REPUBLIC OF KENYA

MINISTRY OF EDUCATION

JUNIOR SCHOOL CURRICULUM DESIGN

AGRICULTURE & NUTRITION FOR LEARNERS WITH VISUAL IMPAIRMENT

GRADE 7

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 seven curriculum designs for learners with Visual Impairment build on competencies attained by learners at Primary school level. 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, suggested key inquiry questions, core competencies, Pertinent and Contemporary Issues (PCIs), values, and suggested 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 seven curriculum furthers implementation of the CBC from Primary Education level. 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 seven 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 seven and prepare them for smooth transition to Grade eight. 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 seven 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 seven 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 seven and preparation of learners with visual impairment for transition to Grade eight.

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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 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.

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 blindness and those with low vision 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 the use of 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 Controlling Soil Pollution	7
	1.2 Constructing Water Retention Structures	8
	1.3 Conserving Food Nutrients	9
	1.4 Growing Trees	8
2.0 Food Production Processes	2.1 Crop Establishment	9
	2.2 Selected Crop Management Practices	8
	2.3 Preparing Animal Products	9
	2.4 Cooking Food	9
3.0 Hygiene Practices	3.1 Hygiene in Rearing Animals	9
	3.2 Laundry: Loose Coloured Items	8
4.0 Production Techniques	4.1 Knitting Skills	10
	4.2 Constructing Framed Suspended Garden	10
	4.3 Adding Value to Crop Produce	8
	4.4 Making Homemade Soap	8
Total Number of Lessons		**120**

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

STRAND 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 Controlling soil pollution**	By the end of the sub strand, the learner should be able to: a) explain the causes of soil pollution in gardening, b) control soil pollution in home environment, c) appreciate the use of safe farming practices to conserve soil in home environment.	• Learners with low vision use digital devices with assistive technology or appropriate print materials to search for information on causes of soil pollution such as waste water, excessive use of artificial fertilizers, agricultural chemicals and plastic wastes and watch audio-visual clips on causes of soil pollution while learners with blindness use digital devices with assistive technology or Braille materials to search for information and listen audio clips on causes of soil pollution such as waste water, excessive use of artificial fertilizers, agricultural chemicals and plastic	1. How can household practices cause soil pollution? 2. How can you control soil pollution through agricultural practices?

			wastes then share the findings in class. • Learners with low vision observe pictures showing how to control soil pollution in the home environment. Learners with blindness are given clear verbal descriptions of the pictures showing how to control soil pollution in the home environment. • In groups, learners with low vision are guided to engage in safe soil pollution control practices such as safe disposal of household waste water, used chemical containers and plastic wastes. Learners with blindness are guided to touch, explore and feel in order to familiarise with materials that cause soil pollution then given one on one support and clear verbal instructions to carry out safe soil pollution control	

			practices such as safe disposal of household waste water, used chemical containers and plastic wastes. • Learners compose 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.	
Core competencies to be developed: • Citizenship: A learner demonstrates responsible decision-making as they engage in soil pollution control practices to conserve soil. • Digital literacy: A learner uses digital devices with assistive technology to search for information on causes of soil pollution. • Communication and collaboration**:** A learner develops listening and speaking skills as they communicate, interact and support one another while working together in groups to carry out safe soil pollution control practices.				
Values: ● Responsibility: A learner solves environmental problems by engaging in soil pollution control practices to conserve soil. ● Love: Learners display their love and care for the environment as they compose songs and poems that create awareness on soil conservation. ● Patriotism: A learner enhances care for the environment by engaging in soil pollution control practices and by composing songs and poems that create awareness on soil conservation.				
Pertinent and contemporary issues (PCIs):				

- Environmental Education and climate change: A learner promotes environmental cleanliness as they practise safe disposal of household waste water, used chemical containers and plastic wastes.
- Learner Support Programme**:** A learner enhances peer education and mentorship to support one another while working together in groups to carry out safe soil pollution control practices.

Link to other subjects:

- Pre-technical Studies: A learner observes safety when handling and disposing of used chemical containers.
- Creative Arts and Sports: A learner composes songs and poems that create awareness on use of safe farming practices to conserve the soil.
- Science and technology: A learner relates soil pollution to other forms of environmental pollution.

Suggested Learning Resources:

- Digital devices with assistive technology like screen readers, screen assistive technology, refreshable braille display
- Used plastic containers
- Used chemical containers
- Household waste water
- 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)**
1.0 Conservation of Resources	**1.2 Constructing Water Retention Structures**	By the end of the sub strand, the learner should be able to: a) describe how surface run-off can be used in gardening, b) construct water retention structures to conserve water from surface runoff,	• Learners with low vision uses digital devices with assistive technology or print materials while learners with blindness use digital devices with assistive technology or Braille materials to search	How does construction of water retention structures conserve water from surface run-off?

		c) appreciate utilization of surface run-off in gardening.	for information and discuss how surface run-off can be conserved in structures such as water retention ditches and water retention pits for gardening. ● Learners with low vision are guided to construct retention ditches or retention pits for water conservation, then plant a crop of their choice such as banana sucker, sugarcane, napier grass or arrow roots. Learners with blindness are guided to touch, explore and feel water retention structures in order to familiarise with the sizes (width/volume) and shapes then are given one on one demonstration and clear verbal instructions to construct a structure for water conservation then plant a crop of their choice. ● In groups, learners with low vision be guided to observe the quantity of surface run-off retained in	

			order to evaluate effectiveness of the retention structures in conserving water. Learners with blindness are given one on one support to explore through touching to identify the quantity of surface runoff in the retention structures in order to understand how effective the structures are in water conservation.	

Core competencies to be developed:

- Digital literacy: A learner uses digital devices with assistive technology to search for information on how surface run-off can be conserved and used in gardening.
- Critical thinking and problem solving: A learner develops problem solving skills as they construct appropriate runoff retention structures to solve water conservation challenges.

Values:

- Patriotism: A learner displays responsibilities as they construct retention ditches or retention pits for water conservation in the community.
- Unity: A learner collaborates with others as they construct water retention ditches and water retention pits.

Pertinent and contemporary issues (PCIs):

- Environmental Education and climate change: A learner promotes environmental conservation by constructing water retention structures for conserving surface runoff.
- Safety and Security: A learner observes safety for self and others when using garden tools and equipment to construct water retention ditches and water retention pits.

Link to other subjects:

- Pre-technical Studies: A learner observes safety for self and others while using garden tools and equipment to construct water retention ditches and water retention pits.
- Social Studies: A learner conserves water which is a natural resource through construction of water retention structures.

Suggested Learning Resources:

- Garden tools such as jembes, fork jembes, spade, pangas, slashers, watering cans
- Mulch materials
- Digital devices with assistive technology like screen readers, screen assistive technology, refreshable braille display
- Reference materials in print with appropriate font size and colour contrast
- Braille reference materials
- Planting materials such as banana suckers and sugarcane cuttings

Strand	Sub strand	Specific learning outcomes	Suggested learning experiences	Suggested Key Inquiry Question(s)
1.0 Conservation of Resources	**1.3 Conserving food nutrients**	By the end of the sub strand, the learner should be able to: a) identify ways of conserving vitamins and mineral salts in vegetables, b) conserve vitamins and mineral salts in vegetables, c) appreciate the importance of conserving vitamins and mineral salts in vegetables.	• Learners with low vision use digital devices with assistive technology or print materials while learners with blindness use digital devices with assistive technology or Braille materials to search for information on ways of conserving vitamins and mineral salts in vegetables such as washing, peeling, cutting, cooking time and covering. • Learners with low vision are guided to watch audio-visual clips on ways	How can you conserve vitamins and mineral salts in vegetables?

			of conserving vitamins and minerals in vegetables during food handling, preparation and cooking. Learners with blindness listen to audio-visual clips on ways of conserving vitamins and minerals in vegetables during food handling, preparation and cooking. Provide clear verbal descriptions of the visual elements in the clips to learners with blindness. • In pairs, learners with low vision be guided to conserve vitamins and mineral salts in vegetables during food handling and preparation (by washing before cutting and peeling) and cooking by reducing the amount of water used in cooking, reducing the cooking time and reducing the surface area of food(**3Rs**), use of blanching, parboiling, covering food and avoid the use of sodium bicarbonate (baking soda, bicarbonate of soda). Learners with blindness are guided to touch, explore and feel texture of several vegetables that have been prepared through parboiling and blanching then be given one on one support and clear verbal instructions to conserve vitamins and mineral salts	

			in vegetables during food handling, preparation and cooking.	

Core competencies to be developed:

- Digital literacy: A learner uses digital devices with assistive technology to search for information on ways of conserving vitamins and minerals in vegetables during food handling and preparation.
- Communication and Collaboration: A learner develops listening and speaking skills as they discuss in groups on ways of conserving vitamins and mineral salts in vegetables.

Values:

- Responsibility: A learner observes safety and security at home when using sharp kitchen tools and equipment to cut and peel vegetables.
- Respect: A learner values each other's ideas and contributions as they discuss in groups on ways of conserving vitamins and mineral salts in vegetables.

Pertinent and contemporary issues:

- Safety and security: A learner observe safety and security at home when using sharp kitchen tools and equipment to cut and peel vegetables.
- Disaster Risk Reduction: A learner observes safety to prevent fire disaster in the kitchen while using fire to boil and cook.

Link to other subjects:

- Integrated Science: A learner relates nutrients needed by the human body for a healthy living to the concept of conservation of nutrients in Agriculture and Nutrition.
- Pre-technical Studies: A learner observes safety for self and others when using sharp kitchen tools and equipment to cut and peel vegetables and when using fire to cook.

Suggested Learning Resources:

- Digital devices with assistive technology talkback, screen readers, screen magnifiers, refreshable braille display
- Recipe books in print with appropriate font size and colour contrast
- Recipe books in Braille

- Cooking tools, equipment and materials: Cooking equipment (charcoal jiko, gas cooker, electric cooker, paraffin stove, traditional open fireplace/ improved firewood stove. Materials (match box, gas lighter, tea towel dish cloth, abrasives. Tools (cooking pots, crockery, cutlery, shaping tools)
- First aid kit

Strand	**Sub strand**	**Specific learning outcomes**	**Suggested learning experiences**	**Suggested Key Inquiry Question(s)**
1.0 Conservation of Resources	**1.4 Growing trees**	By the end of the sub strand, the learner should be able to: a) explain the importance of trees in conserving the environment, b) plant trees to conserve the environment, c) appreciate the importance of tree planting as a way of conserving the environment.	• Learners with low vision uses digital devices with assistive technology or print materials while learners with blindness use digital devices with assistive technology or Braille materials to search for information on the importance of trees in conserving the environment and make presentations in class to share their findings. • Learners with low vision visit and observe a farm with a tree nursery where tree seedlings are grown in different types of containers. Learners with blindness are guided to visit a farm with a tree nursery then be given one on one support to touch, explore and feel tree seedlings grown in different types of improvised containers in order to familiarise with the size, shape and materials of the containers. • In groups, learners with low vision are guided to plant at least one tree either from seeds, or seedlings or cuttings and take care of the	How does growing trees conserve the environment?

			seedling until it is fully established. Learners with blindness are given clear verbal instructions and one on one support to plant a tree either from seeds, or seedlings or cuttings and take care of the seedling until it is fully established.	

Core competencies to be developed:

- Digital literacy: A learner uses digital devices with assistive technology to search for information on the importance of trees in conserving the environment.
- Self-efficacy: A learner develops leadership skills when they share and carry out tasks in groups to establish a tree of their choice.
- Citizenship: A learner demonstrates responsibility and care for the environment by planting trees for environmental conservation.

Values:

Responsibility: A learner cares for the environment by planting a tree either from a seed or seedling and takes care of it until it is fully established for environmental conservation.

Pertinent and contemporary issues:

- Environmental education and climate change: A learner promotes environmental conservation by planting a tree either from a seed or seedling and taking care of it until it is fully established.
- Safety and security: A learner observes safety and security for self and others as they use garden tools and equipment to prepare planting sites for trees.

Link to other subject:

Pre-technical Studies: A learner exercises safety for self and others when using garden tools and equipment to plant trees.

Suggested Learning Resources:

- Digital devices with assistive technology such as talkback, screen readers refreshable braille display and screen magnifiers
- Reference materials in print with appropriate font size and colour contrast
- Braille reference materials
- Seeds of trees

- Tree Seedlings
- Cuttings
- Organic manure
- Mulching materials
- Garden tools and equipment such as jembes, fork jembes, spades, pangas, slashers, watering cans

Suggested Assessment rubric

Level **Indicator**	**Exceeds Expectations**	**Meets Expectations**	**Approaches Expectations**	**Below Expectations**
Ability to describe ways of conserving resources in the environment: *(controlling soil pollution, making water retention structures, conserving food nutrients, growing trees).*	Describes four ways of conserving resources.	Describes three ways of conserving resources.	Describes two ways of conserving resources.	Describes one or no way of conserving resources.
Ability to conserve resources in the environment: (soil, water, food nutrients, trees).	Conserves four resources in the environment.	Conserves three resources in the environment.	Conserves two resources in the environment.	Conserves one or no resource in the environment.
Ability to show responsibility in conserving resources in the environment: *(caring for resources, observing safety, participating in assigned roles, offering leadership to others).*	Shows four indicators of responsibility in conserving resources in the environment.	Shows three indicators of responsibility in conserving resources in the environment.	Shows two indicators of responsibility in conserving resources in the environment.	Shows one or no indicator of responsibility in conserving resources in the environment.

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 Preparing planting site and planting**	By the end of the sub strand, the learner should be able to: a) determine appropriate tilth for selected planting material, b) prepare a suitable tilth for establishing selected planting material, c) appreciate the use of appropriate tilth in establishing a selected planting material.	• Learners with low vision are guided observe provided planting materials and suggest appropriate tilth for each material (small sized seeds for fine tilth, medium sized seeds for medium tilth and large planting materials like tubers, suckers and cuttings for coarse tilth). Learners with blindness are given one on one demonstration and clear verbal descriptions as they tactually manipulate provided planting materials in order to feel the sizes and suggest appropriate tilth for each material. • Learners with low vision are guided to prepare suitable sites for	How does planting material determine planting site preparation?

			establishing selected planting materials (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 to touch, explore and feel planting sites with fine, medium and coarse tilths in order to identify the differences in the sites, then be given one on one support and clear verbal instructions to prepare suitable sites for establishing selected planting materials. • In groups, learners with low vision are guided to establish a planting material of their choice in the selected soil tilth. Learners with blindness are given clear verbal instructions and one on one support to establish a crop of their choice in the selected soil tilth.	

Core competencies to be developed:

- Communication and collaboration: A learner develops speaking skills and embraces teamwork as they work in groups to prepare planting sites and establish a crop of their choice in a selected soil tilth.
- Self-efficacy: A learner develops leadership skills as they share and carry out group tasks to prepare planting sites and establish crops.

Values:

- Unity: A learner works together with others to prepare planting sites and establish crops, fostering a supportive and inclusive environment.
- Responsibility: A learner carries out assigned roles and duties during group activities to prepare planting sites and establish crops.

Pertinent and contemporary issues (PCIs):

Safety and security: A learner observes safety and security for self and others as they use garden tools and equipment to prepare planting sites and establish crops.

Link to other subjects:

- Pre-Technical Studies: A learner relates the concept of safety and security for self and others as they use garden tools and equipment to prepare planting sites and establish crops.
- English and Kiswahili: A learner reinforces communication skills as they can express their opinions in both languages when discussing to determine appropriate tilth for each planting material provided.

Suggested Learning Resources:

- Seeds from different crops of various sizes
- Small sized seeds such as millet, sorghum, carrot, spinach, cabbage
- Medium sized seeds such as maize grains, beans
- Large planting materials like tubers, suckers and cuttings
- Suitable planting sites such as walls of buildings, fence lines, driveways in schools, suitable containers
- Manure
- Garden tools and equipment such as jembes, pangas, slashers, watering cans, wheelbarrow

Strand	Sub strand	Specific learning outcomes	Suggested learning experiences	Suggested Key Inquiry Question(s)
2.0 Food production processes	**2.2 Selected management practices**	By the end of the sub strand, the learner should be able to: a) explain management practices carried out on crops, b) carry out management practices in crop production, c) appreciate the importance of various management practices in crop production.	• Learners with low vision are guiduse digital devices with assistive technology to search and watch audio-visual clips on management practices carried out on crops (gapping, thinning, weeding, earthing-up). Learners with blindness are guided to use digital devices with assistive technology to search and listen to audio-visual clips on management practices carried out on crops. Provide clear verbal descriptions of the visual elements in the audiovisual clips such as carrying out gapping, thinning, weeding and earthing up. • In groups, learners discuss management practices carried out on crops.	1. How can you carry out management practices in crop production? 2. Why is it important to carry out crop management practices?

			• Learners with low vision are guided to carry out selected management practices (gapping, thinning, weeding through physical methods, earthing-up) in crop production. Learners with blindness are guided to touch, explore a crop in which earthing up has been done in order to understand how soil is heaped around a plant then given clear verbal instructions and one on one support to carry out the selected management practices including earthing-up in crop production. • Learners are guided to make class presentations on the importance of the selected management practices in crop production.	
Core competencies to be developed: • Digital Literacy: A learner uses digital devices with assistive technology to search, listen and watch audiovisual clips on management practices carried out on crops.				

- Communication and collaboration: A learner develops listening and speaking skills as they discuss and also embraces teamwork as they carry out selected management practices in crop production.

Values:

- Unity: A learner cooperates with others while working in groups, allowing each member of the group to take turns to carry out selected management practices in crop production.
- Respect: A learner displays patience towards each member of the group as they take turns to carry out selected management practices in crop production.
- Responsibility: A learner observes safety and security for self and others when using garden tools and equipment to carry out selected management practices in crop production.

Pertinent and contemporary issues (PCIs):

Disaster Risk Reduction: A learner observes safety for self and others when using garden tools and equipment to carry out selected management practices in crop production.

Link to other subject:

- Pre-Technical Studies: A learner relates the concept of safety and security for self and others as they use garden tools and equipment to carry out selected management practices in crop production.
- English and Kiswahili: A learner reinforces communication skills as they can express their opinions in both languages when discussing management practices carried out on crops.

Suggested Learning Resources

- Digital devices with assistive technology such as talkback, screen readers refreshable braille display and screen magnifiers
- Garden tools and equipment such as jembes, fork jembes, spades, pangas, slashers, watering cans
- First Aid kit
- Tape measure
- Tactile metre rule

Strand	Sub strand	Specific learning outcomes	Suggested learning experiences	Suggested Key Inquiry Question(s)
2.0 Food production processes	**2.3 Preparing animal products** ● Eggs ● Honey	By the end of the sub strand, the learner should be able to: a) explain how to prepare animal products for various purposes, b) prepare animal products for various purposes, c) appreciate the importance of preparing animal products for various purposes.	• Learners with low vision use digital devices with assistive technology or print materials while learner with blindness uses a digital device with assistive technology or braille materials to search for information, discuss and share experiences on how to prepare eggs and honey for use and storage. • Learners with low vision use digital devices with assistive technology to search and watch audio-visual clips on how to process raw honey from combs for use and storage. Learners with blindness are guided to use digital devices with assistive technology to search and listen to an audio-visual clip on how to process raw honey from combs for use and storage. Provide verbal descriptions of the visual elements in the clip. • In groups, learners with low vision are guided to prepare eggs (sorting, grading, packing) and honey (crushing and straining method, packing in appropriate containers) for use and storage. Learners with blindness are guided to tactually explore the provided eggs of different sizes and trays for packing eggs then give clear verbal instructions and one on one support to prepare the eggs (sorting, grading, packing) for use and storage. • Learners with blindness are guided to touch, explore and feel honeycombs containing raw honey then given one on one support and clear verbal descriptions as they process a sample of raw honey from combs by first crushing the honeycombs in a bucket then put the crushed combs in a muslin cloth that is suspended using strings or wires then	How can we prepare animal products?

			straining is done by squeeze the muslin cloth downwards to obtain the honey. Guide the learners to store the honey by putting it in containers that have proper and tightly fitting lids. • Learner with low vision is guided to display prepared animal products in class. Learners with blindness is guided to touch and feel graded eggs and also processed honey in order to identify the difference between raw and processed honey then given one on one support and clear verbal instructions to display prepared animal products in class.	

Core competencies to be developed:

- Communication and collaboration: A learner develops speaking skills and embraces teamwork as they discuss and share experiences on how to prepare eggs and honey for use and storage in their respective groups.
- Digital Literacy: A learner uses digital devices with assistive technology to connected to the internet to search for information on how to prepare eggs and honey for use and storage.

Values:

- Unity: A learner cooperates with others while working in groups, allowing each member of the group to take turns to prepare eggs and honey for use and storage.
- Responsibility: A learner leads and guides others while they are working in groups to prepare eggs and honey for use and storage.

Pertinent and contemporary issues (PCIs):

Safety and security: A learner handles eggs with care to avoid breakage as they prepare them for use and storage.

Link to other subject:

English and Kiswahili: A learner can express their opinions in both languages, reinforcing communication skills as they discuss and share experiences on how to prepare eggs and honey for use and storage.

Suggested Learning Resources

- Digital devices with assistive technology like screen readers, screen magnifiers, refreshable braille display
- Reference materials in print with appropriate font size and colour contrast
- Braille reference materials

- Egg trays
- Eggs
- Honey
- Muslin cloth
- Wooden spoon
- Bucket
- Sufuria
- Packaging containers with fitting lids

Strand	**Sub strand**	**Specific learning outcomes**	**Suggested learning experiences**	**Suggested Key Inquiry Question(s)**
2.0 Food production processes	**2.4 Cooking food:** • *Grilling* • *Roasting* • *Steaming*	By the end of the sub strand, the learner should be able to: a) describe methods of cooking different types of foods, b) cook food using various methods, c) appreciate the use of varied methods of cooking food.	• 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 or a resource person to get information on methods of cooking such as grilling, roasting and steaming foods. • In groups, learners make class presentations on the use of varied methods of cooking food they searched on. • Learners with blindness are guided through a demonstration on how to grill, roast and steam foods while learners with blindness are given a hands on demonstration on grilling, roasting and steaming foods.	Why should we use different methods of cooking food?

			• Learners with low vision are guided to use grilling, steaming and roasting methods to prepare foods while observing safety for self and others. Learners with blindness are given clear verbal instructions and one on one support to use grilling, steaming and roasting methods to prepare foods while observing safety of self and others.	

Core competencies to be developed:

- Digital literacy: A learner uses digital devices with assistive technology to search for information on methods of cooking such as grilling, roasting and steaming foods.
- Communication and collaboration: A learner develops speaking and listening skills and embrace teamwork as they conduct group presentations on the use of varied methods of cooking food.

Values:

Responsibility: A learner observes safety and security for self and others when using sharp kitchen tools and fire in cooking.

Pertinent and contemporary issues (PCIs):

- Disaster Risk Reduction: A learner observes safety to prevent fire disaster in the kitchen while using fire to grill, roast and steam foods.
- Safety and security**:** A learner observes safety for self and others while using steaming, grilling and roasting methods to prepare food and as they use sharp kitchen tools and equipment.

Link to other subject:

- Pre-technical Studies: A learner relates the concept of safety and security for self and others as they use fire to grill, roast and steam foods.
- English and Kiswahili: A learner can express their opinions in both languages, reinforcing communication skills as they make presentations on the use of varied methods of cooking food.

Suggested learning resources:

- Digital devices with assistive technology like screen readers, screen magnifiers, refreshable braille display
- Resource person
- Reference materials in print with appropriate font size and colour contrast
- Braille reference materials
- Realia- local foodstuff (suitable for the purpose either grilling, roasting or steaming)
- Cooking tools and equipment (improvise or substitute as much as possible)
- Fuel - Cookers/stoves/ (choose which one is suitable), Gas, Electric, Kerosene, Charcoal, Firewood, Solar
- Food storage equipment (choose which one is locally available for use)
- Food safe
- Cupboard
- Charcoal cooler
- Roasting grills
- Steamers
- Skewers
- Roasting dishes
- Serving dishes
- Cleaning aids such as detergents, cleaning cloths, scourers
- First aid kit
- Protective clothing - Aprons or overall coats, Hand gloves, oven gloves, Head gears
- Aluminium foil and cling film
- Kitchen cloths - Hand towel, Dish cloth, Tea towel
- Dustbin (kitchen waste bin)

Suggested Assessment Rubric

Level / **Indicator**	**Exceeds Expectations**	**Meets Expectations**	**Approaches Expectations**	**Below Expectations**
Ability to describe food production processes	Describes eight food production processes.	Describes six to seven food production processes.	Describes three to five food production processes.	Describes three or less food production processes.

(preparation of sites, planting, management practices, preparing eggs, preparing honey, grilling, roasting, steaming).				
Ability to carry out various food production processes: *(preparation of sites, planting, management practices, preparing eggs, preparing honey, grilling, roasting, steaming).*	Carries out eight food production processes.	Carries out six to seven food production processes.	Carries out three to five food production processes.	Carries out three or less food production processes.
Ability to exhibit integrity in the food production processes: *(is self-disciplined, is honest, uses prudent use of resources and adherence to ethical procedures).*	Shows four indicators of integrity in carrying out the food production processes.	Shows three indicators of integrity in carrying out the food production processes.	Shows two indicators of integrity in carrying out the food production processes.	Shows one or no indicator of integrity in carrying out the food production processes.

STRAND 3.0: HYGIENE PRACTICES

Strand	**Sub strand**	**Specific learning outcomes**	**Suggested learning experiences**	**Suggested Key Inquiry Question(s)**
3.0 Hygiene Practices	**3.1 Hygiene in rearing animals**	By the end of the sub strand, the learner should be able to: a) describe hygiene practices in rearing domestic animals, b) carry out hygiene practices in rearing domestic animals,	• Learners with low vision use digital devices with assistive technology or print materials while learners with blindness use digital devices with assistive technology or Braille materials to search for information on hygienic practices (clean feeders and waterers, clean and well-ventilated housing, clean animals, pest and	1. How can you maintain hygiene while rearing animals? 2. Why is it important to maintain hygiene while rearing animals?

		c) appreciate the importance of hygiene practices in rearing domestic animals.	disease control) in rearing domestic animals such as pets. • Learners with low vision watch audio visual clips on how to carry out various hygienic practices in rearing domestic animals while learners with blindness listen to audiovisual clips on how to carry out various hygienic practices in rearing domestic animals. Provide clear verbal descriptions of the visual elements in the clips to learners with blindness. • In groups, learners with low vision are guided to carry out appropriate hygiene practices in rearing domestic animals such as cleaning feeders, waterers, and cleaning animal structures. Learners with blindness are guided through one on one support and given clear verbal descriptions as they carry out appropriate hygiene practices in rearing domestic animals such as cleaning feeders, waterers and cleaning animal structures by being guided on how to scrap animal waste from the floor and on how to hold hand brooms as they use them to scrub the floor. • Learners are guided to make class presentations on the importance of hygiene in rearing domestic animals.	
Core competencies to be developed:				

- Digital literacy: A learner uses digital devices with assistive technology to search for information on hygienic practices in rearing domestic animals such as pets.
- Learning to learn: A learner applies the information obtained to enhance maintenance of hygiene in rearing domestic animals.
- Communication and collaboration**:** A learner develops listening and speaking skills and embraces teamwork as they carry out appropriate hygiene practices in rearing domestic animals.

Values:

- Love: A learner enhances care and compassion towards animals by carrying out appropriate hygiene practices in rearing domestic animals.
- Responsibility**:** A learner takes care of animals such as pets through cleaning feeders, waterers and their houses.

Pertinent and contemporary issues (PCIs):

Health Promotion Issues**:** A learner promotes health by carrying out appropriate hygiene practices in rearing domestic animals such as cleaning feeders, waterers, animal houses and pets thus reducing disease outbreaks.

Link to others subject:

Social studies: A learner appreciates community values, existing laws and by-laws in rearing animals.

Suggested Learning Resources:

- Feeders
- Waterers
- Hand brooms
- Clean water
- Garden tools and equipment such as pangas, jembes, manure fork, shovel, wheelbarrow
- Powder insecticides for dusting animal houses
- Animal houses/structures
- Digital devices with assistive technology such as talkback, screen magnifiers and refreshable braille display
- 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)
3.0 Hygiene Practices	**3.2 Laundry: Loose coloured items**	By the end of the sub strand, the learner should be able to: a) describe how to launder a loose coloured article for hygiene purposes, b) launder a loose coloured article for hygiene purposes, c) appreciate the importance of laundering loose coloured articles for hygiene purposes.	• Learners with low vision watch an audio-visual clip or a demonstration on how to launder a loose coloured article (kneading and squeezing, fixing colour). Learners with blindness listen to an audio-visual clip and given a hands-on demonstration on how to launder a loose coloured article (kneading and squeezing, fixing colour). Provide clear verbal descriptions of the visual elements in the clips to learners with blindness. • Learners with low vision visit a laundry area/room and observe various laundering processes and equipments then make presentations of their findings in class. Learners with blindness visit a laundry area/room and are given one on one support to touch and explore various laundry facilities e.g. driers, towel folders and washing machine. Give clear verbal description on various laundering processes to learners with blindness. • Learners with low vision are guided to launder a loose coloured item using kneading and squeezing methods and fixing colours using salt. Learners with blindness are guided through one on one support and given clear verbal instructions to launder a loose coloured item by using hands to	How are loose coloured articles laundered for hygienic purposes?

			knead the items against each other to remove dirt, indicating the correct direction of squeezing to remove excess water and fixing colours using salt. Learners with blindness are guided to tactually explore and feel the correct quantity of salt used to fix colours in certain fabrics.	

Core competencies to be developed:

- Digital Literacy: A learner uses digital devices with assistive technology to search for information on how to launder a loose coloured article by kneading, squeezing and fixing colour.
- Learning to learn: A learner applies knowledge learnt from the audiovisual clips or demonstration to launder their loose coloured articles using kneading and squeezing methods and fixing colours using salt.

Values:

Responsibility: A learner demonstrates care for own property by laundering loose coloured articles using kneading and squeezing methods and fixing colours using salt.

Pertinent and contemporary issues (PCIs):

- Health Promotion Issues: A learner maintains hygiene as they launder loose coloured articles.
- Safety and security: A learner observes caution when handling various solutions used in laundering loose coloured articles.

Link to other subjects:

Pre-technical Studies: A learner uses digital devices with assistive technology to connected to the internet to search for audiovisual clips on how to launder a loose coloured article.

Suggested Learning Resources:

- Salt
- Loose coloured articles
- Digital devices with assistive technology
- Basic laundry work equipment such as basins, buckets, clothesline, pegs, irons, ironing surfaces, hangers, soap dishes, laundry soap

Suggested Assessment Rubric

Level / **Indicator**	**Exceeds Expectations**	**Meets Expectations**	**Approaches Expectations**	**Below Expectations**
Ability to describe hygiene practices at household level: *(hygiene in rearing animals and laundering loose coloured items).*	Describes six hygiene practices at household level with elaborate details.	Describes five hygiene practices.	Describes three to four hygiene practices at household level.	Describes two or less hygiene practices at household level.
Ability to carry out hygiene practices at household level: *(hygiene in rearing animals and laundering loose coloured items).*	Carries out six hygiene practices at household level	Carries out five hygiene practices at household level	Carries out three to four hygiene practices at household level	Carries out less than three hygiene practices at household level
Ability to exhibit unity in practising hygiene: *(team spirit, collaboration with others, respects others and shares available resources).*	Exhibits four indicators of unity in practising hygiene at household level.	Exhibits three indicators of unity in practising hygiene at household level.	Exhibits two indicators of unity in practising hygiene at household level.	Exhibits two or less indicators of unity in practising hygiene at household level.

4.0 PRODUCTION TECHNIQUES				
Strand	**Sub strand**	**Specific learning outcomes**	**Suggested learning experiences**	**Suggested Key Inquiry Question(s)**
4.0 Production Techniques	**4.1 Knitting Skills**	By the end of the sub strand, the learner should be able to: a) describe knitting stitches used in making household articles, b) knit various articles for household use, c) appreciate the importance of knitted articles for household use.	• Learners with low vision are use digital devices with assistive technology, sample knitted articles or print media to search and identify basic knitting stitches (purl and knit). Learners with blindness are guided to touch, explore and feel knitted articles or tactile patterns of knitted articles in order to identify basic knitting stitches (purl and knit). • Learners with low vision are guided to observe various knitted household articles such as tools bag, scarf, gloves, mats or table wipers while learner with blindness is given one on one support and clear verbal description as they touch and manipulate various knitted household articles to identify various knitting stitches and patterns used to make the household articles. • Individually, learners with low vision are guided to knit a simple household article such as tools bag, scarf, gloves, mats or table wipers. Learners with blindness are guided to hold the knitting needles in the correct position and to cast the yarn onto the knitting needles then given one on one support and clear verbal instructions to purl and knit a simple household article such as tools bag, scarf, gloves, mats or table wipers.	How do you knit an article for household use?

C**ore competencies to be developed:**

- Digital literacy: A learner uses digital devices with assistive technology to search and identify basic knitting stitches.
- Creativity and imagination: A learner develops creative skills while knitting various articles for household use.

Values:

Integrity: A learner prudently utilizes knitting materials to knit various articles for household use.

Pertinent and contemporary issues (PCIs):

Safety and security: A learner observes safety for self and others as they use sharp tools for knitting.

Link to other subjects:

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

Suggested Learning Resources:

- Digital devices with assistive technology like screen readers, screen magnifiers, refreshable braille display
- Reference materials in print with appropriate font size and colour contrast
- Braille reference materials
- Knitting yarns
- Samples of knitted articles
- Tactile patterns of knitted articles
- Knitting needles
- Darning needles
- Real knitting machines (circular, warp, flat, computerized)

Strand	Sub strand	Specific learning outcomes	Suggested learning experiences	Suggested Key Inquiry Question(s)
4.0 Production Techniques	**4.2 Constructing framed suspended garden**	By the end of the sub strand, the learner should be able to: a) describe framed suspended garden for growing crops, b) construct a framed structure for suspended garden for growing crops, c) appreciate the importance of using framed suspended gardens for growing crops.	• Learners with low vision are guided to use digital devices with assistive technology or appropriate print materials to search for information, photos, audio-visual clips or illustrations on framed suspended gardens. Learners with blindness use digital devices with assistive technology or Braille materials to search for information on framed suspended gardens. Learners with blindness be provided with models of framed suspended gardens to touch, explore and feel in order to familiarise with design and materials used to construct the gardens. • In groups, learners with low vision are guided to innovatively sketch and construct framed suspended gardens using locally available materials such as wires, wooden planks, metal bars and poles. Learners with blindness are guided to tactually explore various framed suspended gardens in order to familiarise with various designs, materials used and sizes of the gardens, then given clear verbal	1. How can we innovatively grow crops in a limited space? 2. How are framed suspended gardens constructed?

			instructions and one on one support in measuring, cutting and joining the frames to construct a framed suspended garden. • Learners with low vision are guided to establish a crop on the constructed framed suspended garden. Learners with blindness are given one on one support to establish a crop on the constructed framed suspended garden.	

Core competencies to be developed:

- Digital literacy: A learner uses digital devices with assistive technology to search for information, photos, audiovisual clips and illustrations on framed suspended gardens to understand how they are constructed.
- Creativity and imagination: A learner innovatively constructs framed suspended gardens.
- Critical thinking and problem solving: A learner articulates problems of limited land in agriculture, formulate and implement solutions to solve the problem through suspended gardens.

Values:

- Unity: A learner collaborates and demonstrates teamwork while working in groups to construct framed suspended gardens.
- Responsibility: A learner observes safety precautions while using workshop tools and equipment to construct the framed suspended gardens.

Pertinent and contemporary issues (PCIs):

- Environmental education and climate change: A learner re-uses locally available materials to construct framed suspended gardens.
- Safety and Security: A learner observes safety for self and others while they use workshop tools and equipment to construct framed suspended gardens.

Link to other subjects: • Pre-technical Studies: A learner relates the concept of safety and security for self and others as they use workshop tools and equipment to construct framed suspended gardens. • Creative Arts and Sports: A learner innovatively constructs framed suspended gardens.
Suggested Learning Resources: ● Digital devices with assistive technology such as talkback, screen readers, screen magnifiers and refreshable braille display ● Reference materials in print with appropriate font size and colour contrast ● Braille reference materials ● Organic manure ● Organic mulch materials ● Knife ● Scissors ● Tactile metre rule ● Models of framed suspended gardens ● Workshop tools and equipment - claw hammer, hand saws, pliers, hacksaw ● Garden tools and equipment - watering cans, shovel, wheelbarrow, jembes, garden trowel, manure fork, panga ● Materials for constructing framed suspended gardens - strings, pieces/planks of wood, poles, plain wires, wire mesh, metal bars, nails, waste plastic bottles and containers

Strand	**Sub strand**	**Specific Learning Outcomes**	**Suggested Learning Experiences**	**Suggested Key Inquiry Question(s)**
4.0 Production Techniques	**4.3 Adding value to crop produce**	By the end of the sub strand, the learner should be able to:	• Learners are guided to discuss ways of adding value to crop produce such as potatoes, cassava, groundnuts, simsim, sweet potatoes and pumpkin. • In groups, learners with low vision are guided to process a provided sample of crop produce such as	1. Why do we add value to crop produce?

		a) explain ways of adding value on crop produce, b) add value to a selected crop produce, c) appreciate the importance of value addition on crop produce.	potatoes, cassava, groundnuts, simsim, sweet potatoes and pumpkin to add value using appropriate methods like drying and frying. Learners with blindness are given clear verbal instructions and guided through one on one support to process a provided sample of crop produce such as potatoes, cassava, groundnuts, simsim, sweet potatoes and pumpkin to add value using appropriate methods like drying and frying by first being guided to cut the right sizes of the crop produce before processing it. • Learners are guided to compare the processed crop produce and raw crop produce in terms of monetary value and storage life and appreciate the need for value addition.	2. How can we add value to crop produce?

Core competencies to be developed:

- Critical thinking and problem solving: A learner develops open mindedness as they select a suitable method of adding value to a crop produce to prolong shelf life and for economic purposes.
- Communication and collaboration: A learner develops speaking skills and embraces teamwork as they express themselves, accommodate each other's opinion during group discussion.

Values:
Integrity: A learner uses ethically acceptable standards of processing crop produce to add value.

Pertinent and contemporary issues (PCIs):
Health Promotion Issues: A learner promotes nutrition and food security as they process crop produce to increase shelf life and reduce food spoilage through value addition processes.

Link to other subjects:
Pre-technical Studies: A learner relates value addition of crops to prolonging shelf life with an aim of increasing food economy.

Suggested Learning Resources:

- Crop produce that can be used for value addition e.g. potatoes, mangoes, cassava, tomatoes, groundnuts, pumpkins
- Kitchen utensils such as frying pans, spoons, knives, strainers
- Cooking oil
- Transparent packaging bags and containers with properly fitting lids
- Means of cooking

Strand	**Sub strand**	**Specific learning outcomes**	**Suggested learning experiences**	**Suggested Key Inquiry Question(s)**
4.0 Production Techniques	**4.4 Making Homemade soap**	By the end of the sub strand, the learner should be able to: a) identify forms of soap used at household level, b) make homemade soap using natural ingredients for household use, c) appreciate the importance of home made soap for household use.	• Learners are guided to brainstorm and share experiences on forms of soap (liquid, cake or bar, paste, powder) used at household level. • In groups, 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 make soap using natural ingredients then share the information with their peers • Learners with low vision are guided to use natural ingredients such as ashes, salt, water, animal fats or plant oils to make soap. Learners with blindness are guided to touch and feel in order to familiarize with ingredients used to make home-made soap then given clear verbal instructions and one on one support to measure	How can you make soap using natural ingredients?

			the right quantity of the ingredients such as ashes, salt, water, animal fats or plant oils and use the natural ingredients to make soap. • In groups, learners with low vision are guided to use the homemade soap for cleaning purposes. In pairs or in groups, learners with blindness are given one on one support and clear verbal instructions to measure the correct amount of the homemade soap to use for various cleaning purposes.	

Core competencies to be developed:

- Communication and collaboration: A learner develops listening and speaking skills and embraces teamwork as they discuss in groups on forms of soap and make homemade soap.
- Critical thinking and Problem solving: A learner develops open mindedness and creativity as they identify and collect locally available materials and use the ingredients to make soap for cleaning.
- Creativity and imagination: A learner experiments with ideas on homemade soap to test if it works while exploring different ways of improving it for various uses.

Values:

Responsibility: A learner carries out assigned roles and duties during group activities to make homemade soap using natural ingredients.
Unity: A learner collaborates and demonstrates teamwork as they work in groups to make homemade soap using natural ingredients.

Pertinent and contemporary issues:

- Health Promotion Issues: A learner observes health and hygiene when they use homemade soap for cleaning purposes.
- Environmental Education and Climate Change: A learner collects soap scraps and soap flakes, recycles them to make homemade soap for cleaning purposes.

Link to other subjects:

- Integrated Science: A learner makes homemade soap and adds other ingredients such as dyes, fragrances, antiseptic and glycerine.
- Pre-technical Studies: A learner relates the concept of safety to safety and security for self and others as they make the homemade soap.

Suggested Learning Resources:

- Forms of soap and soapless detergents (liquid, foam, bar, powder, flakes)
- Water (soft and hard, cold and warm-hot)
- Knife
- Grater
- Ingredients for making homemade soap (wood ashes, salt, fats/oils, and water)
- Fragrances
- Dyes
- Perfumes
- Antiseptic
- Glycerine
- Heating facility – cookers such as jiko, stove, three stones fireplace or any source of heat
- Digital devices with assistive technology such as screen readers, talk back, braille display and 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 describe production techniques at household level: *(knitting, constructing framed garden, value addition on crop produce, and making soap).*	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 apply production techniques at household level: *(knitting, constructing framed garden, value addition on crop produce, and making soap).*	Applies four production techniques at household level.	Applies three production techniques at household level.	Applies two production techniques at household level.	Applies one or no production technique at household level.
Ability to portray integrity in production techniques: *(is honest, uses resources prudently, adheres to ethical procedures, has commitment to duty).*	Portrays four indicators of integrity in production techniques.	Portrays three indicators of integrity in production techniques.	Portrays two indicators of integrity in production techniques.	Portrays one or no indicator of integrity in production techniques.

APPENDIX 1: GUIDELINES FOR INTEGRATING COMMUNITY SERVICE LEARNING AT JUNIOR SCHOOL

Introduction

Community Service Learning (CSL) is an experiential learning strategy that integrates classroom learning and community service to enable learners reflect, experience and learn from the community. The CSL activity is hosted as a strand in Social Studies. The Social Studies teacher will be expected to coordinate teachers from other learning areas to carry out the integrated CSL class activity. Learners will be expected to apply knowledge, skills, attitudes and values from the different Learning Areas to undertake the integrated CSL class activity. Learners will undertake one common integrated class CSL activity following a 6-step milestone approach that is:

Milestone	Description
Milestone 1	Problem Identification Learners study their community to understand the challenges faced and their effects on community members.
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.

Assessment of CSL integrated Activity

Assessment for the integrated CSL activity 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 activity. It will focus on 3 components namely: skills from various learning areas applied in carrying out the activity, 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 No-formal Activities to Support Learning
1.0 CONSERVATION OF RESOURCES	**1.1 Controlling Soil Pollution**	a) Written assignments in print and in Braille b) Oral questioning c) Observation d) Self and peer assessment	● Digital devices with assistive technology like screen readers, screen magnifiers, refreshable braille display ● Used Plastic containers ● Used chemical containers ● Household waste water ● Print and Braille course books	● 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.

	1.2 Conserving water: Water Retention Structures	a) Written assignments in print and in Braille b) Oral questioning c) Observation d) Self and peer assessment e) Project	• Garden tools such as jembes, fork jembes, spade, pangas, slashers, watering cans • Mulch materials • Digital devices with assistive technology like screen readers, screen magnifiers, refreshable braille display • Reference materials in print with appropriate font size and colour contrast • Braille reference materials • Planting materials such as banana suckers and sugarcane cuttings	Learners to initiate water harvesting and conservation measures against runoff within the school.

	1.3 Conserving food nutrients	a) Written assignments in print and in Braille b) Oral questioning c) Observation d) Self and Peer assessment	• Digital devices with assistive technology like screen readers, screen magnifiers, refreshable braille display • Recipe books in print with appropriate font size and colour contrast • Recipe books in Braille • Cooking tools, equipment and materials: Cooking equipment (charcoal jiko, gas cooker, electric cooker, paraffin stove, traditional open fireplace/ improved firewood stove. Materials (match box, gas lighter, tea towel dish cloth, abrasives. Tools (cooking pots, crockery, cutlery, shaping tools) • First aid kit	Learners to educate other learners on various methods of conserving nutrients in vegetables during health club activities.

	1.4 Growing trees	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 talkback, refreshable braille display, screen magnifiers, screen readers • Reference materials in print with appropriate font size and colour contrast • Braille reference materials • Seeds of trees • Tree Seedlings • Cuttings • Organic manure • Mulching materials • Garden tools and equipment such as jembes, fork jembes, spades, pangas, slashers, watering cans	• 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.
2.0 FOOD PRODUCTION PROCESSES	**2.1 Preparing planting site and planting**	a) Written assignments in print and in Braille b) Oral questioning c) Observation d) Self and Peer assessment e) Project	• Seeds from different crops of various sizes • Small sized seeds such as millet, sorghum, carrot, spinach, cabbage • Medium sized seeds such as maize grains, beans • Large planting materials like tubers, suckers and cuttings	Learners to initiate display sites/crop museums within the school

			• Suitable planting sites such as walls of buildings, fence lines, driveways in schools, suitable containers • Manure • Garden tools and equipment such as jembes, pangas, slashers, watering cans, wheelbarrow	
	2.2 Selected management practices	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 like screen readers, screen magnifiers, refreshable braille display • Garden tools and equipment such as jembes, fork jembes, spades, pangas, slashers, watering cans • First Aid kit • Tape measure • Tactile metre ruler	Learners to initiate display sites/crop museums within the school.
	2.3 Preparing animal products: • Eggs • Honey	a) Written assignments in print and in Braille b) Oral questioning c) Observation d) Self and Peer assessment	• Digital devices with assistive technology like screen readers, screen magnifiers, refreshable braille display	Encourage learners to take part in activities of the Young Farmers club like collecting, sorting and grading of eggs, processing of

			• Reference materials in print with appropriate font size and colour contrast • Braille reference materials • Egg trays • Eggs • Honey • Muslin cloth • Wooden spoon • Bucket • Sufuria • Packaging containers with fitting lids	raw honey, packaging and storing of honey.
	2.4 Cooking: • *Grilling* • *Roasting* • *Steaming*	a) Written assignments in print and in Braille b) Oral questioning c) Observation d) Self and Peer assessment	• Digital devices with assistive technology like screen readers, screen magnifiers, refreshable braille display • Resource person • Reference materials in print with appropriate font size and colour contrast • Braille reference materials • Realia - local foodstuff (suitable for the purpose either grilling, roasting or steaming)	Learners practise methods of cooking and display cooked items to educate peers and other members of the school community during clubs and societies.

			• Cooking tools and equipment (improvise or substitute as much as possible) • Fuel - Cookers/stoves/ (choose which one is suitable), Gas, Electric, Kerosene, Charcoal, Firewood, Solar • Food storage equipment (choose which one is locally available for use) • Food safe • Cupboard • Charcoal cooler • Roasting grills • Steamers • Skewers • Roasting dishes • Serving dishes • Cleaning aids such as detergents, cleaning cloths, scourers • First aid kit • Protective clothing - Aprons or overall coats, Hand gloves, oven gloves, Head gears	

			• Aluminium foil and cling film • Kitchen cloths - Hand towel, Dish cloth, Tea towel • Dustbin (kitchen waste bin)	
3. 0 **HYGIENE PRACTICES**	**3.1 Hygiene in rearing animals**	a) Written assignments in print and in Braille b) Oral questioning c) Observation d) Self and Peer assessment e) Project	• Feeders • Waterers • Hand brooms • Clean water • Garden tools and equipment such as pangas, jembes, manure fork, shovel, wheelbarrow • Powder insecticides for dusting animal houses • Animal houses/structures • Digital devices with assistive technology such as talkback, screen magnifiers, refreshable braille display, screen readers • Reference materials in print with appropriate font size and colour contrast • Braille reference materials	Encourage learners to keep a pet of their choice and carry out management practices such as feeding, housing, sanitation, parasite and disease control.

	3.2 Laundry: Loose coloured Items	a) Written assignments in print and in Braille b) Oral questioning c) Observation d) Self and Peer assessment	● Salt ● Loose coloured articles ● Digital devices with assistive technology like screen readers, screen magnifiers, refreshable braille display ● Basic laundry work equipment such as basins, buckets, clothesline, pegs, irons, ironing surfaces, hangers, soap dishes	Learners use existing school forums to sensitize the school community on how to launder loose coloured articles for hygiene.
4.0 PRODUCTION TECHNIQUES	**4.1 Knitting Skills**	a) Written assignments in print and in Braille b) Oral questioning c) Observation d) Self and Peer assessment	● Digital devices with assistive technology like screen readers, screen magnifiers, refreshable braille display ● Reference materials in print with appropriate font size and colour contrast ● Braille reference materials ● Knitting yarns ● Samples of knitted articles ● Tactile patterns of knitted articles ● Knitting needles ● Darning needles ● Real knitting machines (circular, warp, flat, computerized)	● Learners do knit simple articles such as lap bags, table mats and hats for their peers at a cost during club activities. ● Learners organise a visit to learn how knitters make small clothing and household articles using basic knitting stitches on a knitting machine.

	4.2 Constructing Framed Suspended Garden	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 talkback, screen magnifier refreshable braille display • Reference materials in print with appropriate font size and colour contrast • Braille reference materials • Organic manure • Organic mulch materials • Knife • Scissors • Tactile metre rule • Models of framed suspended gardens • Workshop tools and equipment - claw hammer, hand saws, pliers, hacksaw • Garden tools and equipment - watering cans, shovel, wheelbarrow, jembes, garden trowel, manure fork, panga • Materials for constructing framed suspended gardens - strings, pieces/planks of wood,	Learners to initiate a beautification project in the school using crops planted on framed suspended gardens through club activities.

			poles, plain wires, wire mesh, metal bars, nails, waste plastic bottles and containers	
	4.3 Adding Value to Crop Produce	a) Written assignments in print and in Braille b) Oral questioning c) Observation d) Self and Peer assessment	• Crop produce that can be used for value addition e.g. potatoes, mangoes, cassava, tomatoes, groundnuts, pumpkins • Kitchen utensils such as frying pans, spoons, knives, strainers • Cooking oil • Transparent packaging bags and containers with properly fitting lids • Means of cooking	Learners carry out extended activities on value addition of main crop produce available in the locality through school clubs.

	4.4 Making Homemade soap	a) Written assignments in print and in Braille b) Oral questioning c) Observation d) Self and Peer assessment e) Project	• Forms of soap and soapless detergents (liquid, foam, bar, powder, flakes) • Water (soft and hard, cold and warm-hot) • Knife • Grater • Ingredients for making homemade soap (wood ashes, salt, fats/oils, and water) • Fragrances • Dyes • Perfumes • Antiseptic • Glycerine • Heating facility – cookers such as jiko, stove, three stones fireplace or any source of heat • Reference materials in print with appropriate font size and colour contrast • Braille reference materials	• Learners initiate projects during clubs and societies to prepare homemade soap for income generation. • Learners sensitise the school community on forms and types of soap and soapless detergents.