REPUBLIC OF KENYA
MINISTRY OF EDUCATION

JUNIOR SCHOOL CURRICULUM DESIGN

GRADE 9

AGRICULTURE AND NUTRITION

FOR LEARNERS WITH PHYSICAL IMPAIRMENT

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 nine curriculum designs for learners with physical impairment build on competencies attained by learners at Grade eight. Emphasis at this grade is the development of skills for exploration and making informed decisions 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.

HON. EZEKIEL OMBAKI MACHOGU, CBS
CABINET SECRETARY,
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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 nine curriculum furthers implementation of the CBC from Grade eight. 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 Realising 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 nine curriculum designs for learners with physical 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 nine and prepare them for smooth transition to Senior school. 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 nine curriculum designs for learners with physical 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 panellists; the Semi-Autonomous Government Agencies (SAGAs) and representatives of various stakeholders for their roles in the development and adaptation of the Grade nine curriculum designs for learners with physical 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 nine and preparation of learners with physical impairment for transition to Senior school.

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LESSON ALLOCATION AT JUNIOR SCHOOL

	LEARNING AREA	**NUMBER OF LESSONS PER WEEK (40 MINUTES PER LESSON)**
1.	English	5
2.	Kiswahili/Kenya Sign Language	4
3.	Mathematics	5
4.	Religious Education	4
5.	Social Studies	4
6.	Integrated Science	5
7.	Pre-Technical Studies	4
8.	Agriculture and Nutrition	4
9.	Creative Arts and Sports	5
10	Pastoral/ Religious Instruction Programme	1
	Total	**40+1**

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. Education's paramount duty is to help young people acquire this sense of nationhood by removing conflicts and promoting positive attitudes of mutual respect that 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 necessary for the smooth progress of a rapidly developing modern economy. There is bound to be a silent social revolution following in the wake of rapid modernisation. Education should assist our youth in adapting to this change.

b) Economic Needs
Education in Kenya should produce citizens with the skills, knowledge, expertise, and personal qualities required to support a growing economy. Kenya is building up a modern and independent economy that needs 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, especially in the developed world. We can only be part of this development if our education system focuses on the knowledge, skills, and attitudes that will prepare our young people for these changing global trends.

3. **Promote individual development and self-fulfillment**
   Education should provide opportunities for the fullest development of individual talents and personalities. 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 grow into self-disciplined, self-reliant, and integrated citizens.

5. **Promote social equality and responsibility.**
   Education should promote social equality and foster a sense of social responsibility within an education system that provides equal educational opportunities. 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 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 in this international community with all the obligations, responsibilities, rights and benefits that this membership entails.

8. **Promote positive attitudes towards good health and environmental protection.**
   lead the youth of Kenya to appreciate the need for a healthy environment.

LEARNING OUTCOMES FOR JUNIOR SCHOOL

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

a) Apply literacy, numeracy and logical thinking skills for appropriate self-expression.
b) Communicate effectively, verbally and non-verbally, in diverse contexts.
c) Demonstrate social skills, and spiritual and moral values for peaceful co-existence.
d) Explore, manipulate, manage and conserve the environment effectively for learning and sustainable development.
e) Practise relevant hygiene, sanitation and nutrition skills to promote health.
f) Demonstrate ethical behaviour and exhibit good citizenship as a civic responsibility.
g) Appreciate the country's rich and diverse cultural heritage for harmonious co-existence.
h) Manage pertinent and contemporary issues in society effectively.
i) 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 Nutrition concepts introduced in the upper primary curriculum. The learners with physical impairment 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.

GENERAL LEARNING OUTCOMES

By 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 practices to contribute towards food and nutrition 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 Conserving Animal Feed: Hay	12
	1.2 Conserving Left over Food	11
	1.3 Integrated Farming	12
2.0 Food Production Processes	2.1 Organic Gardening	14
	2.2 Storage of Crop Produce	10
	2.3 Cooking: Using Flour Mixtures	14
3.0 Hygiene Practices	3.1 Cleaning Waste Disposal Facilities	9
	3.2 Disinfecting Clothing and Household Articles	12
4.0 Production Techniques	4.1 Grafting in Plants	13
	4.2 Homemade Sun Dryer	13
Total Number of Lessons		**120**

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

CONSERVATION OF RESOURCES

Strand	Sub-Strand	Specific Learning Outcomes	Suggested Learning Experiences	Suggested Key Inquiry Question
1.0 Conservation of Resources	**1.1 Conserving animal feed: Hay** (12 lessons)	By the end of the sub-strand, the learner should be able to; a) describe methods of conserving forage in coping with drought, b) conserve forage to cope with drought, c) adopt conservation of forage in coping with drought.	Learners are guided to: • Use digital and print resources in purposive groups to search for information and share experiences on methods of conserving forage in coping with drought *(baled hay making, standing forage, stacking).* Regulate the screen resolution or light intensity to support learners who are sensitive to light. Learners with speech difficulties should be lip read by peers or be given more time to express themselves as they share experiences. • Conserve forage through stacking and box bailing methods using locally available materials such as grass and maize Stover to make hay for drought season.	How can hay conservation contribute to coping with drought?

			Learners with manipulation difficulties could use appropriate assistive technology or be given physical support as they perform the task. • Discuss in groups and make class presentation on how households can adopt conservation of forage in coping with drought. Learners with speech difficulties could use alternative modes of communication during the discussion.	
Core competencies to be developed: • Critical thinking and problem solving: Evaluation and decision-making skills as learners analyse and apply methods of conserving hay to cope with drought. • Communication and collaboration: Speaking and dialogue skills as learners discuss ways of conserving forage to cope with drought in the context of rearing animals.				
Values: Peace: Respect for diversity of opinions as learners discuss methods of conserving hay to cope with drought.				

Pertinent and contemporary issues: Disaster risk reduction as learners analyse and adopt applicable methods of conserving hay to cope with drought.
Links to other subjects: Learners relate conservation of hay to concepts of mitigating effects of climate change learnt in Social Studies.

Strand	**Sub-Strand**	**Specific Learning Outcomes**	**Suggested Learning Experiences**	**Suggested Key Inquiry Question**
1.0 Conservation of Resources	**1.2 Conserving left over foods** (11 lessons)	By the end of the sub-strand, the learner should be able to; a) explain the importance of conserving left over foods at home, b) prepare left over foods to avoid wastage, c) embrace the use of left-over foods to avoid food wastage.	Learners are guided to: • Search and share experiences on the importance of conserving left over foods at home. Learners with speech difficulties could use alternative modes of communication to share experiences. • Prepare left over foods for consumption through methods such as *reheating or preparing another recipe* to avoid wastage. Learners with manipulation difficulties could use adapted kitchen equipment and tools, be purposively	How is left over food prepared for use to prevent food wastage?

			paired with peer or be supported to perform the task. • Make presentations on various recipes adopted from left over foods to avoid food wastage. Learners with speech difficulties could use alternative modes of communication to make presentations.	
Core competencies to be developed: Creativity and imagination: Experimenting skills as learners explore different ways of preparing left over foods.				
Values: Integrity: Utilizing resources prudently to avoid wastage of resources in the preparation of leftover foods.				
Pertinent and contemporary issues: Hygiene in handling of foods to prevent contamination and spoilage.				
Links to other subjects: Learners relate conservation of leftover foods to spread of food related communicable diseases learnt through Integrated Science.				

Strand	**Sub-Strand**	**Specific Learning Outcomes**	**Suggested Learning Experiences**	**Suggested Key Inquiry Question**
1.0 Conservation of Resources	**1.3 Integrated farming** (12 lessons)	By the end of the sub-strand, the learner should be able to; a) describe components of integrated farming in conserving resources,	Learners are guided to: • Take an excursion or search for information on integrated farming practices to find out how components of integrated	How can integrated farming conserve resources?

		b) make a model of integrated farming for conservation of resources, c) appreciate the importance of integrated farming in conservation of resource.	farming help in conserving resources. Learners with mobility difficulties could be supported to move during the excursion. ● Design or sketch and make a model to illustrate integrated farming components such as fish rearing, rabbit keeping, and poultry keeping and vegetable production on the same plot of land to show their relational benefits. Learners with manipulation difficulties could use adapted devices, be `purposively paired with peers or be supported to perform the task. ● Make class presentations on the models of	

			integrated farming and the importance of the integration in conserving resources. Learners with speech difficulties could use alternative modes of communication as they make presentations.	

Core competencies to be developed:

- Creativity and imagination: Observation and making connection skills as learners seek information, design and make a model to depict integrated farming enterprise.
- Critical thinking and problem solving: Evaluation and decision-making skills as learners analyse the environment for components of integrated farming and design models of integrated farming enterprise.

Values:

- Unity: Team work as learners harness gifts and special skills of the group members in designing and making an integrated farming model.
- Respect: Accommodating diverse opinions while learners discuss and design model of integrated farming.

Pertinent and contemporary issues:

Environmental awareness and protection as learners re-use locally available resources such as waste pieces of wood, cartons, cardboards and papers to design and make a model of integrated farming enterprise.

Links to other subjects:

Learners apply skills of designing and choice of materials learnt in Pre-Technical Studies in the construction of integrated farming model.

Suggested Assessment Rubric

Level / Indicator	Exceeds Expectations	Meets Expectations	Approaches Expectations	Below Expectations
Ability to describe various ways of conserving resources in the environment. *(Conserving hay, reusing leftover food, using integrated farming).*	The learner describes *three* ways of conserving resources in the environment.	The learner describes *two* ways of conserving resources in the environment.	The learner describes *one* way of conserving resources in the environment.	The learner partially describes *a* way of conserving resources in the environment.
Ability to apply various ways of conserving resources in the environment. *(conserving hay, reusing leftover food, using integrated farming).*	The learner applies *three* ways of conserving resources in the environment.	The learner applies *two* ways of conserving resources in the environment.	The learner applies *one* way of conserving resources in the environment.	The learner partially applies *one* way of conserving resources in the environment.

Ability to exhibit collaboration skills in conservation of resources in the environment: *(is punctual, reliable, supports others, positively works with others and contributes to group decision making).*	The learner exhibits *five* collaboration skills in carrying out conservation of resources in the environment.	The learner exhibits *four* collaboration skills in carrying out conservation of resources in the environment.	The learner exhibits *two to three* collaboration skills in carrying out conservation of resources in the environment.	The learner exhibits *less than two* collaboration skills in carrying out conservation of resources in the environment.

2.0 FOOD PRODUCTION PROCESSES

Strand	Sub-Strand	Specific Learning Outcomes	Suggested Learning Experiences	Suggested Key Inquiry Questions
2.0 Food Production Processes	**2.1 Organic Gardening** (14 lessons)	By the end of the sub-strand, the learner should be able to; a) explain organic gardening practices in crop production, b) grow a crop using organic gardening practices, c) appreciate importance of organic gardening in production of healthy foods.	Learners are guided to: ● Search and share information on organic gardening practices in crop production. Learners with speech difficulties could use alternative modes of communication as they share information. ● Grow a selected short season crop such as vegetable, legume or spice crop using organic gardening practices such as *use of organic manure, organic pesticides, mechanical weed control, use of organic foliar feed made from animal wastes and plants like Mexican sunflower*. Learners with manipulation difficulties could use adapted farm equipment and tools, be purposively paired with peers or be supported to perform the task.	1. Why should we practice organic gardening? 2. How can we produce food crops through organic gardening?

			• Share experiences through class presentations to appreciate the importance of organic gardening in production of healthy foods. Learners with speech difficulties could use alternative modes of communication to share their experiences.	

Core competencies to be developed:

- Learning to learn: Working collaboratively and organising own learning skills as learners grow crops using organic gardening practices.
- Self-efficacy: Planning skills as learners grow crops using organic farming practices.

Values:

- Unity**:** Working in teams as learners undertake the project on growing crops using organic gardening practices.
- Integrity**:** Honesty as learners practice organic gardening practices.

Pertinent and contemporary issues:

Food health and safety as learners acquire skills of growing foods without use of agro-chemicals.

Link to other learning areas:

Learners relate organic gardening practices to farming practices in the Social Studies.

Strand	Sub-Strand	Specific Learning Outcomes	Suggested Learning Experiences	Suggested Key Inquiry Questions
2.0 Food Production Processes	**2.2 Storage of crop produce** (10 lessons)	By the end of the sub-strand, the learner should be able to; a) explain ways of preparing storage structures before storing crop produce, b) prepare an existing storage structure in readiness for storing crop produce, c) manage stored crop produce to reduce spoilage, d) show responsibility in managing stored crop produce to reduce spoilage.	Learners are guided to: ● Use digital devices or print media to search for information on ways of preparing storage structures in readiness for storage of crop produce and share findings in plenary. Learners with manipulation difficulties could use adapted digital resources with appropriate accessibility features. ● Regulate the screen resolution or light intensity to support learners who are sensitive to light. Learners with speech difficulties could be given more time to share. ● Prepare an existing storage structure or facility *(container, store room, granary, and storage bags)* in readiness for storage through practices such as *cleaning, dusting, sealing*	1. How can we prepare a storage facility in readiness for storage of crop produce? 2. How should crop produce be managed during storage?

			cracks, repairing leakages, emptying previous crop produce and controlling rodents. Learners with manipulation difficulties could use adapted equipment and tools, be purposively paired with peers or be supported to perform the task. ● Manage stored crop produce (checking moisture content in cereals and pulses, ensuring ventilation, controlling rodents, turning the stored crop produce and disposing off spoilt produce).	
Core competencies to be developed: Critical thinking and problem solving: Open-mindedness and creativity skills as learners prepare storage structure and manage crop produce to maintain quality and reduce post-harvest loss.				
Values: Responsibility: Engaging in assigned roles as learners manage stored crop produce in the school food store.				
Pertinent and contemporary issues: Food safety and security as learners manage crop storage structures to prevent spoilage of crop produce.				
Links to other learning areas: Learners relate management of storage of crop produce to farming as an economic activity learnt in Social Studies.				

Strand	Sub-Strand	Specific Learning Outcomes	Suggested Learning Experiences	Suggested Key Inquiry Questions
2.0 Food Production Processes	**2.3 Cooking: Using flour mixtures** (14 lessons)	By the end of the sub-strand, the learner should be able to; a) identify types of flour mixtures used in food production, b) prepare flour mixtures for food production, c) make products from various flour mixtures d) appreciate products made from various flour mixtures.	Learners are guided to: ● Use print or digital resources to identify types of flour mixtures used in food production such as *batters and dough*. Learners with manipulation difficulties could use adapted digital resources with appropriate accessibility features. Regulate the screen resolution or light intensity to support learners who are sensitive to light. ● Prepare flour mixtures such as *batters and doughs* for food production. Learners with manipulation difficulties could use adapted equipment and tools, be purposively paired by peer or be supported to perform the task.	How can we make products from flour mixture?

			• Make products such as *pan cake, mandazi and chapati* from various flour mixtures, Safety precaution should be observed when carrying out the task. Adapted working surfaces should be provided. • Display and appreciate the products made from various flour mixtures.	
Core competencies to be developed: Learning to learn: Learners apply procedures of making flour mixtures for preparing different products.				
Values: Integrity: Following ethically acceptable procedures in preparing flour mixtures.				
Pertinent and contemporary issues: Safety of self and others as learners use tools and fuels in making products from flour mixtures.				
Links to other learning areas: Learners relate measurement of ingredients in preparing flour mixtures to weights and measurements learnt in Mathematics.				

Suggested Assessment Rubric

Level **Indicator**	**Exceeds Expectations**	**Meets Expectations**	**Approaches Expectations**	**Below Expectations**
Ability to describe food production processes at household level:	The learner describes *three* food production processes at household level.	The learner describes *two* food production processes at household level.	The learner describes *one* food production process at household level.	The learner partially describes *a* food production processes at household level.

(organic gardening, storage of crop produce and cooking using flour mixtures).				
Ability to carry out food production processes at household level: *(organic gardening, storage of crop produce and cooking using flour mixtures).*	The learner carries out *three* food production processes at household level.	The learner carries out *two* food production processes at household level.	The learner carries out *one* food production process at household level.	The learner partially carries out *one* food production process at household level.
Ability to portray unity while carrying out food production processes. *(sharing of available resources, appreciating efforts of others in task, respects other peoples opinions and embracing team spirit).*	The learner portrays *four* indicators of unity in carrying out food production processes at household level.	The learner portrays *three* indicators of unity in carrying out food production processes at household level.	The learner portrays *two* indicators of unity in carrying out food production processes at household level.	The learner portrays *less than two* indicators of unity in carrying out food production processes at household level.

3.0 HYGIENE PRACTICES

Strand	Sub-Strand	Specific Learning Outcomes	Suggested Learning Experiences	Suggested Key Inquiry Questions
3.0 Hygiene Practices	**3.1 Cleaning Waste Disposal Facilities** (9 lessons)	By the end of the sub-strand, the learner should be able to; a) explain importance of cleaning waste disposal facilities, b) clean waste disposal facilities at household level, c) adopt use of clean waste disposal facilities at household level.	Learners are guided to: ● Discuss and share experiences on importance of cleaning waste disposal facilities such as; *waste bin, sink and open drains.* Learners with speech difficulties could use alternative modes of communication to discuss and share the experiences. ● Clean waste disposal facilities such as; *dust bin, sink and open drains.* Learners with manipulation difficulties could use adapted cleaning equipment, be purposively paired by peer or be supported to perform the task. ● Maintaining clean waste disposal facilities at household level using improvised resources.	How does cleaning waste disposal facilities promote hygiene?

Core competencies to be developed: Critical thinking and problem solving: Reflection skills as learners assess their success in cleaning of waste disposal facilities.
Values: Responsibility: Taking safety precautions as learners clean waste disposal facilities.
Pertinent and contemporary issues: Environmental awareness as learners clean waste disposal facilities to promote hygiene in their living places.
Link to other learning areas: Learners relate cleaning of waste disposal facilities to aspects of good health learnt in Integrated Science

Strand	**Sub-Strand**	**Specific Learning Outcomes**	**Suggested Learning Experiences**	**Suggested Key Inquiry Questions**
3.0 Hygiene Practices	**3.2 Disinfecting clothing and household articles** (12 lessons)	By the end of the sub-strand, the learner should be able to; a) describe methods of disinfecting clothing and household articles, b) carry out disinfection of clothing and household articles, c) appreciate the importance of disinfecting clothing and household articles.	Learners are guided to: ● Search for information or observe demonstration on methods of disinfecting clothing and household articles; *use of sunlight, salting, boiling, use of disinfectants and ironing.* Preferentially sit the learners for better or enhanced view while demonstrating. ● Disinfect clothing and household articles like aprons, gloves, towels, dustcoats, handkerchief, socks among other personal items using	How can we disinfect household articles for hygiene purposes?

			methods such as; *sunlight, salting, boiling, use of disinfectants and ironing.* Learners with manipulation difficulties could use adapted equipment, be purposively paired by peers or be supported to perform the task. Safety precautions should be observed when carrying out the task. Adapted working surfaces should be provided. ● Make class presentations on the importance of disinfecting clothing and household articles for hygiene purposes. Learners with speech difficulties could use alternative modes of communication.	
Core competencies to be developed: Learning to learn**:** Organizing own learning as they acquire new skills on methods of disinfecting clothing and household articles.				
Values: Responsibility**:** Taking care of clothing and household articles as learners carry out disinfection.				
Pertinent and contemporary issues: Health promotion awareness as learners disinfect clothing and household articles to prevent spread of diseases.				

Links to other learning areas: Learners relate use of disinfectants to solvents learnt in Integrated Science.

Suggested Assessment Rubric

Level **Indicator**	**Exceeds Expectations**	**Meets Expectations**	**Approaches Expectations**	**Below Expectations**
Ability to explain hygiene practices at household level.	The learner can explain cleaning waste disposal activities and disinfecting household articles at household level with elaborate details.	The learner explains cleaning waste disposal activities and disinfecting household articles at household level.	The learner explains *either* cleaning waste disposal activities *or* disinfecting household articles at household level.	The learner explains cleaning waste disposal activities *or* disinfecting household articles at household level with details that require clarification.
Ability to carry out hygiene practices at household level.	The learner carries out cleaning waste disposal activities and disinfecting household articles with observable attention to details.	The learner carries out cleaning waste disposal activities and disinfecting household articles at household level.	The learner carries out cleaning waste disposal activities or disinfecting household articles at household level.	The learners carries out cleaning waste disposal activities or disinfecting household articles at household level with observable areas for corrections.
Ability to portray responsibility when carrying out hygiene practices.	The learner portrays *four* indicators of responsibility when carrying out hygiene practices.	The learner portrays *three* indicators of responsibility when carrying out hygiene practices.	The learner portrays *two* indicators of responsibility when carrying out hygiene practices.	The learner portrays *less than two* indicators of responsibility when carrying out hygiene practices.

(engaging in assigned roles, observing safety, proactively solves problems when carrying out hygiene practices and offers leadership).				

4.0 PRODUCTION TECHNIQUES

Strand	Sub-Strand	Specific Learning Outcomes	Suggested Learning Experiences	Suggested Key Inquiry Questions
4.0 Production Techniques	**4.1 Grafting in plants** (13 lessons)	By the end of the sub-strand, the learner should be able to; a) describe grafting as a method of plant propagation, b) carry out grafting for various purposes, c) take care of the grafted plant to ensure successful union, d) appraise grafting for aesthetics, repair, improvement and rejuvenation purposes.	Learners are guided to: ● Use print media or digital resources to search for information on grafting as a method of plant propagation. Learners with manipulation difficulties could use adapted digital resources with appropriate accessibility features. Regulate the screen resolution or light intensity to support learners who are sensitive to light. ● Carry out grafting in plants for repair, aesthetic, rejuvenation or improvement purposes. Learners with manipulation difficulties could use adapted farm tools, be purposively paired by peers or be supported to perform the task. Safety	Why is grafting done on a plant?

			precautions should be observed when carrying out the task. ● Carry out caring practices such as *watering, protecting the union, removal of the graft tape after successful union, removal of other buds on the root stock.* Learners be purposively paired by peers or be supported to perform the task. ● Make discussions and presentations on reasons for grafting *(repairing a damaged plant, aesthetic, rejuvenation and plant improvement)*to appraise its applications in crop. Learners with speech difficulties could use residual speech/ digital devices with text-to-speech application or write to express their views.	

Core competencies to be developed: ● Learning to learn: Skill on reflection on own work as learners evaluate success on the grafted plant for rejuvenation, aesthetics, repair or improvement of existing plant. ● Self-efficacy: Awareness of potential skills in manipulation of a plant through grafting for plant propagation.
Values: • Respect: Appreciating each other's abilities and skills as learners carry out grafting technique with varied degrees of success. • Responsibility: Taking assigned roles as learners undertake tasks in the grafting practical activity.
Pertinent and contemporary issues: Safety of self and others as learners handle and use sharp grafting tools and equipment.
Links to other learning areas: Learners relate carrying out grafting to parts of a plant and relationship between plants learnt in Integrated Science.

Strand	**Sub-Strand**	**Specific Learning Outcomes**	**Suggested Learning Experiences**	**Suggested Key Inquiry Question**
4.0 Production Techniques	**4.2 Home-made sun dryer** (13 lessons)	By the end of the sub strand the learner should be able to; a) describe how to make a home-made dryer for vegetables, b) construct a home-made sun drier to preserve vegetables, c) adopt the use of homemade sun dryer in preservation of vegetables.	Learners are guided to: ● Use digital and print media resources to search for information on how to make a home-made sun dryer for vegetables. Learners with manipulation difficulties could use adapted digital resources with appropriate accessibility features.	How can innovative technology be used to preserve vegetables?

			Regulate the screen resolution or light intensity to support learners who are sensitive to light. ● Sketch and construct home-made drier for drying vegetables using locally available materials. Learners with manipulation difficulties could be supported through purposive grouping .Safety precautions should be observed when carrying out the task. ● Use the constructed home-made dryer to dry vegetables and promote usage of the equipment to the school community for adoption purposes. Learners could be purposively paired with peers or be supported to perform the task.	

Core competencies to be developed: ● Self-efficacy**:** Leadership and planning skills as learners design, construct and use home-made devices to preserve milk and vegetables. ● Critical thinking and problem solving: Skills in assessment or evaluating challenging situation and designing solution in the construction of home-made driers and coolers.
Values: ● Responsibility: Proactively solving problems by constructing homemade sun dryer to prevent spoilage of vegetables. ● Patriotism as learners contribute to solving the community problem of food spoilage in the community by constructing home-made driers and coolers.
Pertinent and contemporary issues: Food nutrition and security as learners construct homemade sun dryer to preserve vegetables.
Links to other learning areas: Learners relate designing and construction of homemade sun dryer to skills learnt in Pre-technical studies on designing, sketching and choice of construction materials.

Suggested Assessment Rubric

Level / **Indicator**	**Exceeds Expectations**	**Meets Expectations**	**Approaches Expectations**	**Below Expectations**
Ability to describe production techniques at household level. *(grafting, construction of homemade sun dryer).*	The learner can describe grafting in plants and construction of homemade sun dryer with elaborate details.	The learner can describe grafting in plants and construction of homemade sun dryer.	The learner can describe *either* grafting in plants *or* construction of homemade sun dryer.	The learner can partially describe *either* grafting in plants *or* construction of homemade sun dryer.

Ability to carry out production techniques at household level. *(grafting, construction of homemade sun dryer).*	The learner can identify requirements, assemble the requirements, conceptualize the plan of work, carry out the task, produce functional output.	The learner can identify requirements, assemble the requirements, conceptualize the plan of work, carry out the task, and produce output.	The learner can identify requirements, assemble the requirements, and conceptualize the plan of work.	The learner can identify requirements and assemble the requirements.
Ability to apply critical thinking and problem solving skills in production techniques at household level. *(finds applicable information, explore possible options, seeks help when needed, completes task).*	The learner applies *four* skills of critical thinking and problem solving in production techniques at household level.	The learner applies *three* skills of critical thinking and problem solving in production techniques at household level.	The learner applies *two* skills of critical thinking and problem solving in production techniques at household level.	The learner applies *less than two* skills of critical thinking and problem solving in production techniques at household level.

APPENDIX 1: GUIDELINES FOR INTEGRATING COMMUNITY SERVICE LEARNING

Introduction

In Grade 9, learners will undertake an integrated Community Service Learning (CSL) project of choice from a single or combined subject. The CSL project will enable the learner to apply knowledge and skills from other subjects 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 project. 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 a **variety of** integrated CSL group projects in teams of 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 group projects 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 group projects. They will focus on 3 components namely: skills from various learning areas applied in carrying out the projects, core competencies developed and values nurtured.

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

Strand	Suggested Assessment Methods	Suggested Resources	Suggested Non-Formal Activities
1.0 Conservation of Resources	• Observation of learning activities. • Written tests and assignments • Projects. • Oral assessment • Activity journals	• Adapted Digital resources • Print materials (charts, reference books) • Adapted Cooking tools and equipment • Cleaning equipment and materials • Selected gardening tools • Selected foodstuffs • General environment for space, samples of soils and plants	Learners to conduct school community awareness on conservation of various resources using existing formal interaction forums.
2.0 Food Production Processes	• Written tests and assignments • Graded observation • Projects • Activity journal	• Digital devices and print reference materials. • General environment for space, soil and samples of plants. • Selected Garden tools such as adapted *jembes*, fork *jembes*, spade, *panga*, slasher, tape measure. • Variety of planting materials • First aid kit • Cooking and cleaning equipment and materials • Samples of animal products such as eggs and honey, milk and meat.	• Learners to prepare and manage a sample kitchen or backyard garden in the school for display. • Learners to use existing school forums to display skills and products of the various learning experiences to extend knowledge and create awareness to the school community.

		• Sample crop produce such as vegetables. • Some small domestic animals such as rabbits, poultry or Guinea pigs.	
3.0 Hygiene Practices	• Written test • Oral assessment on safety when handling animal. • Observation of learning • Oral tests • Project • Activity journals	• Cleaning equipment and materials • Sample clothing and household articles • Detergents, stain removal agents and disinfectants • Adapted Digital devices and print reference materials • General school environment	Learners to use existing school forums to sensitize the school community on hygiene practices.
4.0 Production Techniques	• Written test • Oral tests • Project • Activity journals • Observation of learning	• Adapted Sewing tools such as needles, crochet, scissors and tape measure. • Sewing materials such as sample fabrics and yarns. • Gardening tools such as tape measure and hammer. • General school environment • Worked samples (crocheted and knitted materials) • Sample planting materials • Selected foodstuffs.	Learners to use existing school forums to create awareness and enhance adoption of various production techniques.

NOTE: Assessment methods may be modified to accommodate a learner's diverse needs so that he/she can participate and achieve the learning outcomes. The table below shows how modes of assessment may be adapted for learners with physical impairment:

ADAPTATION OF ASSESSMENT METHODS

S/NO	ASSESSMENT METHODS/MODES	SUGGESTED ADAPTATIONS
1.	Written assessment	• Typing, stamping or signing • Description of the task as a scribe or learner support assistant writes Audio visual recording of the learner as he/she makes oral responses • Provision of Adapted digital devices and writing/drawing resources • Adjustment of time according to individual needs • Providing illustrations to be interpreted for activities that involve drawing • Use of worksheets
2.	Oral or Aural assessment	• Written responses • Use of AAC (*Augmentative and Alternative modes of Communication) e.g. talking books, gestures, body movement, sign language, alphabet cards, facial expressions* • Adjustment of time according to individual needs
3.	Portfolio	• Use of E-Portfolio • Provision of physical support • Use of assistive technology • Provision of Adapted digital devices and writing/drawing resources • Adjustment of time according to individual needs • Description of how to carry out a practical activity while being audio/video recorded

4.	Practical assessment	• Provision of physical support • Provision of Adapted resources (learner specific) • Description of how to carry out a practical activity while being audio/video recorded • Adjustment of time according to individual needs • Rest intervals according to individual needs • Environmental adaptation
5.	Project	• Provision of physical support • Provision of Adapted resources (learner specific) • Description of how to carry out a practical activity while being audio/video recorded • Adjustment of time according to individual needs • Environmental adaptation

Note: Safety of all learners should be observed during assessment