Name : _____( )

Class : Primary 6 _____

CHIJ ST NICHOLAS GIRLS' SCHOOL

Primary 6

Preliminary Examination

SCIENCE

BOOKLET A

20 August 2026

Total Time for Booklets A and B: 1 hour 45 minutes

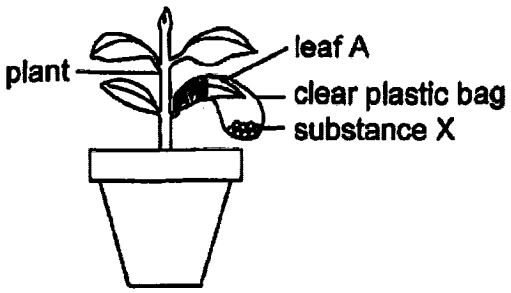
30 questions
60 marks

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

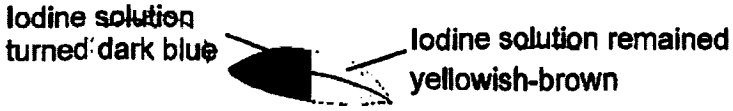
This paper consists of 18 printed pages.

Section A (30 x 2 marks = 60 marks)
For each question from 1 to 28, 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. Substance X was placed in a clear plastic bag and the pot of plant was left under the sun for a few hours.



Leaf A was then tested for starch. The results of the experiment is shown below.



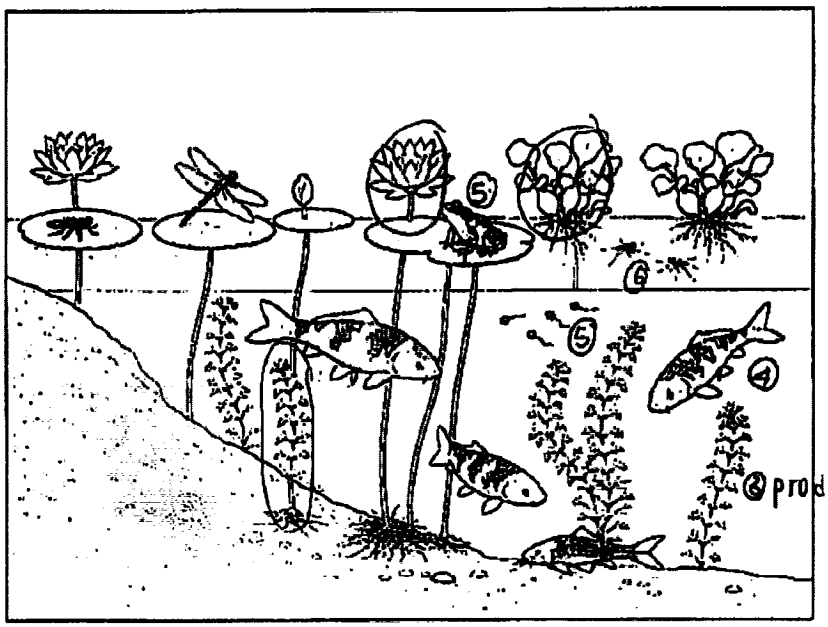
Which of the following statements is true about substance X?

(1) Substance X gives off heat.
(2) Substance X absorbs oxygen.
(3) Substance X releases water vapour.
(4) Substance X absorbs carbon dioxide.

2. After harvesting their crops, farmers may leave behind dead leaves on the ground. How does leaving them behind benefit the next batch of crops?

(1) allows the plants to photosynthesise.
(2) reduces the amount of water in the soil.
(3) reduces the amount of carbon dioxide in the air.
(4) increases the amount of mineral salts in the soil.

3. The diagram below shows a pond habitat.



Which of the following statements is correct?

(1) There are 3 populations of producers.
(2) There are 9 populations of organisms.
(3) There are 6 populations of consumers.
(4) There are 2 communities of organisms.

4. Study the information shown below.

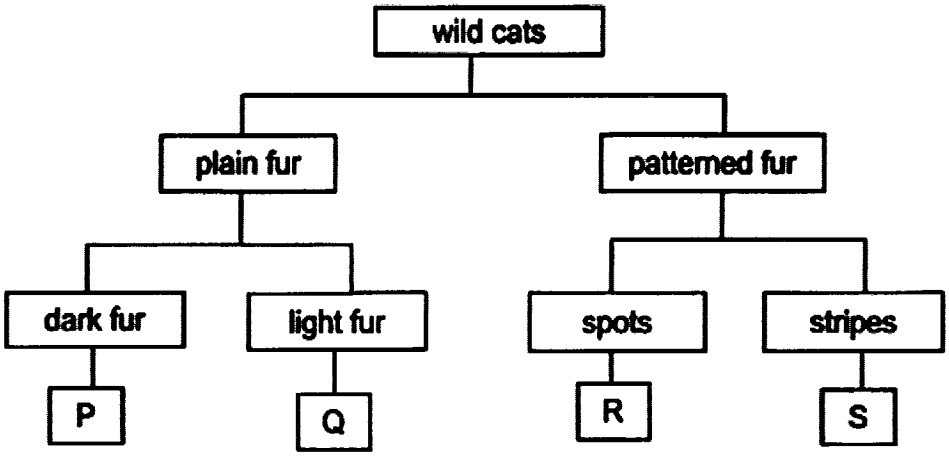
Organism:	stick insect
Diet:	leaves
Appearance:	• looks like a twig • rough skin texture
Movement:	• remains motionless • sways with the tree branch when wind blows • comes out at night to feed on leaves

Which of the following shows the type(s) and purpose of the adaptation of the stick insect?

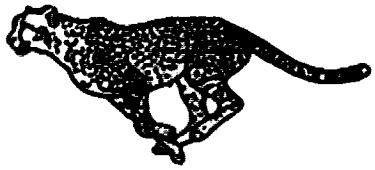
	type (s) of adaptation	purpose
(1)	behavioural only	to catch prey
(2)	structural only	to avoid being spotted by predators
(3)	behavioural and structural	to catch prey
(4)	behavioural and structural	to avoid being spotted by predators

Use the information below to answer Questions 5 and 6.

5. Study the chart below.



The diagram below shows a wild cat.



Which letter P, Q, R or S best represents the wild cat?

(1) P
(2) Q
(3) R
(4) S

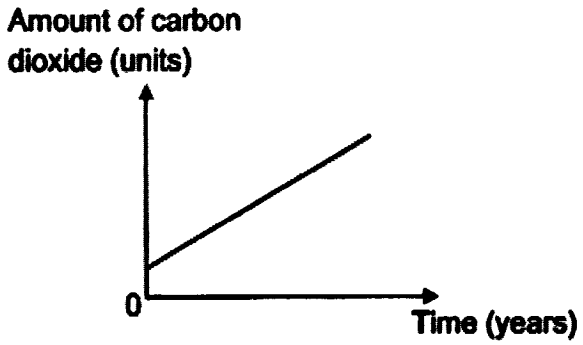
6. The wild cat's body temperature increases very quickly when chasing a prey. Which of the following structural adaptations helps to keep its body cool?

(1) Hunting in a pack
(2) Strong leg muscles
(3) Resting in the shade
(4) Light coloured fur coat

7. Which of the following correctly shows the human activity and its negative impact on the environment?

	Human activity	Negative impact on the environment
(1)	Water pollution	Causes landfills to give off a bad smell
(2)	Burning of fossil fuels	Releases harmful gases into the air
(3)	Reforestation	Destroys habitats of animals
(4)	Overfishing	Keeps the number of populations in the food web balanced

8. The graph below shows how the amount of carbon dioxide on Earth changed over time.



Which of the following could have caused the change in the amount of carbon dioxide?

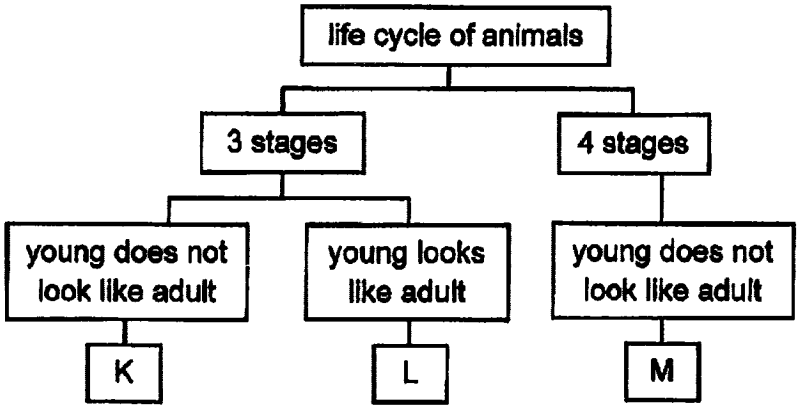
A Driving cars
B Global warming
C Burning down trees
D Taking long showers

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

9. Which of the following correctly matches the plant part to its function?

	Plant part	Function
(1)	Fruit	To attract animals to eat it.
(2)	Stem	To take in food for the plant.
(3)	Root	To take in water for the plant.
(4)	Leaf	To take in sunlight and oxygen to make food.

10. Study the classification table below.



Which of the following represents K, L and M?

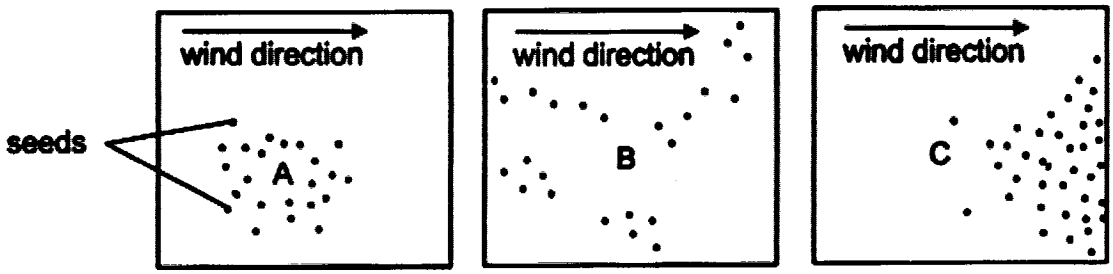
	K	L	M
(1)	chicken	mealworm beetle	mosquito
(2)	grasshopper	chicken	grasshopper
(3)	frog	cockroach	butterfly
(4)	butterfly	mosquito	frog

11. Heidi wanted to find out if seeds need light to germinate. Which of the following variables should she keep constant for a fair test?

A Type of seeds
B Amount of soil
C Presence of light
D Amount of water
E Temperature of surroundings

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

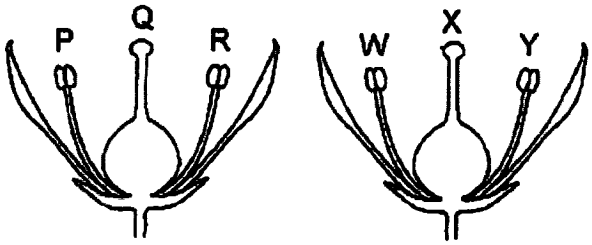
12. The diagrams below show the seed dispersal patterns of plants A, B and C.



Which of the following shows how the fruits of plants A, B and C could look like?

	A	B	C
(1)			
(2)			
(3)			
(4)			

13. The diagram below shows two flowers of the same kind.



Pollination occurs when pollen grains are transferred from _____.

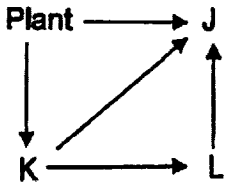
(1) Q to R and W to X
(2) Y to Q and X to R
(3) P to Q and R to X
(4) Y to R and W to P

14. The table below shows how some animals found in a community are grouped.

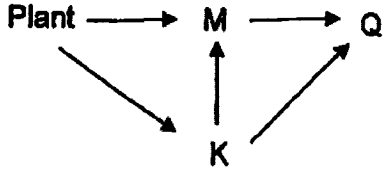
Plant - eaters	Animal - eaters	Plant - and - animal eaters
J K	L M	Q R

Which of the food webs below show the possible food relationships between some of these animals?

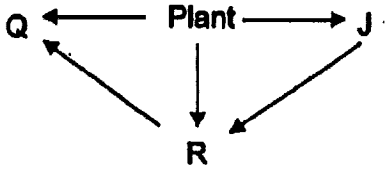
(1)



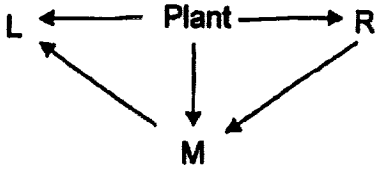
(2)



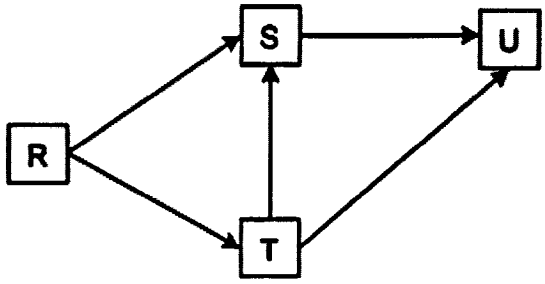
(3)



(4)



15. Study the food web below.



A large number of organism Z migrated to the habitat. Z only fed on one organism. It was observed that the population of all other organisms decreased.

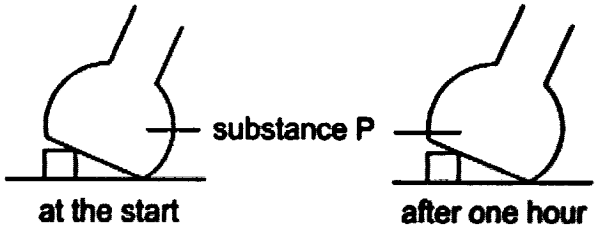
Which organism did Z feed on?

(1) R
(2) S
(3) T
(4) U

16. More air could be pumped into a fully inflated basketball. Why is this so?

(1) Air has mass.
(2) Air occupies space.
(3) Air can be compressed.
(4) Air does not have a definite shape.

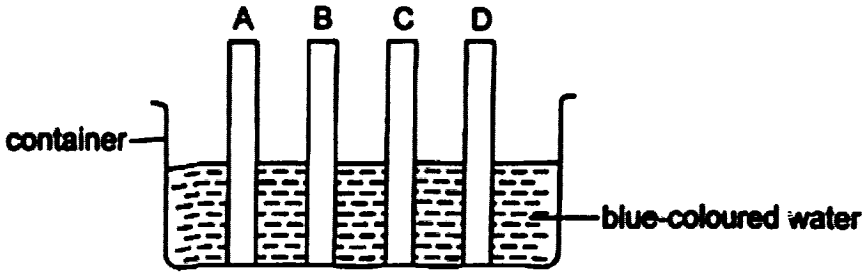
17. A flask containing substance P was left in the classroom for an hour.



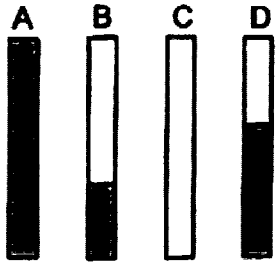
Which of the following statements about substance P is true after one hour?

(1) Substance P increased in mass.
(2) Substance P has no definite shape.
(3) Substance P has no definite volume.
(4) Substance P did not change in state.

18. Four strips A, B, C and D made from different materials were placed in a container with blue-coloured water as shown.



After one hour, the stripes were removed from the container as shown below. The shaded part of each strip shows the blue water mark on each of the stripes.



Which of the materials A, B, C or D is the most suitable material to make a towel and a raincoat?

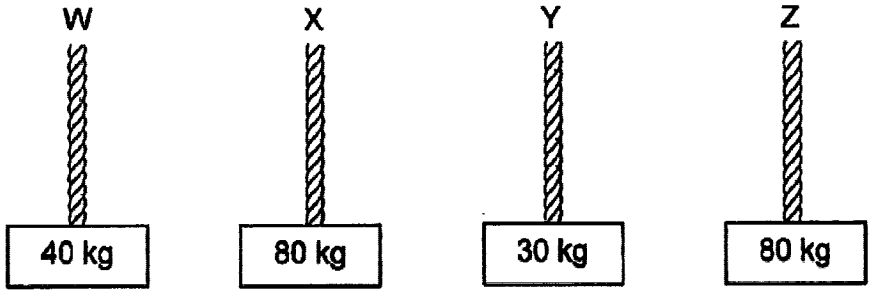
	Towel	Raincoat
(1)	B	D
(2)	A	C
(3)	A	B
(4)	D	C

19. Which of the following statements are true?

A Heat can be measured using a thermometer.
B Heat is a form of energy that makes things hot.
C Heat travels from a hotter place to a colder place.
D An increase in the amount of heat energy will always result in an increase in temperature.

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

20. Four masses were attached to four ropes W, X, Y and Z as shown below. The ropes were of similar thickness but made of different materials. When the masses were lifted by the ropes, only ropes W and Z broke.



Which of the statements are definitely true?

A Rope Y is the weakest.
B Rope X is the strongest.
C Rope W will not break when lifting a 30 kg mass.
D Rope X and Y will not break when lifting a 20 kg mass.

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

21. When object P was placed on the lever, the fixed spring stretched as shown in diagram 1. When object Q was placed above object P, the fixed spring stretched more as shown in diagram 2.

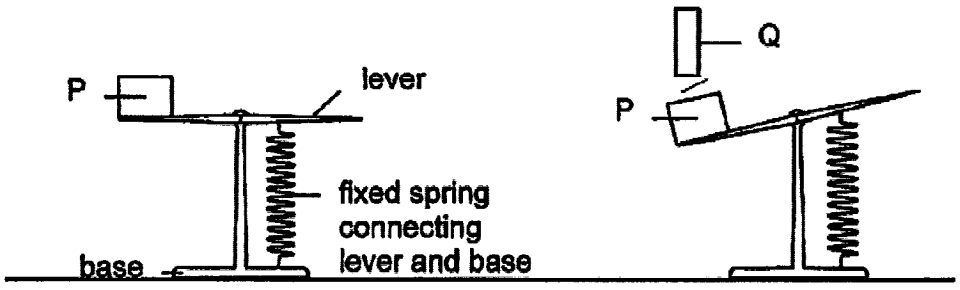
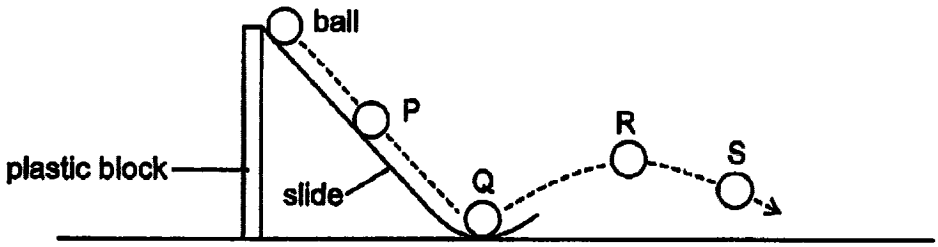


diagram 1 diagram 2

Which of the following statements is true?

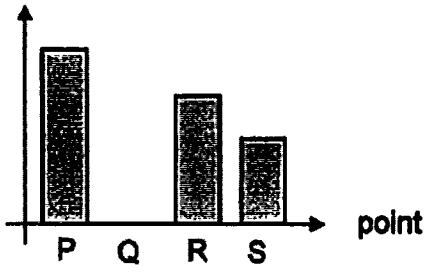
(1) Object Q attracts object P.
(2) Object P is definitely a magnet.
(3) The spring pushed the lever upwards.
(4) There was more gravitational force acting on object P.

22. A ball was dropped from the top of a plastic block. It started to roll down the slide as shown in the diagram below.



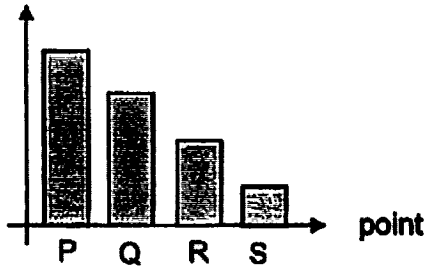
Which of the graph correctly shows the amount of gravitational force acting on the ball at points P, Q, R and S?

(1)

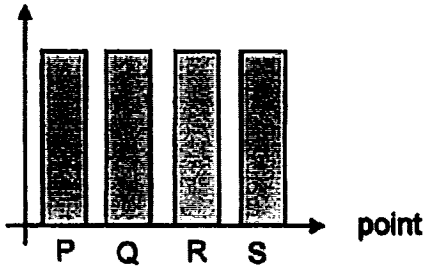


(2)

(3)



(4)



23. An iron rod was stroked 20 times with a magnet as shown in diagram 1. Diagram 2 shows the poles AB after it was stroked.

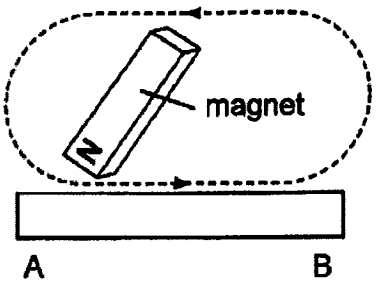
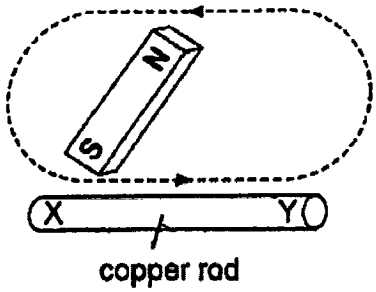


Diagram 1

Diagram 2

Penny used a bar magnet to stroke a copper rod as shown below.

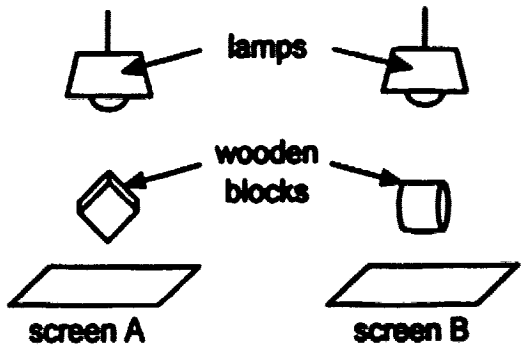


Which of the following observation(s) is / are possible when a bar magnet was brought near parts X and Y?

A Part Y will repel the North pole of the bar magnet.
B Part X will be attracted to the North pole of the bar magnet.
C Part X will be attracted to the South pole of the bar magnet.
D Both ends of the rod will not be attracted to the bar magnet.

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

24. Study the diagram below. The lamps were directly above the wooden blocks.



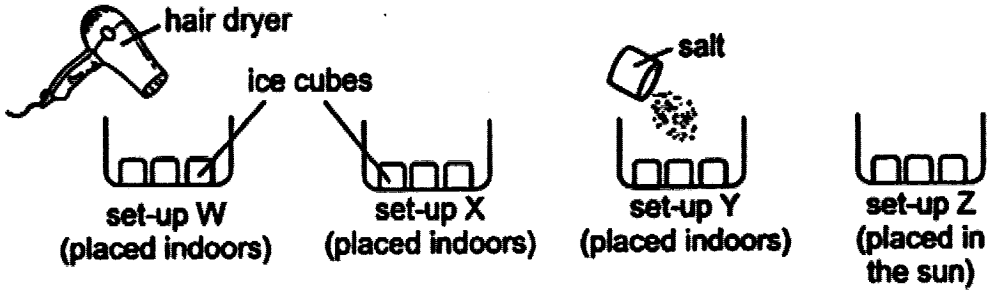
Which of the following shadows would most likely be observed on screens A and B?

	Screen A	Screen B
(1)		
(2)		
(3)		
(4)		

25. Which of the following explains why a puddle of water on the ground becomes smaller and finally disappears after a while?

(1) The water loses heat to the cooler ground and evaporated.
(2) The water gains heat from the cooler ground and evaporated.
(3) The water loses heat to the warmer surrounding air and evaporated.
(4) The water gains heat from the warmer surrounding air and evaporated.

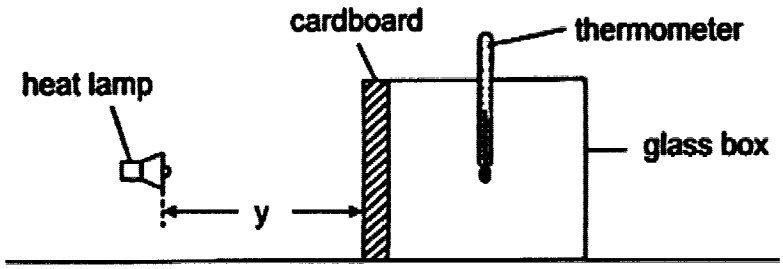
26. Study the set-ups below.



Which of the following shows the correct pair of set-ups to use to investigate the aim?

	Set-ups	Aim
(1)	X and Y	To find out if salt will speed up the melting of ice.
(2)	W and Z	To find out if the presence of light will speed up the malting of ice.
(3)	W and Y	To find out if the presence of wind will slow down the melting of ice.
(4)	Y and Z	To find out if increase in the amount of heat will speed up the melting of ice.

27. Study the set-up below. When the heat lamp was switched on, the temperature of the air inside the glass box increased.

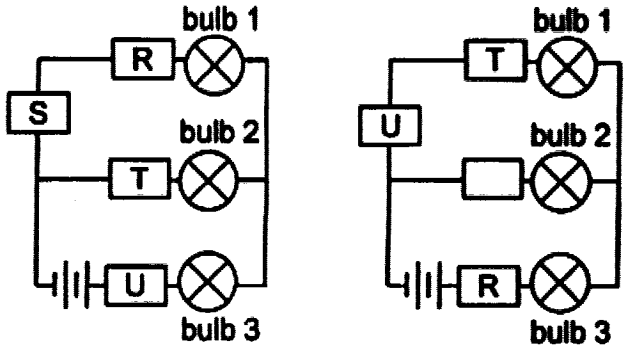


The temperature of the air in the box was measured every 2 minutes when distance y is 5 cm. The experiment was repeated when distance y is 10 cm and 15 cm.

Which of the following is a possible hypothesis for the experiment?

(1) The thicker the cardboard, the lower the temperature of the air in the box.
(2) The greater the distance y, the lower the temperature of the air in the box.
(3) The greater the distance y, the shorter the time taken for the heat to pass through the cardboard.
(4) The greater the amount of heat produced by the lamp, the higher the temperature of the air in the box.

28. The diagrams below show two circuits A and B.



circuit A circuit B

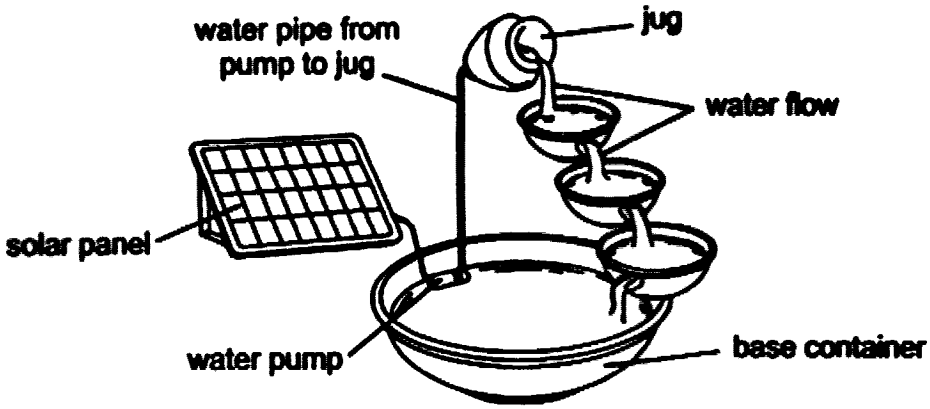
The table below shows which bulbs lit up in the two circuits.

	Did the bulb light up?		
Circuit	**Bulb 1**	**Bulb 2**	**Bulb 3**
A	No	Yes	Yes
B	Yes	No	Yes

Which of the following is correct?

	Electrical conductor(s)	Electrical insulator(s)	Not possible to tell
(1)	T and U	R	S
(2)	S	R, T and U	-
(3)	R, T and U	S	-
(4)	R and S	T	U

29. The diagram below shows a solar powered water feature. The solar panel enables the water pump to pump water up to the jar. Water then flows down to the base container.



Which of the following shows the main energy conversion that allows the water to reach the jug?

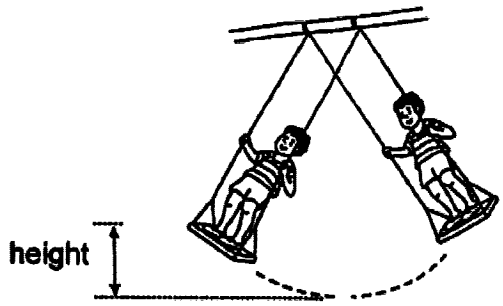
(1) Heat energy → Electrical energy → Kinetic energy + Potential energy

(2) Light energy → Electrical energy → Kinetic energy → Potential energy

(3) Heat energy → Electrical energy → Potential energy + Sound energy

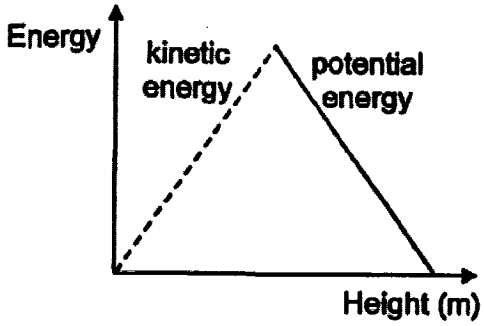
(4) Light energy → Electrical energy → Sound energy → Potential energy

30. The diagram shows a boy playing on a swing.

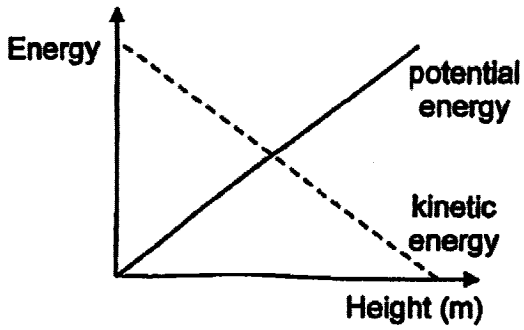


Which of the following graphs show the correct energy changes of the swing with height?

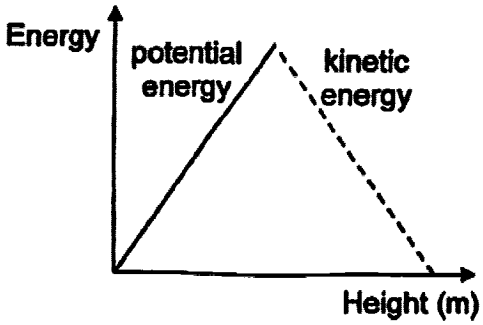
(1)



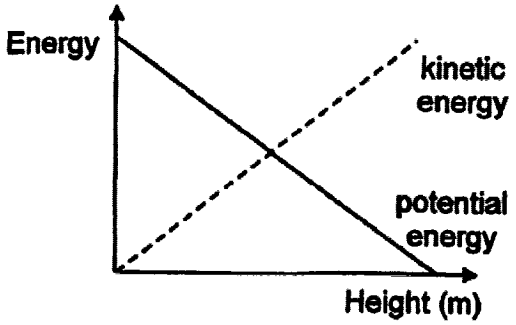
(2)



(3)



(4)



END OF BOOKLET A

Name : _____ ( )

Class : Primary 6 _____

CHIJ ST NICHOLAS GIRLS' SCHOOL

Primary 6

Preliminary Examination

SCIENCE

BOOKLET B

20 August 2026

Total Time for Booklets A and B: 1 hour 45 minutes

12 questions
40 marks

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

This booklet consists of 13 printed pages.

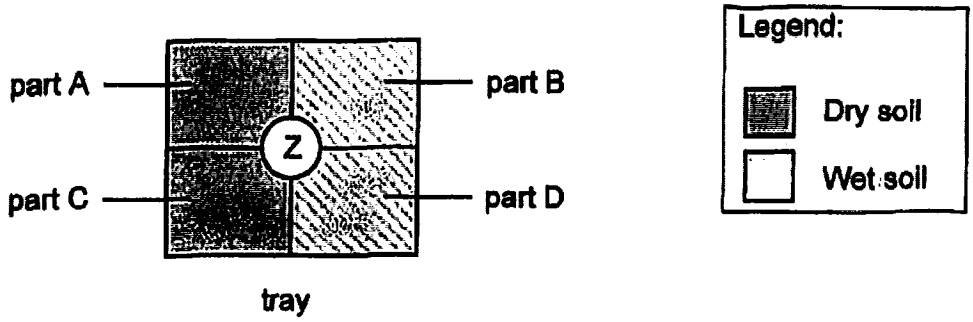
Booklet A	60
Booklet B	40
Total	100

_____

Parent's Signature/Date

Section B (40 marks)
For questions 31 to 42, 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.

31. Jovan wanted to investigate the preferred living conditions of organism Z. He covered parts C and D with black paper. Then he placed some organism Z in the middle of the tray as shown below.



At the end of the experiment, most organism Z were found at part D of the tray.

(a) What can Jovan conclude about the preferred living conditions of organism Z? [1]

_____

_____

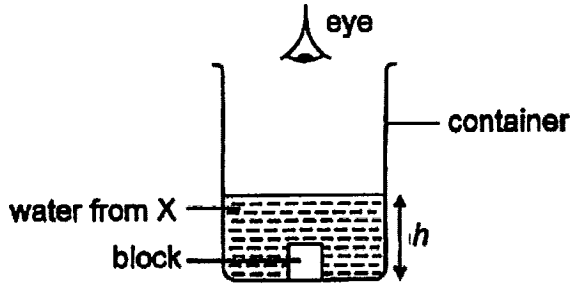
(b) Why did Jovan place organism Z in the middle of the tray at the start? [1]

_____

_____

_____

32. Water was taken from three parts X, Y and Z of a river. A block was placed at the bottom of the container. Water from X was then poured into the container until the block could no longer be seen. The height of water, *h*, was recorded as shown below.

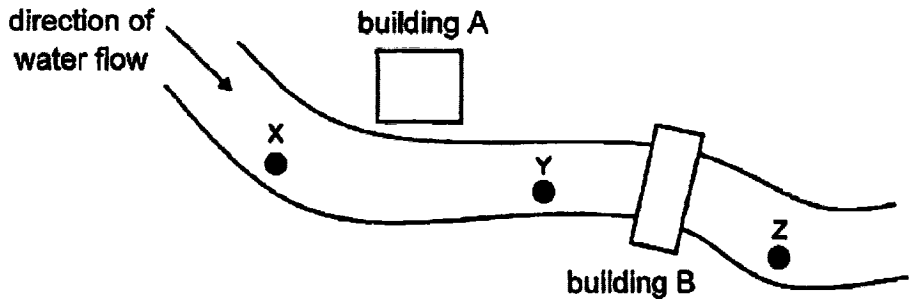


The experiment was repeated with water collected from Y and Z. The results are recorded in the table below.

Part of the river	**X**	**Y**	**Z**
h **(cm)**	15	4	26

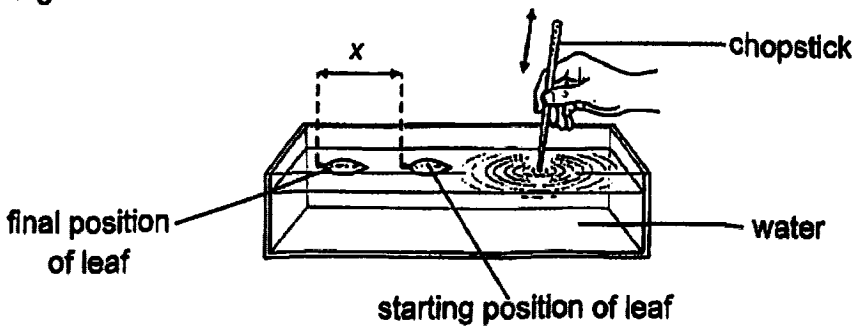
(a) Based on the results, which part of the river X, Y or Z would have the greatest number of submerged plants growing? Explain your answer. [2]

The diagram below shows the different parts of the river where water was collected from.



(b) Based on the above information, suggest a possible purpose of building B. [1]

33. Ann tapped the chopstick up and down in the water, causing water ripples to be formed. The water ripples moved the leaf and she measured the distance *x* as shown in the diagram below.



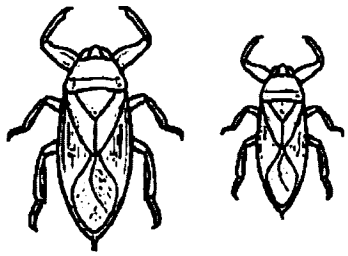
She repeated the experiment with different number of taps and recorded the results in the table below.

Number of taps of the chopstick	Distance *x* (cm)
5	2
10	3
15	5

(a) Based on the results, state the relationship between the number of taps of the chopstick and distance *x*. [1]

Organism C lives in water. Male organism C moves its body up and down to create water ripples. When the female organism C senses the water ripples, it moves towards the male.

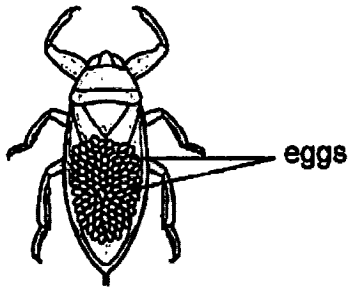
The diagram below shows two male organism C of different sizes. It was observed that the larger organism C can move its body up and down more times per minute.



Male organism C

(b) From the experimental results and above information, explain why the larger organism C have a higher chance of attracting a mate. [2]

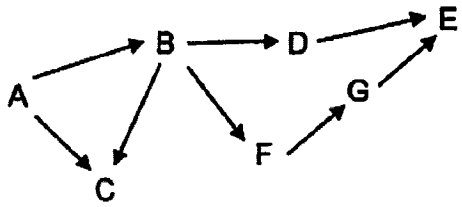
Male organism C are seen to carry eggs on their hard outer covering as shown below.



(c) How does this adaptation help the eggs to survive better? [1]

(d) Organism C is observed to swim to the water surface and expose the eggs to the air above water several times a day. Give a reason for this behaviour. [1]

34. Study the food web below.



(a) How many food chains are there in the food web above? [1]

(b) What would happen to the population of D when the population of C decreases? [2]

35. Wayne wanted to find out how the distance between the torch and water plant, *d*, affects the rate of photosynthesis as shown in diagram 1.

After 2 hours, he observed some changes to the height of gas column as shown in diagram 2.

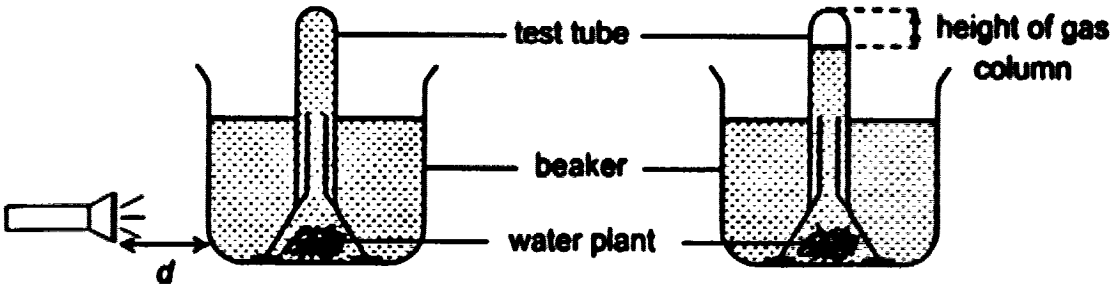
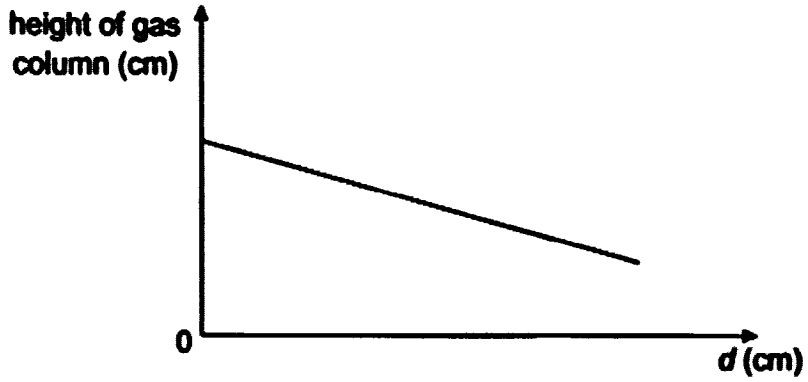


Diagram 1 Diagram 2

He repeated the experiment by changing *d* and recorded the height of gas column in the graph below.



(a) Explain why the height of gas column decreased as *d* increased. [2]

(b) Besides the height of gas column, state another way he could measure the rate of photosynthesis of the water plant. [1]

(c) He repeated the experiment using a similar set-up with two water plants. Draw a line in the above graph to show the results of his experiment. [1]

36. (a) Why do plants need to disperse their seeds? [1]

_____

_____

The diagram below shows the fruits of plants E and G.

Fruit from plant E

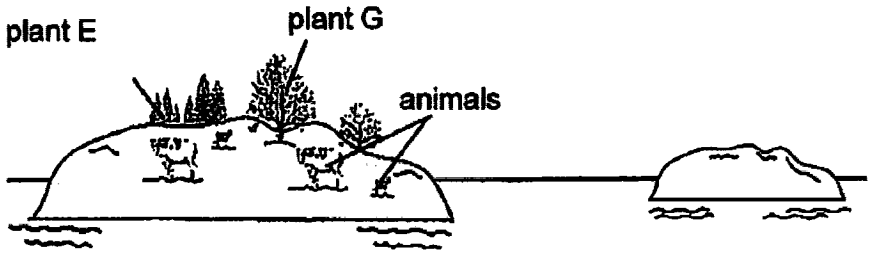
Fruit from plant G

(b) State the dispersal method of the fruits of plants E and G. [1]

Fruit of plant E: _____

Fruit of plant G: _____

The diagram below shows two islands A and B. At first, plants E and G were found only on island A.



(c) After a few years, scientists discovered some young plants on island B. These young plants resembled those from island A.

Which plant, E or G, could the young plants on island B be? Explain your answer. [1]

_____

_____

_____

37. Nora set up the following experiment using cardboards each with a hole in them as shown in diagram 1 below.

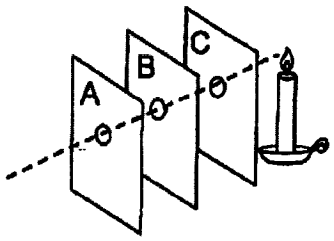


Diagram 1

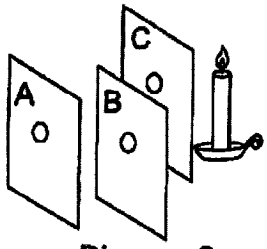
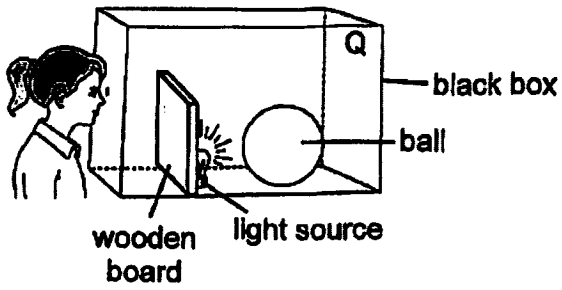


Diagram 2

When she looked through the hole in cardboard A, she was able to see the flame on the lighted candle. However, when she moved cardboard B to the position shown in diagram 2, she could no longer see the flame.

(a) What property of light is shown in Nora's experiment? [1]

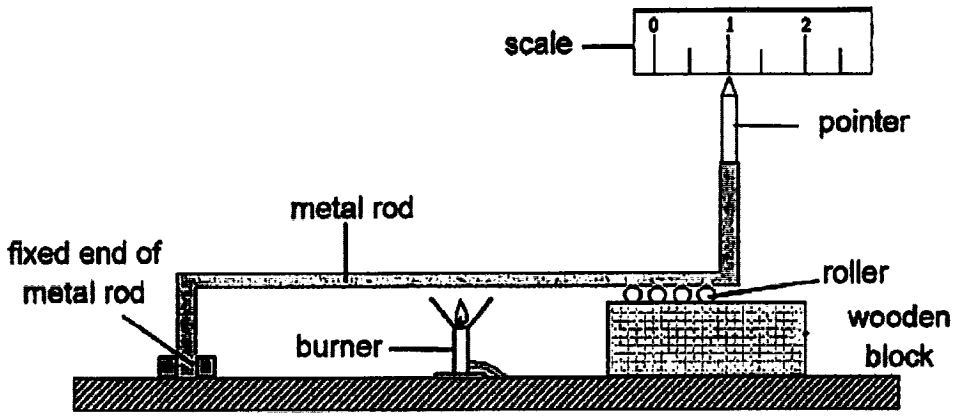
Nora conducted another experiment using a black box as shown below.



(b) When she looked through the hole in the box, she could not see the ball even though the box was bright inside. Explain why. [1]

(c) Suggest what could be added inside the box at position Q so that Nora can see the ball clearly. [1]

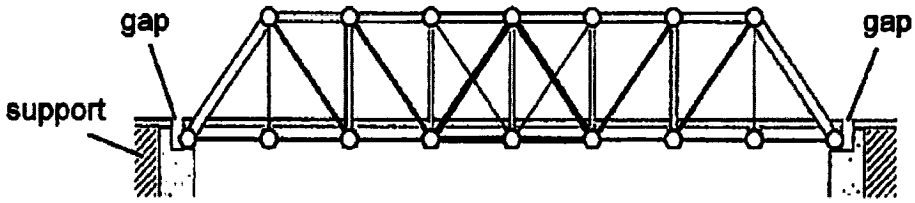
38. The experiment below was used to investigate the effect of heat on a metal rod. One end of the metal rod was fixed to the table while the other end rested on four rollers placed on a wooden block. A pointer was attached to the top of the metal rod.



A lighted burner was then placed under the metal rod for 5 minutes.

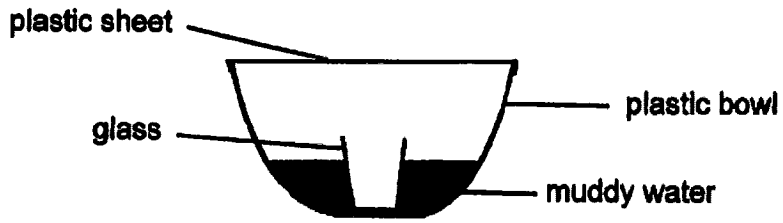
(a) Will the reading on the scale increase or decrease after 5 minutes? Explain your answer. [2]

Study the diagram of a bridge below.



(b) Give a reason why it is necessary for the bridge to have gaps at both ends of the bridge. [1]

39. The set-up below was placed outdoors on a hot sunny day. After 3 hours, a liquid was collected in the glass.

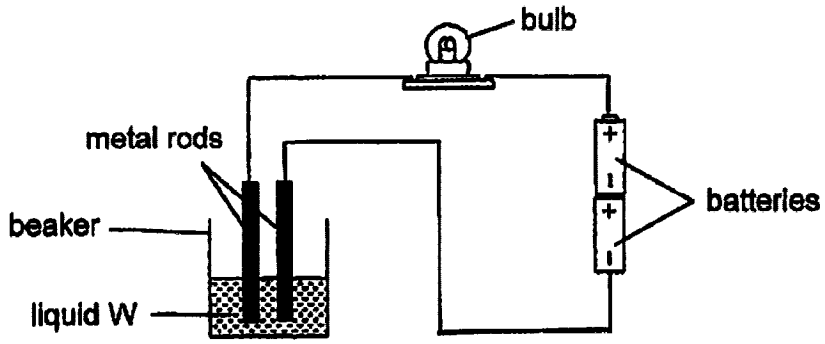


(a) What was the liquid collected in the glass? [1]

(b) Suggest what could be added to the plastic sheet to increase the amount of liquid collected in the glass. Explain your answer. [2]

(c) How would the amount of liquid in the glass change if the plastic sheet was replaced with a metal sheet? Give a reason for your answer.

40. The set-up below was used to investigate the electrical conductivity of some liquids.



When liquid W was poured into the beaker, the brightness of the bulb was observed and recorded. The experiment was repeated using liquids X, Y and Z.

Liquid	Brightness of bulb			
	Very dim	Dim	Bright	Very bright
W				✓
X		✓		
Y			✓	
Z	✓			

(a) State the property of the rods that allows the above observations to be made. [1]

_____

(b) Liquid W is salt water. Explain why it would be dangerous to swim in the sea during a lightning storm. [2]

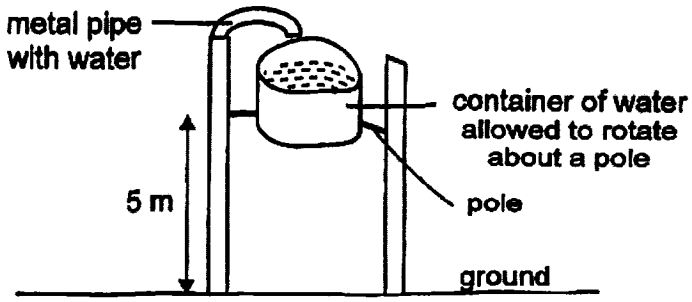
_____

_____

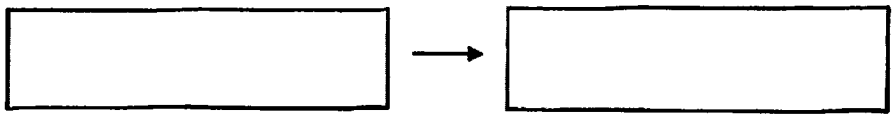
_____

41. (a) What is gravitational potential energy? [1]

Study the set-up below. The container is allowed to rotate about a pole attached to it. A metal pipe fills the container with water. When the container is filled to the brim, it rotates and empties the water onto the ground below.



(b) State the main energy conversion that has occurred in the water when the container rotates. [1]

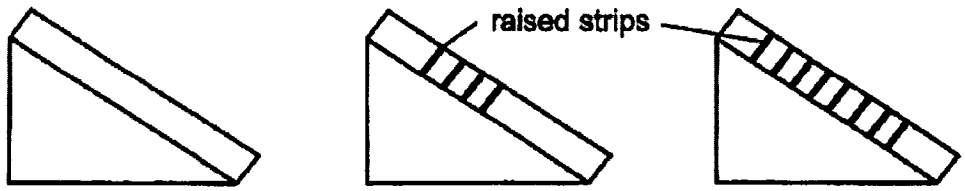


Hashim conducted an experiment using the set-up above and two separate containers of different capacities as shown in the table below.

Container	Capacity (cm^3)
A	200
B	150

(c) Will the water in container B fall faster, slower or at the same speed as the water in container A? Explain why. [1]

42. Pamela prepared three ramps made of similar materials as shown below. Some raised strips made of a rough material are pasted on two of the ramps.

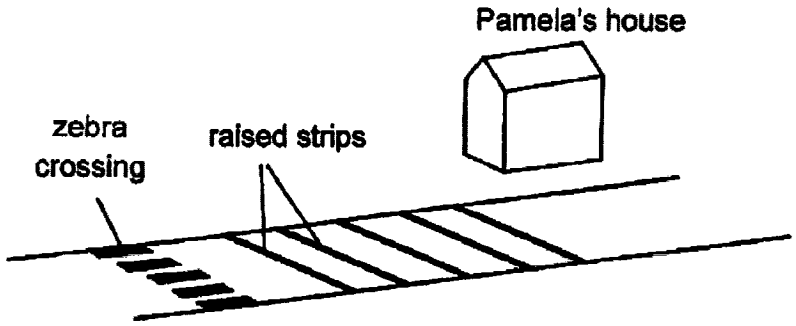


She released a toy car from the top of each ramp. The time taken for the car to reach the bottom of the ramp was recorded in the table below.

	Time taken for the car to reach the bottom (s)		
	ramp A	ramp B	ramp C
1st try	6	9	
2nd try	8	10	13
3rd try	7	10	15

(a) Why did Pamela conduct the experiment three times on each ramp? [1]

The road outside Pamela's house has similar raised strips as shown below.



(b) Using the experimental results, explain in terms of forces how the raised strips can help improve the safety for people crossing the road. [2]

END OF PAPER

SCHOOL	:	**CHIJ ST NICHOLAS GIRLS' SCHOOL (PRIMARY)**
LEVEL	:	**PRIMARY 6**
SUBJECT	:	**SCIENCE**
TERM	:	**PRELIMINARY EXAMINATION 2026**
PAPER	:	**BOOKLET A AND BOOKLET B**
	:	

Booklet A — Section A (Q1–Q30)

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
4	4	1	4	3	4	2	2	3	3
Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20
4	3	3	3	1	3	2	2	2	3
Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30
2	4	2	1	4	1	2	3	2	2

Booklet B — Section B (Q31–Q35)

Q31)	(a) Organism Z prefers dark and moist conditions. (b) This gives every organism Z an equal distance / opportunity to move to any of the four parts, avoiding bias due to its starting position.
Q32)	(a) Z. Its water is the clearest because the greatest depth (26 cm) is needed before the block can no longer be seen. Hence, the most light can pass through the water for submerged plants to photosynthesise. (b) Building B could be a water-treatment facility that removes dirt / pollutants from the river water.
Q33)	(a) As the number of taps increases, distance x increases. (b) A larger male moves its body up and down more times per minute, producing more ripples. The ripples move the leaf farther / travel farther, so females farther away can detect them and move towards the male. (c) Carrying the eggs on its hard outer covering protects them from predators / physical damage, increasing their chances of survival. (d) The eggs need oxygen for respiration and development; exposing them to air allows them to obtain sufficient oxygen.
Q34)	(a) 4 (b) The population of D would increase. With fewer C feeding on B, the population of B would increase, providing more food for D.
Q35)	(a) As d increases, less light reaches the water plant. Its rate of photosynthesis decreases, so less oxygen is produced and the gas column is shorter. (b) Count the number of oxygen bubbles produced per unit time (for example, bubbles per minute). (c) Draw a decreasing line above the original line at every value of d (same general downward trend).
Q36)	(a) To reduce overcrowding and competition among the parent plant and seedlings for light, water, mineral salts and space. (b) Plant E — splitting / explosive action; Plant G — animals. (c) Plant G. An animal could eat its sweet, fleshy fruit and carry the small indigestible seeds to island B, where the seeds are passed out in its droppings.
Q37)	(a) Light travels in straight lines. (b) The wooden board blocks light from the source from reaching the ball. Thus, no light reflected by the ball enters Nora's eye. (c) Add a plane mirror at Q, angled to reflect light from the source onto the ball.

Q38)	(a) The reading increases. When heated, the metal rod expands. As its left end is fixed, its right end and pointer move to the right, towards the larger scale readings. (b) The gaps allow the bridge to expand on hot days without buckling / becoming damaged.
Q39)	(a) Water. (b) Place a small stone / weight on the plastic sheet directly above the glass. This forms a lower point so condensed water runs down and drips into the glass. (c) More liquid would be collected. Metal is a better conductor of heat than plastic, so water vapour loses heat through it more quickly and condenses faster.
Q40)	(a) The rods are electrical conductors / allow electric current to pass through them. (b) Salt water conducts electricity well. If lightning strikes the sea, electric current can pass through the seawater and the swimmer's body, causing electrocution.
Q41)	(a) Gravitational potential energy is energy possessed by an object because of its position / height above the ground. (b) Gravitational potential energy of water → kinetic energy of water. (c) Slower. Container B holds a smaller amount / mass of water, so the water has less gravitational potential energy at the same height and less kinetic energy as it falls.
Q42)	(a) To improve the reliability of the results and allow an average to be calculated. (b) The raised strips increase the frictional force between a vehicle's tyres and the road. This slows vehicles down, giving drivers and pedestrians more time to react and reducing the likelihood / severity of an accident.

Equivalent scientifically correct wording should be accepted when all required marking points are present.