

THE SIPRO MOCK 2023

INTEGRATED SCIENCE

Time Allowed: 2 Hours 15 Minutes

Index No.

| Random No. | | | | | Personal No. | | |
|------------|--|--|--|--|--------------|--|--|
| | | | | | | | |

Candidate's Name: _____

Candidate's Signature: _____

School Random No. _____

District: _____

READ THE FOLLOWING INSTRUCTIONS CAREFULLY:

1. This paper has two sections: A and B.
2. Section A has 40 questions (40 Marks).
3. Section B has 15 questions (60 Marks).
4. Attempt all questions in both sections. All answers to both sections A and B must be written in the spaces provided.
5. All answers must be written in blue or black ball point pens or ink. Only diagrams and graph work must be done in pencil.
6. Unnecessary alteration of work will lead to loss of marks.
7. Any handwriting that cannot be easily read may lead to loss of marks.
8. Do not fill anything in the boxes indicated:
"FOR EXAMINER'S USE ONLY"

For Examiner's Use Only;

| PAGES | MARKS | INITIALS |
|--------|-------|----------|
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SECTION A: 40 MARKS

Questions 1 to 40 carry one mark each.

1. Name the part of a lever that lies between the effort and the fulcrum.

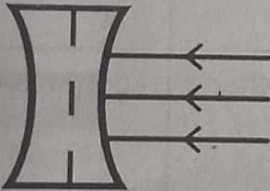
2. Which food value is obtained from eating food from legumes?

3. How are antennae on an insect similar in function to the skin in mammals?

4. State one activity done by bee keepers to attract bees to occupy a new hive.

5. Give a reason why a person suffering from diarrhoea should be given treatment for dehydration.

6. Name any one exotic breed of goats kept for milk production.

7. In the diagram below, draw the light rays as they pass through the the given lens.


8. In which way does wearing shoes help in the prevention of anaemia?

9. Name the reproductive cells in most fungi.

10. State the role of the brain in the process of hearing.

11. How are spiders helpful in the control of malaria in a home?

12. Apart from high temperature, name any other agent that contributes to the weathering process during soil formation.



13. Write the importance of the blubber to aquatic animals like whales and dolphins.

14. How are red blood cells able to carry oxygen in the human body?

15. Name the disease of the heart caused by regular smoking of tobacco.

16. Write any one way a sheep farmer can identify a sick sheep on the farm.

17. Where in plants does fertilization take place?

18. How does paddock grazing help to control the spread of tickborne diseases amongst cattle?

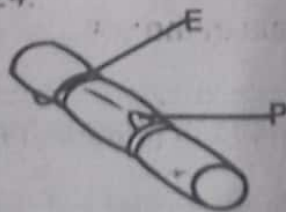
19. State one effect of polio to an individual.

20. How is the liver important during the process of digestion?

21. State one primary sex characteristic that is common in both adolescent boys and girls.

22. Give the role of sunlight during the process of photosynthesis.

The diagram below is of part of a sugarcane. Study and use it to answer questions 23 and 24.



24. Give **one** function of part marked with letter **P** on the diagram.

25. In which way are humps important on busy roads?

26. How is the process of digestion important in the human body?

27. Why is it difficult to put off petrol fire using water?

28. State any **one** practice done to conserve soil in hilly areas.

29. Name the region of the kidney where urine is formed.

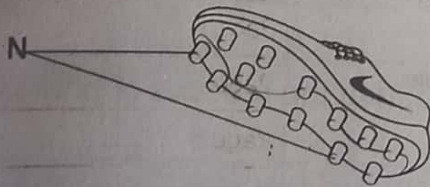
30. How is a biological change similar to a chemical change?

31. Why is it important to wear clean clothes?

32. Give a reason why school children are advised to abstain from sex until marriage.

33. Name the process in plants that helps in rain formation.

The diagram below is of a sports shoe. Use it to answer question 34.



34. Why are structures marked with letter **N** useful to a football player on a rainy day?

35. State any **one** characteristic of images formed by plane mirrors.

36. Which form of smoking is suffered by family members whose father comes back home while smoking?

37. Why should parents feed their children on a balanced diet?



38. How are plant roots able to absorb water and mineral salts from the soil?

39. In which way is taking an underdose dangerous to the health of a sick person?

40. State any **one** activity in a home which requires the use of the decantation method.

SECTION B: 60 MARKS

Questions 41 to 55 carry four marks each.

41. a) Name the type of germ which causes measles.

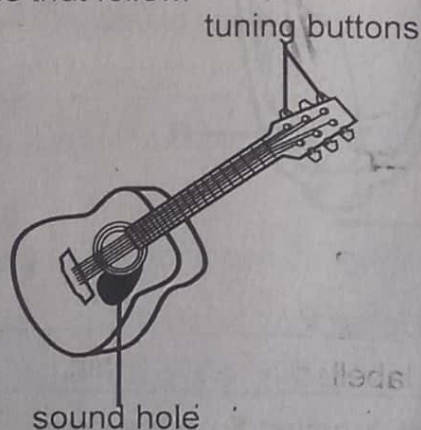
b) Mention **one** sign and **one** symptom of measles in infants.

i) sign _____

ii) symptom _____

c) Give a reason why the measles vaccine is not administered to babies at birth.

42. The diagram below shows a musical instrument. Study and use it to answer the questions that follow.



a) To which group of musical instruments does the one drawn above belong?

b) How does the musical instrument drawn above produce sound?



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c) State the function of the following features indicated on the guitar above.

- i) sound hole _____
ii) tuning buttons _____

43. Match the body organs in list A with their functions in list B.

List A

liver

brain

lungs

nose

i) brain _____

ii) liver _____

iii) nose _____

iv) lungs _____

List B

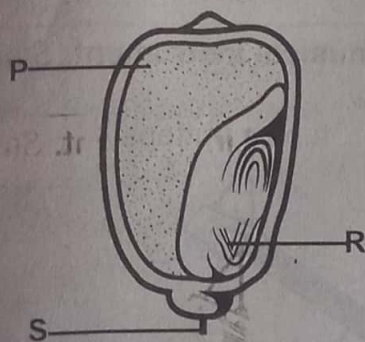
detects smell

stores vitamins and mineral salts

balances the body

for breathing

44. The diagram below shows a maize grain. Study it carefully and use it to answer the questions that follow.



a) Name part marked with letter P.

b) State the function of part labelled S on the grain.

c) What does part labelled R develop into after germination?

d) Give the reason why a maize grain is regarded as a fruit.



45. a) Name the pole of a magnet from which the lines of force run.

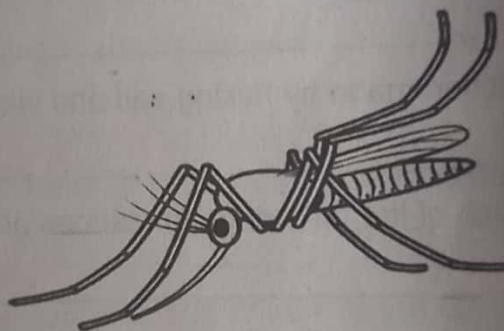
b) Which method enables a piece of iron attached to a permanent magnet gain magnetism?

c) Mention any **two** ways of making a magnet lose magnetism.

i) _____

ii) _____

46. The diagram below shows an adult stage of a mosquito. Study and use it to answer the questions that follow.



a) Identify the type of mosquito shown in the diagram above.

b) Use letter **P** and a label to show the part a mosquito uses for feeding.

c) How is the mosquito drawn above dangerous to people's health?

d) How can mosquitoes at the stage shown above be controlled in a community?

47. a) Mention any **two** activities in which inclined planes can be used in our daily life.

i) _____

ii) _____



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PUPIL'S COMPANIONS

b) Give two ways people using inclined planes can increase on their working rate.

- i) _____
- ii) _____

48.a) Name the structures on poultry feet that enable them scratch the ground as they look for food.

b) State any **two** factors considered when choosing the type of mash to be given to poultry.

- i) _____
- ii) _____

c) Give any **one** factor that may lead to low egg production on a poultry farm.

49.a) Name the solution made by mixing salt and water.

b) What does each of the following substances act as in the solution formed?

- i) salt _____
- ii) water _____

c) How can salt be recovered from such a solution?

50.a) What form of energy is stored in dry cells?

b) State the energy change which occurs in a functioning dry cell.

c) Name the non-metallic conductor of electricity in a dry cell.

d) Which form of current electricity is produced by a dry cell?



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IGNITE CRITICAL THINKING AND EXPERIENCE ACTUAL LEARNING WITH THE ACTIVITY BOOKS, SEMAS, TR'S GUIDES AND PUPIL'S COMPANIONS.

51. The diagram below shows a common accident at home. Study and use it to answer the questions that follow.



a) State **two** possible accidents which may occur from the situation above.

i) _____

ii) _____

b) State the first aid which can be given to the baby in case of any of the accidents mentioned in (a) above happens.

c) What can be done at home to prevent such accidents from happening?

52. a) Name the mineral element which is absent in breastmilk.

b) State **one** way in which breastfeeding is important in each of the following situations:

i) promoting the health of the baby

ii) promoting child spacing in a family

c) Why should breastfeeding mothers be given plenty of fluids to drink?



53.a) Give the function of the following parts on a thermos flask:

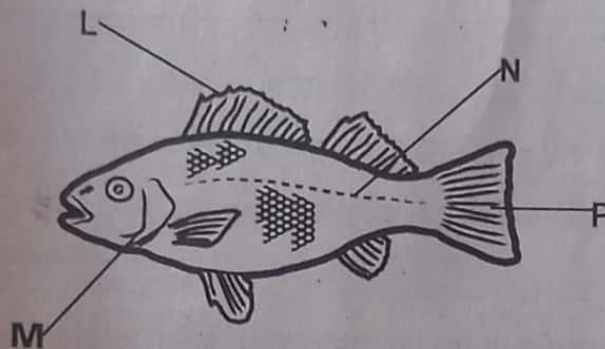
i) double silvered walls _____

ii) vacuum _____

b) Name **one** material from which the cork of a thermos flask is made.

c) Write any **one** way of caring for a thermos flask.

54. The diagram below is of a fish. Study and use it to answer the questions that follow.



a) Name the part marked with letters;

i) L _____

ii) M _____

b) Give the function of these parts on a fish.

i) N _____

ii) P _____

55.a) State **two** importance of trees planted in the school compound.

i) _____

ii) _____



b) Mention any **two** ways in which pupils can care for the trees planted in the school compound.

i) _____

ii) _____





THE SIPRO PRIMARY SEVEN INTEGRATED SCIENCE MOCK MARKING GUIDE -2023

| NO | CLASS LEVEL | CORRECT ANSWER | WRONG ANSWER | MARKING POINT | TECHNICAL ADVICE/ COMMENT |
|----|-------------|--|--|--|--|
| 1. | P.7 | Load | pivot | Middle part of a second class lever | Use real tools to display the classes of levers and the positions of the load effort and pivot. |
| 2 | P.4 | Proteins | Body building food | Should be the real name rather than the descriptive name | Discuss the sources of food and their food values. |
| 3 | P.3 | Both the antennae and the skin are used for feeling/ Both the skin and antennae are organs for feeling /Both are used to detect temperature | Antennae are used for feeling | Response should be in line with both Antennae and the skin; should be a comparison response. | Compare parts of animals to those of the human body in terms of function. |
| 4 | P.5 | Smearing honey inside the new hive /placing a sugar solution inside the hive /planting flowering plants near the new hive. | Stocking the hive | An activity that attracts bees into a hive | Organise detailed revision work on bee keeping and thoroughly hold a detailed discussion about bee keeping. |
| 5 | P.4 | To replace the lost water and mineral salts in the body / To enable the diarrhoea patient get energy/ To prevent dehydration | To prevent diarrhoea | Rehydration of the body | Go through ways of managing different communicable diseases. |
| 6 | P.5 | Saanen /Alpine /Toggen burg/ Anglo-Nubian | Mubende /Angora | Dairy breeds of goats | Discuss the advantages and disadvantages of different breeds of animals and steps to improvement of animal breeds. |
| 7 | P.7 |  |  | Diverging effect of a concave lens on a parallel beam | Help candidates master the effects of different lenses on a beam of light. |
| 8 | P.4 | Shoes prevent hookworm penetration into the feet / shoes prevent hookworms that suck blood from penetration into bare feet/ shoes prevent cuts that may lead to loss of blood. | Shoes protect the feet | Prevention of blood loss. | Train candidates on proper answering techniques. |
| 9 | P.5 | Spores | By means of spores | Gametes in fungi | Discuss the modes of reproduction in different organisms |
| 10 | P.6 | The brain interprets sound impulses. | The brain receives impulses | Role of the brain in the hearing process. | Revise through the parts of the ear and their functions. |

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|----|-----|---|------------------------------------|---|---|
| 11 | P.6 | Spiders feed on adult mosquitoes that spread malaria. | Spiders trap mosquitoes | Trapping and feeding on mosquitoes | Discuss the several ways of vector control and control of communicable disease. |
| 12 | P.5 | Animal movement /fast flowing water /wind | Sun's heat | Agents of weathering | Remind the learners on the methods of soil formation. |
| 13 | P.6 | The blubber prevents heat loss from a whale's body / The blubber shields the body against heat loss. | The blubber keeps the body warm | Importance of blubber | Help candidates know the adaptations of different animals to their habitats. |
| 14 | P.6 | Red blood cells have a disc shape /are disc shaped / have haemoglobin. | Red blood cells are many | Adaptations of red blood cells | Discuss the functions and adaptations of blood components. |
| 15 | P.6 | Coronary heart disease /coronary artery disease | Diabetes | Disease of the heart caused by smoking | Organize summarized work on the heart, blood and blood vessels. |
| 16 | P.5 | When the sheep has a nasal discharge / wounds on the feet /painful udder and teats / wounds on the udder and teats / running nose /watery eyes /limping in the sheep. | The sheep moves up and down | Signs and symptoms of diseases/infections in sheep | Go through the effects of infections to livestock. |
| 17 | P.4 | In the ovary | In the stigma | Part where pollen fuse with ovules. | Revise the parts of a flower and their functions. |
| 18 | P.6 | Paddock grazing breaks the life cycle of ticks /starves ticks to death. | Paddocks prevent cattle from ticks | Breaking the life cycle of ticks | Discuss the advantages and disadvantages of paddock grazing. |
| 19 | P.5 | Polio causes lameness / causes paralysis of limbs / deformation of bones /weakness in the limbs | Polio makes a person weak | Effect of polio to bones | Organise revision questions on immunisable diseases and all about it. |
| 20 | P.5 | The liver produces bile juice. | The liver breaks down food | Production of bile juice | Use a model of the digestive system and go through the functions of the parts. |
| 21 | P.6 | Production of reproductive cells begin /production of sex hormones begins. | The penis enlarges | Common characteristics in female and male adolescents | Help learners to understand the different characteristics in adolescents. |
| 22 | P.4 | Sunlight breaks water into oxygen and hydrogen/ sunlight provides energy needed for photosynthesis. | Sunlight helps plants to make food | Role of sunlight in photosynthesis | Go through germination and photosynthesis. |
| 23 | P.4 | Node | Internode | Correct name of labelled part. | Get a real sugarcane stem and discuss the parts in a detailed way. |
| 24 | P.4 | Part P develops into the shoot system /develops into a leaf. | Part P develops into roots | Part P grows into the shoot | Help candidates know the difference between the axillary bud and the |

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|----|-----|--|---|---|--|
| 25 | P.2 | Humps reduce the speed of vehicles. | Humps control accidents | Reduction of speed. | lateral bud. |
| 26 | P.5 | Digestion helps to break down food into soluble particles. | Digestion enables food to be absorbed in the blood stream | Importance of digestion | Brainstorm on ways of controlling road accidents. |
| 27 | P.5 | Petrol floats on water and continues burning / petrol is less dense than water so it floats and continues to burn. | Petrol burns so much | Density of petrol compared to that of water. | Revise the importance of different body processes. |
| 28 | P.5 | Terracing /afforestation/strip cropping /afforestation /contour ploughing | Mulching | Control of soil erosion in hilly areas. | Train learners on ways of putting out fire in various ways in case of an outbreak. |
| 29 | P.7 | cortex | Medulla | Part of the kidney where the blood is filtered. | Use the school garden to teach candidates on ways of conserving soil. |
| 30 | P.5 | Both chemical and biological changes are irreversible /can't be reversed. | Biological change is reversible while a chemical change is irreversible | Correct similarity of a biological and chemical change. | Use the cattle kidneys to elaborate more about the parts of a kidney and their functions. |
| 31 | P.6 | Prevents a bad body smell /prevents easy spread of communicable skin diseases / prevents a bad odour. | Makes the body clean | Reasons for wearing clean clothes. | Go through the types of changes and their characteristics as well. |
| 32 | P.3 | To prevent childhood pregnancy/ To prevent themselves from getting HIV/AIDS / To prevent school dropout. | To prevent diseases | Importance of PIASCY messages | Practically discuss the processes of cleaning clothes and the importance of each. |
| 33 | P.4 | Transpiration | Photosynthesis | Plant process involved in the water cycle | Engage candidates in group discussion especially as a way of aiding lower classwork concepts. |
| 34 | P.7 | Structures N increase friction to prevent the football player from sliding in the field. | To increase friction | Prevention of the football player from falling | Perform an experiment about the water cycle with the learners to enable them understand it better. |
| 35 | P.7 | The Images are upright /erect/laterally inverted /are of the same size as the object /virtual | The Images are upside down | Characteristics of Images formed by plane mirrors | Remind the learners on the ways of increasing or reducing friction respectively. |
| 36 | P.6 | Passive smoking | Active smoking | Type of smoking where an individual inhales tobacco smoke | Help learners with the real plane mirrors to discuss the Images formed there-in. |
| | | | | | Emphasize to the individual, family and community. |

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|------------------|-----|--|--|---|--|
| 37 | P.4 | To prevent deficiency diseases /stunted growth /To promote good health. | To be fine | Reasons for feeding on a balanced diet | Revise the significance of different food values in the body. |
| 38 | P.6 | Plant roots have root hairs that absorb water and mineral salts. | By osmosis | Structures on a plant that absorb water and mineral salts from the soil | Take candidates through adaptations of a plant to different processes |
| 39 | P.6 | Underdose leads to prolonged sickness/slow recovery. | Leads to drug abuse | Effect of underdose to human health | Differentiate between drug abuse and drug misuse. |
| 40 | P.6 | Preparing clean water for washing clothes/mopping /washing utensils | Preparing drinking water | Preparing water by decantation | Discuss the method of preparing clean water and safe water. |
| SECTION B | | | | | |
| 41 | P.5 | a) Virus b) i) Red eyes /dry cough/skin rash ii) High fever/itching skin c) A baby is born with enough immunity against measles that lasts for nine months. | a) Bacterium b) High fever Skin rash A baby has immunity | Germ that causes measles Indicators of measles vaccine Validity period for the measles vaccine | Revise the immunization schedule involving vaccines, body sites and methods of vaccine administration. |
| 42 | P.6 | a) String musical instruments b) By vibration of the strings when plucked c) i) To let out sound ii) For changing/altering the length of the strings | Wind musical instrument By plucking the strings To produce sound To changing pitch | Musical instruments with strings. Vibration of string Importance of a sound hole Role of the pegs | Use real musical instrument to teach about production of sound by different objects. |
| 43 | P.4 | i) balances the body ii) stores vitamins and mineral salts iii) detects smell iv) for breathing | i) Detects smell (ii) balances the body iii) for breathing iv) stores vitamins and minerals salts | Correct functions of body organs | Revise the role of different body organs and how to care for them. |
| 44 | P.4 | a) Endosperm b) For attachment of the grain to the cob. c) Root system d) A maize grain has the stalk scar and style scar /Has two scars | Testa For protection Shoot Stores food | Part that stores food in a maize grain Correct use of a stalk scar Function of the radicle Presence of two scars | Use a well drawn chart to discuss the function of the parts of monocot and dicot seeds. |
| 45 | P.7 | a) North pole b) Induction method | South pole Stroke method | Flow of magnetism correct method defined | Go through the properties of magnets and carry them out practically. |

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|----|-----|--|--|--|--|
| | | c) Over heating the magnet /keeping like poles together for long /strong hitting /leaving a magnet to rust | Mishandling the magnet | Demagnetisation of magnets | |
| 46 | P.3 | a) Female anopheles mosquito  | Tiger mosquito  | Mosquito that lies at an angle. Part that a mosquito uses for feeding | Discuss the insect vector life cycles and the danger of each stage to people's health. |
| | | c) spreads malaria to people / spreads plasmodia germs d) By spraying using insecticides /clearing tall bushes near the home | Spreads yellow fever By killing them | Diseases spread by malaria germs Control of adult mosquitoes /ways of killing adult mosquitoes. | |
| 47 | P.7 | a) Loading heavy goods on vehicles/ roofing houses /moving to upper floors of storeyed building /painting buildings /loading animals on vehicles b) By making the slanting surfaces longer /By putting rollers on the slope /By reducing the angle of inclination | -Doing work with less effort By oiling the slanting surface | Uses of inclined planes Making inclined planes use less effort | Uses real machines to explain the ways simple machines simplify work. Emphasis should be put on all groups of simple machines. |
| 48 | P.6 | a) Claws/Talons b) type of poultry /age of poultry c) poultry diseases/poor feeding /poor housing /little space in the coop | Strong feet Group birds Poor breeds | Scratching parts of a bird Determination of poultry feeds. Causes of low egg production | Visit a nearby poultry farm and get a demonstration on the feeding of poultry and other management practices. |
| 49 | P.5 | a) salt solution b) i) solute ii) solvent c) By Evaporation to dryness/crystallization | Oral rehydration solution Solid Liquid Filtration | Correct name of solution. Correct scientific names. Correct method of separating salt from salt solution | Practically separate different mixtures with the candidates to enhance concept retention. |
| 50 | P.7 | a) chemical solution b) chemical energy changes into electrical energy c) carbon rod d) direct current /DC current | Electrical energy Electrical energy into chemical energy Electrolytic paste Alternating current | Energy stored in a dry cell Energy change in a dry cell Form of current electricity in a dry cell Non electric conductor in a dry cell. | Give chance to candidates to set up a simple circuit and discuss the functions of the parts. |

| | | | | | |
|----|-----|---|--|---|---|
| 51 | P.4 | a) Burns /scalds b) pouring cool water on the injured part /Dip the injured part in cold water c) Raising cooking places /putting fireguards on cooking places/Guiding children as they cook | cuts Taking her to the hospital Stopping children from cooking | Accidents caused by heat Immediate help given to a scalded or burnt person. Prevention of burns and scalds | Discuss the types of accidents and their control in the community. Also discuss First Aid and First Aid kit practically. |
| 52 | P.5 | a) Iron b)i)Breastmilk boosts the body immunity /provides most of the food values to the baby. ii) Breastfeeding delays ovulation c) To allow more production of breastmilk from mammary glands | Iodine Prevents disease attack Prevent reproduction To prevent dehydration | Mineral salt absent in breast milk A way breast milk promotes health. Delay of ovulation Reason for feeding a breast feeding woman on plenty of fluids | Revise the modes of feeding in a baby, their advantages and disadvantages. |
| 53 | P.5 | a) i) prevent heat loss or gain by radiation ii)Prevents heat loss or gain by conduction or convection. b) Plastics /wood c) Keeping it out of children's reach /handling it with care /Regular washing of the flask | Prevent heat loss by conduction or convection Prevents heat loss by radiation. Metals Keeping tea in it | Prevention of heat loss by given parts. Material used to make the cork Care for a vacuum flask. | With the help of a vacuum flask, discuss the parts of a flask and their uses. |
| 54 | P.3 | a)i)Dorsal fin ii)Operculum b)i)N-detects sound waves in water /senses danger in water. ii) P-Helps in forward movement of fish/changing direction in water. | fin gills for movement for swimming in water | name of fin correct name Use of a lateral line Use of the tail fin | Always use real objects to aid mastery of concepts that can be handled practically. |
| 55 | P.3 | a)Trees control soil erosion/are windbreaks /provide fresh air /provide fruit /provide shade b)By watering /pruning / spraying using pesticides /putting guards around a tree. | For sale By thinning | Use of trees in the school compound Care for trees in the compound | Start a wood lot project to equip candidates with skills on tree growing and environmental conservation. |