

Learner's Name

Learner's Number

Signature

Biology S1

Paper 1

Apr / May

2023

2 hours



HARROAN EDUCATION

UGANDA CERTIFICATE OF LOWER SECONDARY EDUCATION

BIOLOGY SENIOR ONE

PAPER 1

INSTRUCTIONS

2 HOURS

- This paper contains 10 questions in section A and 5 questions in section B
- Answer all questions in section A and only 3 in section B.
- Answer all questions in the spaces provided.

For examiner's use only

Question	1 - 10	11	12	13	14	Total
Marks						

Section A (50 marks)

(short term response questions)

Answer all questions in this section

1. Bees normally visit flowers as they are looking for nectar to feed on. The visit of the bees to the flowers is of importance to the bees, to the flowers and to humans. The picture below shows a bee visiting a flower. Use it to answer the questions that follow. (qn 1 and 2)



- a) Outline the life processes carried out by the bee in order from the moment when the bee saw the flower to the moment when the bee picked the nectar. (02 marks)

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- b) Briefly describe how each of the life processes in (a) led to the other from the moment when the bee saw the flower to when it picked the nectar (03 marks)

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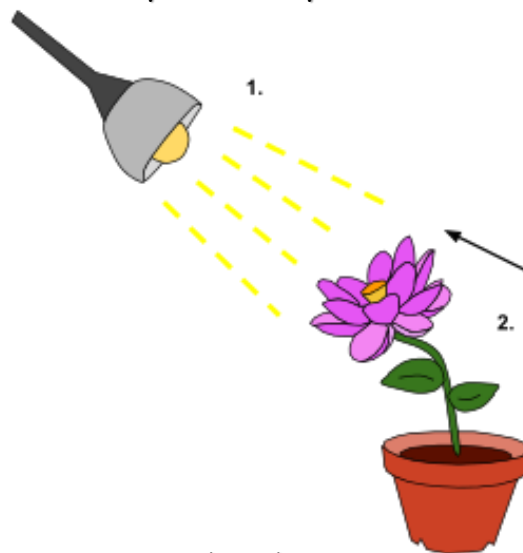
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2. Plants benefit greatly when bees visit their flowers. When bees feed on pollen and nectar, some pollen sticks to the hairs of the bee's body. When the bee visits the next flower, some of the pollen is rolled off onto the flower which results into a particular life process in plants.

a) With a reason, identify the life process which occurs in plants after bees visiting them (02 marks)

b) Describe the importance of the life process in (a) above to organisms (03 marks)

3. Life processes form the basis of existence of organisms on planet Earth. They are essential for an organism to stay health and maintain its proper functioning. Below is a picture showing a particular life process in plants.



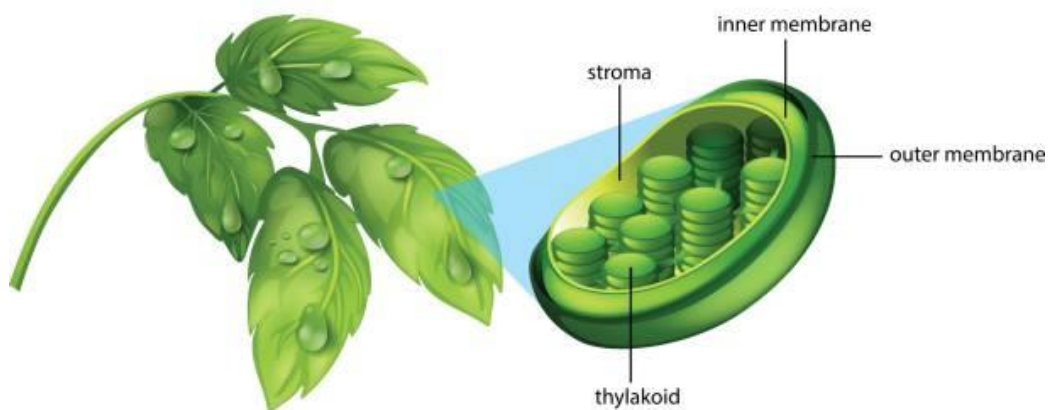
a) State the life process portrayed in the picture.

ii) Describe the importance of the life process to the organisms. (02 marks)

[illegible][illegible]

4. Chloroplasts are round oval shaped organelles within a plant cell involved in the synthesis and storage of food stuffs. They are green in colour due to the presence of chlorophyll

Chloroplast in Plant Leaf



Describe all the effects on the structure and the functioning of a plant cell that would occur incase it loses or lacks a chloroplast. (05 marks)

[illegible]

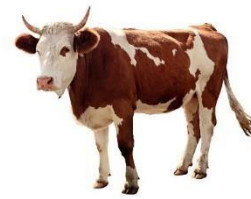
5. Classification is the process of placing organisms in particular groups basing on their similarities in structures and physiological processes. Classification simplifies the identification and the studying of organisms. Below are some organisms; you are to classify them following the given guidelines.



Maize



Goat



Cow



Tiger



Lion



Bean

a) With reasons, organize them into 2 groups. (write the names of the organisms)

Group1	Group 2

Reasons

(03 marks)

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b) With reasons, further divide the largest group from a) into two groups

Group2a	Group2b

Reasons

(02 marks)

[illegible]

6. Matovu received a new biology 3d model on his birthday from his mother. The model has various organs of a human body, label and name all the organs you see then state their functions in the space given below. (05 marks)

[illegible]

7. Some of the economic activities carried out around our society involve the knowledge of biology. The pictures below show the economic activities involving the use of biology.



a) Identify the occupations above. (02 marks)

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b) Describe how biology is involved in the occupations above. (03 marks)

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8. Clouds are visible mass of water droplets or frozen crystals suspended in the atmosphere. they play an important role when we are predicting a change in weather.

Describe the characteristics of clouds in the sky which might qualify them as living things and those which dont qualify them. (05 marks)

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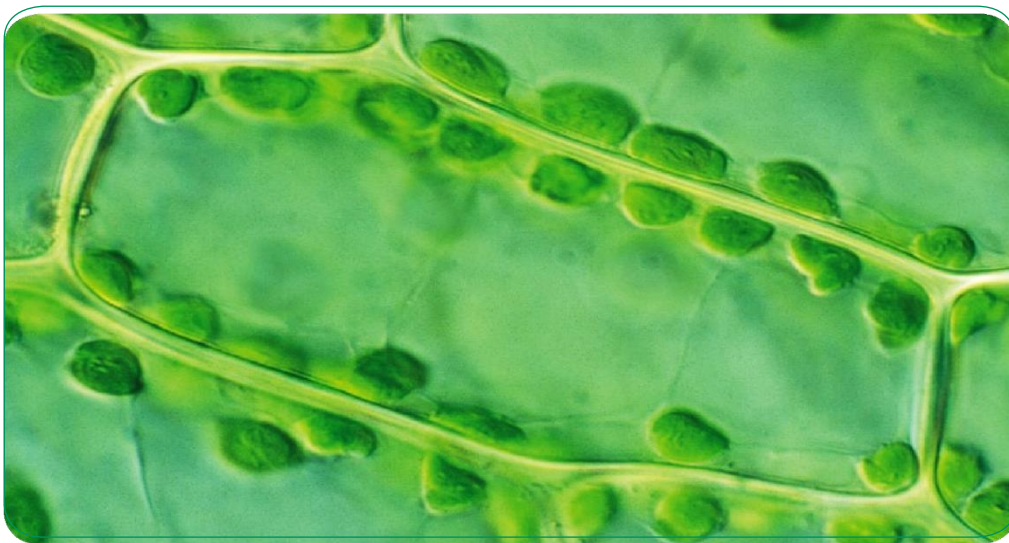
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9. After missing a biology practical lesson about viewing a plant cell under a light microscope, Nakabiti was tasked by her teacher to go and view the prepared slides which had been viewed by her friends over 4 hours ago in the laboratory. The instructions were to view and draw a plant cell the way you view it under the microscope. Learners were supposed to draw only what they saw not the theoretical drawings.



Draw and label a drawing Nakabiti was to come up with basing on the image above. Draw and label only what you see. Your drawing should have a title, be neat, have a magnification and well labelled. (05 marks)

10. a) One day in class, Mrs. Jane defined locomotion as the complete displacement of the whole organism from one place to another. She then posed a question that should locomotion be included among the life process carried out by all living things. Tom said yes and John said no.



Using the pictures above as a reference, explain who was right; Tom or John. (03 marks)

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b). After her evening biology lesson about the 7 characteristics common to all living things, Harriet went back home reciting them that they include growth, reproduction, respiration, sensitivity, excretion, nutrition and movement. When she went back home she found her father looking at a dead rat next to spider web. Wanting to challenge her father, she asked him to name the 7 characteristics common to all living things but to her surprise, her father gave her 8 including death. She sat down and asked herself 2 questions. Is death common to all living things and if yes why didn't Mrs. Jane include it among the characteristics common to all living things.

Explain why death is not included in the life processes common to all living things. (02 marks)

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Section B (30 marks)

(Extended response questions)

Answer only 3 questions in this section

11). Every aspect of daily life is influenced by biology. People rely on living organisms and their products for fuel, food, houses, personal care, goods, medication and homes. Biology provides answers to widespread problems that might have an impact on people all over the world. It might even be able to solve environmental problems that might have an impact on people all over the world. The pictures below show some involvements of biology in daily life.



You have been chosen by your class teacher to give a speech to your parents on how biology is involved in daily life. In your speech, explain to them 6 different ways biology is involved in daily life. (10 marks)

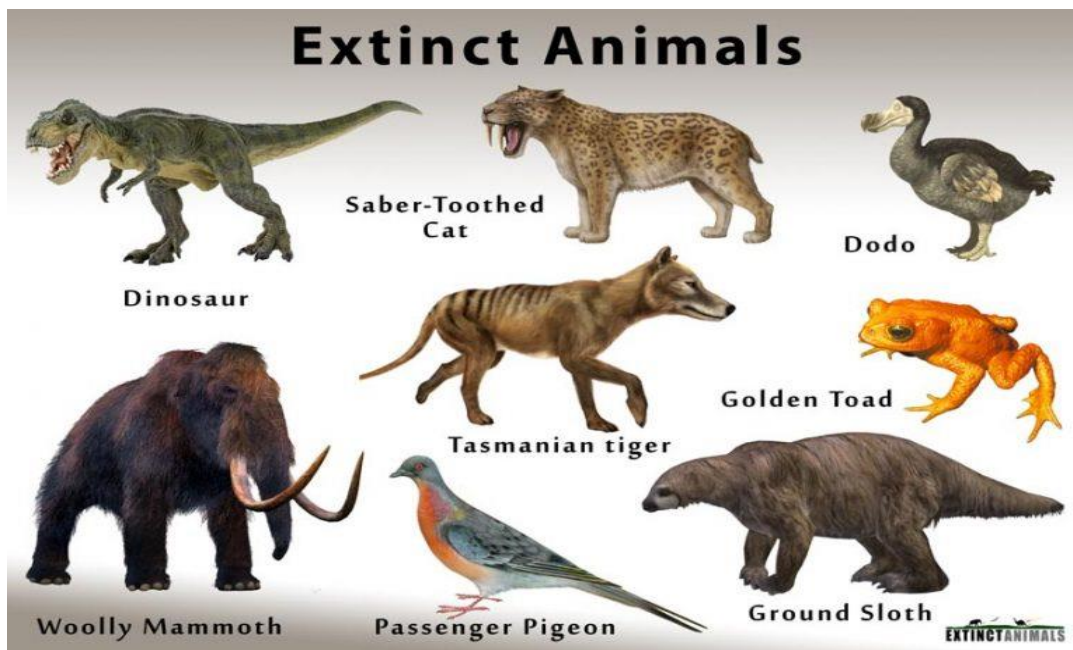
12. Agriculture is one of the most dependable economic activities in the world. Long ago, farmers used the most primitive methods of farming which decreased crop yields, led to outbreak of crop diseases and attracted pests. Farmers depended on rain to decide farming which highly limited crop growth.

The development of agriculture in very many years has greatly changed ways how humans have lived. They have switched from poor methods of farming to improved method using biology and advancement in technology related with biology.



Imagine you time travel back to 1900. Explain various biology related ways you would teach to farmers on how they would improve their crop yields. (10 marks)

13. Animals are classified in their own kingdom called kingdom Animalia. This consists of insects, humans, fish, birds, herbivores, carnivores etc. animals are important in various ways. When a particular species of animals dies and is completely wiped out from their ecosystem, it is called extinction. Extinction is death of the entire species of particular organisms resulting into their total complete wipeout from their habitats. Many organisms have been extinct like dinosaurs, dodo etc. In Uganda some fish species have been extinct from Lake Victoria.



The National Environment Management Authority. (NEMA) is looking for a person to employ as the Environment Education Manager. He or she is responsible for sensitizing people on different ways they can protect the environment and preserve plants and animals to prevent their extinction. Write an application letter for the job. In your application, explain ways you can ensure that animals are conserved (birds, fish, insects etc) (10 marks)

14. cells are the basic units of life. The cellular level forms the first and the most basic level of organization of organisms. All living and non-living things are made up of one or more unique substances.

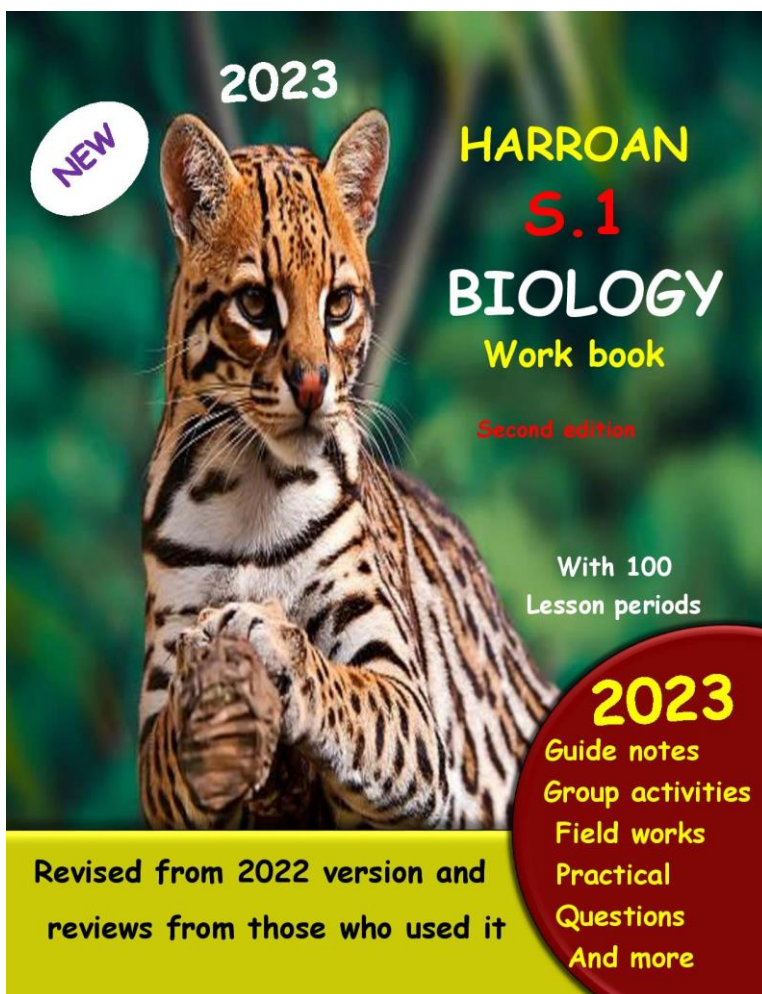
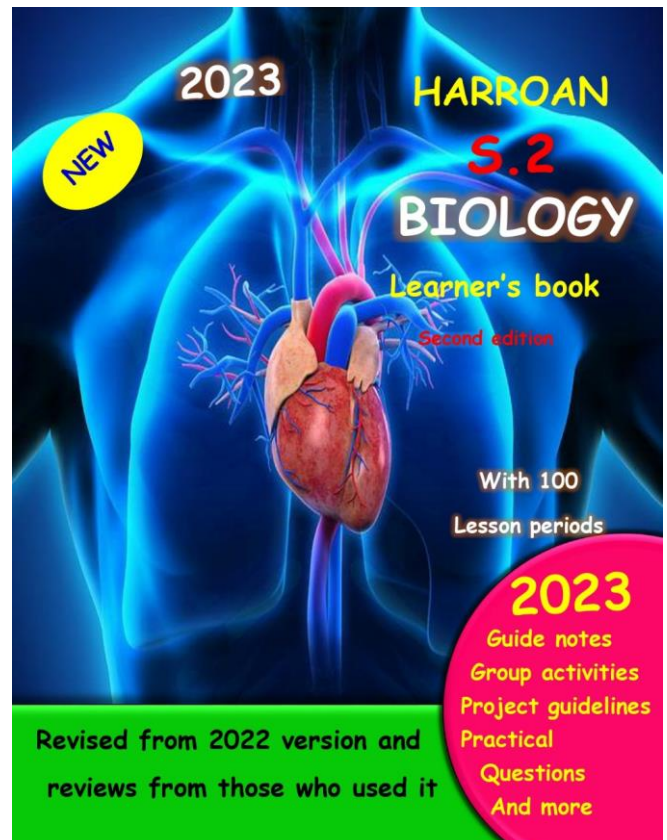
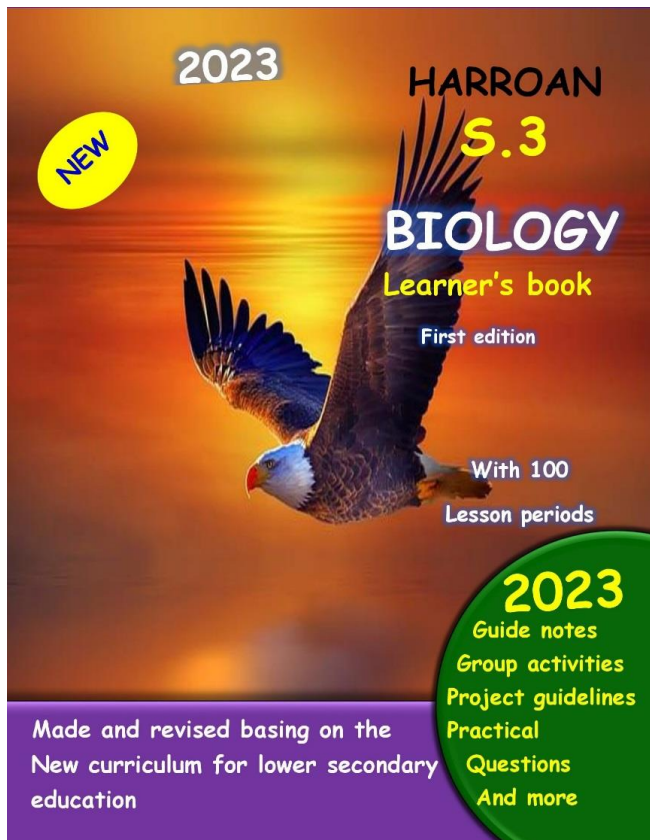
Using particular examples, describe the level of organization from simplest to complex.

15. A desert Island is an uninhabited Island where no people live. Most of the time the water surrounding is not safe for drinking since it is not pure. The water surrounding the Island contains fish and the Island contains trees.



Imagine you are to be placed on a desert Island for more than a week, and you are only to take three things with you to help you survive. Which 3 things would you ask and describe how you would survive for a week with the things you have chosen carrying out all the life processes of living things.

END



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