

YOUR GUIDE TO THE NEW CURRICULUM

S3 BIOLOGY

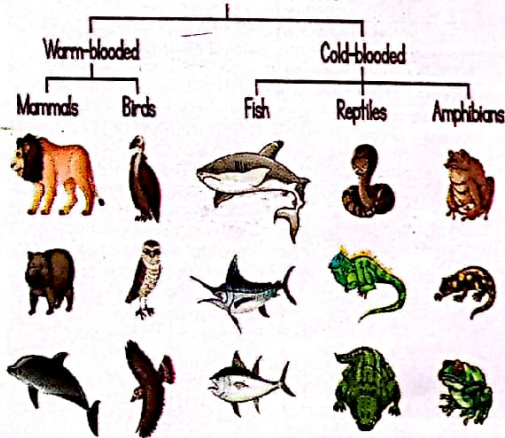
THEORY PAPER 1
INSTRUCTIONS

Answer one question from each section

SECTION A (20 MARKS)

1. Your community intends to open an animal sanctuary composed of only chordates. This is hoped to protect the animals and be used both as an educational and tourism facility. The sanctuary will have five sections corresponding to the main five groups of chordates.

Classification of Vertebrates



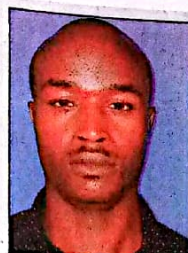
Task
As the first manager, write brief notes about the chordates that you will have attached to each section of the sanctuary.

2. Yotokoro Urban Council experienced an outbreak of cholera last year. The investigation team examined many factors but concluded that the common water source shared all living things in the council. The water from the swamp was smelly and muddy, most fish had died and had become shallow.



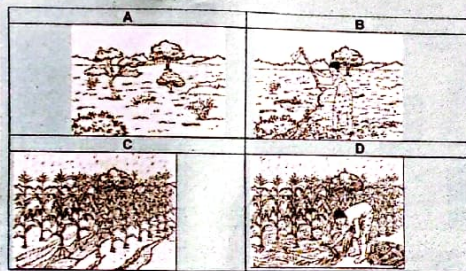
Task
Evaluate how the activities of the members of the town council influenced the state of the swamp and the cholera outbreak including how it can be improved

THE TEACHERS

JOHN NDEGACHIUS,
TRINITY COLLEGE NABBINGOGAO KWIZERA
TEACHER AND AUTHOR

SECTION B (20 MARKS)

3. The following figure shows images obtained during research to document the farming habits of a farmer in a rural village in Uganda.



Task
Discuss how you would use the images to address a group of P.7 pupils about soil erosion and conservation.

4. John transplanted his young seedlings to the main garden. He had expected that it would rain immediately, unfortunately, it did not rain and the weather was hot and sunny. His seedlings trained started to wither. The District Agricultural officer advised him to have an irrigation system installed in his garden. However, did not have enough money but then hired a water pump and sprayed water in his garden. The plants regained their freshness and started to grow very well.



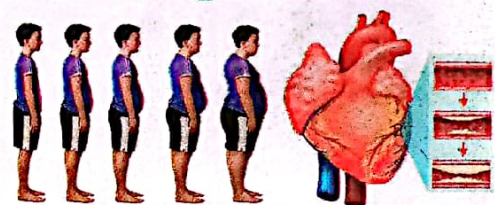
Task
Prepare a write-up detailing to John how the weather and water situation affected his seedlings.

SECTION C (20 MARKS)

5. In 2016, Uganda Demographic and Health Survey (UDHS) found: 4% of children under five years, and 16% of adolescent girls were obese, a rise from 2.4% of boys and 2.1% of girls in 2014.

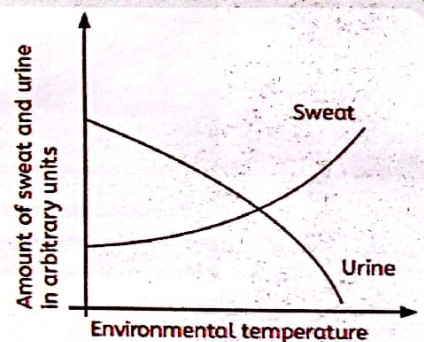
However, when a group of S.2 of Kak high school in a health survey in 2022, measured the BMI of the students and found that 30% of the students in the school were either overweight or obese.

The headteacher tasked them to assist the school in designing strategies to overcome the challenge



Task
Discuss how feeding habits and one's lifestyle contribute to the challenge and how it contributes to the increase in the rate of diseases associated with the heart.

6. Ian's younger sister noted that every day that it is hot, she produces a lot of sweat but little urine infrequently. She also noted that on a cold day, she hardly sweated and yet produced a lot of urine. Frequently.

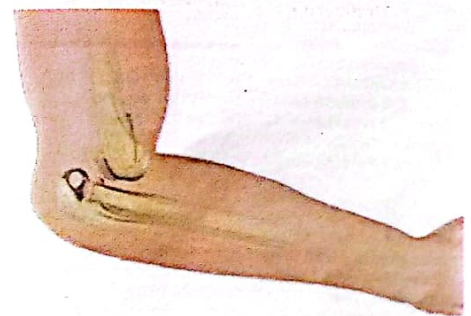


Task
Explain how the organs function in her body to result in the observations that she made in both hot and cold weather.

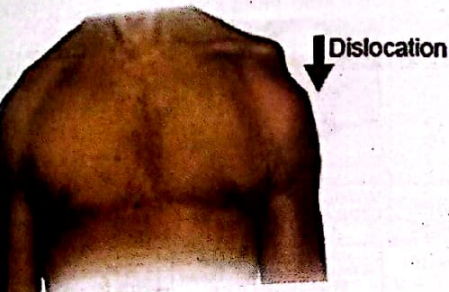
SECTION D (20 MARKS)

7. During a heavy downpour, Richard fell down and dislocated his elbow and shoulder joints and was unable to move his arm. The school doctor referred him to a physiotherapist to have the bones realigned.

On visiting the physiotherapist, his bones were realigned but was not given any medicines to take. He wondered then how was again able to stretch and fold his arm without pain.



S3 BIOLOGY



Task
Prepare a write-up to explain to Richard how the accident and the work of the physiotherapist affected the movement of his arm.

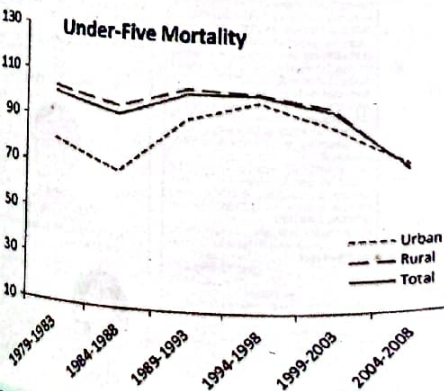
Grace, 56 years old who has hearing impairment noted that she progressively had to hold the newspaper a bit farther from her to clearly see the words. Otherwise, the words were either invisible or blurred. When she visited an optician and her eyes were examined, she was given reading glasses to use. To her amazement, when she put them on, she could easily read the newspaper at a close distance.



Explain to Grace in writing about her eye condition and how it was solved.

QUESTION E (20 MARKS)

Many refugee and rural communities in Uganda experience a high infant mortality rate. To improve the infant survival rate, the Ministry of Health implemented mandatory antenatal medical care training of expectant parents on the aspects of care for babies prior to birth.



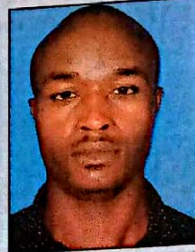
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THE TEACHERS



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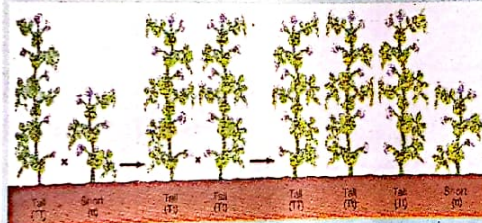


GAD KWIZERA
TEACHER AND AUTHOR

Task

Write an article to be published in your community newspaper and hoe the strategies of the Ministry of Health will remedy the situation.

10. A farmer obtained bean seeds from the same tall plant and planted them. He noted that some seeds grew into short plants while others grew into tall plants. He then removed all the anthers from the short plants and stigmas from the tall plants to ensure short plants were only pollinated by tall plants. On maturity, he harvested seeds from the short plant and planted them and noticed that some seeds grew into short plants while others grew into tall plants.



Task

Explain the observations made by the farmer.

END

PRACTICAL PAPER TEST 1 INSTRUCTIONS

Answer all questions

1. At nutritional facility at Mbale regional referral hospital, a nutritionist observed that one child in as much as he was fed on the same food materials as the rest, he remained emaciated for months.

She then recommended for the child to be given glucose orally for a one month after which he improved. You have been provided with solutions X and Y that were obtained from the duodenum of the previously emaciated child and a non-emaciated child respectively. You have also been provided with a starch solution.

Task

(a) Carry out an investigation on the solutions X and Y provided.
(b) Use your findings in (a) to explain the condition of the child.

2. During a long holiday, an S.I student left his books and clothing in a suitcase and went together with his mother to visit his grandmother for a month. On his return, his books were destroyed, and the pieces of meat they had forgotten to throw away were covered by some organism

Specimen P was taken from his suitcase and specimen Q was found covering the piece of meat.



Task

(a) Observe the specimens and identify them and discuss how the features organism P enabled it to enter inside the suitcase and destroy the books.
(b) Cut off the wings of specimen Q. Draw and label it.

PRACTICAL PAPER TEST 2 INSTRUCTIONS

Answer all questions

1. Abel wanted to prepare a beautiful clay pot and give it to his mother as a gift on Mother's Day. He had no money to buy the soil sample to use so he decided to use the soil around his home area. He collected two soil samples A and B but he could not easily decide which sample to use.

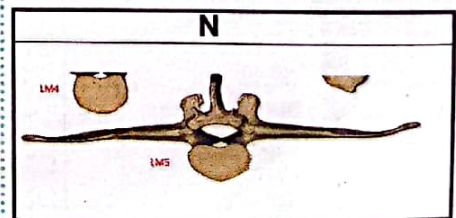
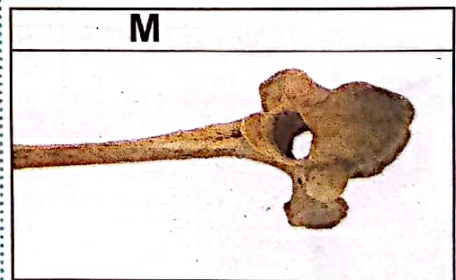


Task

(a) Carry out an investigation on the soil samples A and B provided.
(b) Use your findings in (a) to advise Abel on the soil sample to use.

2. A group of students from your neighboring school was scheduled to visit your school and tour the Biology laboratory under the guidance of your teacher. However, on the fateful day, your teacher was delegated by the head teacher to represent the school at the ministry.

Your teacher allocated each member of your class to present a section to the visiting students. You were assigned specimens M and N



Task

Prepare a write-up of your structural and functional features of the specimens you were assigned.

SOLUTIONS NEXT SATURDAY



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