screen readers, talkback, braille display, screen magnifiers ● Reference materials in print with appropriate font size and colour contrast ● Braille reference materials ● Salt	Encourage learners to participate in Health club activities to process fresh fish and dress poultry carcass for various purposes.

			• Clean water • Packaging containers • Frying equipments • Cooking oil • Sources of fire	
	l) **2.5 Preserving Milk and Meat**	a) Written assignments in print and in Braille b) Oral questioning c) Observation d) Self and Peer assessment	• Fresh milk • Fresh meat • Samples of preserved milk through boiling, fermenting and home cooling • Samples of preserved meat through salting, boiling, drying and smoking • Digital devices with assistive technology such as screen readers, talkback, braille display, screen magnifiers • Resource person • Source of heat • Salt • Utensils such as sufurias, sieves • Gourds • Bottles with lids • Reference materials in print with appropriate font size and colour contrast • Braille reference materials • Sources of fire	• Encourage learners to participate in Young Farmer's Club activities to preserve milk and meat to prolong shelf life for food security. • Learners initiate poultry or fish rearing projects in the school through the Young Farmer's Club.

	m) **2.6 Cooking - Preparing a Balanced Meal**	a) Written assignments in print and in Braille b) Oral questioning c) Observation d) Self and Peer assessment	• Digital devices with assistive technology such as screen readers, talkback, braille display, screen magnifiers • Reference materials in print with appropriate font size and colour contrast • Braille reference materials • Manila papers • Pens, pencils • Braille machines • Orbit readers • Slate and stylus • Furniture - table and several chairs • Locally available source of protein, carbohydrates and vitamins, • Kitchen equipment such as cutlery, saucepans, ladle • Fuel and respective cooking equipment	● Learners compose and write poems or songs on guidelines to consider when planning meals for different special groups. ● Learners practise methods of cooking and display cooked items to educate peers and other members of the school community during clubs and societies.
3. 0 **HYGIENE PRACTICES**	**3.1 Cleaning the Kitchen**	a) Written assignments in print and in Braille b) Oral questioning c) Observation	• Detergents (forms of soap and soapless detergents (liquid, foam, bar, powder, flakes) • Water (soft and hard)	Learners participate in Environmental club activities to clean the school kitchen.

		d) Self and Peer assessment	• Cleaning equipment (Sweeping brooms, scrubbing brushes, basins, Dustpan) • Cleaning materials (Dusters, mopping cloth/mops) • Improvised abrasives such as crushed egg shells, fine sand, rough leaves, ashes • Different surface to be cleaned (Earthenware, cemented, wooden, tiled, terrazzo) • Safety gear such as aprons, face masks, • Head gear such as head scarf, hats, hair covers, hand gloves • Digital devices with assistive technology such as screen readers, talkback, braille display, screen magnifiers • Reference materials in print with appropriate font size and colour contrast • Braille reference materials	

4.0 PRODUCTION TECHNIQUES	**4.1Sewing Skills: Constructing Household Items**	a) Written assignments in print and in Braille b) Oral questioning c) Observation d) Self and Peer assessment	• Digital devices with assistive technology such as screen readers, talkback, braille display, screen magnifiers • Reference materials in print with appropriate font size and colour contrast • Braille reference materials • Samples of household clothing and household items made using open and plain seams - *lap bag, pillowcase, cushion cover* • Samples of knitwear e.g. sweater, socks made using joining seams such as backstitch, overcasting, edge to edge, purl to purl, knit to knit and purl to knit *sweaters, socks* • Knitting needles of appropriate thickness • Crotchets of appropriate thickness • Sewing hand needles of appropriate thickness • Spur wheels • Tracing paper • Carbon Papers • Sewing patterns	Learners create and write articles collaboratively on different categories of seams used for making clothes and household articles and knitwear.

			• Scissor	
			• Tape measure with appropriate colour contrast • Tactile rulers • Knitting yarns with multiple plies for learners with blindness • different seams • Fabrics/material with appropriate colour contrast • Machine sewing threads with appropriate colour contrast • Charts with pictures of open and plain seams • Tactile charts • Embossed charts • Manilla papers • Darning needles • Sample real items such as *lap bag, pillowcase, cushion cover, knitted garments like sweaters, socks*	

	4.2 Constructing Innovative Animal Waterer	a) Written assignments in print and in Braille b) Oral questioning c) Observation d) Self and Peer assessment e) Project	• Digital devices with assistive technology such as screen readers, talkback, braille display, screen magnifiers • Reference materials in print with appropriate font size and colour contrast • Braille reference materials • Innovative poultry waterers. • Materials for constructing selected innovative waterer - used plastic containers, wires, wood planks • Tape measure • Tactile rulers • Workshop tools and equipment such as hand saws, hack saws, claw hammer, pliers, • Scissors • Water • Sisal twines or string	Encourage learners to participate in Environmental club activities to design and construct innovative waterers for water conservation in rearing animals.

	4.3 ICT Support Services in Production Techniques	a) Written assignments in print and in Braille b) Oral questioning c) Observation d) Self and Peer assessment	• Smartphones with assistive technology such as screen readers, talkback, screen magnifiers • Orbit Readers with refreshable braille display • Internet Connectivity • Source of Power • Tablets with assistive technology such as screen readers, talkback, screen magnifiers • Laptops with assistive technology such as screen readers, talkback, screen magnifiers • Computers with assistive technology such as screen readers, talkback, screen magnifiers • Software/Applications	Learners visit agricultural support service providers in their locality and write a report on the services that can be accessed by the farmers