Name : _____ (  )

Class : Primary 6 _____

# CHIJ ST NICHOLAS GIRLS' SCHOOL

## Primary 6

## 2023

## Term 2 Weighted Assessment

## SCIENCE

## BOOKLET A

**Total Time for Booklets A and B: 50 minutes**

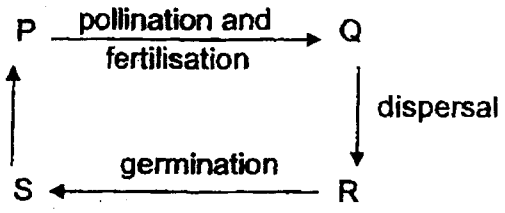
**15 questions**
**30 marks**

**Do not open this booklet until you are told to do so.**
**Follow all instructions carefully.**

**This paper consists of 10 printed pages.**

**Section A (15 x 2 marks = 30 marks)**
For each question from 1 to 15, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). **Shade the correct oval (1, 2, 3 or 4) on the Optical Answer Sheet provided.**

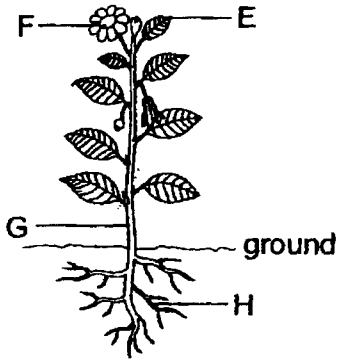
1. The diagram below shows the stages in the life cycle of a flowering plant.




Which of the following correctly represents the stages P, Q, R and S?

| | P | Q | R | S |
|---|---|---|---|---|
| (1) | seed | young plant | adult plant with fruits | adult plant with flowers |
| (2) | seed | young plant | adult plant with flowers | adult plant with fruits |
| (3) | adult plant with fruits | adult plant with flowers | seed | young plant |
| (4) | adult plant with flowers | adult plant with fruits | seed | young plant |

2. The diagram below shows a plant.




Which of the following statements about plant parts are true?

A Part G holds the plant upright.
B Part F makes food for the plant.
C Part E allows for gaseous exchange.
D Part H anchors the plant firmly to the ground.

(1) A and D only
(2) B and C only
(3) A, C and D only
(4) B, C and D only

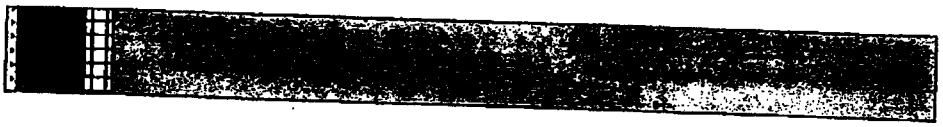
3. Two persons were trapped in a cave with very poor ventilation. The diagram below shows the composition of air of four different gases in the cave when they had first entered it.


Which of the following shows the correct composition of the gases in the cave after a few hours?

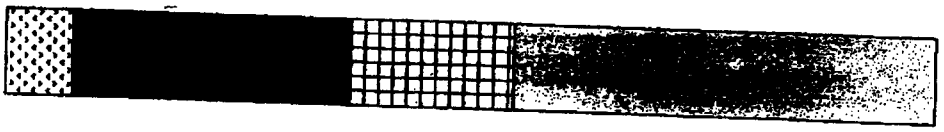
(1)

(2)

(3)



(4)



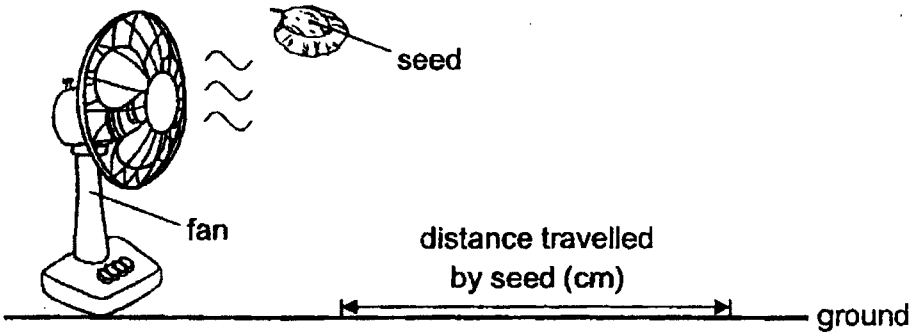
4. The table below shows some characteristics of insect-pollinated and wind-pollinated flowers.

| | Insect-pollinated flowers | Wind-pollinated flowers |
|---|---|---|
| A | produce nectar | do not produce nectar |
| B | produce lighter pollen grains | produce heavier pollen grains |
| C | have stigmas hanging out of the flowers | do not have stigmas hanging out of the flowers |
| D | have brightly-coloured petals | have dull-coloured petals |

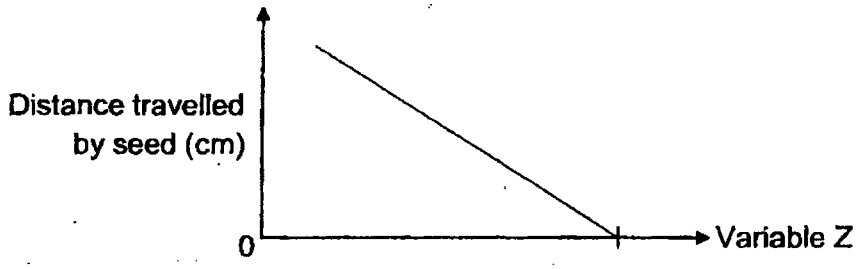
Based on the above table, which of the following are true about insect-pollinated and wind-pollinated flowers.

(1) A and C only
(2) A and D only
(3) B and C only
(4) B and D only

5. Ali picked up some seeds from the Science garden. He conducted an experiment to find out the distance travelled by each seed when dropped from a fixed height from the ground.




He recorded his results in the graph below.




What is variable Z?

(1) mass of the seed
(2) speed of wind from the fan
(3) size of the wing of the seed
(4) height from which the seed was released

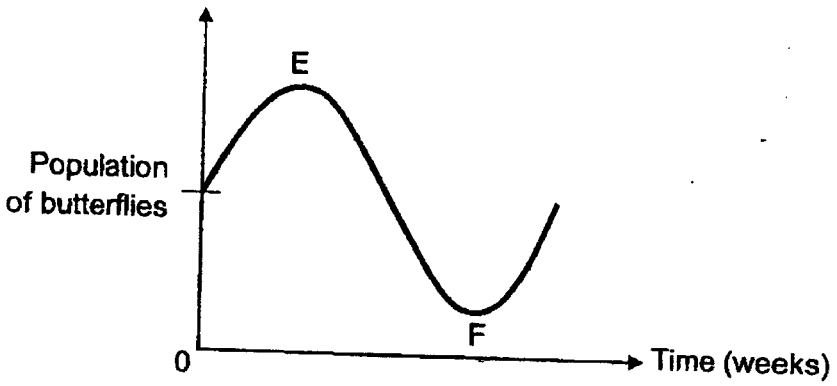
6. Hassan counted the number of organisms found in a park. He recorded his findings in the table below.

| Plants | Animals |
|---|---|
| 4 Rose Plants<br>3 Durian Trees<br>2 Bird's Nest Ferns | 3 Caterpillars<br>4 Butterflies<br>2 Dragonfly Nymphs<br>3 Dragonflies<br>1 Frog |

How many populations of organisms did he find at the park?

(1) 2
(2) 3
(3) 5
(4) 6

7. The graph below shows the population of butterflies in a garden community over some weeks.

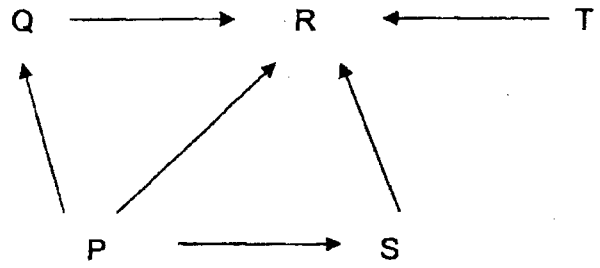



Which of the following statements explain the change in the population of butterflies shown along part EF of the graph?

A There was a bush fire.
B More ferns were planted in the community.
C More birds were introduced into the community.
D More land was used for planting more flowering plants.

(1) A and B only
(2) A and C only
(3) B and C only
(4) B and D only

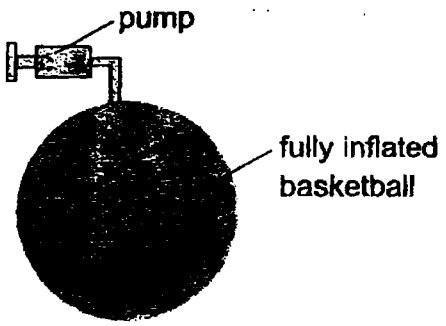
8. Study the food web below.




Which of the following statements describes organism R?

(1) It is a food producer.
(2) It is a plant-and-animal eater.
(3) It is a decomposer that feeds on dead organisms.
(4) It competes with other organisms in the food web for food.

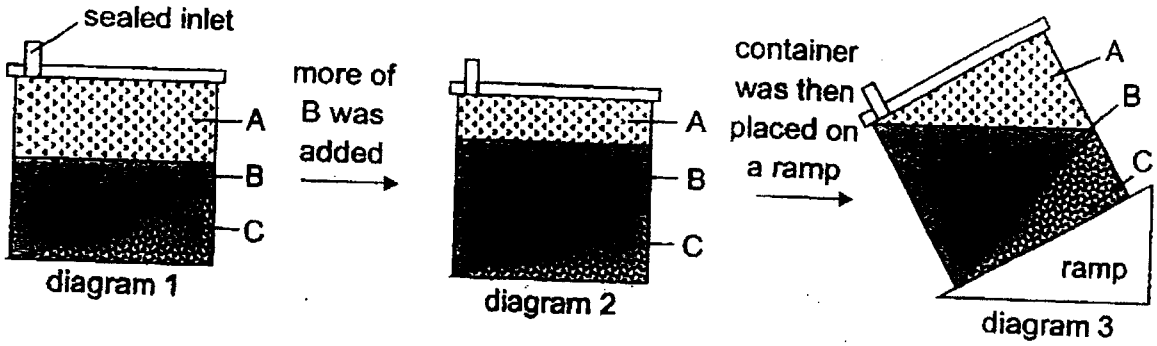
9. The diagram below shows a fully inflated basketball. A pump is then attached to the basketball.




Which of the following is correct about the mass and volume of the air in the basketball after it was pumped with more air?

| | Mass of air in the basketball | Volume of air in the basketball |
|---|---|---|
| (1) | increases | remains the same |
| (2) | increases | increases |
| (3) | remains the same | increases |
| (4) | remains the same | remains the same |

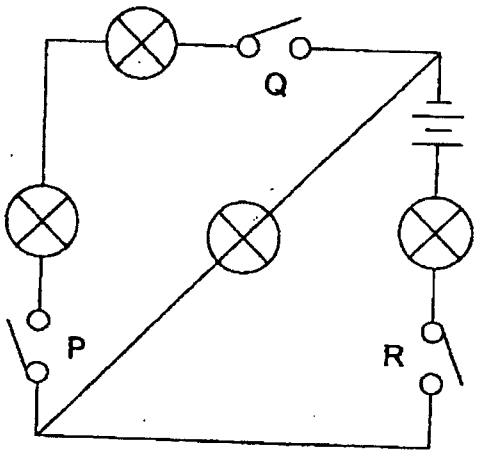
10. The diagram below shows a container filled with 3 different substances A, B and C. More of substance B was then added into the container. The container was then placed on a ramp as shown in diagram 3.




Based on the above observations, what are the likely states of matter for substances A, B and C?

| | Substance A | Substance B | Substance C |
|---|---|---|---|
| (1) | solid | gas | liquid |
| (2) | liquid | gas | solid |
| (3) | gas | liquid | solid |
| (4) | gas | solid | liquid |

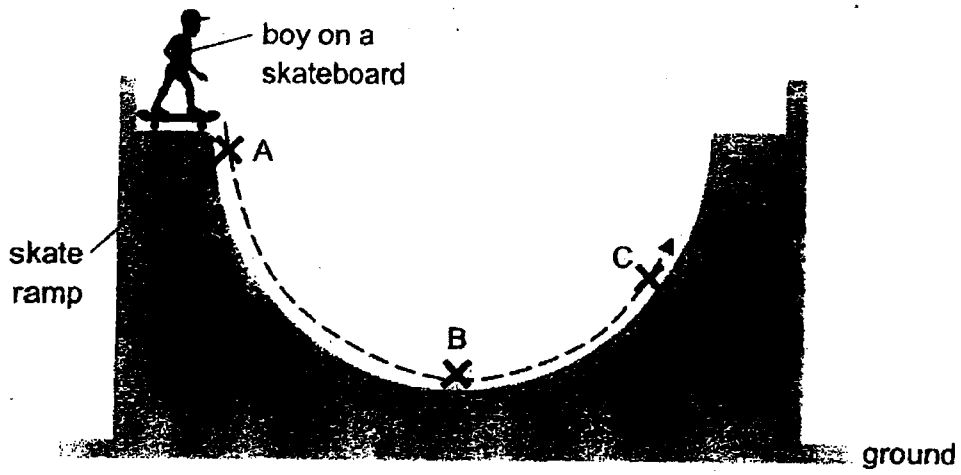
11. Study the circuit below.




How many bulbs light up when only switches P and Q are closed?

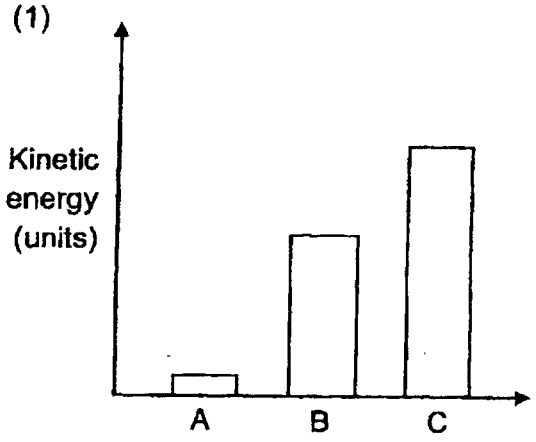
(1) 0
(2) 1
(3) 2
(4) 3

12. The diagram below shows a boy on a skateboard as he skates down a U-shaped ramp.

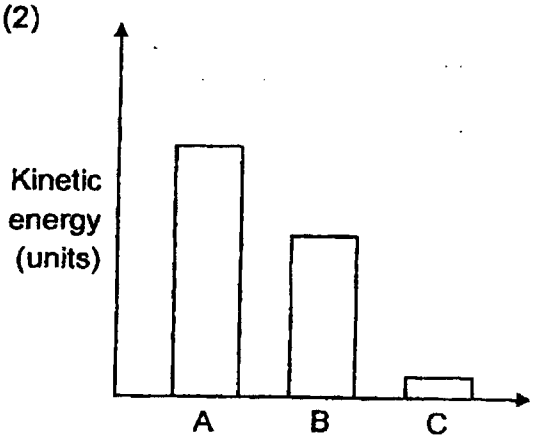



Which graph shows the change in the kinetic energy of the boy as he moves from A to B to C?

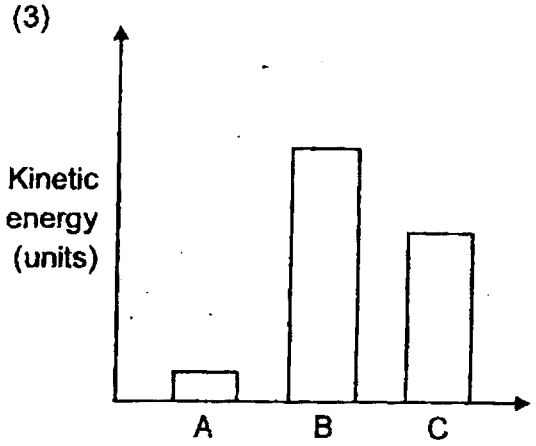
(1)



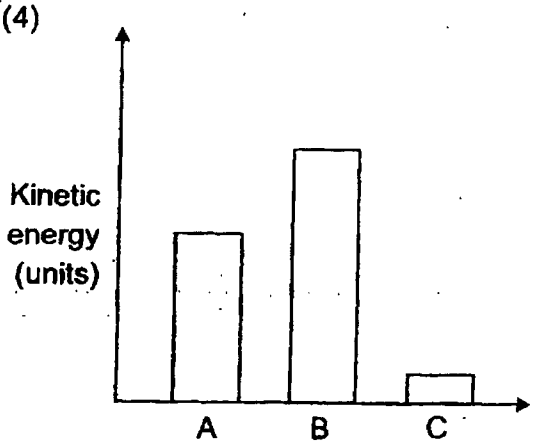

(2)



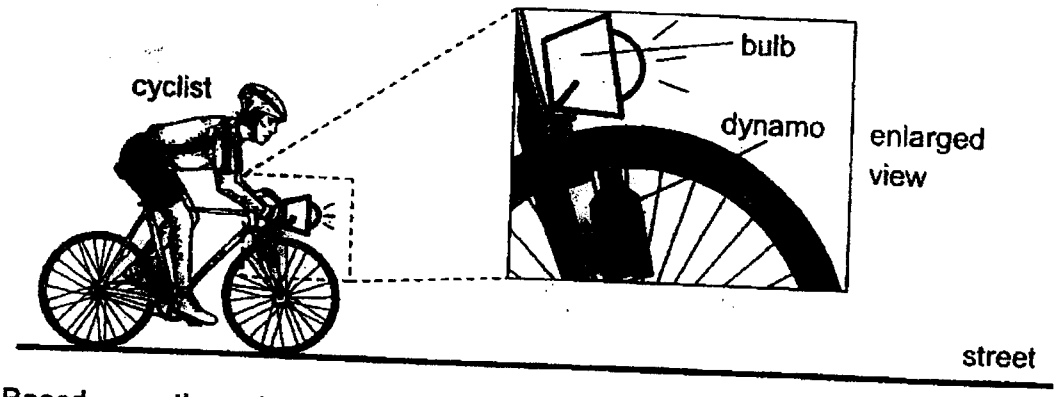

(3)




(4)



13. The diagram below shows a man cycling on a dark street. The front wheel of the bicycle was fitted with a dynamo. A dynamo converts the movement of the wheels into electrical energy to enable the bulb to light up.




Based on the observation, which of the following shows the correct energy conversion?

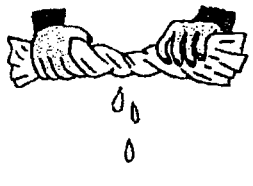
(1) Chemical Potential Energy (Man) → Kinetic Energy (Legs)

(2) Chemical Potential Energy (Man) → Electrical Energy (Bulb)

(3) Chemical Potential Energy (Man) → Kinetic Energy (Legs) → Kinetic Energy (Dynamo) → Electrical Energy (Bulb)

(4) Chemical Potential Energy (Man) → Kinetic Energy (Legs) → Kinetic Energy (Dynamo) → Sound Energy (Bulb)

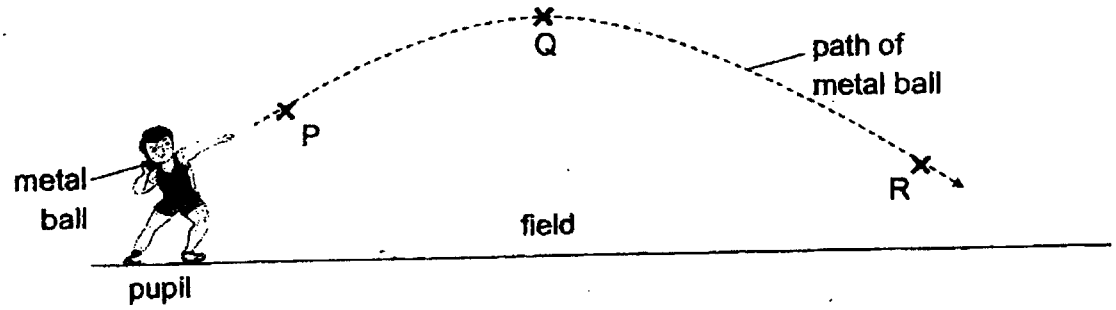
14. The diagram below shows different actions that require the use of forces.

| A | B | C | D |
|---|---|---|---|
|  |  |  |  |
| Twisting a towel | Hitting a baseball | Tearing a piece of paper | Opening a drawer |

Which of the following correctly groups the above actions?

| | Push | Pull | Both push and pull |
|---|---|---|---|
| (1) | B and D | C | A |
| (2) | A and C | B | D |
| (3) | B | D | A and C |
| (4) | C | A | B and D |

15. The diagram below shows a pupil throwing a metal ball in a shot put competition. The metal ball travelled through the air along the path shown below.




At which point(s) is/are gravitational force exerted on the metal ball?

(1) Q only
(2) P and Q only
(3) Q and R only
(4) P, Q and R

**END OF BOOKLET A**

Name : _____ (  )

Class : Primary 6 _____

# CHIJ ST NICHOLAS GIRLS' SCHOOL

## Primary 6

## 2023

## Term 2 Weighted Assessment

## SCIENCE

## BOOKLET B

**Total Time for Booklets A and B: 50 minutes**

**5 questions**
**14 marks**

**Do not open this booklet until you are told to do so.**
**Follow all instructions carefully.**
**Answer all questions.**

**This booklet consists of 6 printed pages.**

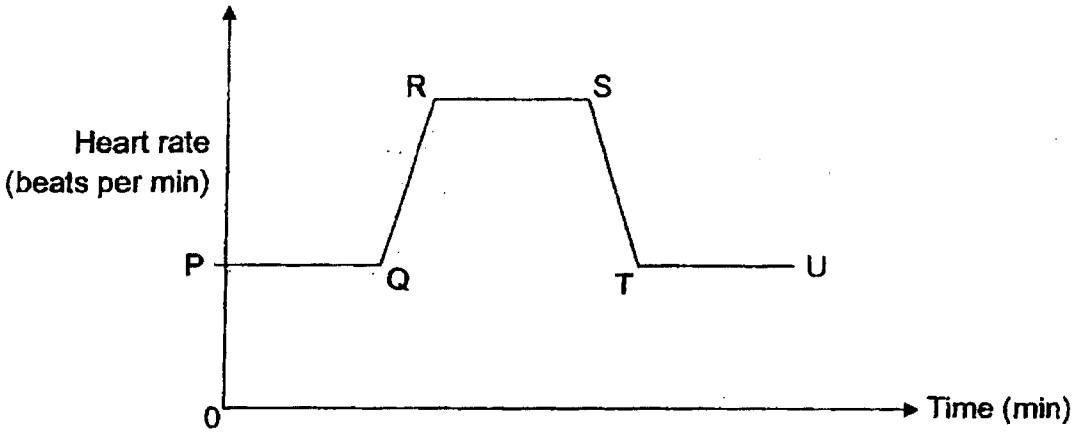
| | |
|---|---|
| Booklet A | 30 |
| Booklet B | 14 |
| Total | 44 |

_____

**Parent's Signature/Date**

**Section B (14 marks)**
For questions 16 to 20, write your answers in this booklet. The number of marks available is shown in the brackets at the end of each question or part question.

16. Maya took part in a 100 m race during Sports Day. At the end of the race, she took a rest for 10 minutes. She recorded her heart rate before and after the race. The graph below shows the results.

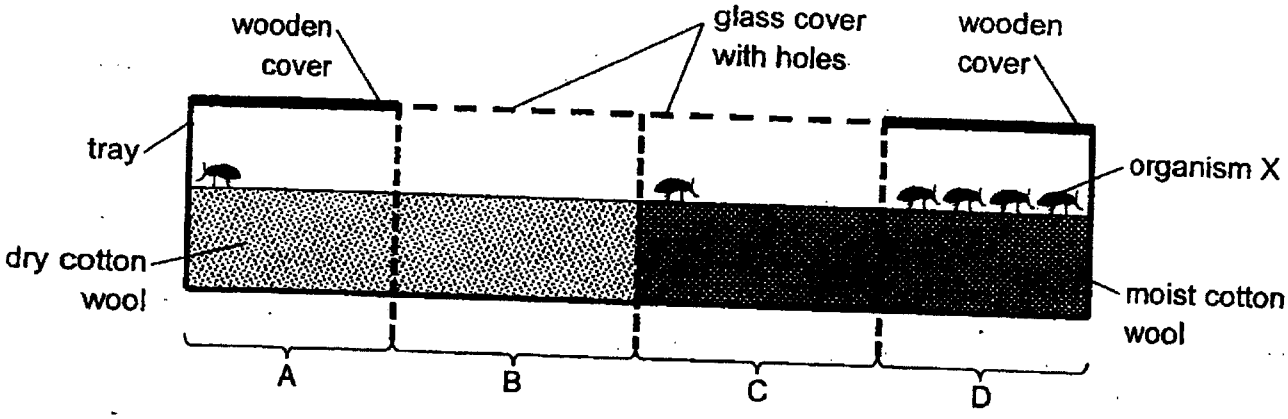



At which point did she start to rest? Explain your answer. [2]

17. (a) What is a habitat?

[1]

The diagram below shows a set-up used to investigate how organism X respond to different living conditions. Six organism X were placed at the centre of the tray under the glass cover and allowed to roam freely for 30 minutes. After 30 minutes, the number of organism X found at parts A, B, C and D were observed and then counted.




The experiment was then repeated two more times and the results were recorded in the table below.

| Part | Number of organism X | | | |
|---|---|---|---|---|
| | Trial 1 | Trial 2 | Trial 3 | Average |
| A | 1 | 2 | 0 | 1 |
| B | 0 | 0 | 0 | 0 |
| C | 1 | 0 | 2 | 1 |
| D | 4 | 4 | 4 | 4 |

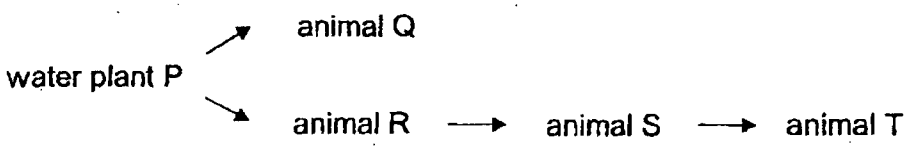
(b) State a possible reason why the organisms X were left for 30 minutes before the count was recorded.

[1]

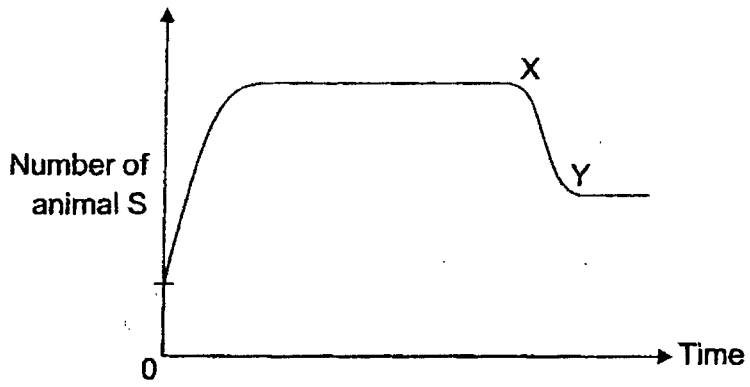
(c) Based on the results, suggest an example of a natural habitat for organism X.

[1]

18. Study the food web below.




The graph below shows the number of animal S over a period of time.

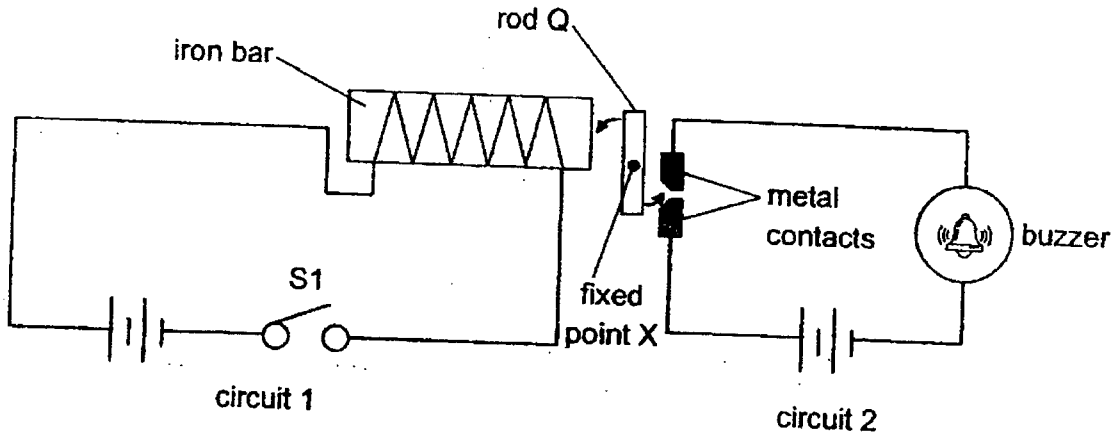



Selvi wrote down two reasons to explain the change in the number of animal S shown by part XY in the graph.

| | |
|---|---|
| Reason 1: | There is more animal Q added to the pond. |
| Reason 2: | There is more water plant P added to the pond. |

Which of the reasons given is correct? Explain your answer. [2]

19. The diagram below shows two electrical circuits. Rod Q is placed between them and is able to rotate freely about fixed point X.

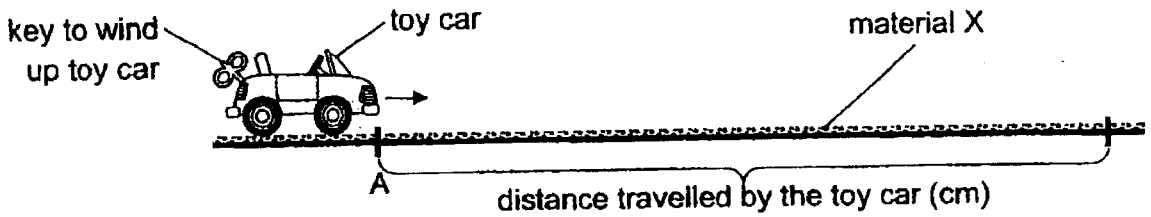



When S1 is closed, the buzzer makes a sound.

(a) Explain how the buzzer is able to work when S1 is closed. [2]

(b) Apart from being an electrical conductor, suggest another property of the material of rod Q that enables the system to work. [1]

20. Raj conducted an experiment to find out if the type of material affects the distance travelled by a toy car. He wound up the toy car before releasing it from point A on a flat surface covered with material X. He then measured the distance travelled by the toy car.




He repeated the experiment using different types of materials Y and Z and recorded the results in the table below.

| Material | Distance travelled by the toy car (cm) | | | |
|---|---|---|---|---|
| | Trial 1 | Trial 2 | Trial 3 | Average |
| X | 7 | 6 | 8 | 7 |
| Y | 12 | 14 | 13 | 13 |
| Z | 9 | 10 | 11 | 10 |

(a) Name two variables that should be kept constant to ensure a fair test. [1]

(i) _____

(ii) _____

(b) State two forces that were present as the toy car was moving across the materials. [1]

(i) _____

(ii) _____

(c) Based on the results, which material X, Y or Z has the roughest texture? Explain your answer. [1]

_____

_____

(d) Other than increasing the number of times the toy car is wound up, what can be done to make the toy car go a further distance? Explain your answer. [1]

_____

_____

YEAR : 2023
LEVEL : PRIMARY 6
SCHOOL : CHIJ ST NICHOLAS GIRLS' SCHOOL (PRIMARY)
SUBJECT : SCIENCE
TERM : TERM 2 WEIGHTED ASSESSMENT

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Q1 | 4 | Q2 | 3 | Q3 | 1 | Q4 | 2 | Q5 | 1 |
| Q6 | 3 | Q7 | 2 | Q8 | 2 | Q9 | 1 | Q10 | 3 |
| Q11 | 1 | Q12 | 3 | Q13 | 3 | Q14 | 3 | Q15 | 4 |

| | | |
|---|---|---|
| Q16 | | Point S. When she rested, her body needs less energy. So her heart beats slower to pump lesser blood containing lesser oxygen and lesser digested food to all body parts for a lower rate respiration. |
| Q17 | a) | A place where organisms live and reproduce. |
| | b) | To give organisms X time to roam around and choose its most suitable habitat. |
| | c) | Leaf litter. |
| Q18 | | Reason 1. A and R are competitors for the same food which is P. With more Q added there will be fewer P for R to eat, resulting in a decrease in R's population. Thus, there will be fewer R for S to eat resulting in a decrease in the population for S. |
| Q19 | a) | When S1 was closed, it formed a closed circuit so electricity could flow through the circuit to make the iron bar an electromagnet. The electromagnet will then attract rod Q and the other side of rod Q would touch the metal contacts, forming another closed circuit for electricity to flow through to sound the buzzer. |
| | b) | It must be made of a magnetic material. |
| Q20 | a) | (i) Number of times the toy car was wound up<br>(ii) Mass of the toy car |
| | b) | (i) Gravitational Force<br>(ii) Frictional force |
| | c) | X as the toy car travelled the least distance which shows that there was the most friction force between the wheels of the car and material X. |
| | d) | Apply a lubricant to reduce the frictional force between the wheels of the car and surface it was travelling on. |