

KENYA CERTIFICATE OF BASIC EDUCATION

SENIOR SCHOOL ASSESSMENT

DECEMBER ACTIVITIES 2026

GRADE 10 – AGRICULTURE

Time: 2 Hours

LEARNER'S DETAILS

Name: _____ . School: _____ .

Assessment Number: _____ . Date: _____ .

School Code: _____ . Signature: _____ .

INSTRUCTIONS TO CANDIDATES

1. Write your name in the spaces provided above.
2. Write the name of your school and your stream in the spaces provided.
3. Write your admission number and the date of the assessment in the spaces provided.
4. This paper consists of two sections: A and B.
5. Answer all questions in section A and section B.
6. Answer the questions in English.
7. All answers **MUST** be written in the spaces provided in the paper.
8. Do **NOT** remove any page from this question paper.

FOR OFFICIAL USE ONLY (EXAMINER'S USE)

SECTION	SECTION A	SECTION B	% SCORE	EE1	EE2	ME1	ME2	AE1	AE2	BE1	BE2
SCORE RANGE	30 MARKS	50 MARKS		90-100	75-89	58-74	41-57	31-40	21-30	11-20	1-10
POINTS				8 POINTS	7 POINTS	6 POINTS	5 POINTS	4 POINTS	3 POINTS	2 POINTS	1 POINT
LEARNER'S TOTAL SCORE											

SECTION A (30 MARKS)

Answer **ALL** questions in this section.

1. A farmer wants to establish a crop farm on newly acquired land. State **two factors** that should be considered when selecting the land. (2 marks)

- i. _____
- ii. _____

2. Differentiate between **soil fertility** and **soil productivity**. (2 marks)

3. State **two characteristics** of a fertile agricultural soil. (2 marks)

- i. _____
- ii. _____

4. During land preparation, a farmer uses a mouldboard plough followed by a harrow.

a) State the main purpose of ploughing. (1 mark)

b) State the purpose of harrowing. (1 mark)

5. Give **three reasons** why planting materials should be of good quality. (3 marks)

- i. _____
- ii. _____
- iii. _____

6. A farmer planted maize seeds at a very shallow depth.

State **two problems** that may result from shallow planting. (2 marks)

- i. _____
- ii. _____

7. State **three factors** that influence the choice of a method of weed control. (3 marks)

- i. _____
- ii. _____
- iii. _____

8. Give **two reasons** why farmers practise crop rotation. (2 marks)

- i. _____
- ii. _____

9. A farmer notices that some maize leaves are being eaten by caterpillars.

a) Identify the likely category of organism causing the damage. (1 mark)

b) State **one method** of controlling such pests. (1 mark)

10. State two benefits of mulching in crop production. (2 marks)

- i. _____
- ii. _____

11. Give two signs that can be used to determine whether a crop is ready for harvesting. (2 marks)

- i. _____
- ii. _____

12. State two characteristics of a good beef animal. (2 marks)

- i. _____
- ii. _____

13. Give two reasons why livestock require a balanced diet. (2 marks)

- i. _____
- ii. _____

14. State two factors that should be considered when selecting livestock housing. (2 marks)

- i. _____
- ii. _____

15. A farmer keeps poultry for commercial purposes. State one record that should be maintained in the poultry enterprise and give one reason for keeping it. (2 marks)

SECTION B: 50 MARKS

Answer ALL questions.

16. A farmer in a semi-arid area of Kenya intends to establish a horticultural farm. The farmer observes that the soil dries quickly and that rainfall is unreliable. During heavy rainfall, water also runs rapidly down the slope.

a) Explain four ways in which soil water is important to crop production. (4 marks)

- i. _____
- ii. _____
- iii. _____
- iv. _____

b) Describe **three methods** that the farmer can use to conserve soil moisture. **(3 marks)**

- i. _____
- ii. _____
- iii. _____

c) Explain **three measures** that can be used to reduce soil erosion on the farm. **(3 marks)**

- i. _____
- ii. _____
- iii. _____

17. A farmer plans to grow Irish potatoes for the local market. Before planting, the farmer selects healthy planting materials, prepares the land and plans to carry out appropriate crop management practices.

a) Explain **four factors** that should be considered when selecting planting materials. **(4 marks)**

- i. _____
- ii. _____
- iii. _____
- iv. _____

b) Describe **three crop management practices** that should be carried out after crop emergence. **(3 marks)**

- i. _____
- ii. _____
- iii. _____

c) State **three factors** that may influence the choice of an appropriate harvesting method. **(3 marks)**

- i. _____
- ii. _____
- iii. _____

18. A farmer keeps dairy goats. Recently, some goats have shown reduced appetite, weight loss and abnormal discharge. The farmer seeks advice from an agricultural extension officer.

a) State **four signs** that may indicate poor health in livestock. **(4 marks)**

- i. _____
- ii. _____
- iii. _____
- iv. _____

b) Explain two practices that the farmer can use to prevent livestock diseases. (2 marks)

- i. _____
- ii. _____

c) State two factors that should be considered when constructing livestock housing. (2 marks)

- i. _____
- ii. _____

d) State two factors that should be considered when constructing livestock housing. (2 marks)

- i. _____
- ii. _____

e) Study the pictures of the farm animals shown below and identify the breed of each animal. (3 marks)



X



Y



Z

Animal		Breed type
Rabbit	X	
Goat	Y	
Cow	Z	

19. During an Agriculture practical lesson, learners are given a **wheelbarrow, watering can, rake, pruning saw and jembe**. They are instructed to demonstrate their correct use and maintenance.

a) State the use of four of the tools listed above. (4 marks)

- i. _____
- ii. _____
- iii. _____
- iv. _____

b) Explain three practices that can prolong the useful life of farm tools and equipment. (3 marks)

- i. _____
- ii. _____
- iii. _____

c) State **three advantages** of using appropriate agricultural technology in farming. **(3 marks)**

- i. _____
- ii. _____
- iii. _____

20. A Grade 10 Agriculture club establishes a tomato enterprise. The learners invest **KSh 12,000** in seeds, fertilisers, pesticides, labour and transport. At the end of the season, they sell their tomatoes for **KSh 20,000**.

a) Calculate the **profit** made by the enterprise. **(2 marks)**

b) Explain **three factors** that could affect the profitability of the tomato enterprise. **(3 marks)**

- i. _____
- ii. _____
- iii. _____

c) Describe **three ways** through which the learners can add value to tomatoes before selling them. **(3 marks)**

- i. _____
- ii. _____
- iii. _____

d) State **two qualities** that the learners need to become successful agricultural entrepreneurs. **(2 marks)**

- i. _____
- ii. _____

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GRADE 10 AGRICULTURE

MARKING SCHEME / ANSWERS

SECTION A: 30 MARKS

1. Factors considered when selecting agricultural land

Any two:

- Soil type and fertility
- Topography/slope
- Rainfall
- Availability of water
- Drainage
- Accessibility
- Climate
- Size of land
- Security

(2 marks)

2. Difference between soil fertility and soil productivity

- **Soil fertility:** Ability of soil to supply essential nutrients to crops in adequate amounts.
- **Soil productivity:** Ability of soil to produce crops under given management and environmental conditions.

(2 marks)

3. Characteristics of fertile soil

Any two:

- Contains adequate plant nutrients.
- Has good water-holding capacity.
- Has good drainage.
- Contains sufficient organic matter.
- Has good soil structure.
- Supports healthy plant growth.

(2 marks)

4.

a) Ploughing turns and loosens the soil, buries weeds and incorporates organic matter.

(1 mark)

b) Harrowing breaks soil clods, levels the seedbed and produces a fine tilth.

(1 mark)

5. Reasons for using good-quality planting materials

Any three:

- They have high germination percentage.
- Produce healthy and vigorous plants.
- Give higher yields.
- Are more resistant to pests and diseases.
- Produce uniform crops.
- Mature within the expected period.

(3 marks)

6. Problems resulting from shallow planting

Any two:

- Seeds may dry out due to exposure to heat.
- Seeds may be eaten by birds or rodents.
- Plants may develop weak root systems.
- Seedlings may easily be uprooted.
- Poor germination may occur.

(2 marks)

7. Factors influencing choice of weed-control method

Any three:

- Type of weed present
- Stage of weed growth
- Type of crop
- Size of the farm
- Cost of control
- Availability of labour
- Effectiveness of the method
- Environmental effects
- Availability of equipment

(3 marks)

8. Benefits of crop rotation

Any two:

- Breaks pest and disease cycles.
- Maintains/improves soil fertility.
- Reduces weed infestation.
- Prevents soil nutrient depletion.
- Improves soil structure.
- Increases crop yields.

(2 marks)

9.

a) Insect.
(1 mark)

b) Any one:

- Hand-picking
- Use of appropriate pesticides
- Biological control
- Use of traps
- Cultural control

(1 mark)

10. Benefits of mulching

Any two:

- Conserves soil moisture.
- Suppresses weed growth.
- Reduces soil erosion.
- Regulates soil temperature.
- Adds organic matter when organic mulch decomposes.
- Reduces evaporation.

(2 marks)

11. Indicators of crop maturity

Any two:

- Change in colour
- Appropriate size
- Appropriate shape
- Firmness
- Characteristic smell/aroma
- Drying of leaves or pods
- Ease of detachment
- Required moisture content

(2 marks)

12. Characteristics of a good beef animal

Any two:

- Broad and deep body.
- Well-developed muscles.
- Short, strong legs.
- Wide hindquarters.
- Good feed-conversion ability.
- Rapid growth rate.
- Good disease resistance.

(2 marks)

13. Importance of a balanced livestock diet

Any two:

- Promotes growth and development.
- Provides energy.
- Supports reproduction.
- Maintains good health.
- Increases production of milk, meat or eggs.
- Improves resistance to diseases.

(2 marks)

14. Factors considered when selecting livestock housing

Any two:

- Adequate space
- Proper ventilation
- Good drainage
- Availability of water
- Security
- Protection from harsh weather
- Ease of cleaning
- Availability and cost of construction materials
- Proximity to the farm

(2 marks)

15.

Record: Any one:

- Feeding record
- Egg-production record
- Mortality record
- Sales record
- Vaccination/health record
- Financial record

(1 mark)

Reason: Any one:

- Helps monitor production.
- Helps determine profitability.
- Assists in planning.
- Helps identify poor-performing birds.
- Provides information for decision-making.

(1 mark)

SECTION B: 50 MARKS

16.

a) Importance of soil water in crop production

Any four:

1. **Dissolves nutrients** — Enables nutrients in the soil to become available for uptake by plant roots.
2. **Supports photosynthesis** — Water is a raw material used during photosynthesis.
3. **Maintains plant turgidity** — Helps plants remain firm and upright.
4. **Transports nutrients** — Carries dissolved nutrients from the roots to other parts of the plant.
5. **Supports seed germination** — Seeds require water to initiate germination.
6. **Regulates plant temperature** — Water loss through transpiration helps cool plants.

(4 marks)

b) Methods of conserving soil moisture

Any three:

- **Mulching** — Reduces evaporation from the soil surface.
- **Terracing** — Slows water movement and increases infiltration.
- **Contour farming** — Reduces runoff and allows more water to enter the soil.
- **Cover cropping** — Protects the soil and reduces evaporation.
- **Minimum/zero tillage** — Maintains soil structure and reduces moisture loss.
- **Planting windbreaks** — Reduces wind speed and evaporation.

(3 marks)

c) Measures for reducing soil erosion

Any three:

- Terracing
- Contour farming
- Strip cropping
- Planting cover crops
- Grass strips
- Agroforestry
- Mulching
- Maintaining vegetation cover
- Constructing check dams

(3 marks)

17.

a) Factors considered when selecting planting materials

Any four:

1. **High germination percentage** — Ensures good crop establishment.
2. **Freedom from pests and diseases** — Prevents introduction of pests and diseases into the farm.
3. **High-yielding variety** — Increases potential production.
4. **Adaptability** — The variety should perform well under local climatic conditions.

5. **Purity** — Ensures uniformity of the crop.
6. **Maturity period** — Should suit the farmer's production objectives.
7. **Market preference** — Produce should meet consumer requirements.

(4 marks)

b) Crop management practices after emergence

Any three:

- **Weeding** — Removes plants competing with potatoes for nutrients, water and light.
- **Earthing up** — Covers developing tubers and protects them from sunlight.
- **Fertiliser application/top dressing** — Supplies nutrients required for growth.
- **Pest control** — Prevents crop damage.
- **Disease control** — Prevents losses caused by diseases.
- **Irrigation** — Provides adequate water where rainfall is insufficient.
- **Mulching** — Conserves moisture and suppresses weeds.

(3 marks)

c) Factors influencing harvesting method

Any three:

- Type of crop
- Size of the farm
- Labour availability
- Cost of harvesting
- Stage of crop maturity
- Intended use of the produce
- Available harvesting equipment
- Weather conditions
- Amount of produce to be harvested

(3 marks)

18.

a) Signs of poor health in livestock

Any four:

- Loss of appetite
- Weight loss
- Dull coat
- Weakness
- Abnormal discharge
- Diarrhoea
- Coughing
- Difficulty breathing
- Reduced production
- Abnormal behaviour
- Lameness
- High body temperature

(4 marks)

b) Practices for preventing livestock diseases

Any three:

1. **Vaccination** — Protects animals against specific infectious diseases.
2. **Proper sanitation** — Reduces disease-causing organisms in animal housing.
3. **Quarantine** — Prevents newly introduced or suspected animals from spreading diseases.
4. **Proper nutrition** — Improves the animals' ability to resist diseases.
5. **Parasite control** — Reduces internal and external parasite infestation.
6. **Regular veterinary examination** — Allows early detection and treatment of diseases.
7. **Proper disposal of waste** — Reduces contamination and spread of disease.

(3 marks)

c) Factors considered when constructing livestock housing

Any three:

- Adequate space
- Proper ventilation
- Good drainage
- Availability of clean water
- Protection from extreme weather
- Security
- Ease of cleaning
- Proper lighting
- Availability of construction materials
- Cost of construction
- Accessibility

(3 marks)

d)

1. **Rabbit** — New Zealand White
2. **Goat** — Toggenburg
3. **Cow** — Friesian

19.

a) Uses of farm tools

Any four:

- **Wheelbarrow** — Used for transporting materials such as manure, soil and harvested produce.
- **Watering can** — Used for watering crops, especially seedlings.
- **Rake** — Used for collecting debris and levelling soil.
- **Pruning saw** — Used for cutting larger branches during pruning.
- **Jembe** — Used for digging, loosening soil, making planting holes and weeding.

(4 marks)

b) Practices for prolonging the useful life of tools

Any three:

- Clean tools after use.
- Dry tools properly before storage.
- Sharpen cutting tools regularly.
- Oil metallic parts to prevent rusting.
- Repair damaged tools promptly.
- Store tools in a dry, secure place.
- Use each tool for its intended purpose.
- Paint exposed metallic surfaces where appropriate.

(3 marks)

c) Advantages of agricultural technology

Any three:

- Increases production.
- Saves labour.
- Saves time.
- Improves efficiency.
- Reduces production costs.
- Improves quality of agricultural products.
- Enables precision in farm operations.
- Reduces post-harvest losses.
- Makes large-scale production possible.

(3 marks)

20.

a) Profit calculation

Total revenue = KSh 20,000

Total cost = KSh 12,000

Therefore:

Profit = Total revenue – Total cost

Profit = 20,000 – 12,000

Profit = KSh 8,000

(2 marks)

b) Factors affecting profitability

Any three:

1. **Cost of inputs** — High input costs reduce profit.

2. **Market price** — Higher selling prices increase revenue and profit.
3. **Production level** — Higher yields can increase total sales.
4. **Pests and diseases** — Reduce production and increase control costs.
5. **Weather conditions** — Drought or excessive rainfall can reduce yields.
6. **Labour costs** — High labour expenses reduce net profit.
7. **Transportation costs** — High transport costs reduce returns.
8. **Market demand** — Strong demand can improve selling prices.

(3 marks)

c) Ways of adding value to tomatoes

Any three:

- Processing tomatoes into tomato sauce.
- Making tomato paste.
- Producing tomato juice.
- Drying tomatoes.
- Canning tomatoes.
- Packaging tomatoes attractively.
- Sorting and grading according to quality and size.

(3 marks)

d) Qualities of successful agricultural entrepreneurs

Any two:

- Creativity
- Innovation
- Hard work
- Persistence
- Risk-taking ability
- Good decision-making
- Good financial management
- Good communication skills
- Ability to identify business opportunities

(2 marks)

KENYA CERTIFICATE OF BASIC EDUCATION
SENIOR SCHOOL ASSESSMENT
TERM 3 PROJECT-BASED-ASSESSMENTS 2026

GRADE 10 – AGRICULTURE

Time: 2 Hours

LEARNER'S DETAILS

Name: _____ **School:** _____

Assessment Number: _____ **Date:** _____

School Code: _____ **Signature:** _____

INSTRUCTIONS TO CANDIDATES

1. Write your name in the spaces provided above.
2. Write the name of your school and your stream in the spaces provided.
3. Write your admission number and the date of the assessment in the spaces provided.
4. All answers **MUST** be written in the spaces provided in the paper.
5. Do **NOT** remove any page from this question paper.

Time: To be determined by the school

Assessment Mode: Individual/Group Practical Project

PROJECT TITLE

Establishment and Management of a Small Vegetable Production Enterprise

PROJECT TASK

The learner is required to **plan, establish and manage a small vegetable production plot** using locally available resources.

The project should involve the following activities:

1. Select a suitable site for vegetable production.
2. Prepare the land appropriately.
3. Select a suitable vegetable crop such as **kale (sukuma wiki), spinach, onion, tomato, cabbage or indigenous vegetables**.
4. Prepare or demonstrate appropriate planting materials.
5. Carry out planting using the recommended spacing.
6. Apply suitable soil fertility management practices.
7. Demonstrate appropriate crop management practices such as weeding, watering, mulching and pest/disease control.
8. Keep simple records of the activities carried out.
9. Demonstrate safe and responsible use of agricultural tools and materials.
10. Present the completed project and explain the practices used.

PROJECT REQUIREMENTS

The learner should provide:

- A small piece of land or suitable container/garden space.
- Appropriate planting materials.
- Agricultural tools required for the task.
- Manure or another locally available soil-fertility material.
- Water where necessary.
- A simple project record book/notebook.

ASSESSMENT RUBRIC – 20 MARKS

Assessment Area	Expected Performance	Marks
1. Site selection and preparation	Selects a suitable site and prepares it correctly for crop production	3
2. Selection and preparation of planting materials	Selects healthy, suitable planting materials and prepares them appropriately	2
3. Planting	Demonstrates correct planting procedure, depth and spacing	3
4. Crop management	Correctly carries out watering, weeding, mulching and other relevant management practices	4
5. Soil fertility management	Applies appropriate manure/fertiliser and demonstrates proper soil fertility practices	2
6. Pest and disease management	Identifies common problems and demonstrates appropriate control measures safely	2
7. Record keeping	Keeps accurate records of activities, inputs and observations	2
8. Safety, responsibility and presentation	Uses tools safely, maintains cleanliness and explains the project clearly	2
TOTAL		20

PERFORMANCE LEVELS

Level	Description
Excellent	Performs the task accurately, independently, safely and demonstrates a clear understanding of the agricultural practices.
Good	Performs most tasks correctly with minimal assistance.
Fair	Performs some tasks correctly but requires guidance.
Needs Improvement	Has difficulty performing the required tasks and requires substantial assistance.

LEARNER'S PROJECT RECORD

The learner should maintain a simple record containing:

Name: _____

Grade: 10 _____

Crop: _____

Project Start Date: _____

Site: _____

Date	Activity Carried Out	Materials/Tools Used	Observation

TEACHER'S ASSESSMENT

Total Score: _____ / 20

Teacher's Comment:

Teacher's Name: _____

Signature: _____

Date: _____

ANSWERS AND MARKING SCHEME

Project: Establishment and Management of a Small Vegetable Production Enterprise
MARKING SCHEME

1. Site Selection and Preparation — 3 Marks

Award **1 mark each** for any three correctly demonstrated/identified practices:

- Selects a site with suitable, fertile and well-drained soil — **1 mark**
- Selects a site with adequate access to water — **1 mark**
- Clears the site of weeds, stones and unwanted materials — **1 mark**
- Loosens and prepares the soil adequately — **1 mark**
- Makes appropriate beds/ridges/planting stations — **1 mark**

Maximum: 3 marks

2. Selection and Preparation of Planting Materials — 2 Marks

Award:

- Selects healthy, viable and disease-free seeds/planting materials — **1 mark**
- Correctly prepares the planting materials for planting — **1 mark**

Maximum: 2 marks

3. Planting — 3 Marks

Award:

- Demonstrates the correct planting procedure — **1 mark**
- Uses appropriate planting depth — **1 mark**
- Maintains recommended spacing between plants/rows — **1 mark**

Maximum: 3 marks

4. Crop Management — 4 Marks

Award **1 mark each** for any four correctly demonstrated practices:

- Regular and appropriate watering — **1 mark**
- Timely removal of weeds — **1 mark**
- Appropriate mulching — **1 mark**
- Thinning where necessary — **1 mark**
- Gap filling — **1 mark**
- Staking/supporting crops where required — **1 mark**
- Proper field sanitation — **1 mark**

Maximum: 4 marks

5. Soil Fertility Management — 2 Marks

Award:

- Identifies an appropriate source of nutrients, e.g. well-decomposed manure or suitable fertiliser — **1 mark**
- Applies the soil-fertility material correctly and safely — **1 mark**

Maximum: 2 marks

6. Pest and Disease Management — 2 Marks

Award:

- Correctly identifies at least one likely pest or disease affecting the selected crop — **1 mark**
- States/demonstrates an appropriate control measure, e.g. sanitation, physical control, cultural control or safe use of an approved pesticide — **1 mark**

Maximum: 2 marks

7. Record Keeping — 2 Marks

Award:

- Records dates and agricultural activities carried out — **1 mark**
- Records inputs used and relevant observations/results — **1 mark**

Maximum: 2 marks

8. Safety, Responsibility and Presentation — 2 Marks

Award:

- Handles agricultural tools and materials safely and responsibly — **1 mark**
- Maintains cleanliness and gives a clear explanation/presentation of the project — **1 mark**

Maximum: 2 marks

SUMMARY OF MARK ALLOCATION

No.	Assessment Area	Marks
1	Site selection and preparation	3
2	Selection and preparation of planting materials	2
3	Planting	3
4	Crop management	4
5	Soil fertility management	2
6	Pest and disease management	2
7	Record keeping	2
8	Safety, responsibility and presentation	2
TOTAL		20

SUGGESTED PERFORMANCE RATING

Score	Performance Level
17–20	Exceeds Expectations
13–16	Meets Expectations
9–12	Approaches Expectations
0–8	Below Expectations

TEACHER'S FINAL ASSESSMENT

Learner's Name: _____

Crop/Project: _____

Score: _____ / 20

Performance Level: _____

Teacher's Remarks:

Teacher's Name: _____

Signature: _____ **Date:** _____