

KOLFRAM EDUCATIONAL SERVICES KAMPALA

NATIONAL MOCK EXAMINATION CHAMPIONSHIP



2024

INTEGRATED SCIENCE GUIDE

Time allowed: 2hours 15minutes

Index Number:

Random Number						Personal No.		

Candidate's Name:

Candidate's Signature:

School Name:

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Read and follow these instructions carefully

1. This paper has **two** sections: **A** and **B**. Section **A** has **40** questions and section **B** has **15** questions. The paper has **14** printed pages.
2. Answer **all** questions. **All** answers to both sections A and B must be shown in the spaces provided.
3. All answers **must** be written using a **blue** or **black** ball point pen or ink. Any answer written in pencils other than on graphs and diagrams will **not** be marked.
4. No calculators or **electronic** pens are allowed in the examination room.
5. Unnecessary **changes** in your work and handwriting that cannot be read easily may lead to **loss of marks**.
6. Do not fill anything in the table indicated: "**FOR EXAMINERS' USE ONLY**" and boxes inside the question paper.

FOR EXAMINER'S USE ONLY

QN NO.	MARKS	EXR'S NO.
1 - 10		
11 - 20		
21 - 30		
31 - 40		
41 - 43		
44 - 46		
47 - 49		
50 - 52		
53 - 55		
TOTAL		

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SECTION A

(Question 1 to 40 carries 1 mark each)

1. Name the part of an insect used for balancing during flight.

Halteres

2. Give only one example of people with special needs in our community.

The sick, the elderly, the disables, the young, the insane

These are people with barrier or inability to fully participate in activities done in the community.

3. Mention any one reason why people in our community preserve food.

- ✍ For future use
- ✍ To avoid food contamination
- ✍ To promote food sanitation
- ✍ To avoid wastage of food
- ✍ To strengthen food security
- ✍ To add food values to food

4. Name any one vertebrate which has a shell.

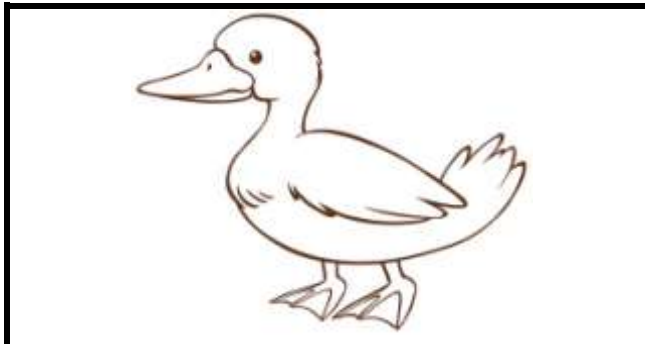
Totoise/ terrapins/ turtles

5. State one reason why honey cannot get contaminated unlike other food.

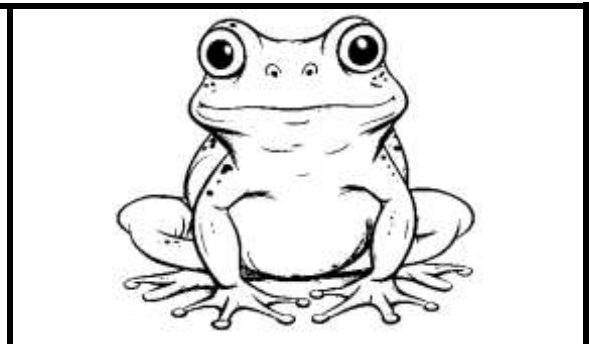
- ✍ Honey has high sugar content which cannot favour bacteria
- ✍ Honey has low water content and high acidity

6. Mention any one similarity between frogs and the ducks.

- ✍ They are both vertebrates
- ✍ They all reproduce by laying eggs
- ✍ They all undergo external fertilization
- ✍ They all have webbed toes to swim in water
- ✍ They all have similar adaptation to live in and around water



A diagram of a duck



A diagram of a frog

7. Why is a screw driver grouped under first class lever?

- ✍ Its fulcrum lies between the load and effort
- ✍ Less effort is needed to do the work

8. Give any one cause of child mortality in our society.

Accidents, fire, poisoning, respiratory infection, poor nutrition, poor antennal care, cardiac infection, cancers

9. What is burning?

- ✍ Burning is the chemical reaction where heat and light are produced.
- ✍ Burning is the chemical reaction where oxygen and fuel are combined to produce heat.

10. Give one reason why permanent magnets are not used in electric bells.

- ✍ Permanent magnet loses its magnetic properties very fast
- ✍ Permanent magnets are easily demagnetized

11. Which part of the human body is affected by Otagia?

Human ears

12. Give one problem got by farmers who keep native breed of goats.

- ✍ Goats take long to mature
- ✍ Goats produce hard meat.
- ✍ They produce little products

13. Name the tough membrane which protects the birds' eyes against strong blowing wind.

Nictitating membrane

Use the diagram of a plant below to answer the questions that follow.



14. State any one adaptation of the plant above to climb other plants

The plant above has hooks which help in attachment on other plants

15. What do you understand by a pitch of a screw?

A pitch of a screw is the distance between two successive threads.

- A screw with few threads moves a shorter distance so; more effort is required to overcome the load.
- A screw with many threads moves a longer distance so little effort is used to overcome the load

16. How are reptiles economically important to leather industries?

They provide skins which are raw materials for leather industries

17. What name is given to the thin layer which lies inside the eyelid?

Conjunctiva

18. State any one non-metallic conductor of electricity found in a dry cell

Carbon rod

19. Give any one cause of milk hold up in dairy cattle.

- ✍ Beating animals during milking
- ✍ Barking of a dog
- ✍ Poor stimulation of the udder
- ✍ Frightening/ upsetting the cow during milking
- ✍ Sickness in a cow

20. Mention any one role of school or village health committees.

- ✍ Set up health rules.
- ✍ Prevention of diseases through immunization
- ✍ Organize cleaning campaigns in a community.
- ✍ Supervise the PHC activities.
- ✍ Conduct health parades in the school.

21. Give any one condition that do not favour breeding of bacteria

- ✍ High temperature
- ✍ Very low temperature
- ✍ Presence of chemicals
- ✍ Absence of food

22. State any one effect of rusts to the iron sheets of a school building

- ✍ Rusting results into wearing out of iron materials, steel equipment
- ✍ It changes the colour of the iron sheets
- ✍ It leads to leaking of the iron sheets.
- ✍ Water collected from the roofs become poisonous to human life.
- ✍ Pollutes the environment

23. State any one quality to be considered in choosing a first aider during sports day at St. Paul primary school.

- ✍ He/she should be quick in giving first aid.
- ✍ He/she should be knowledgeable enough
- ✍ He/she should have skills
- ✍ He/she should be clean
- ✍ He should be healthy and energetic
- ✍ He should be time saving

24. State one reason why a frog dies when salt is poured on it.

Salt dehydrates the frog through its skin causing mediate death

25. Write down any one way of controlling diseases without treatment at school.

- ✍ Through observing proper hygiene of the body and food
- ✍ Always observe proper sanitation at school
- ✍ Having a balanced diet
- ✍ Ensuring adequate rest and sleep
- ✍ Ensure good postures.
- ✍ Practicing regular body exercises.

26. Sprains and strain are managed by using RICE. Write the meaning of C.

Compress the injured part

27. Apart from high fertility rate, mention any one factor that leads to increase in number of living things

- ✍ Availability of food
- ✍ Good climate
- ✍ Availability of land
- ✍ High fertility rate.
- ✍ Improved social services

28. Mention any one reason why farmers fence their goats.

- ✍ Fencing prevents animals from spoiling peoples crops
- ✍ Fencing allows proper use of pastures
- ✍ Fencing protects animals from thieves and predators
- ✍ Fencing controls, the spread of pests and disease
- ✍ Fencing avoids wastage of manure
- ✍ Natural fences act as wind breaks thus controls soil erosion
- ✍ Natural fences maintain soil fertility by adding humus
- ✍ Fencing makes culling easy
- ✍ It is easy to separate animals according to their type, age, sex etc.

29. Asiimwe Anatoli bought a new torch and it failed to function immediately. State any one possible cause of the problem above

- ✍ When the filament is burnt
- ✍ When the fuse is blown
- ✍ When the bulb is poorly fixed
- ✍ When the dry cells are exhausted
- ✍ When the dry cells are poorly arranged

30. Give of effect of polio on the skeletal system of the body.

Polio causes paralyzing of limbs

31. How is a switch important to a cow?

To switch the flies away

32. State any one importance of tongue in the process of digestion.

- ✍ It rolls food into bolus
- ✍ It is used for tasting.
- ✍ It mixes the food with saliva
- ✍ It pushes the food into the gullet

33. Give any one reason why farmers carryout hoof trimming of their sheep.

- ✍ To avoid early infections that occur around hooves
- ✍ To avoiding lameness.

- ✗ It avoid diseases in animals
- ✗ It facilities easy mating by males
- ✗ It promotes proper movement of animals

34. What problem will Tom get after using insecticides to spray flowering beans?

Low bean yields due to poor pollination, poor produce of beans

35. What name is given to the house made for rabbits?

Hutch

Reject: Hatch: This is the process by which an egg develops into a nestling.

36. What causes magnetic repulsion?

Magnetic repulsion is caused when a like pole is brought closer to each other
Magnetism is the force of a magnet that enables it to push or pull magnetic materials

The diagram below is of a drum. Use it to answer questions that follow.



37. How does the music instrument above produce sound?

Through vibration of the skin when beaten

38. Give any one reason why hard water is not good for washing clothes.

- ✗ It leads to wastage of soap while washing
- ✗ Hard water does not form scum with soap easily
- ✗ It takes a lot of time in washing
- ✗ It causes stains on clothes

39. State the type of energy produced by the dry cells.

Electrical energy

Dry cells store chemical energy which can be converted to electrical energy

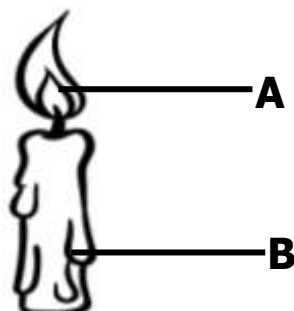
40. Give any one reason why the body temperature of an athlete increases after running.

The heat produced in the contracting muscles causes rise to body temperature

Section B

(Each question in this section carries 4 marks)

41. The diagram below is of a burning candle. Use it to answer questions that follow.



a) Name the type of change which take place at:

- (i) A: Chemical change
- (ii) B: Physical change

b) Give any one condition that supports the change in A to take place.

Heat source, oxygen, fuel

c) State any one form of energy got from a burning candle.

- ✍ Light energy
- ✍ Heat energy

42. (a) What is food insecurity?

This is when a family / community have insufficient food for eating all year round.

(b) Give any two causes of food insecurity in our community

- ✍ Weather disasters like flood, wind and drought.
- ✍ Pests
- ✍ Diseases
- ✍ Laziness
- ✍ Poor farming methods like monocropping, over grazing, over cropping
- ✍ Poor preservation of food
- ✍ Ignorance
- ✍ Poor good storage
- ✍ Infertile soils

(c) State any one possible solution to the cause of food insecurity above.

- ✍ Through growing enough food crops
- ✍ Through ensuring proper food storage
- ✍ Through preservation of food.
- ✍ Through practicing proper farming methods.
- ✍ Through improving soil fertility

43. (a) Give any one form of electricity produced by lightning

Heat energy, light energy, electrical energy, sound energy

(b) Why is lighting referred to as static electricity?

It cannot be transferred from one place to another

(c) State any one danger caused by electricity.

- ✍ It can cause damage to buildings.
- ✍ Can strike living things to death
- ✍ It distorts television and radio signals
- ✍ Can set things on fire e.g. trees and buildings

(c) Give one way a P7 candidate can prevent dangers caused by lightning.

- ✍ Advising parents to install lightning conductors on tall buildings.
- ✍ Avoid standing under tall trees during a rain storm.
- ✍ Avoid swimming in open water during rain.
- ✍ Avoid walking on rains
- ✍ Avoid talking on phones when it is raining
- ✍ Avoid body contacts with metals when it is raining
- ✍ Always put on rubber shoes whenever it is raining

44. (a) Give any one sign of a sick animal.

- ✍ Abnormal body temperature and pulse rate
- ✍ Difficult in passing out urine/dung
- ✍ Loss of appetite
- ✍ Prolonged cough
- ✍ Rough fur
- ✍ Lameness due to blisters between the hooves
- ✍ Animals become restless
- ✍ Animals appear gloomy
- ✍ Diarrhoea
- ✍ Abnormal salivation

(b) State any one condition that may lead a farm animal to acquire diseases

- ✍ Lack of essential nutrients in the feeds
- ✍ Overcrowding of animals
- ✍ Exposure to vectors
- ✍ Physical injuries
- ✍ When animals are attacked by parasites
- ✍ Feeding animals on contaminated feeds

(c) Write one way how diseases are spread from one animal to another

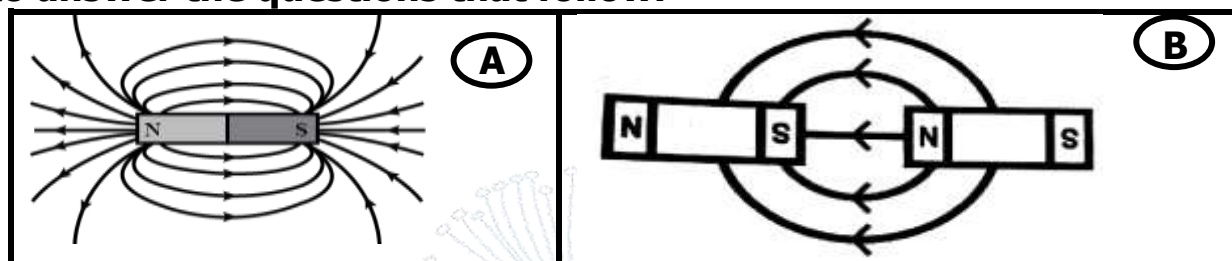
- ✍ Direct contact between sick and healthy animals
- ✍ Through food, water, feeding trough
- ✍ Through dead animals
- ✍ Shoes and clothing of visitors who deal with animals
- ✍ Through pests and parasites

(d) Mention one way of preventing cattle diseases without using drugs.

- ✍ Keep animal houses well ventilated
- ✍ Keep animal houses clean and warm
- ✍ Provide animals with soft feeds and water

- ✍ Clear bushes around homes
- ✍ Using tsetse fly traps to kill adult tsetse flies
- ✍ Observe cleanliness in the milking parlour
- ✍ Dispose of the carcass by completely burning or burying 3 metres deep.

45. The diagram below shows properties of magnets. Study and use them to answer the questions that follow.



a) State the property of magnetism shown by letter **A** above.

Magnetic lines of force run from North Pole to South Pole

Magnetic lines of force are the lines which indicate the direction of the magnet field around the magnet

b) **Name the pole marked with letter S on the diagram marked with letter B.**

South Pole

c) **State any one way we can protect magnets against demagnetization.**

- ✍ By painting them to prevent them from rusting.
- ✍ Keeping them in iron keepers.
- ✍ Storing them while facing in the north-south direction.
- ✍ Storing them with unlike poles together.
- ✍ Protecting them against strong heat

d) **Give one way in which a magnet is useful to a P7 candidate directly.**

- ✍ They are used to pick up pins, needles or any other magnetic substances.
- ✍ Magnets are used to remove iron fragments from eyes and wounds
- ✍ Keeps doors of cabinets and refrigerators closed.
- ✍ Magnets hold kitchen knives, spoons, etc. onto the walls.
- ✍ Used by watch repairers, cobblers and shoe makers to hold tinny nails.
- ✍ Magnets are put on bags to fasten them

46. Nakalule entered an empty hall. She shouted loudly and heard many other similar shouts after her own.

(a) **How are such sounds produced?**

It is formed by obstruction of sound waves

(b) **Why are words in sound named in (a) above not heard clearly?**

The echo has a lower frequency than the original sound

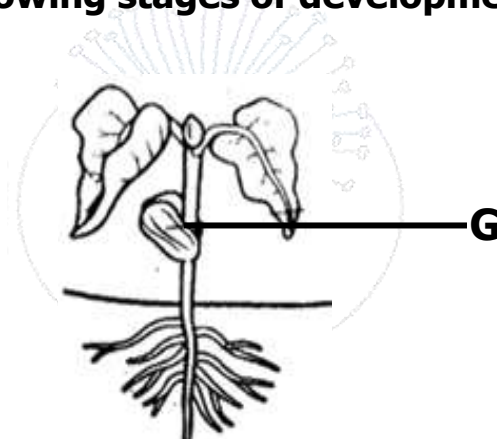
(c) **Give any one disadvantage of such sounds in everyday life**

- ✍ Echoes make sound difficult to interpret.
- ✍ Echoes interfere with communication
- ✍ Echoes cause accidents and noise pollution.
- ✍ They cause irritating sounds and noise to the ears.

(d) **How are echoes reduced in cinema halls and theatres?**

- ✍ Covering the walls with thick curtains, soft boards and bamboo reeds.
- ✍ Fixing porous materials such as soft boards on the walls of the theatres.
- ✍ Use soft materials to make ceilings in the theatres

47. Below is a diagram showing stages of development in seedling. Use it to answer question



a) Name the type of germination in which part G come out of the ground.

Epigeal germination

b) How is part marked with letter G important to the bean seed?

- ✍ Part G absorbs food from the endosperm and supplies it to the embryo during germination

c) State any one condition that can favour a change of a seed in to seedling.

- ✍ Warmth
- ✍ Oxygen
- ✍ Moisture/ Water

d) Give any one condition that can fail a change of a seed in to seedling.

- ✍ Attacks from pests and diseases
- ✍ Immaturity of the seed embryo
- ✍ High temperature
- ✍ Hard seed coats
- ✍ Depth of planting
- ✍ Soil moisture contents

48. (a) Define the term litter as used in poultry keeping?

Litter is a absorbent material put on the floor of a deep litter house.

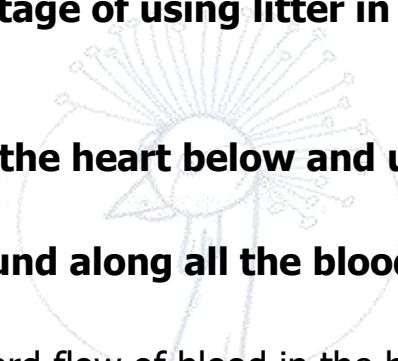
(b) Apart from providing warmth for the birds, give any two other importance of litter

- ✍ To prevent dampness in the room.
- ✍ To allow the birds to feed constantly.
- ✍ Prevent the eggs from breaking as they are laid.
- ✍ Litter provides heat that kills parasites / germs.
- ✍ Litter got from the house can be used as manure by crop farmers.

(c) Give any one disadvantage of using litter in poultry house.

- ✍ Litter harbors parasites
- ✍ Litter is a fire hazard.

49. Study the diagram of the heart below and use it to answer the questions that follow.



(a) Why are valves found along all the blood flow paths in the heart?

They prevent backward flow of blood in the heart

(b) Why is the left part of the heart made up of thicker walls than the right one?

Thick walls due help it to resist high blood pressure

(c) Which skeletal structure protects the body organ shown above?

The rib cage

(d) Which part of the organ above separates the left side from the right side?

Septum

50. Okello took his son to the hospital and the doctor told him that his son was suffering from constipation.

(a) Define Constipation.

This is the condition in which a person has frequent bowel movement

(b) Suggest any two causes of constipation to Okello's son.

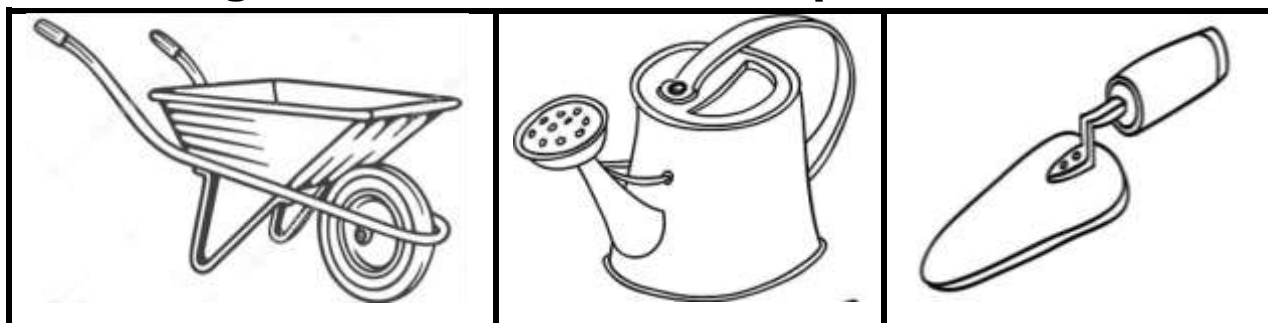
- ✍ Lack of roughage in the diet
- ✍ Drinking little water
- ✍ Lack of physical exercise

(c) Mention one way Okello can prevent the above digestive disorder in his children

- ✍ Eat fruits and vegetables e.g. mangoes, apples etc.
- ✍ Doing plenty of physical exercises.
- ✍ Drinking water before and after eating food.

☒ Eating a balanced diet.

51. Use the diagram below to answer the question that follows.



(a) Name the farm tool marked with letter A.

Wheel barrow

(b) Of what use is the farm tool marked with letter C?

- ☒ For digging small holes for planting seedlings
- ☒ For transplanting seedlings

(c) State any one crop management practice which requires all the farm tools above.

Transplanting

(d) Why is the above crop management practice done in the evening?

To avoid wilting of seedling due to transpiration

52. (a) Why are mothers advised to feed the babies on breast milk for at least two years before weaning them?

To avoid malnutrition

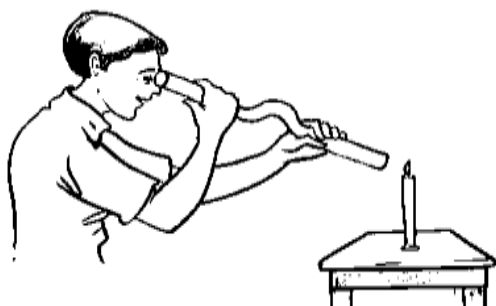
(b) Give any two advantages of breast feeding to a baby

- ☒ Breast milk contains most food values apart from iron.
- ☒ Breast milk does not get contaminated easily
- ☒ Breast milk is ever ready for the baby
- ☒ Breast milk contains antibodies which protect the baby against diseases
- ☒ Breast milk is always at the right temperature
- ☒ Breast milk is easily digestible
- ☒ It calms the baby and promotes the sleep
- ☒ It increases love between the baby and the mother

(c) Give any one condition under which breast feeding is restricted

- ☒ When the mother is HIV positive
- ☒ When the mother has breast cancer
- ☒ When the mother become insane/ mad

53. Use the diagram below to answer the questions that follow.



a) What was the experiment about?

Light travels in straight lines/ rectilinear propagation of light.

b) Why is the boy unable to see the light from the candle using the pipe?

The pipe is bent

c) What should the boy do in order to see the light from the candle?

The boy should get the straight hollow pipe

d) Give any one application of light in our daily life.

- ✍ Light enables us to see objects using our eyes.
- ✍ Green plants use sunlight to carry out photosynthesis.
- ✍ Heat and light from the sun help the eggs of reptiles, amphibians and fish to hatch.
- ✍ Light from candles, lanterns, lamps and torch helps us to see in darkness
- ✍ Some part of light e.g Ultra Violet light, is used to treat water to kill germs
- ✍ Light energy from sun is transformed into electric energy
- ✍ Our bodies use sunlight to make vitamin D.

54. (a)What is Basic Health Care?

Basic Health Care is the essential health care which involves individuals, families and communities coming together to solve their common health problems

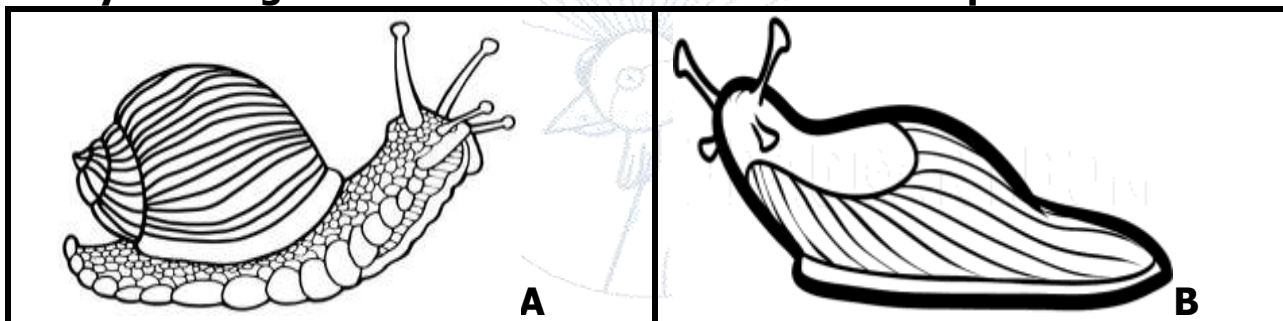
(b) Give any two elements of P.H.C

- | | |
|--------------------------------|---|
| ✍ Accidents and first aid. | ✍ Maternal and child health care. |
| ✍ Immunization | ✍ Community health education. |
| ✍ Family planning. | ✍ Control of Communicable Diseases. |
| ✍ Water and sanitation | ✍ Public health, nursing and home visiting. |
| ✍ Personal hygiene | ✍ Collection of statistical data. |
| ✍ Food hygiene and nutrition. | |
| ✍ Oral and dental health care. | |

(c) State any one way the Community can participate in promoting P.H.C.

- ✍ Organizes health meetings.
- ✍ Carries out health education.
- ✍ Reporting any outbreak of a disease in the community
- ✍ Organize construction of health centres.
- ✍ Organizes village health days.
- ✍ Organizes immunization programmes.
- ✍ Organizing village clean up exercises
- ✍ Protecting water sources

55. Study the diagram below and use them to answer questions 5 and 6.



a) Name the organism marked with letter B.

Slug

b) How are the organisms illustrated above similar?

- ✍ They have two long tentacles on their head each
- ✍ They are all invertebrates
- ✍ They all have moist soft bodies
- ✍ They are all pests

c) In which one way are the two organisms above different?

- Organism A is slower than organism B.
- Organism A has a coiled hard shell for protection but organism B hide under its fleshy mantle

d) Give one value of organism marked with letter a to poultry farmers

They are source of calcium to the poultry



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