NANYANG PRIMARY SCHOOL
PRELIMINARY EXAMINATION
2026

PRIMARY 6

SCIENCE
(BOOKLET A)

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

Additional materials: Optical Answer Sheet (OAS)

INSTRUCTIONS TO CANDIDATES

1. Write your name and index number in the space provided.
2. Do not turn over this page until you are told to do so.
3. Follow all instructions carefully.
4. Answer all questions.
5. Use a 2B pencil to shade your answers on the Optical Answer Sheet (OAS).

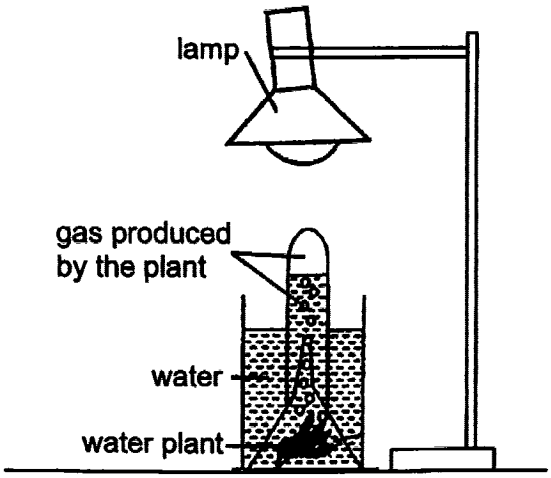
Name: _____ ( )

Class: Primary 6 ( )

This booklet consists of 18 printed pages and 1 blank page.

Section A: Multiple Choice Questions [60 marks]

1. Joyce conducted an experiment using the set-up shown below. When the lamp was turned on, the plant produced a gas which was collected in the test-tube.



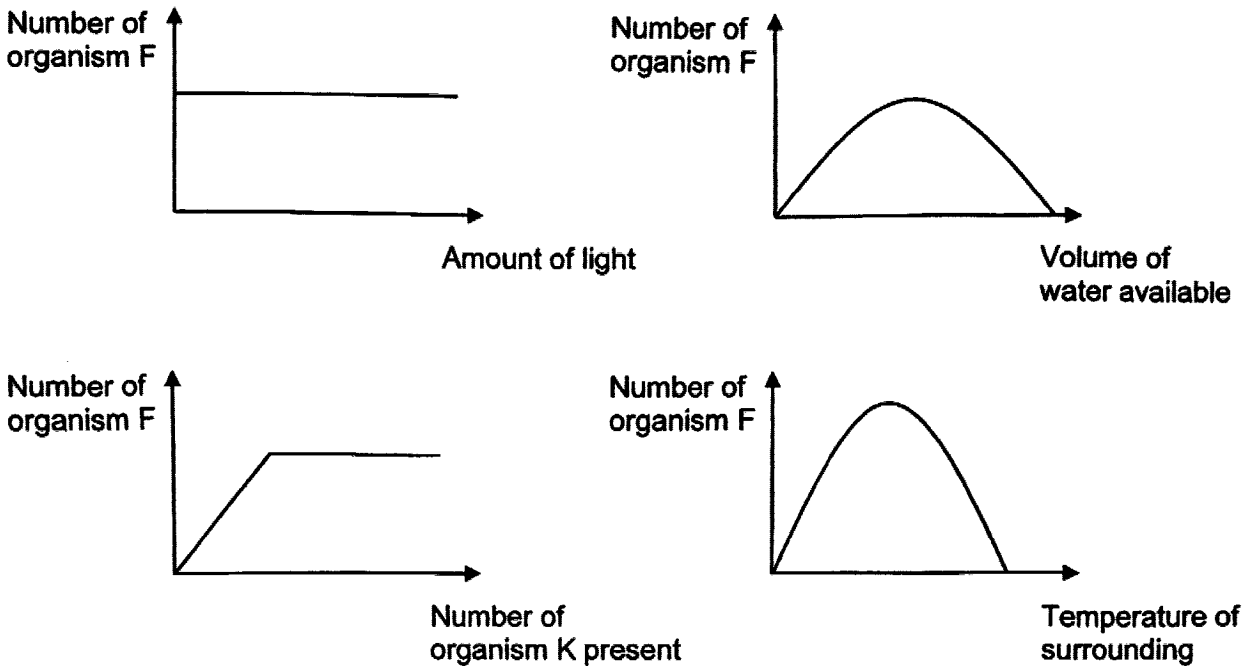
Which gas was collected in the test-tube?

(1) oxygen
(2) nitrogen
(3) water vapour
(4) carbon dioxide

2. Which statement does **not** describe organisms in an environment interacting with one another?

(1) A bee pollinating the flowers of a cherry tree.
(2) A water snail feeding on the leaves of a water plant.
(3) A monkey feeding on a mango fruit and discarding the seed.
(4) An elephant lying in the mud when the temperature of the environment increases.

3. John conducted several experiments to find out how the different factors of the environment organism F lives in affect the survival of organism F. The graphs below show his results.



Based on the graphs above, which factor(s) affect(s) the survival of organism F?

A Amount of light
B Volume of water available
C Number of organism K present
D Temperature of the surrounding

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

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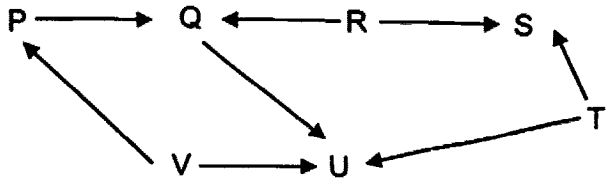
Use the information below to answer Questions **4** and **5**.

Study the food web provided.



4. How many producer(s) is/are in the food web?

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

5. Organism W was introduced to the food web above. Organism W feeds on S only. Which row shows the immediate effect on populations R and T?

	Effect on R	Effect on T
(1)	increase	decrease
(2)	increase	increase
(3)	decrease	decrease
(4)	decrease	increase

6. The following relationships were observed among four living things, E, F, G and H.

E feeds on F.
E is eaten by G.
F gets its food from H.
G feeds on F but does not feed on H.

Which classification is correct?

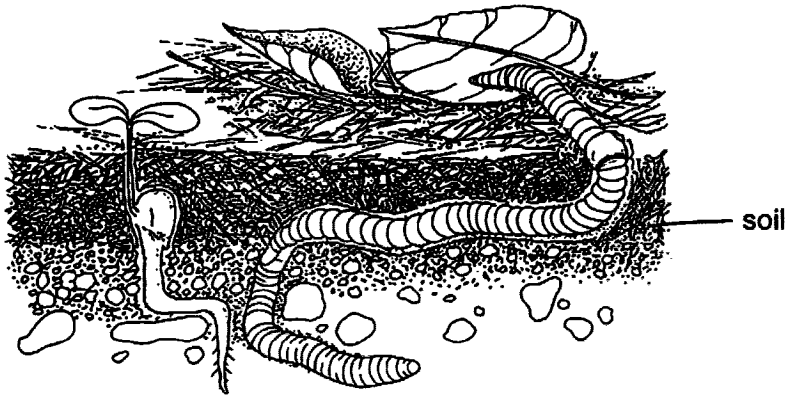
	Producer	Prey	Predator	Prey and Predator
(1)	H	E	G	F
(2)	H	F	G	E
(3)	E	H	F	G
(4)	E	G	H	F

7. Which statement describes a structural adaptation of an organism?

(1) Migrating to other places to find food.
(2) Moving slowly to hunt for prey and avoid being spotted.
(3) Hunting for food only at night when there are less predators.
(4) Having pigments in its body to change colour for camouflage.

8. The diagram below shows organism W.

Organism W has a muscular body without skeleton that allows it to twist and turn around obstacles to look for food as shown below.



Which row best describes the type(s) and purpose of adaptation of organism W described above?

	Type(s) of adaptation	Purpose
(1)	behavioural only	to find food
(2)	structural only	to move around
(3)	behavioural and structural	to move around
(4)	behavioural and structural	to find food and move around

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9. Read the following descriptions about plant P and animal Q.

Plant P	Animal Q
has thin, sharp spikes as leaves	has a thick layer of fur

Which statement is correct?

(1) Both adaptations are behavioural adaptations.
(2) Both adaptations allow the organisms to defend against predators.
(3) Both adaptations enable the organisms to cope with physical factors of the environment.
(4) The adaptation for plant P allows it to disperse its seeds while the adaptation for animal Q helps keep it warm.

10. Which statements are correct?

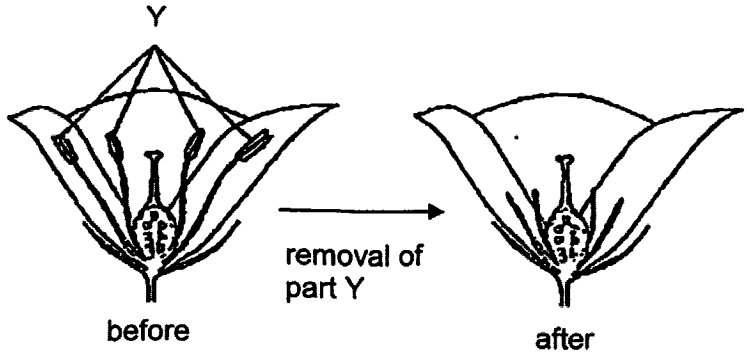
A Reforestation leads to soil erosion.
B Reforestation causes global warming.
C Deforestation destroys habitats of animals.
D Deforestation by burning causes air pollution.

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

11. Which is a result of increased greenhouse effect?

(1) Increase in air pollution
(2) Increase in temperature
(3) Increase in water pollution
(4) Increase in burning of coal

12. The diagram below shows the removal of part Y of a flower.



Which statement(s) is/are correct after the removal of part Y?

A The flower cannot be fertilised.
B The flower cannot be pollinated.
C The flower cannot develop into a fruit.
D The flower cannot produce its own pollen grains.

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

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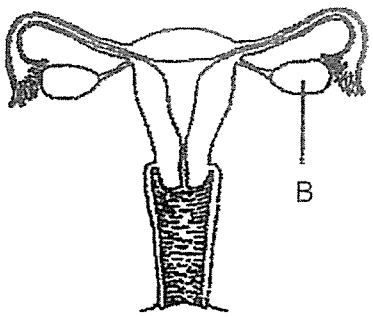
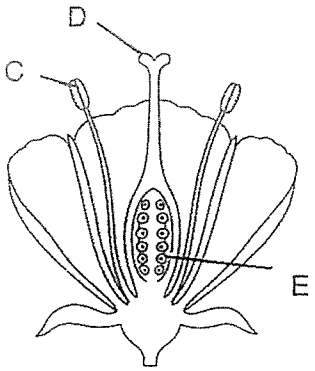
13. Study the diagrams below.





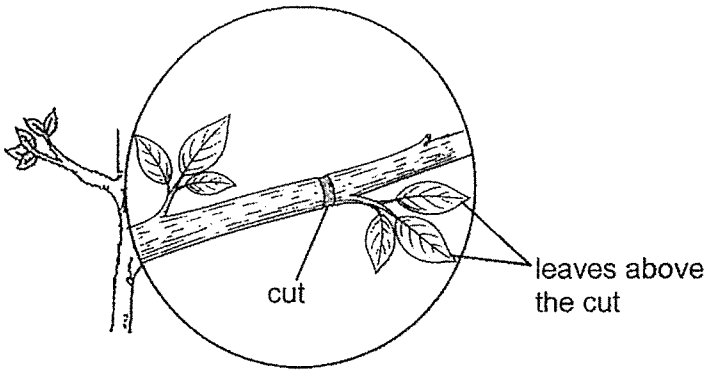
Function	Reproductive parts			
	B	C	D	E
Receives reproductive cells		✓	✓	
Produces reproductive cells	✓	✓		
Fertilisation takes place here			✓	✓

Key
✓ : yes

Which reproductive parts have the **wrong** functions ticked?

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

14. The diagram below shows a cut made on a branch of a plant.

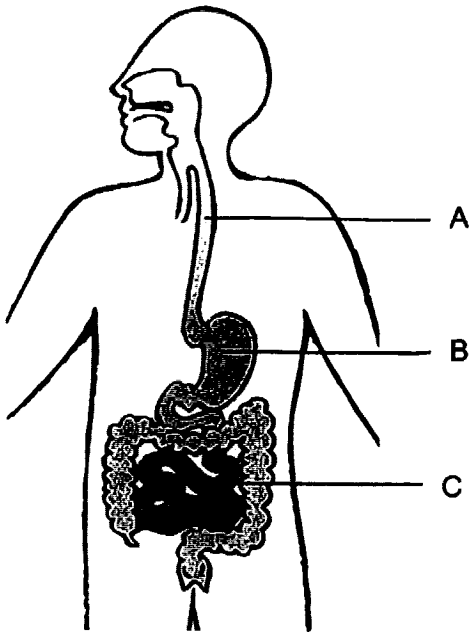


After some time, only the leaves above the cut were observed to have wilted.

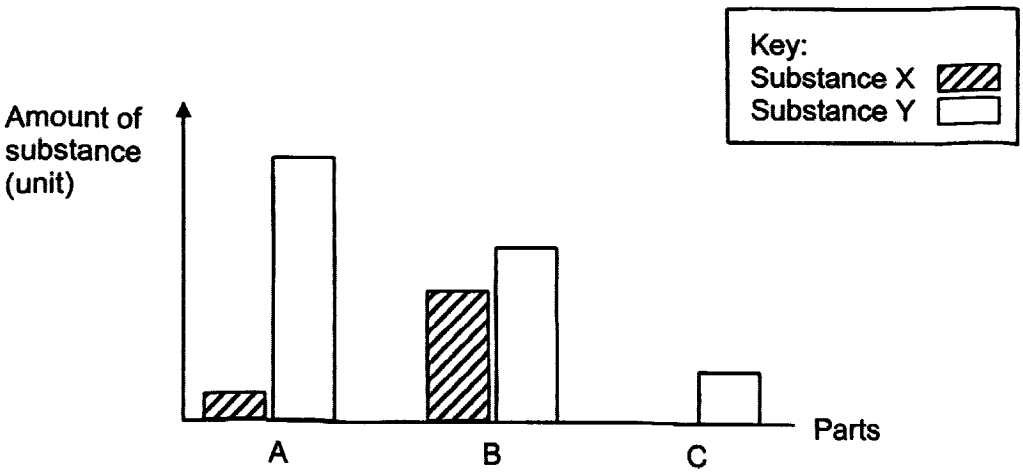
What can be concluded from the observation?

(1) The water-carrying tubes were removed.
(2) Only the food-carrying tubes were removed.
(3) The leaves could still make food for the plant.
(4) The roots could not take in water for the plant.

15. The diagram shows the human digestive system with parts A, B and C.



After a meal, the amount of substances X and Y leaving parts A, B and C, was shown in the graph below.



What are substances X and Y?

	X	Y
(1)	digested food	undigested food
(2)	digested food	water
(3)	undigested food	water
(4)	undigested food	digested food

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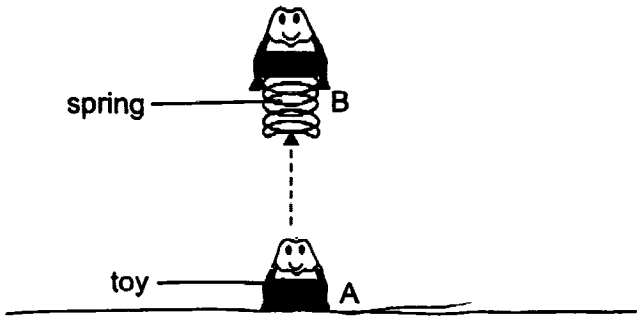
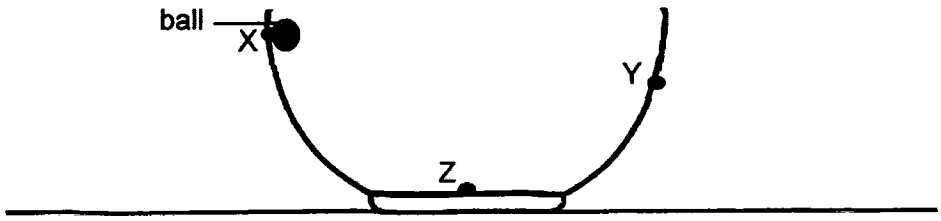
16. John compressed the spring of his toy and released it at A. The toy moved to B and stopped momentarily as shown in the diagram below.



Which row shows the correct energy conversion that took place from point A to B?

	Compressed spring at A		Moving toy		Toy at B
(1)	kinetic energy	→	heat energy	→	potential energy
(2)	kinetic energy	→	heat energy	→	kinetic energy
(3)	potential energy	→	kinetic energy	→	potential energy
(4)	potential energy	→	kinetic energy	→	kinetic energy

17. The diagram below shows a round bowl. A ball was released at point X. It rolled to Y and rolled back to point Z. It then stopped moving at point Z.

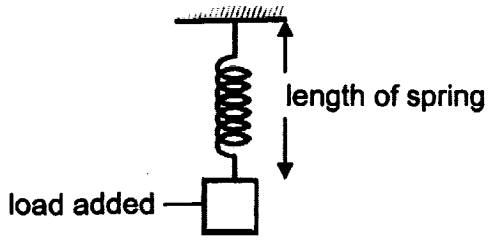


Which statement(s) is/are **incorrect**?

A There is more gravitational force acting on the ball at point X than at point Y.
B The ball does not possess kinetic energy at point Z when it stopped moving.
C The ball possessed the same amount of gravitational potential energy at point X and point Y.
D From point Y to point Z, the amount of gravitational potential energy of the ball increases but the kinetic energy decreases.

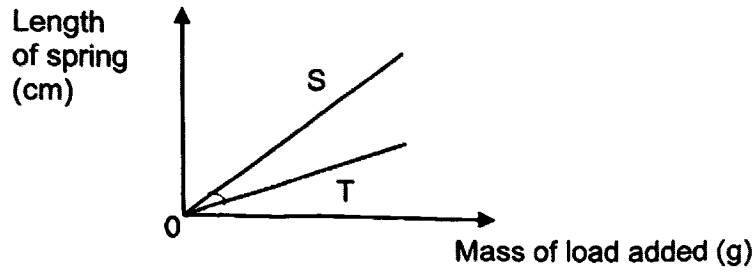
(1) A only
(2) B and C only
(3) B and D only
(4) A, C and D only

18. Harvey measured the lengths of two springs, S and T, when different loads were hung on them as shown below. Spring T is stiffer than spring S.

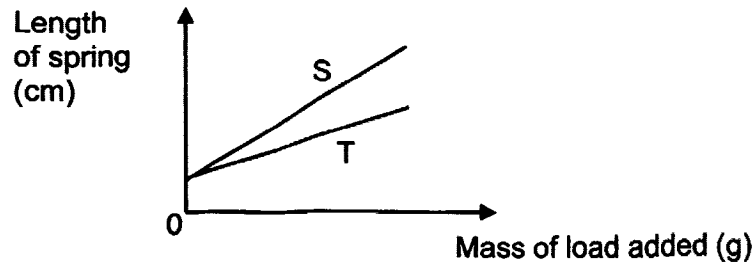


Which graph correctly shows his results?

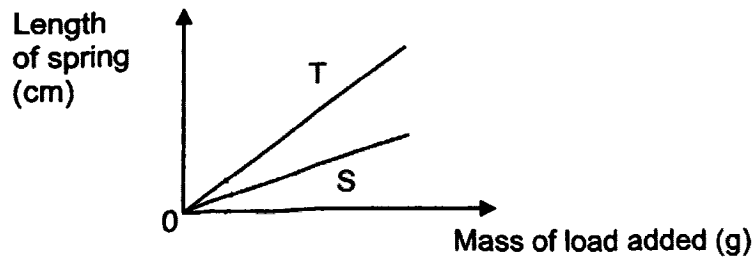
(1)



(2)



(3)



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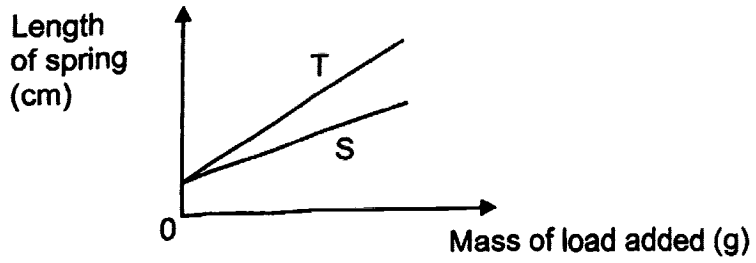

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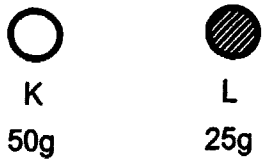
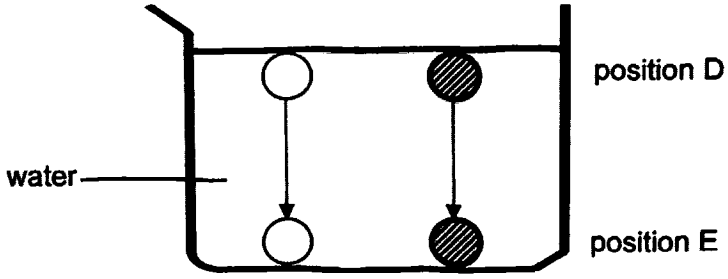
19. Two metal balls, K and L, are shown below.

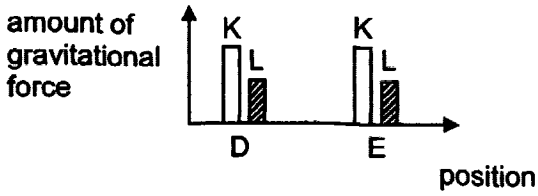


The balls are dropped from the same height into a container of water as shown below.

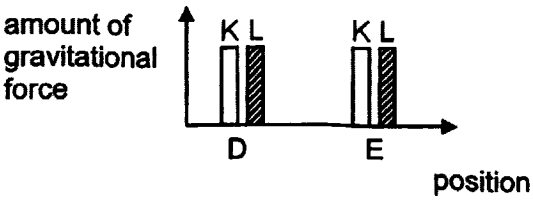


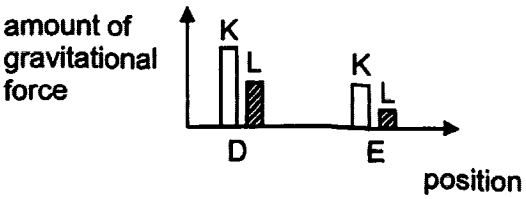
Which graph best represents the amount of gravitational force acting on the balls, K and L, at positions D and E?

(1)

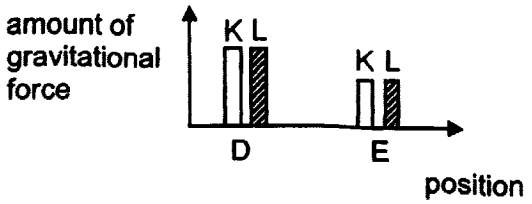


(2)

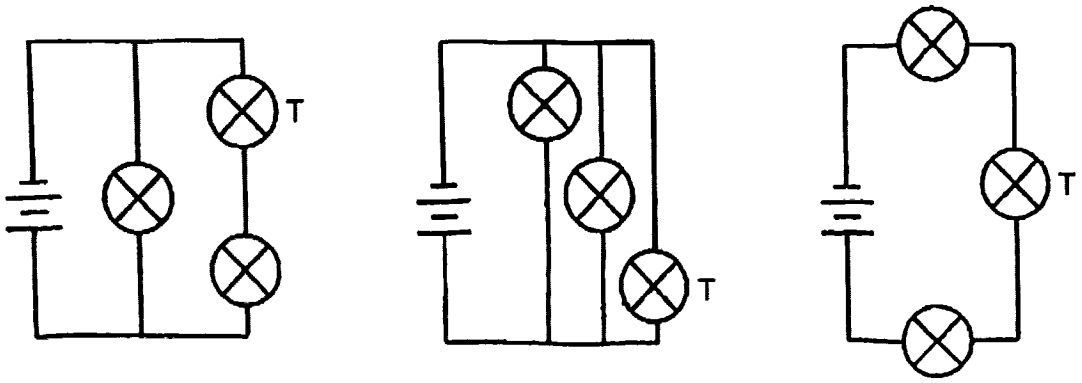




(4)



20. Miss Tan set up 3 circuits using identical bulbs and batteries in good working condition.



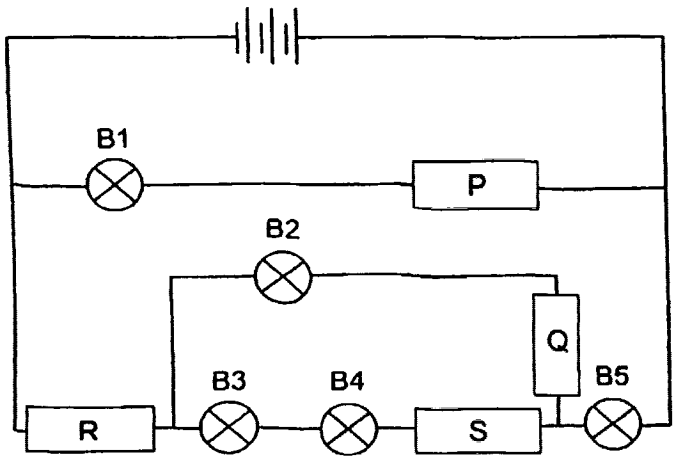
Circuit A Circuit B Circuit C

She measured the brightness of bulb T in each circuit.

Which shows the correct order of the circuits with bulb T from dimmest to brightest?

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

21. Rods of different materials, P, Q, R and S, were connected in the electrical circuit as shown in the diagram below. Only bulbs B2 and B5 lit up.



Based on the observations, what materials are rods P, Q, R and S made of?

	P	Q	R	S
(1)	steel	wood	copper	aluminium
(2)	wood	copper	aluminium	steel
(3)	glass	aluminium	steel	wood
(4)	aluminium	copper	steel	wood

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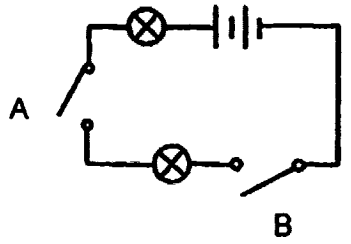
22. Li Jie constructed a circuit with two switches, A and B, to control two bulbs. He opened and closed both switches and recorded his observations in the table below.

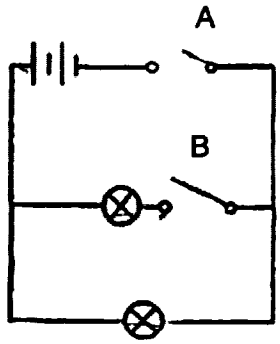
Switch A	Switch B	Number of bulbs lit
close	open	0
open	close	1
close	close	2

Which circuit did Li Jie use?

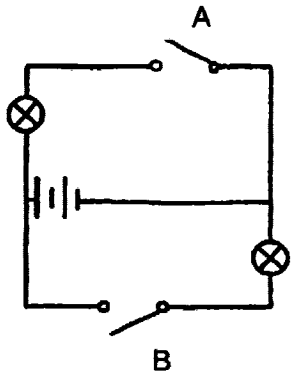
(1)



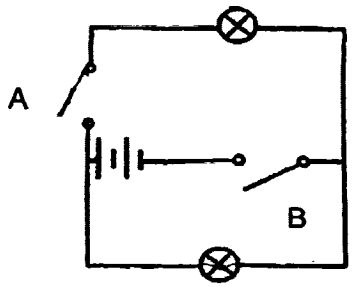
(2)



(3)



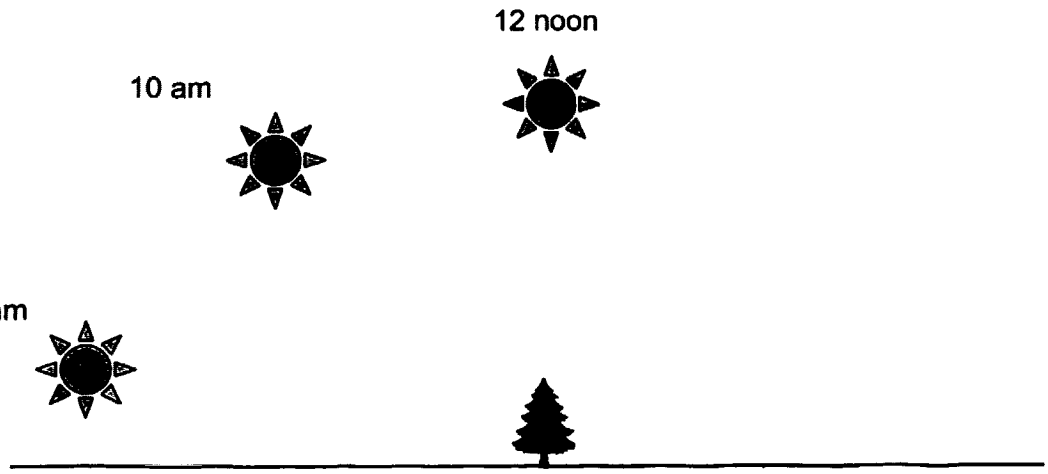
(4)



23. Which action shows the safe use of electricity?

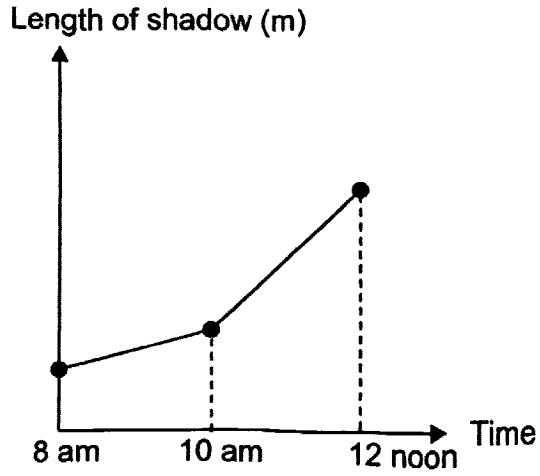
(1) Choose appliances with more green ticks.
(2) Use dry hands to handle electrical switches.
(3) Use fans instead of air-conditioning to cool the room.
(4) Plug in as many electrical appliances in the same socket as possible.

24. The diagram below shows the positions of the sun at different times of the day.

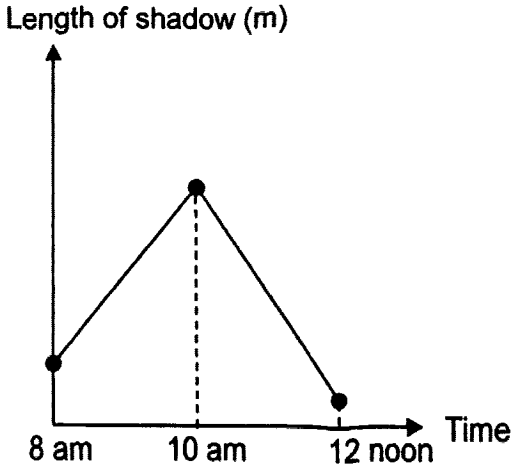


Which graph shows the length of the tree's shadow correctly?

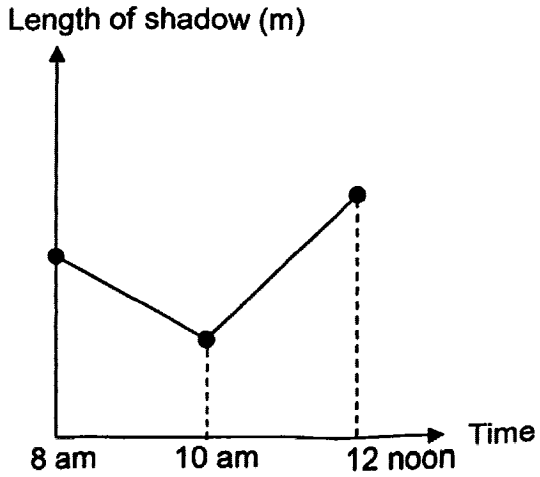
(1)



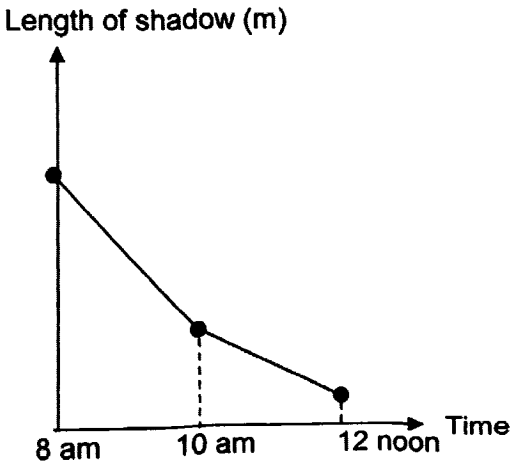
(2)



(3)



(4)



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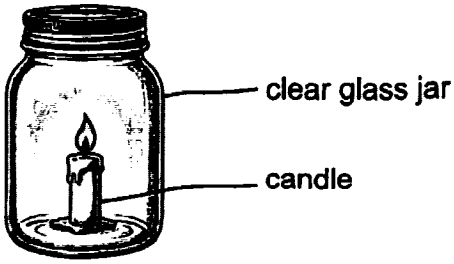
25. The diagram below shows a setup in a brightly lit room.

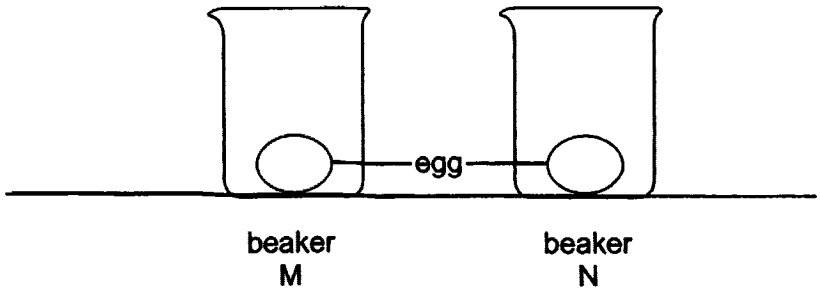


Which statement(s) explain(s) why the glass jar can be seen?

A The candle reflected some light.
B The glass jar reflected some light.
C The glass jar allowed most light to pass through.

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

26. The diagram below shows two identical eggs, placed in two identical beakers, M and N.



He poured boiling water into both beakers and observed that the egg in beaker M cooked faster.

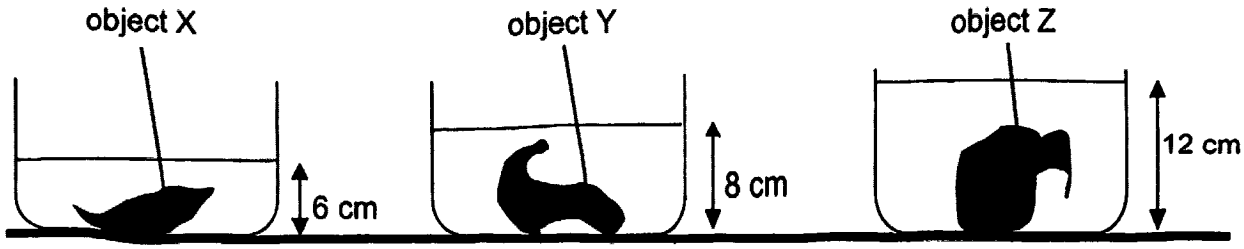
Which explanation is correct?

(1) The temperature of water in beaker M was higher.
(2) The temperature of water in beaker N was higher.
(3) Beaker M had 500 ml of water while beaker N had 200 ml of water.
(4) Beaker N had 500 ml of water while beaker M had 200 ml of water.

27. Which statement is correct?

(1) Gases do not have a definite volume.
(2) All matter has mass and can be compressed.
(3) Both solids and liquids have a definite shape.
(4) Shadows can be compressed and have no definite shape.

28. Patrick was given three objects, X, Y and Z, made of different materials. He placed the three objects into three identical beakers which were filled with the same volume of water.



What can Patrick conclude from the experiment above?

A Object X has the least mass.
B Object X has a smaller volume than object Z.
C Object Z has a greater volume than object Y.
D The mass of object Z is greater than the mass of object X.

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

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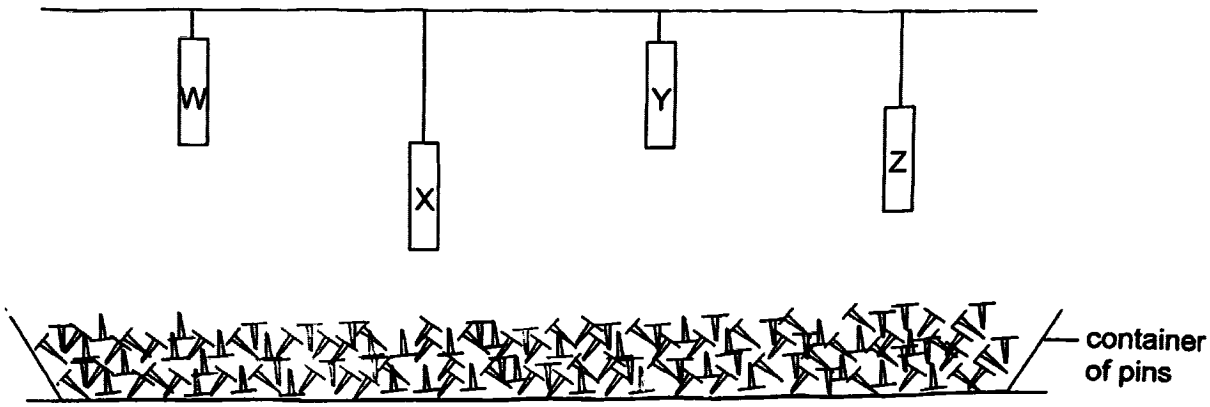
Use the information below to answer Questions **29** and **30**.

Yasmin hung four bar magnets of the same size above a container of pins as shown below.



The table below shows the results that she obtained.

Magnet	Number of pins attracted		
	1st try	2nd try	3rd try
W	14	15	14
X	4	3	3
Y	9	8	7
Z	10	10	11

29. Which conclusions are correct?

A Magnet X has the weakest magnetic strength.
B Magnet W has the strongest magnetic strength.
C Magnet X has greater magnetic strength than Magnet Z.
D Magnet Y has greater magnetic strength than Magnet X.

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

30. What a possible material of the pins?

(1) steel
(2) plastic
(3) copper
(4) aluminium

~ END OF BOOKLET A ~

NANYANG PRIMARY SCHOOL
PRELIMINARY EXAMINATION
2026

PRIMARY 6

SCIENCE
(BOOKLET B)

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

INSTRUCTIONS TO CANDIDATES

1. Write your name and index number in the space provided.
2. Do not turn over this page until you are told to do so.
3. Follow all instructions carefully.
4. Answer all questions.
5. Write your answers in this booklet.

Name: _____ ( )

Class: Primary 6 ( )

Parent's Signature: _____

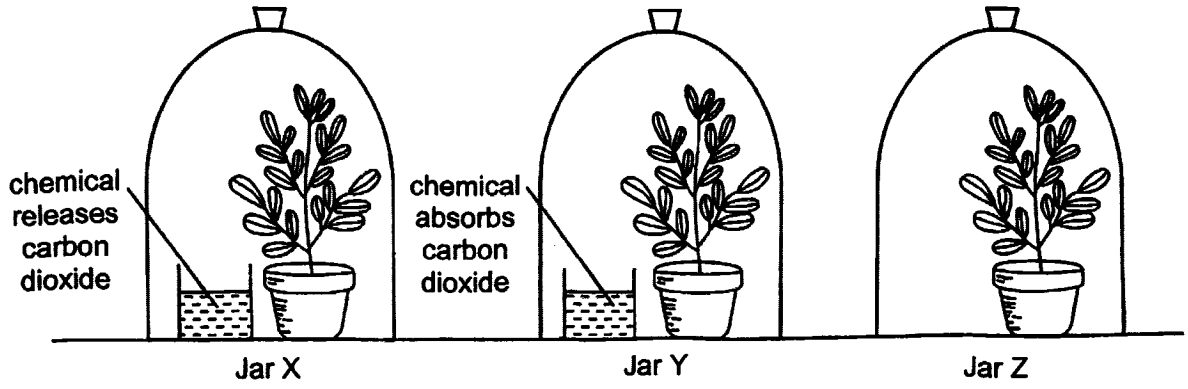
Please sign and return the examination paper the next day. **Any queries should be raised at the time when the paper is returned.**

Booklet A	**/ 60**
Booklet B	**/ 40**
Total	**/ 100**

This booklet consists of 15 printed pages and 2 blank pages.

Section B: Open-Ended Questions [40 marks]

31. Seth conducted an experiment with three similar plants placed in clear glass jars X, Y and Z, as shown below. The plants were watered and placed under the sun for a few hours.



(a) What is the changed variable in Seth's experiment? [1]

_____

(b) Which jar, X, Y or Z, will contain the most amount of oxygen after a few hours? Explain your answer. [1]

_____

_____

(c) Give a reason why Seth used jars of identical size in the experiment. [1]

_____

_____

(Go on to the next page)

3

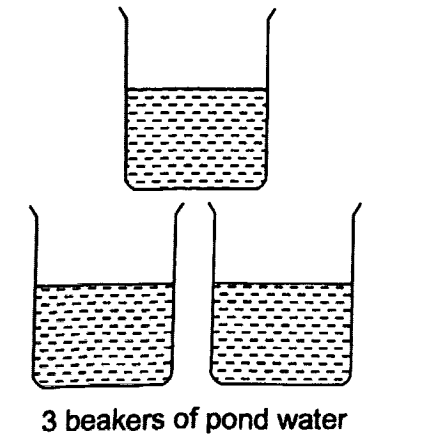
32. Organism P lives in a pond. Amy investigated how the temperature of the pond water affects the survival of organism P. Her results are shown below.

Temperature of pond water (°C)	Number of organism P at the end of the experiment		
	1st try	2nd try	3rd try
25	104	102	100
30	29	31	34
35	9	12	7

(a) Describe what Amy could conclude about the effect of temperature of the pond water on the number of organism P. [1]

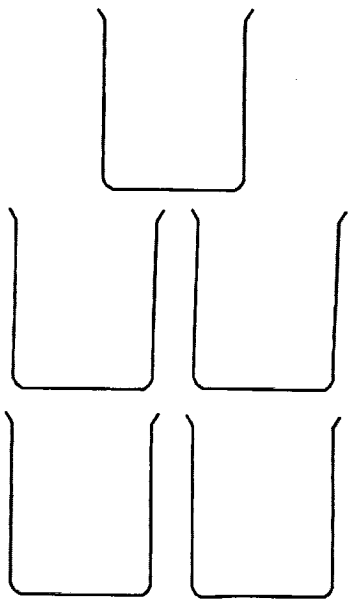
(b) Using the information given, state how global warming can affect the survival of organism P. [1]

(c) When planning the experiment, Amy was provided with the materials shown below.

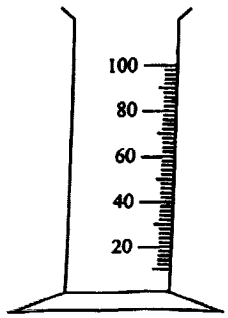


3 beakers of pond water at 25°C, 30°C and 35°C

container of 5000 organism P



5 beakers



1 measuring cylinder

1 scoop net

2

Describe how Amy could conduct the experiment using the materials provided. You may use a labelled diagram in your answer. Do not draw the scale on the measuring cylinder if used. [3]

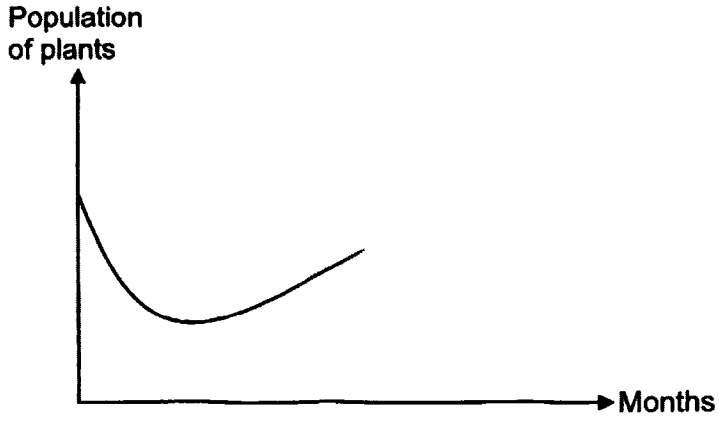
(Go on to the next page)

3

33. The food chain below shows the relationship between two organisms in a habitat.

plant → organism E

The graph below shows the population of plants found in the habitat over six months.



Organism F was introduced into the habitat after some time. Organism F feeds on organism E only.

(a) Mark with an '**X**' on the graph above to show when organism F was introduced to the habitat. [1]

(b) Organism G was introduced into the habitat. It feeds on organism E only. Explain how this would affect the population of organism F. [2]

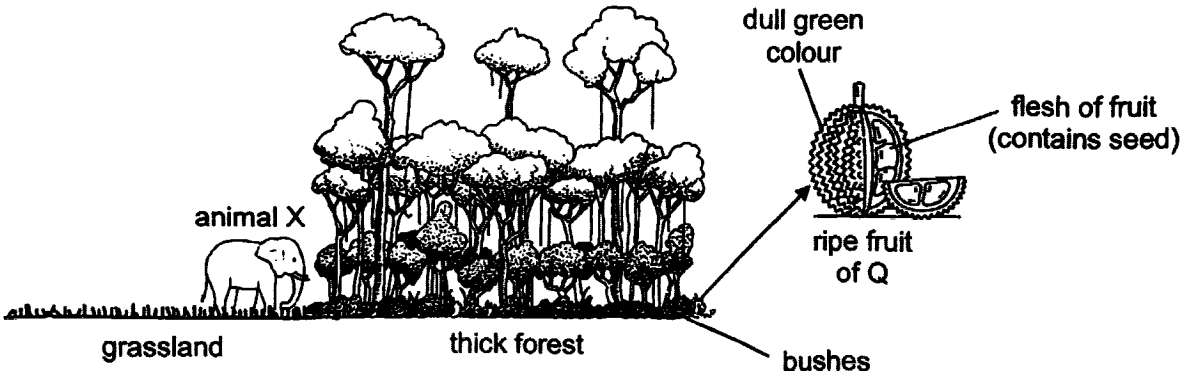
3

34. Plant Q has fruits with a spiky, hard outer covering that is difficult to break open when the fruit is not fully developed.

unripe fruit of Q

(a) Explain how the adaptation above ensures that there will be young plants of Q. [1]

The fruit of Q falls into the bushes and breaks open easily. It has a strong smell when ripe, which attracts animal X.



(b) Using the information given, explain why having a strong smell helps animal X find the ripe fruit of Q better in a thick forest. [1]

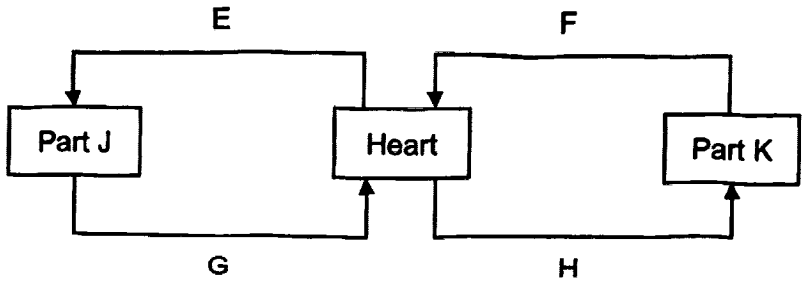
After eating the flesh of fruit of Q, animal X travels out to the grassland and passes out the seeds onto the grassland.

(c) Give two different reasons why the above action helps with the survival of plant Q. [2]

(Go on to the next page)

4

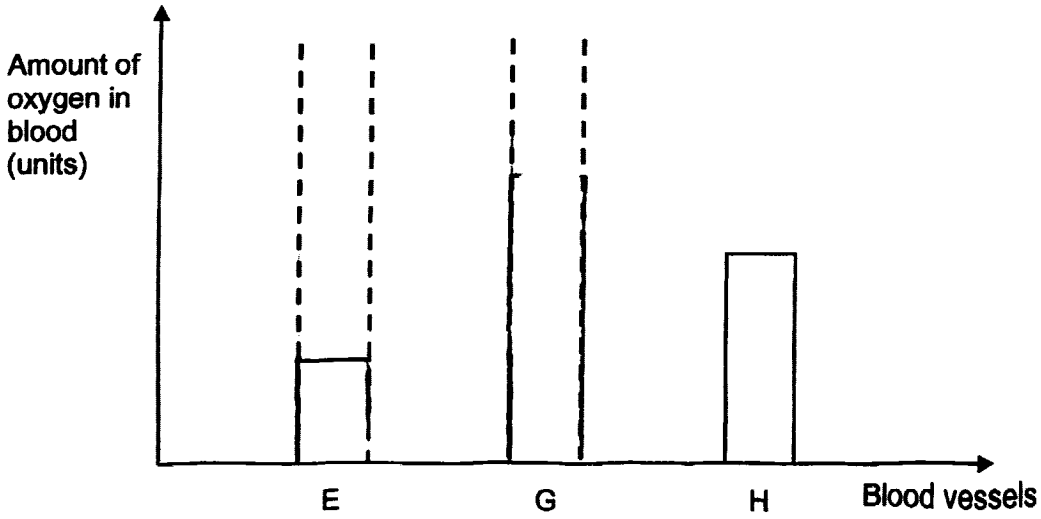
35. The diagram shows how blood flows in a human. Parts J and K represent different parts of the human body. E, F, G and H represent the blood vessels.



H carries blood rich in oxygen.

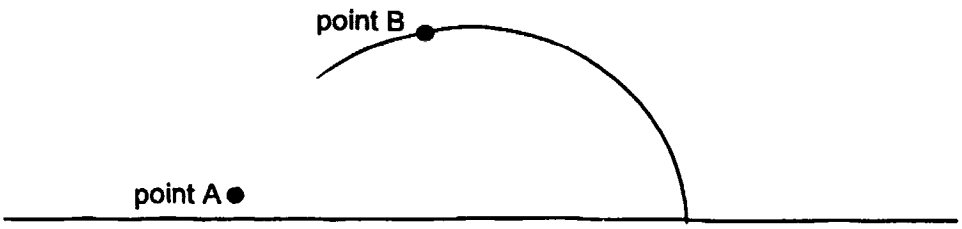
(a) Identify part J. [1]

(b) Complete the bar graph below to show the amount of oxygen in E and G. [1]

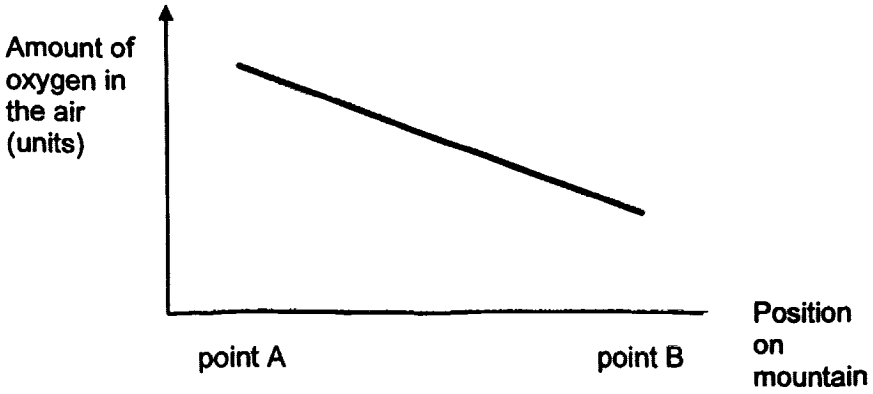


2

36. Miguel climbed up a mountain from point A to point B shown in the diagram below.



The graph below shows how the amount of oxygen in the air changed as he climbed up the mountain.



(a) Based on the graph above, how does the amount of oxygen in the air change with Miguel's position on the mountain? [1]

(b) Compare Miguel's heart rate at point A and point B. [1]

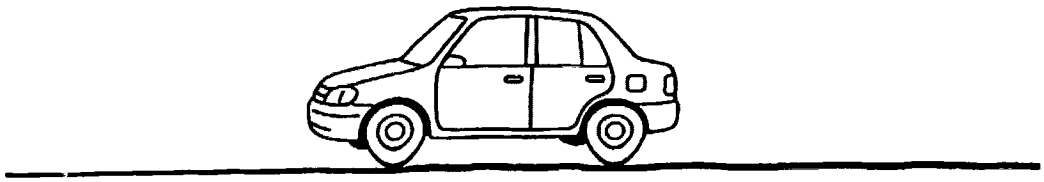
When Miguel reached point B, he rested for 15 minutes. After resting, his heart rate remained high.

(c) Explain why Miguel's heart rate remained high after 15 minutes of rest. [1]

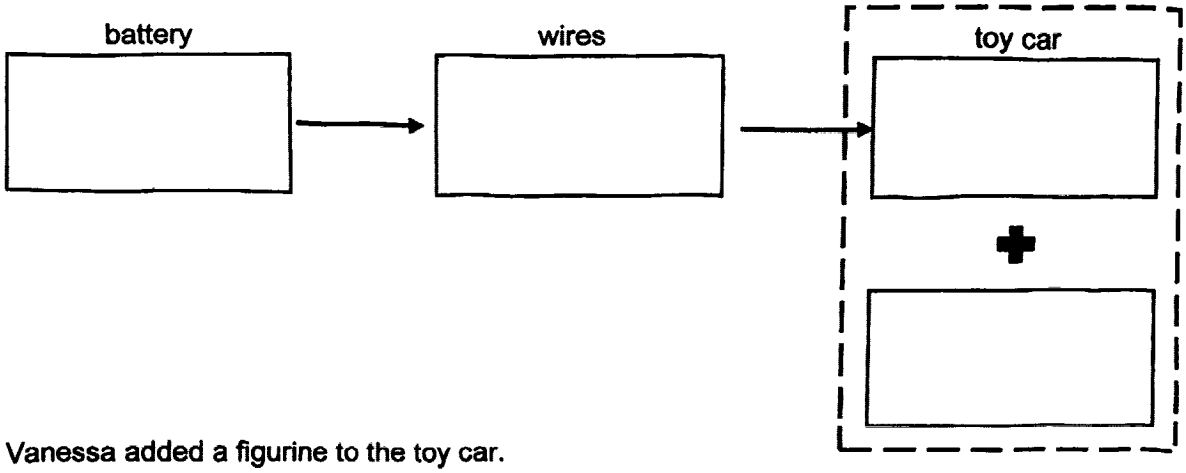
(Go on to the next page)

3

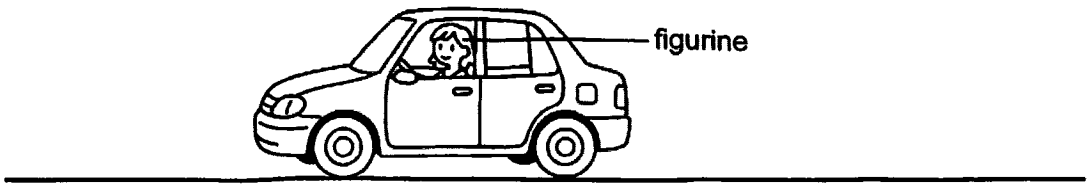
37. Vanessa has a battery-operated toy car. When she switched on the toy car, it moved.



(a) Fill in the boxes below to show the energy conversion as the toy car is moving on the flat surface. [2]



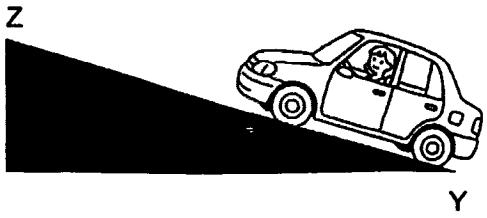
Vanessa added a figurine to the toy car.



(b) She repeated the experiment with new identical batteries. Explain why the toy car moved slower when a figurine was added. [2]

4

The toy car moved up a ramp as shown in the diagram below.



(c) Would the toy car move faster or slower when it moved up the ramp from Y to Z? Explain your answer. [1]

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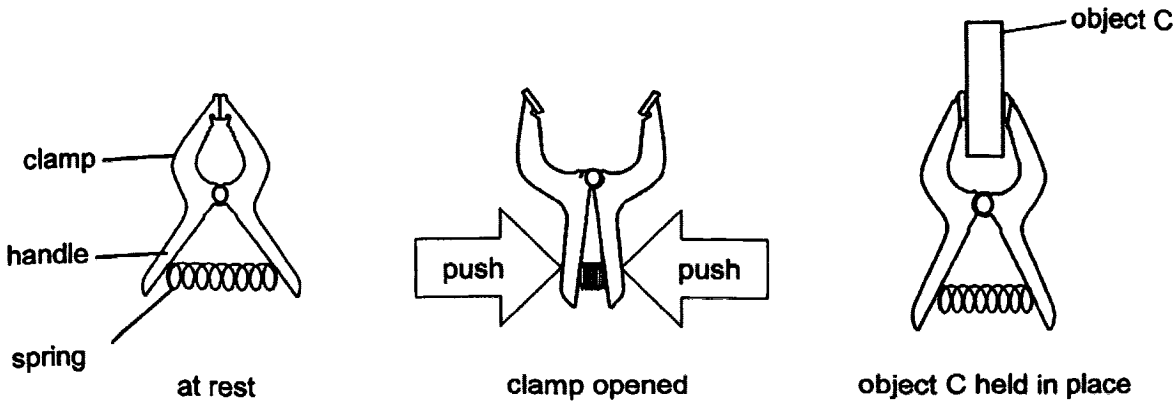
1

38. The diagram below shows how a spring-operated clamp works to keep object C in place.



at rest clamp opened object C held in place

(a) State the force that helps to keep object C in place. [1]

_____

(b) Describe how the force in (a) works to keep object C in place. [2]

_____

_____

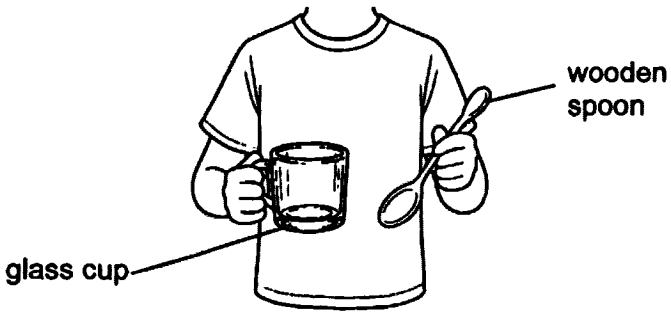
(c) Describe the effect of the push force on the spring when the clamp is opened as shown above. [1]

_____

_____

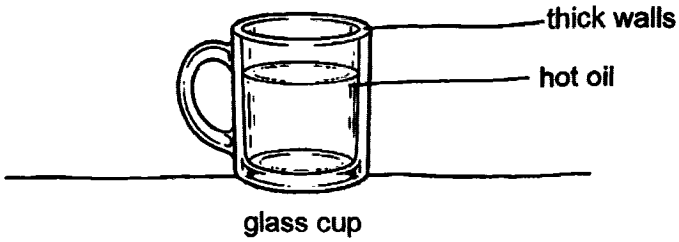
4

39. A glass cup and a wooden spoon were left on a table. Zara picked up both objects as shown below.



(a) Explain why the glass cup felt cooler than the wooden spoon. [2]

Zara poured some hot oil into a glass cup with thick walls as shown in the diagram below.



She noticed that the glass cup cracked after pouring hot oil into it.

(b) Explain why the glass cup cracked. [2]

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4

40. The machine shown in diagram 1 is used to check if a parcel is overweight. The batteries and the bulb are in working condition.

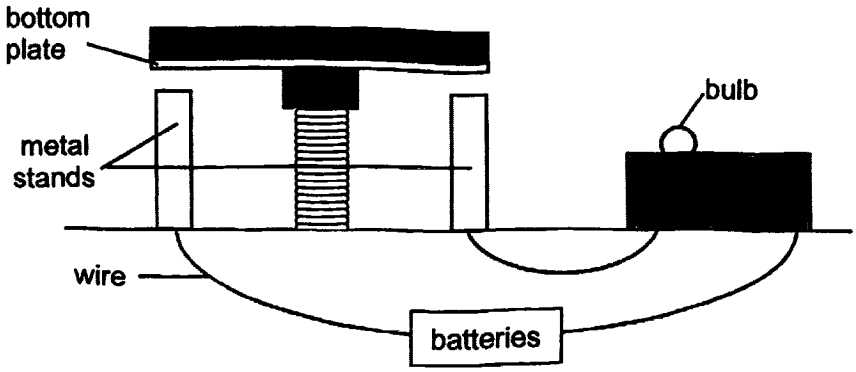


Diagram 1

When an overweight parcel is placed on the machine, it pushes the bottom plate down to touch the metal stands. The bulb lights up as shown in Diagram 2.

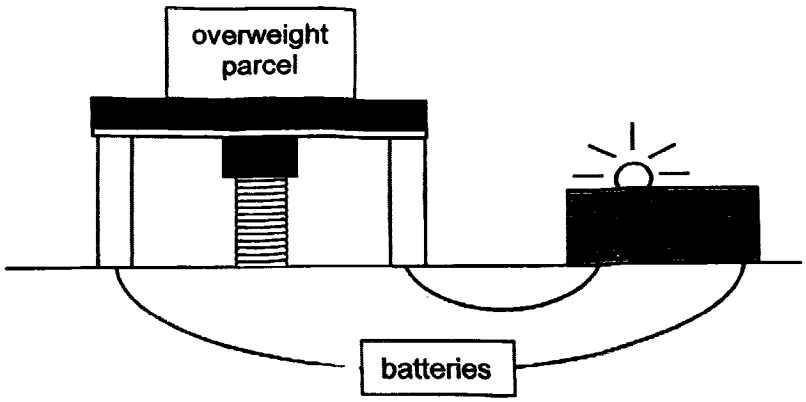


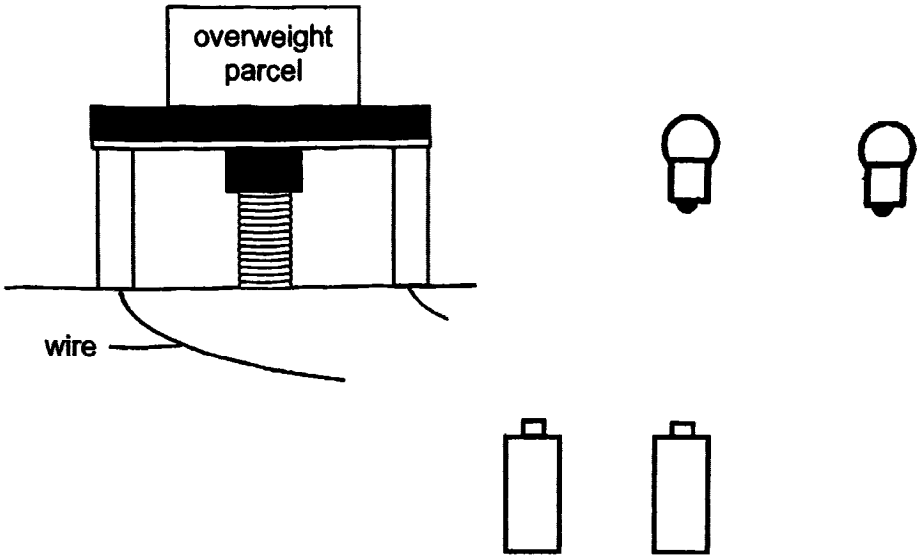
Diagram 2

(a) Explain why the bulb did not light up in Diagram 1? [1]

1

An engineer says that the bulb in diagram 2 sometimes fails to light up. It would be better if two bulbs were used instead of one.

(b) Complete the circuit below to show how the two bulbs should be connected in the circuit so that the machine would correctly identify an overweight parcel. [2]



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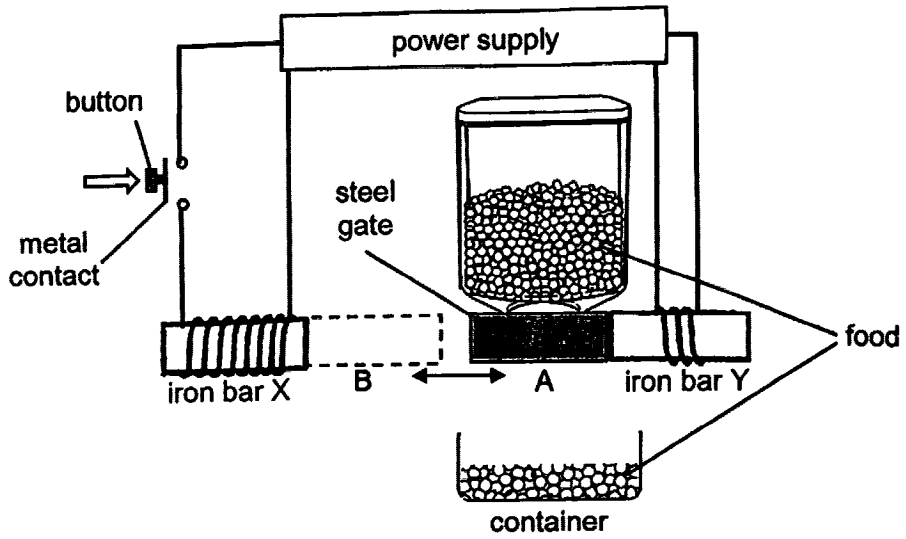
2

41. In a machine, iron bars X and Y are coiled with wire as shown in the diagram below. There is a button attached to a metal contact used to dispense food into a container.



When the button was pressed, the steel gate moved from point A to point B and food was dispensed. When the button was released and the metal contact returned to its original position, the steel gate would move to position A again.

(a) Explain why the steel gate moved away from iron bar Y when the button was pressed. [2]

The steel gate of the machine was replaced.
After replacement, food was dispensed when the button was pushed. When the button was released and the metal contact returned to its original position, the steel gate did not return to touch iron bar Y.

(b) Suggest a change made to the steel gate. Explain your answer. [2]

End of Paper

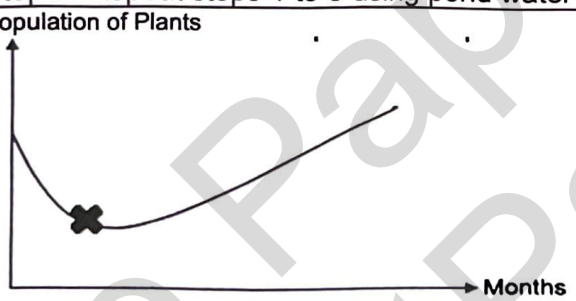
4

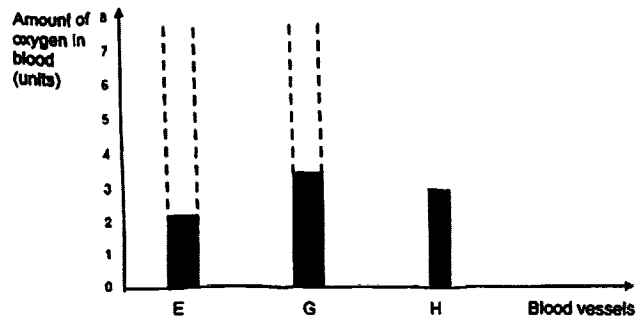
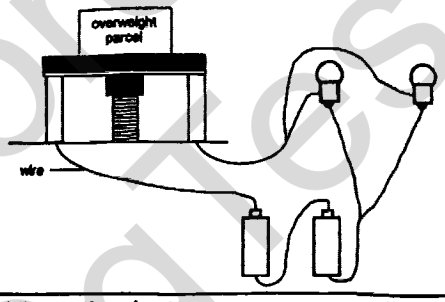
P6 SCIENCE Prelim Exam 2026
Suggested Answer Key

Section A

1	1	6	2	11	2	16	3	21	3	26	3
2	4	7	4	12	2	17	4	22	4	27	1
3	4	8	2/ 3/ 4	13	3	18	2	23	2	28	3
4	3	9	3	14	1	19	1	24	4	29	4
5	2	10	3	15	1	20	3	25	2	30	1

Section B

Qn No	Acceptable Answers
31(a)	amount of carbon dioxide
(b)	Jar X, as it has the most carbon dioxide. Rate of photosynthesis will be the highest.
(c)	To ensure that the initial amount of carbon dioxide in the jar is the same.
32(a)	As the temperature of pond water increases, the number of organisms surviving decreases.
(b)	Global warming decreases organism P's chances of survival.
(c)	Step 1: Measure 100 ml of pond water at 20°C into a beaker using the measuring cylinder Step 2: Scoop up 100 organism P into the beaker of pond water. Step 3: Count the number of organism P after 1 day. Step 4: Repeat steps 1 to 4 two more times. Step 5: Repeat steps 1 to 5 using pond water at 25°C and 30°C.
33(a)	
(b)	Population of F will decrease. F would need to compete with G to feed on animal E. F will have less food to feed on.
34(a)	Seeds will be developed fully before they are dispersed, and will be able to germinate into young plants.
(b)	The fruit is hard to spot in the thick forest. The smell can travel further without being blocked by the plants.
(c)	• The seeds are passed out with the faeces which provides nutrients for the young plant Q to grow well. • There is less competition for sunlight when young plant Q grows in the grassland.

35(a)	Lungs
(b)	
36(a)	As Miguel goes up to higher ground, the amount of oxygen in the air decreases.
(b)	His heart rate is higher at point B.
(c)	His heart pumped blood faster to transport enough oxygen to all parts of the body.
37(a)	potential energy → electrical energy → kinetic energy + heat energy
(b)	There was more mass. More electrical energy of the wire was converted to heat energy due to friction, so there was less electrical energy converted to kinetic energy of the toy car. Hence, the car moved slower.
(c)	Slower, it was moving against gravity.
38(a)	Frictional force
(b)	Frictional force between the clamp and the surface of object C acts against gravitational force, thus holding it in place.
(c)	The push force moved the spring from a stationary position.
39(a)	The glass cup is a better conductor of heat. Heat from the hand was transferred to the glass cup faster than to the wooden spoon.
(b)	The outer surface of the cup gained heat slower from the hot oil. The outer surface expanded slower than the inner surface.
40(a)	There is an open circuit.
(b)	
41(a)	When the button was pressed, a closed circuit was formed with iron bar X and it became an electromagnet. Iron bar X had greater magnetic strength than iron bar Y and attracted the steel gate.
(b)	The gate replaced was of a greater mass. Hence, the magnetic force of iron bar Y was not enough to attract it.