

SUREKEY EXAMINATIONS BOARD



"Don't speak for Quality, Let Quality Speak for itself"

2024



INTEGRATED SCIENCE TARGET SERIES
OFFICIAL MARKING GUIDE

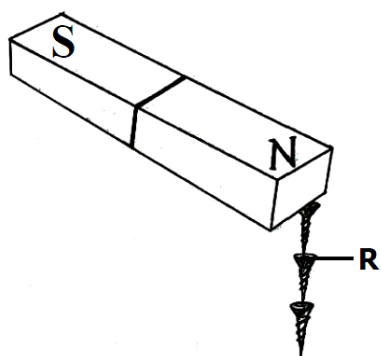
SECTION A: 40 MARKS

1. Name the practice done by crop farmers to replace seedlings that did not germinate in the holes after planting.

Gap filling

2. State any **one** way in which amphibians breathe in their environment.
Through lungs//Through gills//Through their moist skins.
3. Give any **one** way of promoting oral and dental health care among school children.
Dental flossing//rinsing the mouth//brushing teeth daily
4. Give any **one** way in which the umbilical cord is important to the developing foetus in the uterus.
It transports oxygen and food to the embryo//It attaches the foetus to the placenta//It transports wastes from the foetus to the placenta.

The diagram below shows a method of making temporary magnets. Use it to answer questions **5** and **6**.



5. Identify the method of making temporary magnets shown.

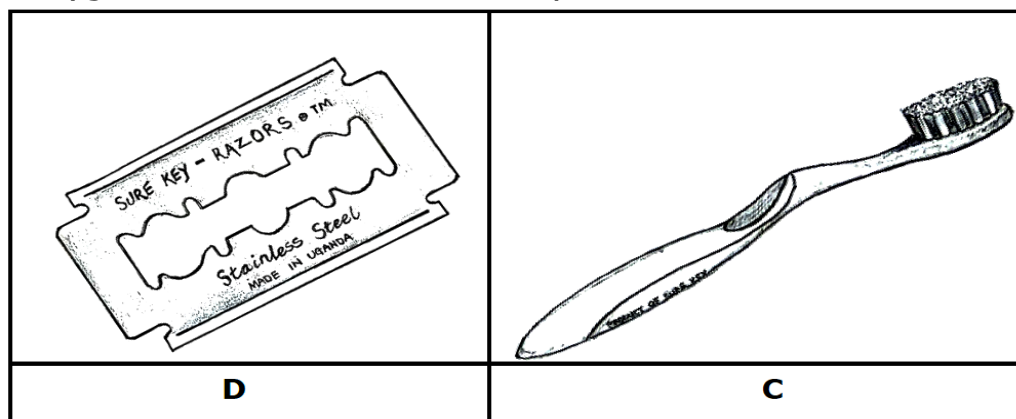
Induction method

6. What will pole marked **R** become after magnetization?
south pole

7. Name the component of soil that enables plants to make their own food.
Water
8. State any **one** reason why drugs should be kept out of reach of children at home.
To prevent child poisoning//To prevent children from contaminating Drugs //To prevent drug misuse.
9. Give any **one** primary Health Care (PHC) activity children can do with their mothers during cooking food.
Washing saucepans in which to cook food from//washing food to be cooked//washing hands before handling food//sweeping or mopping the kitchen.
10. Write any **one** message that school children can display in their school compound to promote conservation of the school environment.
Plant trees//plant flowers//care for plants at school//dump nonbiodegradable wastes in the dustbin or rubbish pit//reuse plastics and polythene bags.

11. Give any **one** way in which litter is important in a poultry house.
Litter absorbs moisture from droppings//keeps the poultry house dry//litter reduces on the breakage of eggs.
12. Mention any **one** way in which tobacco smoking affects the health of the unborn baby of a pregnant mother.
Causes premature birth//causes still birth//causes birth of underweight babies//causes miscarriage.
13. Write down any **one** nonrenewable source of current electricity.
Uranium//fossil fuels//plutonium (accept coal, petroleum/, natural gas)
14. State any **one** way in which people can make use of cow dung produced by their animals at home.
For producing biogas//For making farmyard manure.
15. State any **one** factor that determines the size of an image formed on the pinhole camera.
The size of the pinhole//the distance between the pinhole and the source of light//distance between the object and pinhole// distance between the object and screen

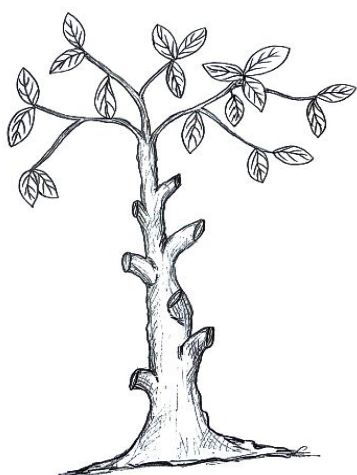
The diagrams below show materials used by school children to promote personal hygiene. Use them to answer questions **16** and **17**.



16. Give any **one** use of item marked **D** in promoting personal hygiene.
For cutting/grooming fingernails/toenails// For shortening/shaving/trimming hair.
17. State any **one** proper way of using the material marked **C** when promoting personal hygiene.
Disinfecting it after use//keeping it in a clean dry place// washing it after use//rinsing it after use//holding it properly when brushing//avoid sharing toothbrush.
18. Give any **one** piece of advice you would give to crop farmers to maintain the fertility of the soil without using any form of fertilisers.
To practice crop rotation//To carry out mulching// To grow legumes.

19. State any **one** way in which hens are important in the prevention of kwashiorkor in children.
They provide eggs which are source of proteins//Hens are source of meat(chicken) which provide proteins in their bodies.
20. In which method of making water clean do you first allow the impurities to settle at the bottom of the container?
Decantation
21. Write any **one** activity a farmer should do in order to get clean milk from a cow.
Cleaning the milking parlour before milking//milking from the clean equipment//Wash the udder and teats with warm water// wash hands with clean water and soap before milking
22. Apart from causing objects to appear bent, give any **one** other effect of refraction of light in the environment.
It causes water bodies to appear shallower than the real depth//it produces spectrum//it leads to the formation of mirage// It causes apparent depth
23. State **one** way in which gonorrhoea infection increases the chances of a person getting HIV/AIDS.
It causes sores/wounds through which HIV passes.
24. Write down any **one** group of people who are eligible to receive Tetanus Toxoid (T.T) vaccine during immunization.
Adolescent girls//pregnant mothers

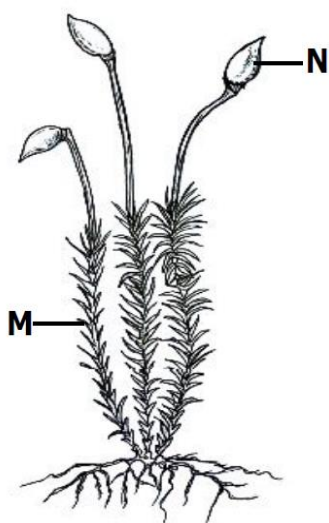
The diagram below shows a method of harvesting trees in agroforestry. Use it to answer question **25**.



25. Name the method of harvesting trees in agroforestry shown above.
Lopping
26. Give any **one** way in which PIASCY messages are useful to school children.
They encourage school children to abstain from sex//they create awareness about HIV/AIDS//They equip children with life skills like self control and decision making//they help children to avoid risky behavior.
27. Give any **one** negative effect caused by a path that gives a lower resistance to the flow of current at home.
Causes fire that destroy property//may lead to burning of buildings//may lead to destruction of electrical appliances//may lead to electrocution.

28. Write down any **one** material carried by blood plasma in the human body.
Antibodies//digested food nutrients//hormones//urea//water//carbon dioxide.
29. State any **one** difference between the external features of a cock and that of a hen.
A hen has a small comb while a cock has a big comb
A hen has a short spur while a cock has a long spur
A hen has a small wattle while a cock has a big wattle
A hen has dull tail feathers while a cock has bright tail feathers.

The diagram below shows a moss plant. Use it to answer questions **30** and **31**.



30. Name the part of the moss plant marked **M**.
Leaves/leaf
31. Give the function of the part marked **N** to a moss plant.
It produces spores.
32. Apart from time of taking the drug, give any **one** other factor considered by the health workers when prescribing drugs to a patient.
Age of the patient//weight of the patient//strength of the drug//conditions of the illness//side effects of the drug to the user//disease the patient is suffering from.

33. How is the left ventricle of the human heart able to pump oxygenated blood at a higher pressure?
Has thick walls/it is thick walled
34. State any **one** way in which trees are able to reduce air pollution in the environment.
They absorb carbon dioxide from the atmosphere during photosynthesis
They release oxygen to the atmosphere during photosynthesis.

The diagram below shows the bone found in the human skeleton. Use it to answer questions **35** and **36**.



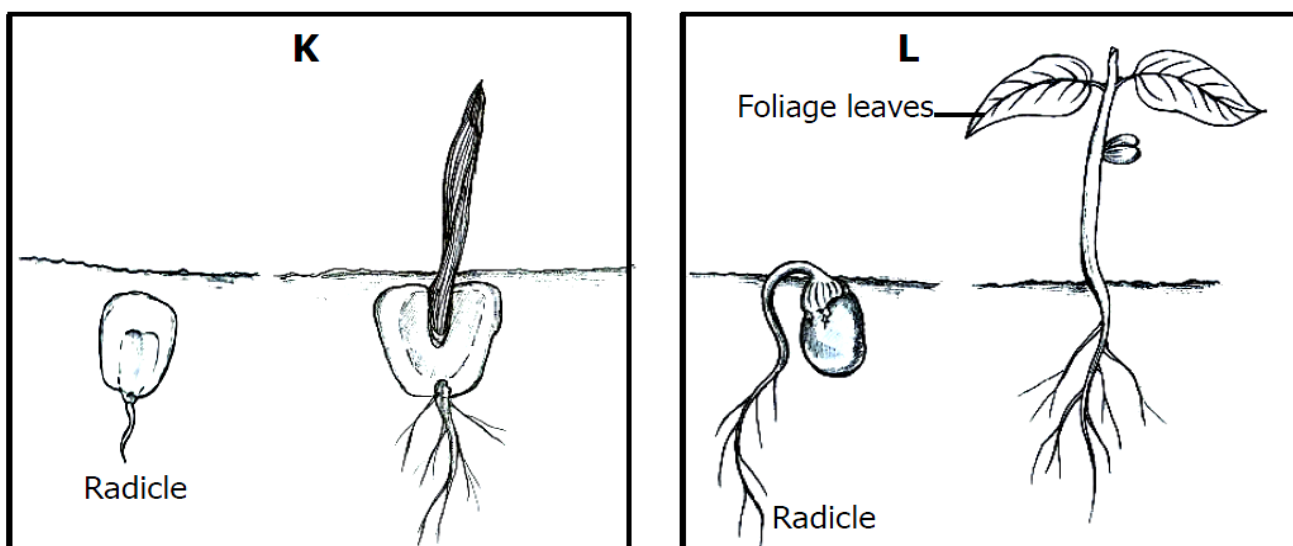
35. Name the bone found in the human skeleton shown above.
Femur//thigh bone
36. In which part of the human body is the bone above found?
thigh
37. Give any **one** way in which bacteria are useful to crop farmers.
They help in decomposition of organic matter to form humus in the soil//Nitrogen fixing bacteria fix nitrogen in the soil which improves soil fertility.

38. Give any **one** reason why it is important for the government to carry out demography.
To get information about overall health of people.
To plan for the health services of people.
39. How does leaching affect the fertility of the soil in the environment?
It makes nutrients to sink in deeper soil layers where plant roots cannot absorb them/it causes loss of plant nutrients from the topsoil.
40. Name the structures in the human heart that allow blood to flow in one direction during blood circulation in the human body.
Valves

SECTION B: 60 MARKS

Questions **41** to **55** carry four marks each

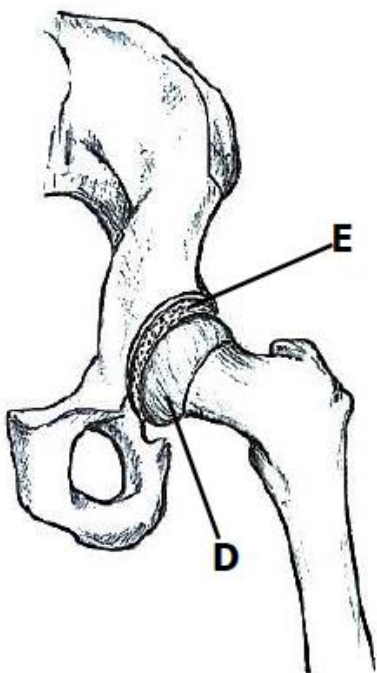
41. The diagrams below show types of germination. Study and use them to answer the questions that follow.



- (a) Name the type of germination marked **K**.
Hypogeal germination
- (b) State the role of the foliage leaves on the type of germination marked **L**.
To make food for the seedling.
- (c) Give any **one** leguminous seed that undergoes the type of germination marked **K**.
cowpeas//green peas//ground nuts//pigeon peas
- (d) Why does the radicle come out first as shown in the types of germination marked **K** and **L** above?
To absorb water and mineral salts for the seedling//
To hold the seedling firmly into the soil.

42. (a) Name the immunization site on the human body for;
- (i) BCG vaccine : **right upper arm**
 - (ii) DPT vaccine : **left upper thigh**
- (b) Give any **two** roles played by school children in the promotion of immunization in their community.
- Taking their siblings for immunization**
Reciting poems about immunization
Acting drama about immunization
Taking information to their parents about national immunization days.
43. (a) Name the method of separating mixtures used to separate;
- (i) Sorghum seeds from its husks: **winnowing**
 - (ii) Passion fruit juice from its seeds: **filtration**
- (b) The sentences below show steps taken to prepare local salt at home using the following materials; banana peelings, a clean container, a clean piece of cloth and clean water. Read the given steps carefully and complete the missing steps in the spaces provide correctly.
- (i) Get banana peelings and dry them in sunshine.
 - (ii) **Burn the dry banana peelings to ash.**
 - (iii) Pour clean water into the ash to make a solution and filter to get a filtrate.
 - (iv) **Heat the filtrate to dryness till crystals of local salt are seen.**
44. (a) Name the part of the respiratory system that;
- (i) Flattens during breathing in: **diaphragm**
 - (ii) Contracts during breathing out: **lungs**
- (b) Give the main reason why the amount of oxygen breathed out in the human body is less than the one breathed in.
- Some oxygen is used to burn digested food in the body during respiration.**
- (c) State any **one** way in which the circulatory system is helpful during Respiration.
- It supplies digested food to the body cells**
It transports oxygen to the body cells.

45. A primary six pupil wanted to determine the pitch of sound using three bottles of the same size and brand. He labelled them as **O**, **P** and **Q** and poured different amounts of water in each bottle as stated below;
- (i) Bottle **O** had water up to its middle part.
 - (ii) Bottle **P** had water up to its near top.
 - (iii) Bottle **Q** had little water in it.
- (a) Which bottle produced sound of the highest pitch?
Bottle P/P
 - (b) Give a reason for your answer in (a) above.
Bottle P has a smaller vibrating surface.
 - (c) State any **one** factor that determined the pitch of sound produced by the bottles **O**, **P** and **Q** above.
Surface area of the bottles//frequency (Reject size of the bottles)
 - (d) State what would happen to pitch of sound if water in bottles **O**, **P** and **Q** was replaced by milk.
The pitch of sound would remain the same.
46. (a) Name the weather instrument used to;
- (i) Measure humidity: **hygrometer**
 - (ii) Determine duration of sunshine: **sunshine recorder**
- (b) Give any **two** human activities that people can do to improve the formation of rain in the environment.
Conserving wetlands//planting more trees//conserving vegetation
47. The diagram below shows a movable joint in the human body. Study and use it to answer the questions that follow.



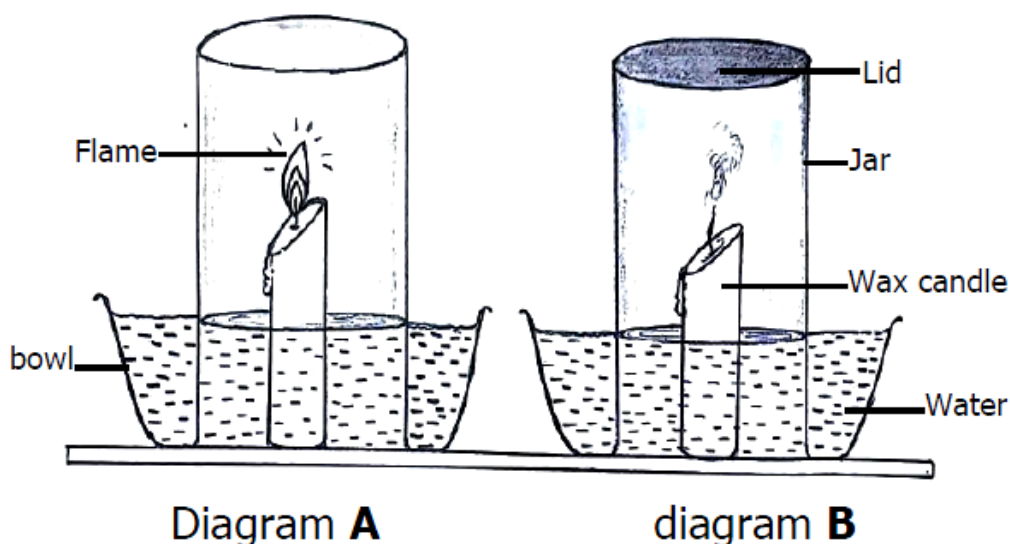
- (a) Name the movable joint shown in the diagram above.
Ball and socket joint (reject hip joint)
- (b) Give the function of the part marked **D** at the movable joint above.
It cushions the bones//reduces friction.
- (c) Mention any **one** substance in moving parts of the machine which works like part marked **E** of the movable joint above.
Ball bearings//grease//oil
- (d) State the difference in movement of the movable joint above and the one at the knee in the human body.
The movable joint above allows body movement in three planes while the one at the knee allows body movement in only one plane.

48. The table below shows steps followed when cleaning clothes at home in part **A** and their importance in part **B**.

| Part A: steps | Part B: importance |
|---------------|---|
| Sorting | -It helps to dissolve dirt in clothes. |
| Wringing | -It helps to remove soapy water from clothes. |
| Rinsing | -It helps to prevent some clothes from staining others. |
| Soaking | -It helps to remove excess water from clothes. |

Match correctly the steps followed when cleaning clothes with their importance in the spaces provided below.

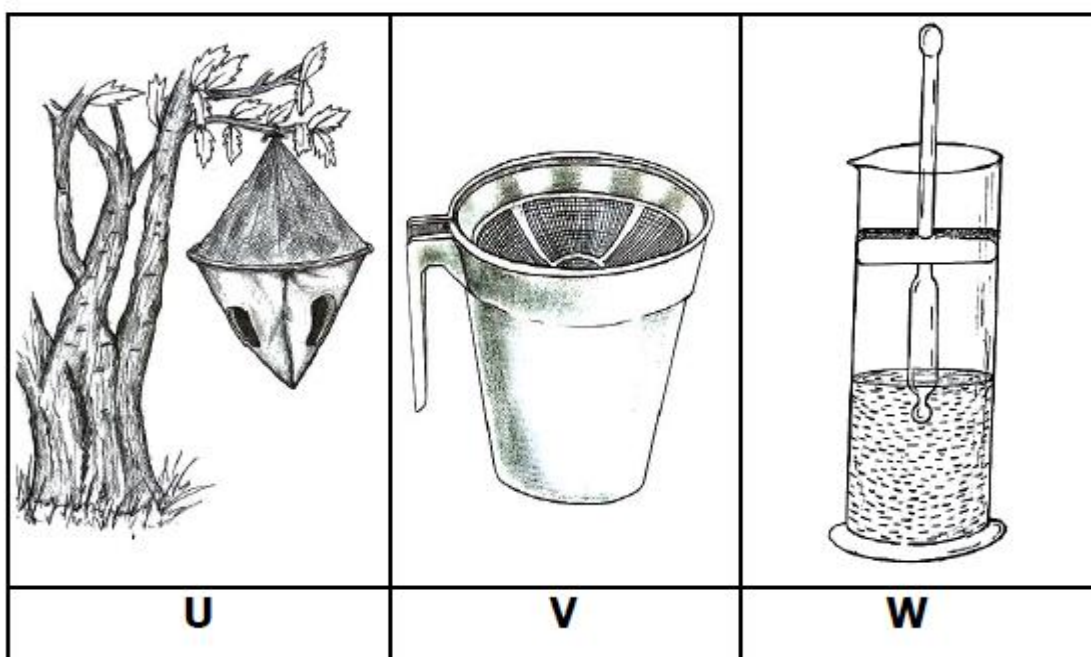
- (i) Sorting**from staining others.**
(ii) Wringing**excess water from clothes.**
(iii) Rinsing**soapy water from clothes.**
(iv) Soaking**dissolve dirt from clothes.**
49. (a) Apart from typhoid infection, name any **one** other example of a waterborne disease that can affect people in your community.
Dysentery//cholera//diarrhoea
- (b) Give any **two** sanitary practices that can lead to the outbreak of typhoid infection among people in the community.
Poor disposal of human wastes//rubbish//failure to dig latrines//failure to keep latrines and water sources clean
- (c) State any **one** piece of advice you would give to people in your community to protect them against typhoid infection.
**To dispose human wastes properly//To keep latrines and water sources clean//To keep the environment clean//
To dispose rubbish properly**
50. The diagrams below show burning candles placed in a bowl containing water. Study and use them to answer the questions that follow.



- (a) Name the gas found in the jar in diagram **A**.
Oxygen
- (b) Give the reason why the candle flame goes off in jar as shown in diagram **B**.
Oxygen that supports burning is used up.
- (c) State what is most likely to happen to the level of water in the jar in diagram **B**.
The level of water will rise to occupy the space left by used up oxygen.
- (d) What is the purpose of setting up the experiment above?
Oxygen supports burning.

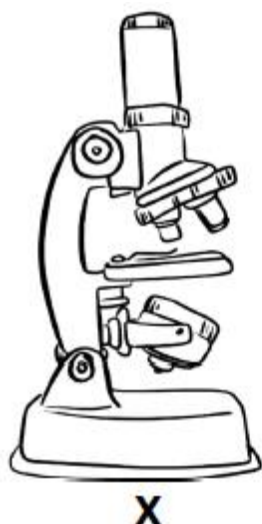
51. (a) Mention any **two** dangers of lightning in the environment.
**It strikes people and other animals to death//
Set fire on plants, forests and buildings//
Destroys people's property//damages electric appliances.**
- (b) Give the reason why lightning is usually seen in the sky before hearing the sound of thunder.
Light travels faster than sound in air.
- (c) State any **one** way in which people can safeguard themselves against the dangers of lightning.
**Avoid seeking shelter under trees during thunderstorm//
Putting lightning conductors on tall buildings//
Avoid swimming in open pools when it is raining//
Wearing rubber shoes/sandals when walking in rain.**

52. The diagrams below show equipment that can be found on the cattle farm. Study and use them to answer the questions that follow.



- (a) Name the disease in cattle requires the use of;
- (i) Equipment **U** **nagana/trypanosomiasis**
- (ii) Equipment **V** **mastitis**
- (b) Give the importance of the equipment marked **W** to a cattle farmer.
It is used to detect the amount of water and fats in milk.
- (c) State any **one** sign of the disease that requires the use of equipment marked **V** in cows.
Pus in milk//swollen udder//painful udder//blood-stains in milk.
53. (a) Give any **one** way in which humus is important in the soil.
It holds soil particles together
It provides plant nutrients
It makes soil to hold water
- (b) State any **two** factors that lead to weathering of rocks in the environment.
Change in temperature//movement of ice//action of air//
action of water//earthquakes//action of plant roots//
action of organisms//quarrying
- (c) Mention any **one** way in which polythene bags affect the quality of soil.
They pollute the soil//they block water drainage//
They block soil aeration//they degrade the soil//
They kill soil organisms.
54. (a) Write down any **two** factors to consider when setting up a school garden.
Planting materials//presence of garden tools//capital//
Fertility of the soil//nearness to water sources//
Nearness to the school
- (b) State any **two** ways in which school children benefit from having a school garden.
They get food//acquire farming skills//for practical studies

55. The diagrams below show simple optical instruments. Study and use them to answer the questions that follow.



- (a) Name the optical instruments marked **X** and **Z**.
- (i) **X** : **microscope**
 - (ii) **Z** : **spectacles**
- (b) What type of lens is used in the optical instrument marked **Y**?
Convex lens
- (c) Give any **one** use of the optical instrument marked **Z** to people.
Used to correct eye defects//used as reading glasses//
Used to protect the eyes against strong sunrays.

END