METHODIST GIRLS' SCHOOL

Founded in 1887

Weighted Assessment 2 2025
PRIMARY 6
SCIENCE

Total Time: 45 minutes

INSTRUCTIONS TO CANDIDATES
Do not turn over this page until you are told to do so.
Follow all instructions carefully.
Answer all questions.

Name: _____ ( )

Class: Primary 6. _____

Date: 14 May 2025

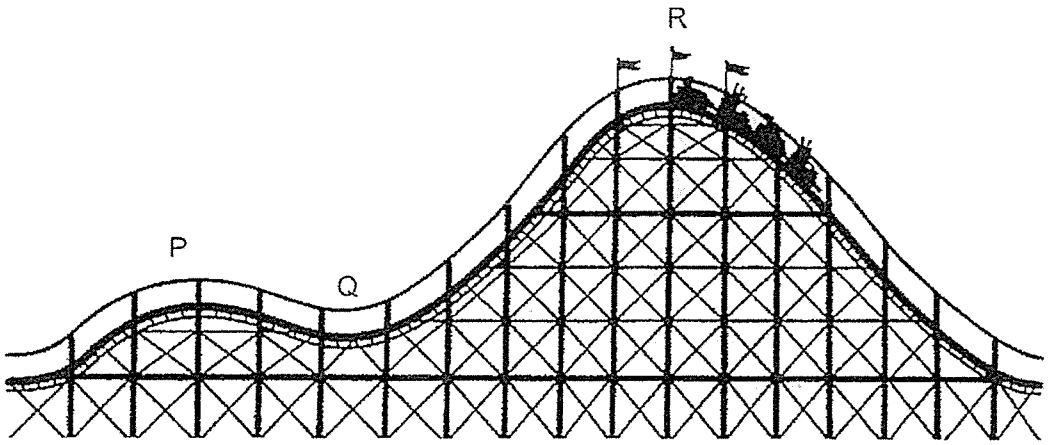
Parent's Signature: _____

Section A	16
Section B	14
Total	30

This booklet consists of 13 printed pages including this page.

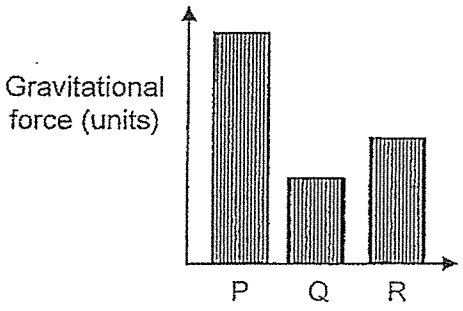
For each question from 1 to 8, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). Write your answer in the bracket provided. [16 marks]

1 The diagram below shows a rollercoaster track.

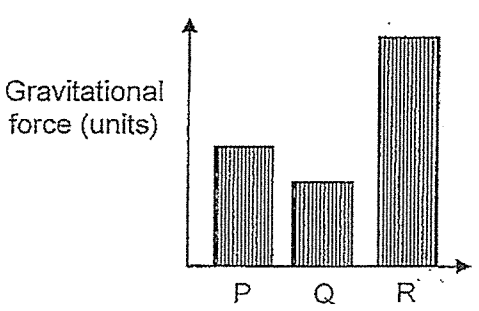


Which of the following graphs correctly shows the amount of gravitational force acting on the roller coaster at points P, Q and R?

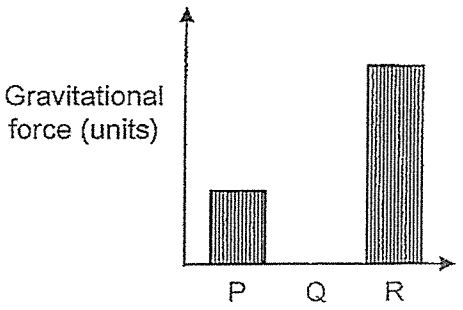
(1)



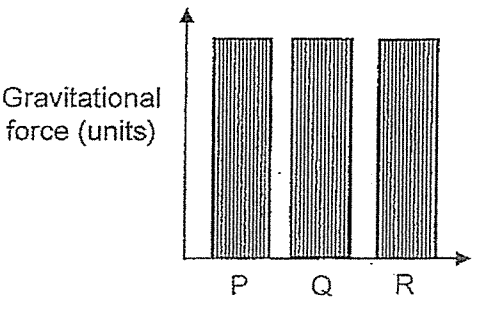
(2)



(3)

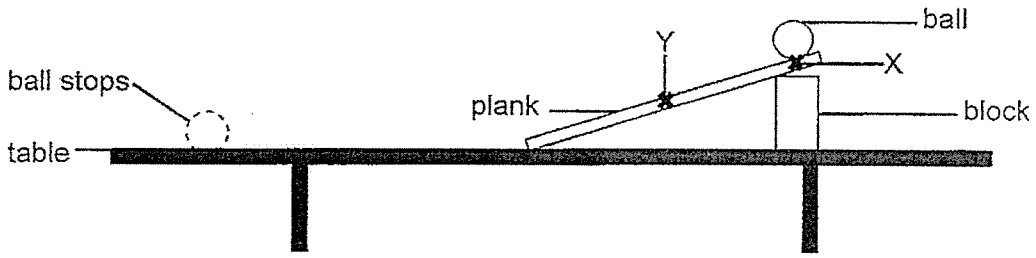


(4)



( )

2 A ball was released from point X and rolled down the plank pass Y before coming to a stop on the table, as shown in the diagram.



Which of the following actions would make the ball travel a longer distance before stopping?

A Release the ball from point Y

B Apply a layer of oil on the ball

C Replace the block with a taller block

D Cover the surface of the table with sandpaper

(1) A and B only

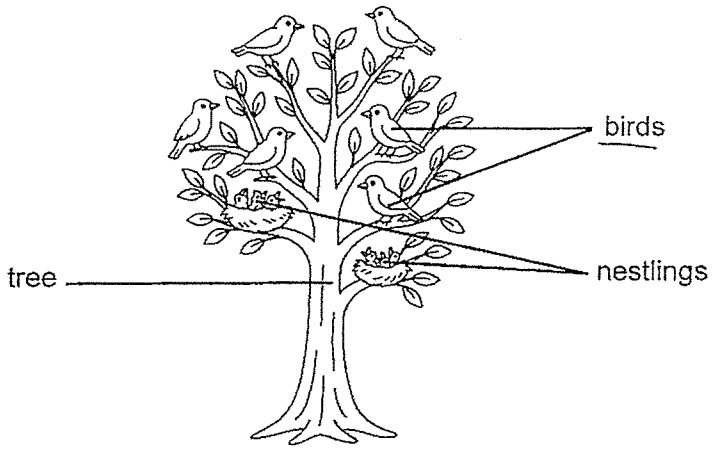
(2) A and D only

(3) B and C only

(4) C and D only

( )

3 Which term is given to the birds shown in the diagram?



(1) prey

(2) habitat

(3) community

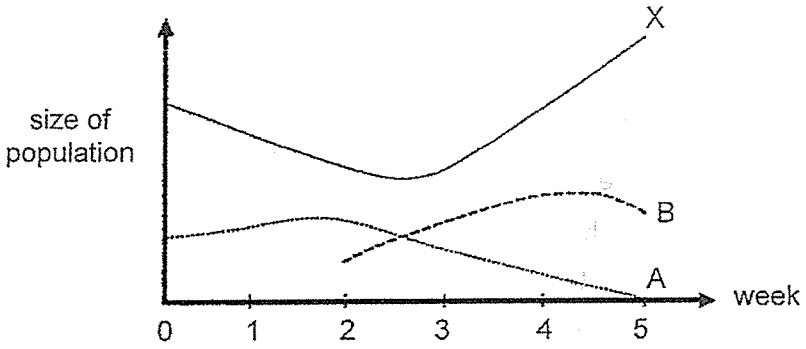
(4) population

( )

4 Kelly wanted to study the food relationship between animals A, B and X.
Animals A, B and X had no disease.

Animal X feeds only on plants. At the start of the experiment, Kelly placed a few animals A and X in a tank with some plants. She counted the number of each animal at the end of every week. After two weeks, she added a few animal B to the tank.

The graph below shows her results.



Which of the following is correct?

A Animal B fed on animal A.
B Animal B fed on animal X.
C Animal A fed on animal X.
D Animal A fed on animal B.

(1) A and B only

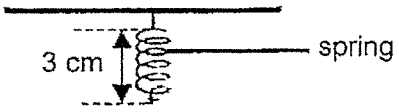
(2) A and C only

(3) B and C only

(4) B and D only

( )

5 Diagram 1 below shows the original length of a spring.



table

Diagram 1

A button magnet is attached to the spring, as shown in Diagram 2. A bar magnet is then placed under the button magnet, as shown in Diagram 3. Arrows P, Q and R show the forces acting on the button magnet.

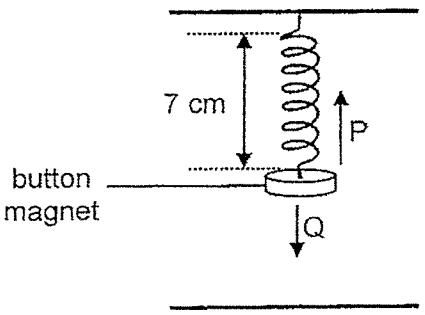


Diagram 2

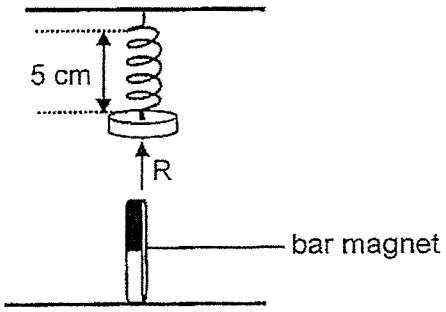


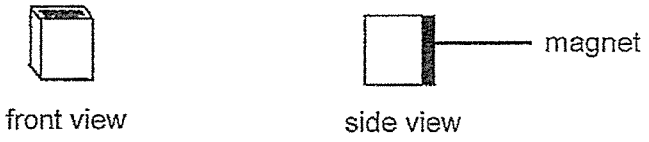
Diagram 3

Which of the following correctly identifies the forces P, Q and R?

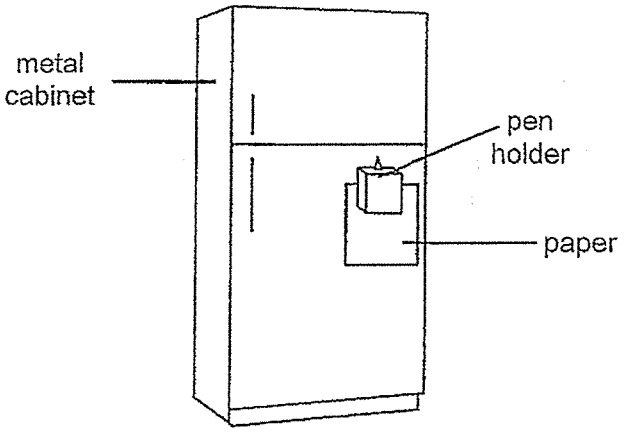
	P	Q	R
(1)	elastic spring force	gravitational force	magnetic force
(2)	frictional force	gravitational force	elastic spring force
(3)	frictional force	elastic spring force	magnetic force
(4)	elastic spring force	frictional force	magnetic force

( )

6 The diagram below shows a pen holder with a magnet attached at the back.



The pen holder is used to hold a piece of paper to the metal cabinet as shown below.



Which of the following statements is/are correct?

A There is gravitational attraction between the pen holder and the earth.

B There is friction between the paper and the magnet behind the pen holder.

C There is magnetic attraction between the paper and the magnet behind the pen holder.

(1) B only

(2) A and B only

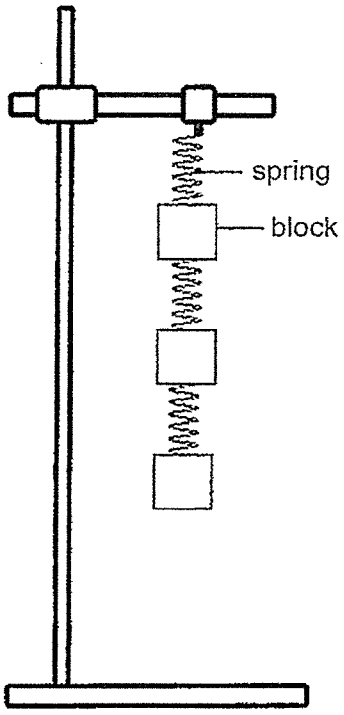
(3) A and C only

(4) A, B and C

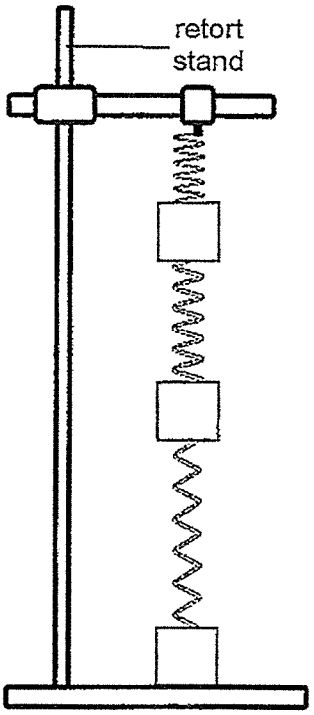
( )

7 Gayle hung three identical springs each attached to identical blocks of equal mass onto a retort stand. What would she see?

(1)



(2)



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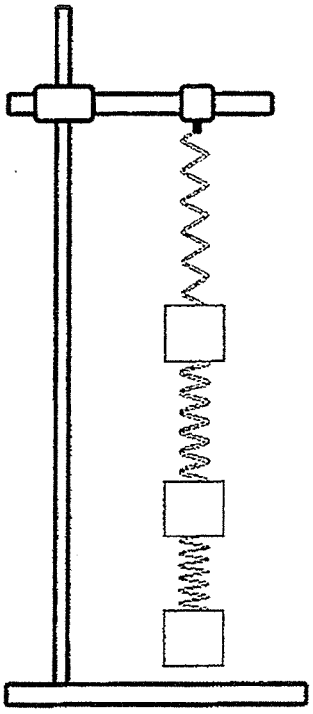

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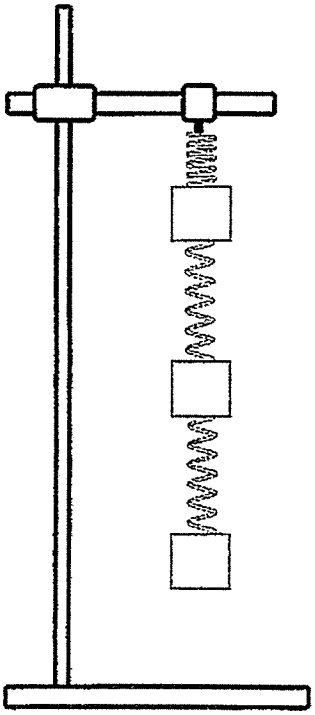
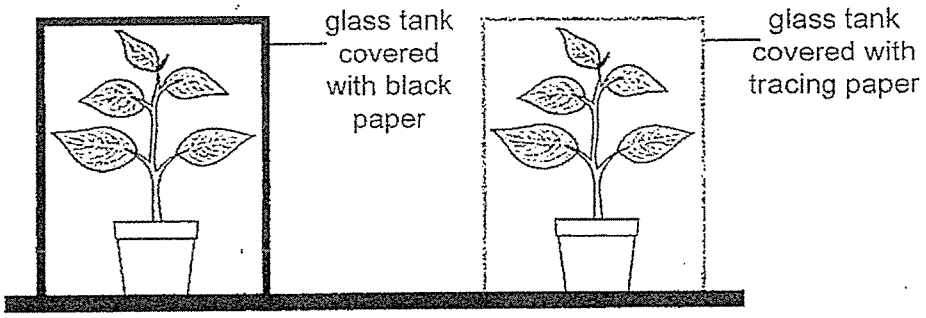


( )

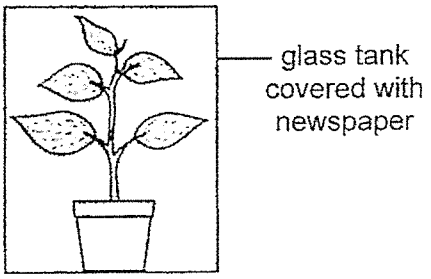
8 Ruo Lin carried out an experiment to find out how the presence of light affects the growth of a plant as shown below.



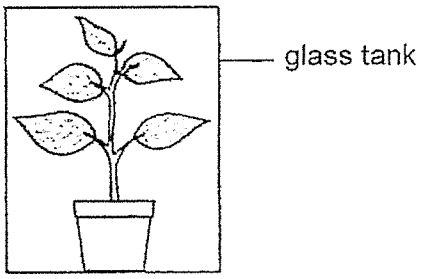
She placed one plant in a glass tank covered with black paper and another plant in a glass tank covered with tracing paper. She placed both set-ups in the same classroom.

Which of the following set-ups should Ruo Lin use as a control in this experiment?

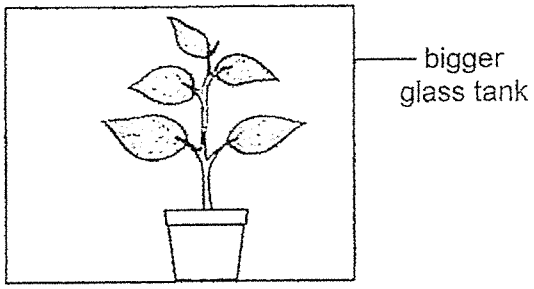
(1)



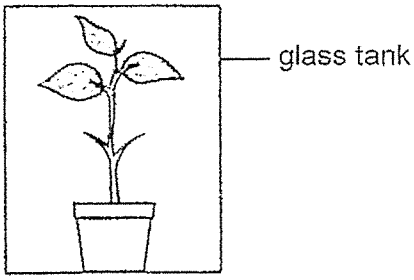
(2)



(3)



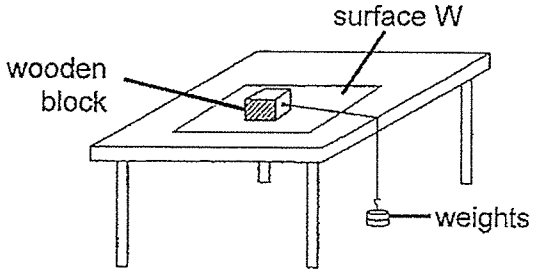
(4)



( )

For questions 9 to 12, write your answers in the spaces provided. The number of marks available is shown in brackets [ ] at the end of each question or part question. [14 Marks]

9 Emily carried out an experiment to investigate the force needed to move a wooden block on different types of surfaces. The diagram below shows the set-up for Surface W.



A 20g weight was added one at a time until the wooden block just started to move.
The experiment was repeated using surfaces X, Y and Z.

The weight required to move the wooden block on each surface is shown in the table below.

Type of surface	Weight required to move wooden block (g)
W	120
X	80
Y	160
Z	140

(a) State the relationship between the weight required to move the wooden block and the frictional force between the block and the type of surface. [1]

Whenever a driver steps on the brakes, the car will continue to move before it stops completely. This is called the braking distance.

(b) Based on the results in the table, arrange the braking distance of a car when it moves on surfaces W, X, Y and Z, from longest to shortest. [1]

Longest → Shortest

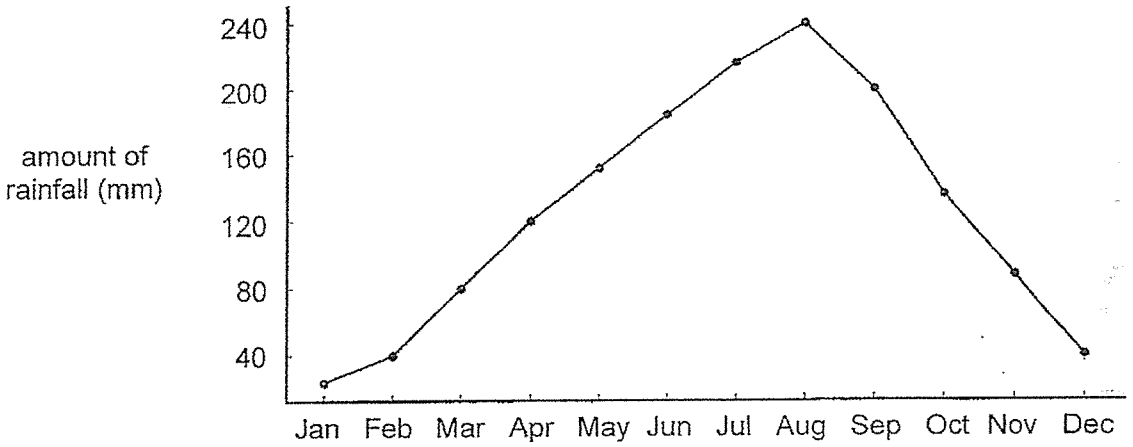
Type of surface			

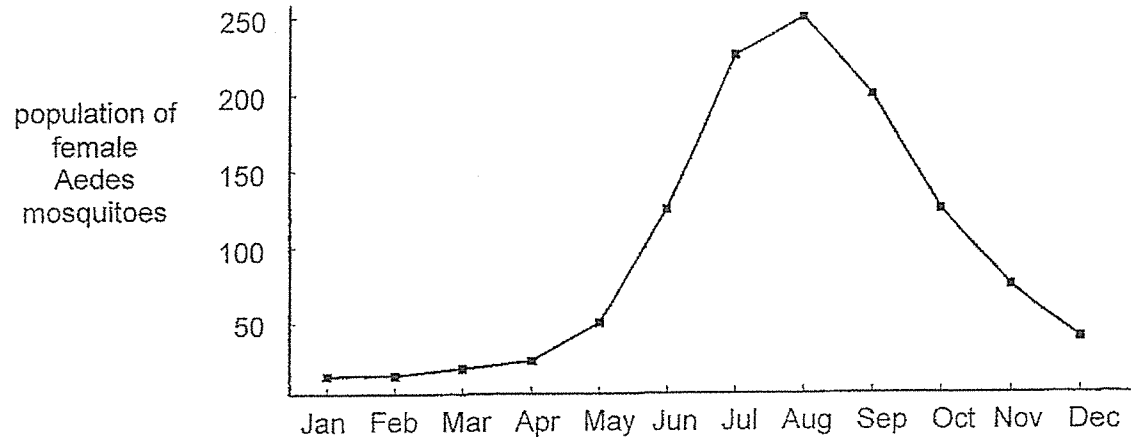
(c) Would the braking distance of a car be shorter, longer, or the same if the road is wet? Explain your answer. [2]

4

10 Female Aedes mosquitoes spread dengue in humans.

The graphs below show data taken from a neighbourhood in Singapore.

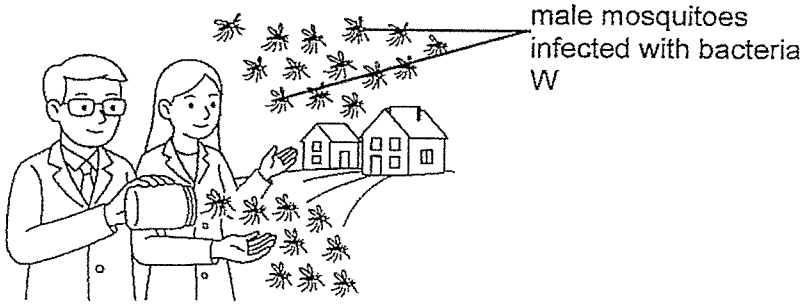




(a) Describe the relationship between the amount of rainfall and the population of female Aedes mosquitoes from January to December. [1]

(b) Explain your answer in (a). [1]

Scientists released male mosquitoes infected with bacteria W into the neighbourhood as shown in the diagram below.



Male mosquitoes infected with bacteria W do not bite or spread diseases. When they mate with female Aedes mosquitoes, the eggs laid by the female mosquitoes do not hatch.

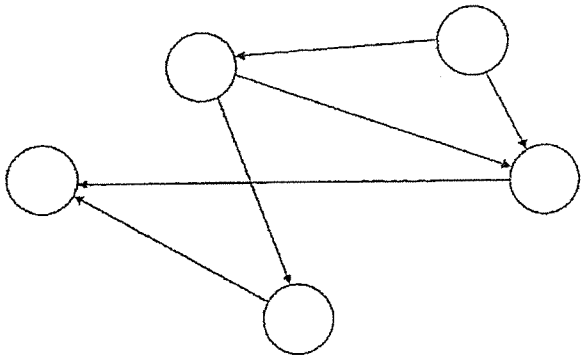
(c) The number of dengue cases in the neighbourhood decreased after the release of infected male mosquitoes. Explain why. [1]

3

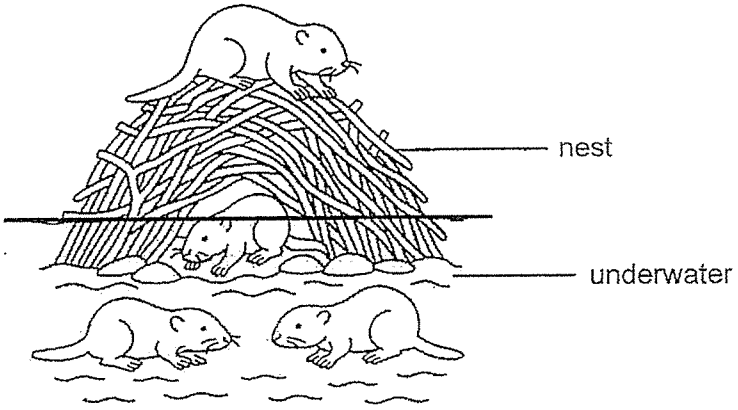
11 A scientist made the following observations of organisms A, B, C, D and E.

- D is a food producer.
- B and C feeds on D.
- A lives on land and feeds on C and E.
- C lives in both land and water.
- C and E feeds on B, B lives in water.

(a) Complete the food web to show the relationship among all the organisms above. [2]



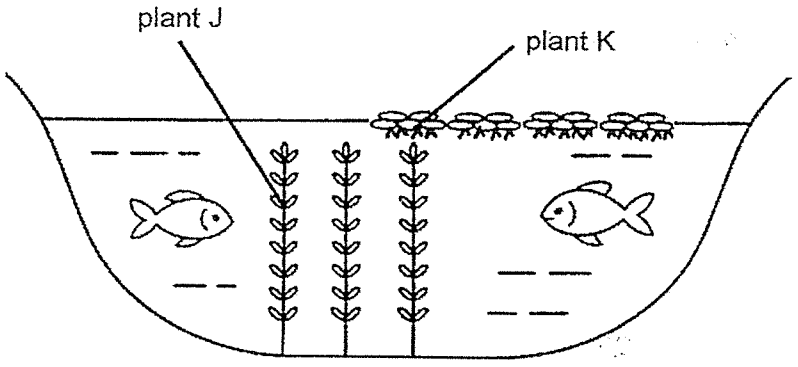
Organism C builds a nest in water as shown in the diagram below.



(b) Using the food web in (a) and the information above, suggest two advantages of the nest for the survival of C. Explain your answer. [2]

4

12 The diagram below shows a pond habitat.



(a) Other than being a source of food, state another reason plants J and K are important to the fishes in the pond. [1]

(b) Explain why the population of plant J decreases when the population of plant K increases. [1]

(c) When a lot of plant J die and start to rot, the oxygen level in the pond becomes lower. Give a reason why the rotting plants cause a decrease in the level of oxygen. [1]

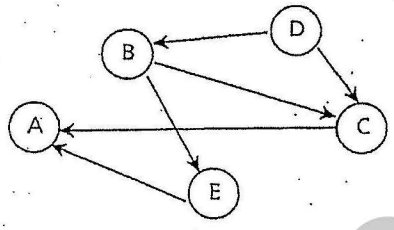
3

End of Paper

YEAR : 2025
LEVEL : PRIMARY 6
SCHOOL : METHODIST GIRLS' SCHOOL
SUBJECT : SCIENCE
TERM : WEIGHTED ASSESSMENT 2

Q1	4	Q2	3	Q3	4	Q4	2	Q5	1
Q6	2	Q7	3	Q8	2				

Methodist Girls' School (Primary)
P6 Science WA2

Q.	Suggested Answers
9(a)	The greater the frictional force (between the wooden block and the surface), the greater the weight required to move the (wooden) block.
9(b)	Friction is greatest on the surface that requires the most weight to move the block, so the braking distance is shortest on that surface. X → W → Z → Y
9(c)	Longer, as water acts as a lubricant which reduces the frictional force between the tyres of the car and the road surface.
10(a)	As the amount of rainfall increased from January to August, the population of female Aedes mosquitoes increased. As the amount of rainfall decreased from August to December, the population of female Aedes mosquitoes decreased.
10(b)	A higher amount of rainfall leads to an increased amount of (stagnant) water where female Aedes mosquitoes can lay their eggs in/ breed.
10(c)	As more eggs do not hatch, there will be fewer offspring that can grow into adult female Aedes mosquitoes that spread Dengue.
11(a)	
11(b)	<u>Reason 1</u> Organism C feeds on organism B that lives in water so having the nest in water enables organism C to hunt for its prey quickly. <u>Reason 2</u> The predator of organism C, lives on land so having the nest in water enables organism C to hide and escape from organism A. OR The nest provides shelter for organism C to hide from its predator as organism A lives on land.
12(a)	Provides oxygen during photosynthesis for the fishes living to survive/ breathe in/ respire. OR Provides shade/ shelter/ place for fishes living in the water to hide/ escape from their predators.
12(b)	More plant K will block sunlight from entering the pond, so plant J will trap/ absorb less sunlight to carry out photosynthesis at a lower rate.
12(c)	Both the fishes and decomposers acting on the rotting plants are taking in oxygen, so the amount of oxygen in the pond decreased. OR The rotting plants cannot make food/ carry out photosynthesis so they do not produce oxygen, causing the amount of oxygen to decrease.