

553/2

BIOLOGY

Paper 2

April 2025

2½ hours

Uganda Certificate of Education

BIOLOGY

Paper 2

Practical

2 hours 30 minutes

INSTRUCTIONS TO CANDIDATES:

This paper consists of **two** examination items. **Answer all** the items in the spaces provided.

Drawings should be made in the spaces provided. Use sharp pencils for your drawings. Coloured pencils or crayons should not be used.

No additional sheets of writing paper are to be inserted in the booklet.

Work on additional sheets will not be scored.

1. Sarah prefers to buy oily junk foods from the school canteen which she depends on for all meals of the day and eats at least an orange a day. One month later, Sarah is observed to walk very slowly at all times, she cannot participate in P.E activities, her arms and legs became smaller. She visited the school nurse claiming to be having malaria and that she wants to go home. The nurse examined her and advised her to start eating school foods to improve her condition. Joan does not believe the nurse and insists on going home.

You have been provided with solutions D and E which are extracts from school foods and the canteen foods respectively.

(Solution D is school food extract mixture and Solution E is canteen food extract mixture)

Task:

Design and carryout a scientific investigation(s) on the two samples and use the results to explain to Sarah the cause of her condition and why she should eat school food.

(a) Aim of the experiment, hypothesis and variables in the experiment

This image shows a full page of white paper with horizontal dotted lines. The lines are evenly spaced and run across the width of the page, providing a guide for handwriting practice. There are no margins, text, or other markings on the page.

[illegible]

2. Mark a young farmer weeds his cassava garden regularly, however he noticed one plant that keep's appearing in his garden just a few weeks after weeding. He also observed some birds around his garden that keep dropping feaces everywhere. Mark is wondering why this plant keep's appearing in his garden, he suspects that the birds could be responsible.

Tasks: You are provided with specimen K which is part of the plant that keep's growing in Mark's Garden.

- a) Using observable features, identify the plant part K

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- b) Explain to Mark how the plants keep appearing in his garden and how the birds could be responsible for their appearance in the garden.

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- c) Draw and label specimen K illustrating the arrangement of seeds in it.

END

CONFIDENTIAL

Each candidate should be provided with

- 10mls of solution **E** prepared by mixing 5% glucose solution with 5mls of cooking oil per 100mls of solution.
- 10 mls of solution **D** prepared by mixing 2% egg albumen, 5% starch and 5% glucose. (5g of egg albumen + 5g of starch + 5g of glucose in 100mls of water)
- 1 Specimen **K** (Ripe Guava fruit)
- 5 test tubes
- Beakers
- Litmus paper

Access to:

- All food test reagents
- Heat source
- Water point