TAO NAN SCHOOL 道南学校

SINCERITY & PERSEVERANCE

2025 PRIMARY 6 PRELIMINARY EXAMINATION

Name : _____ ( )

Class : Primary 6 ( )

Date: 21 August 2025

Time: 8.00 a.m. - 9.45 a.m.

Duration: 1 hour 45 minutes

SCIENCE

BOOKLET A

INSTRUCTIONS TO CANDIDATES

1. Write your name, class and register number.
2. Do not turn over this page until you are told to do so.
3. Follow all instructions carefully.
4. Answer all questions.
5. Shade your answers on the Optical Answer Sheet (OAS) provided.

Booklet A (28 x 2 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) and shade your answer on the Optical Answer Sheet.

(56 marks)

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1. Which of the following is correct for both the cockroach and the frog?

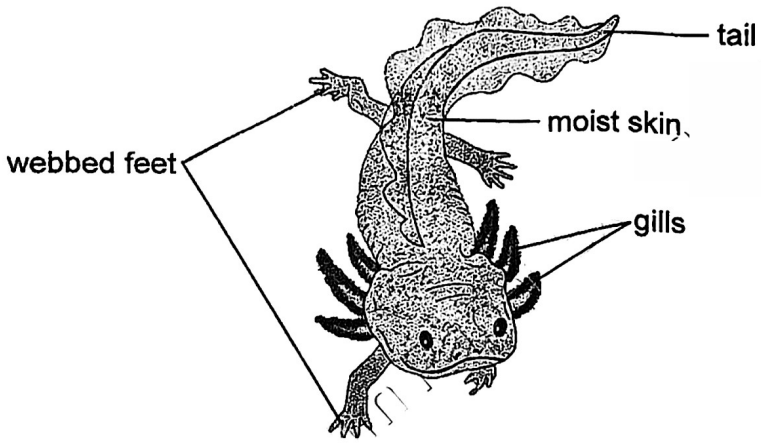
   (1) Both lay eggs in water.

   (2) Both their young and adult live on land.

   (3) Both have three stages in their life cycle.

   (4) Both have young that look like the adults.

2. The diagram shows animal X.



Which statement is correct?

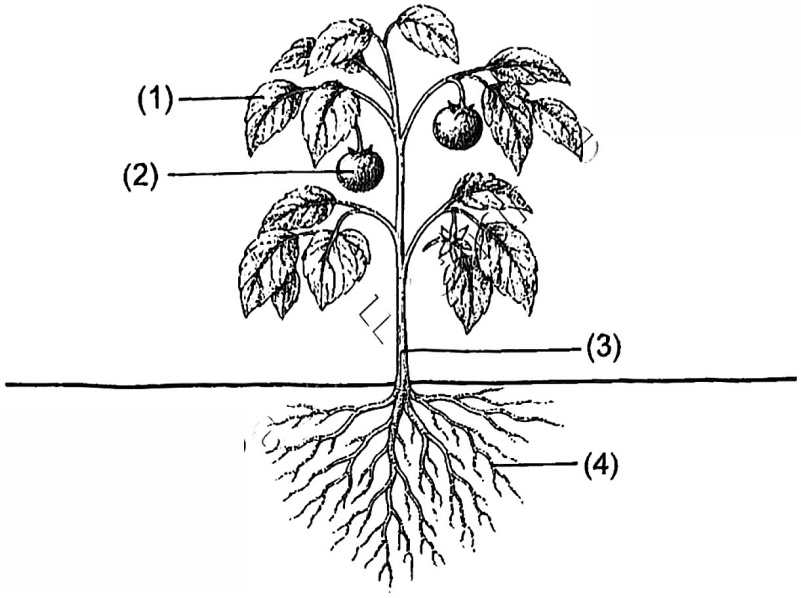
(1) Animal X must be a fish.

(2) Animal X must be a reptile.

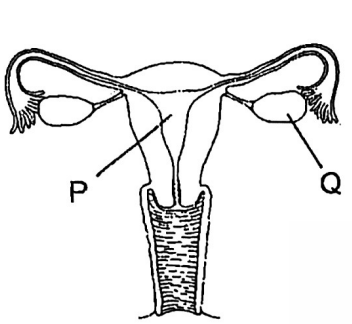
(3) Animal X must be a mammal.

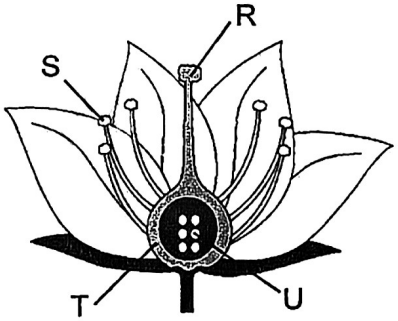
(4) Animal X must be an amphibian.

3. Which part of the plant holds it upright?



4. The diagrams below show the human and plant reproductive systems.

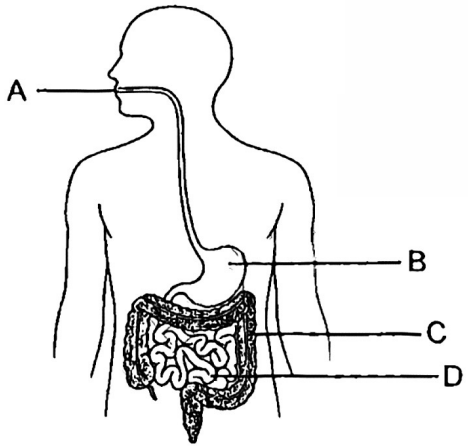




In the systems above, identify the parts where female reproductive cells are produced.

	Human reproductive system	Plant reproductive system
(1)	P	T
(2)	Q	U
(3)	P	R
(4)	Q	S

5. The diagram shows the human digestive system.



Where do/does the absorption of digested food take place?

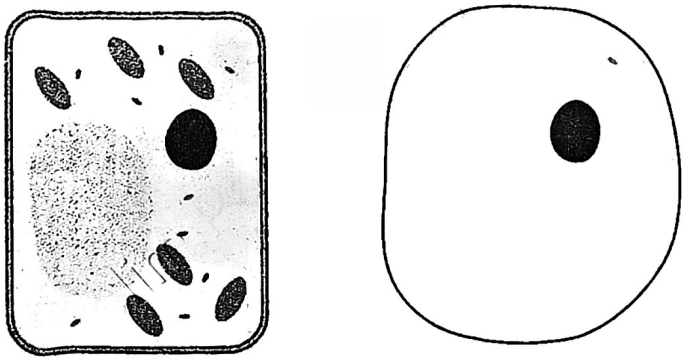
(1) C only

(2) D only

(3) C and D only

(4) A, B and D only

6. Ali observed 2 different types of cells under the microscope as shown below.



Cell E Cell F

Which of the following statements about the two cells is **not** correct?

(1) Both cells have cytoplasm.

(2) Cell E can make its own food but Cell F cannot.

(3) The nucleus in both cells control all cellular activities.

(4) Both cells have a cell membrane that prevents them from bursting.

7. Which of the following is a cause of global warming?

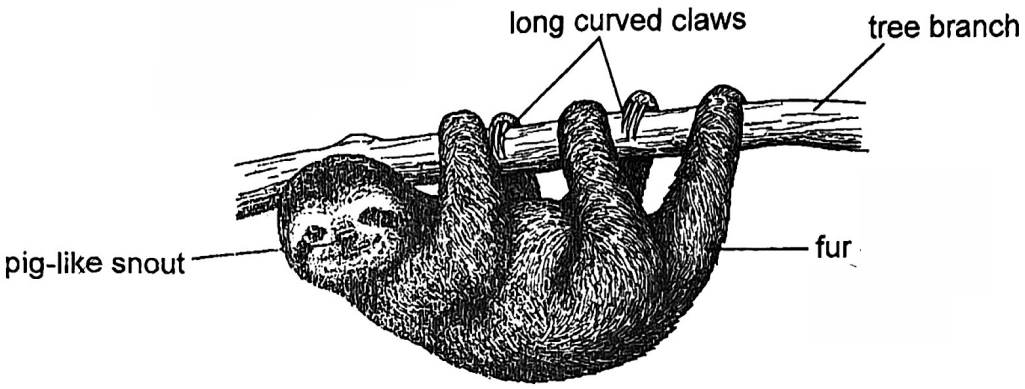
(1) ice caps melting faster

(2) Earth's temperature rising

(3) more trees being cut down

(4) water in lakes evaporating faster

8. The diagram shows Animal Y.

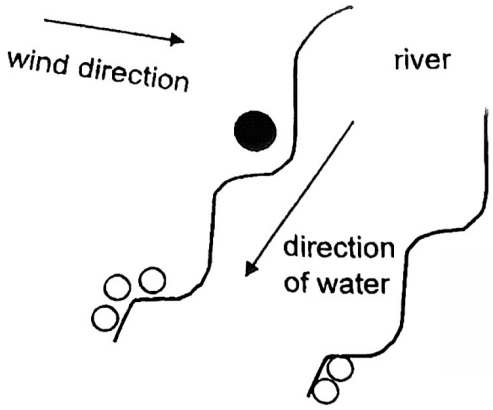


Animal Y is a plant-eater that lives among the trees. It is known to move very slowly. Surprisingly, it's a good swimmer. The fur of Animal Y may appear green at times due to algae growth.

Which of the following correctly explains how adaptation helps it to survive?

	Adaptation	**How it helps in its survival**
(1)	'green' fur	to attract a mate
(2)	pig-like snout	to breathe underwater when swimming
(3)	slow movement	to avoid being seen by its prey
(4)	long curved claws	to grip branches easily

9. Study the diagram below.

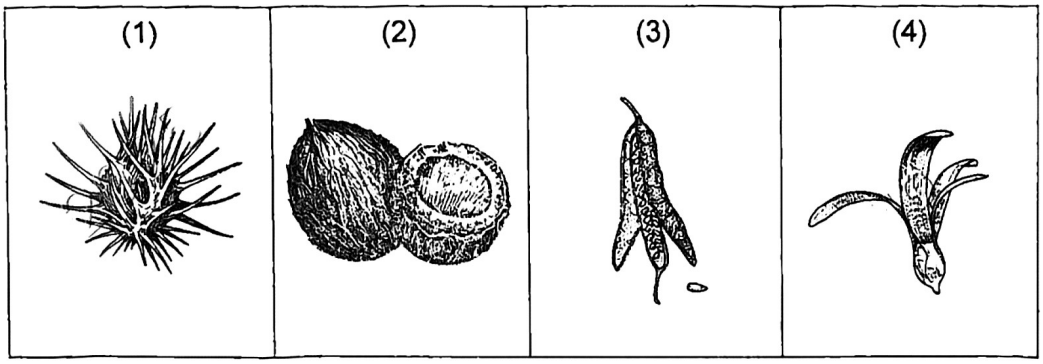


Key

. Parent plant W

: Young of plant W

Which of the following is likely the fruit of plant W?



10. The table shows the heart rates of Cheryl and Ken during an exercise.

Time / min	Heart rate / beats per min	
	Cheryl	Ken
0	72	74
5	97	110
10	125	148

Based on the information, which of the following statements can be concluded?

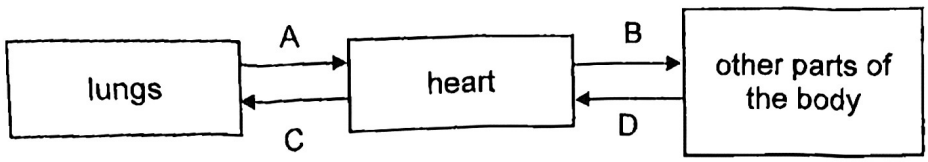
(1) Cheryl's heart was pumping faster than Ken's heart.

(2) Ken's heart was pumping less blood than Cheryl's heart.

(3) Ken's heart rate increased more than Cheryl's heart rate during the exercise.

(4) Cheryl and Ken's heart rates have reached their maximum after 10 minutes of exercise.

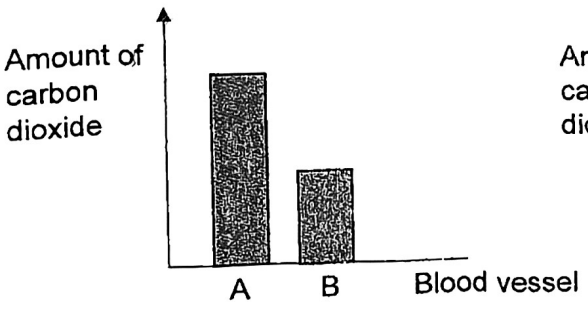
11. The diagram below shows the direction of blood flow in a body.



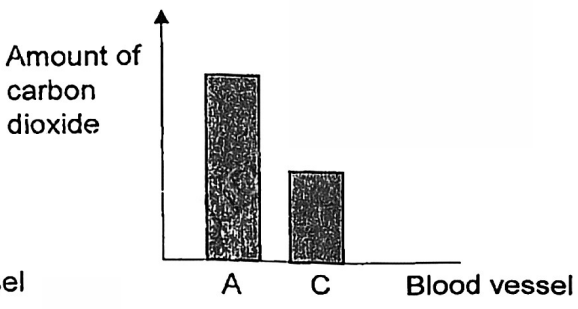
The same amount of blood was taken from blood vessels, A, B, C and D.

Which graph shows the correct comparison of the amount of carbon dioxide in the blood of these blood vessels?

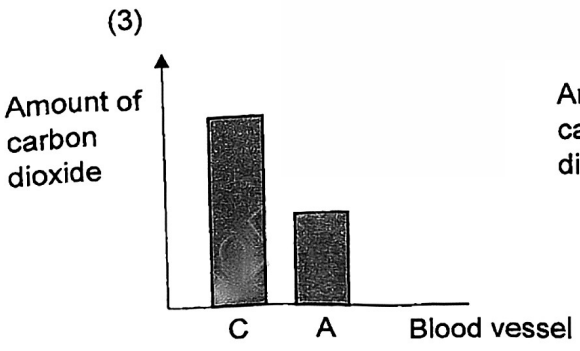
(1)



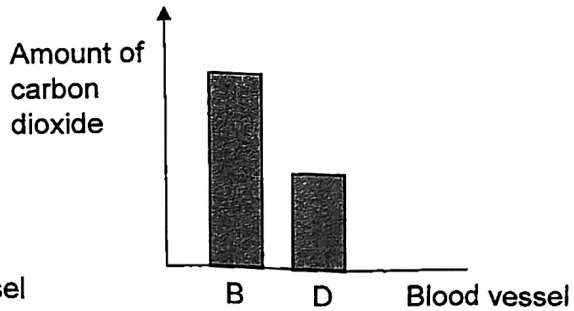
(2)



(3)



(4)



12. Study the food chain shown below.

E ⇢ F ⟶ G ⟶ H

Three students made the following statements:

Student A: Organism E gets its energy from the Sun directly.

Student B: If all of organism H migrate to another location, the population of F will decrease.

Student C: If a disease kills all of organism F, only the population of organism E will decrease.

Whose statement(s) is/are correct?

(1) Student A only

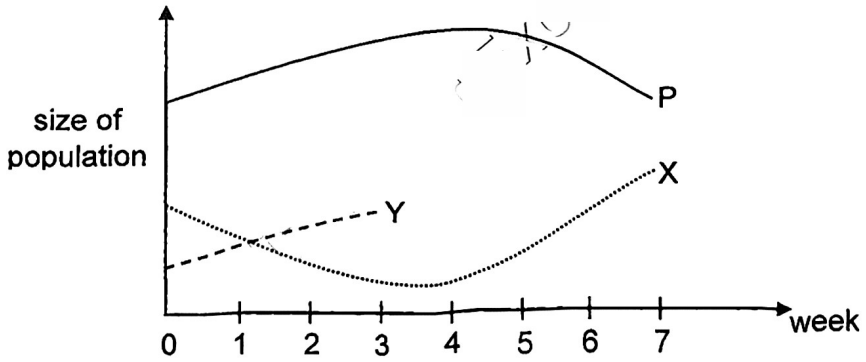
(2) Students A and B only

(3) Students B and C only

(4) Students A, B and C

13. John placed some animals, X, Y and P, in a tank with some leaves to study the food relationship among them. He counted the number of animals at the end of each week. After three weeks, he removed animal Y.

John's results are shown below.



Animal P feeds on leaves only. None of the animals had any disease.

Which of the following is correct?

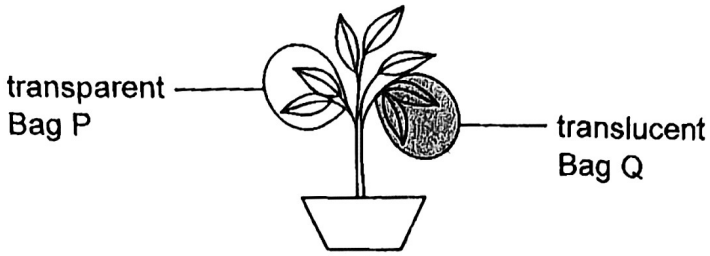
(1) Animal Y fed on animal X.

(2) Animal Y fed on animal P.

(3) Animal X fed on animal Y.

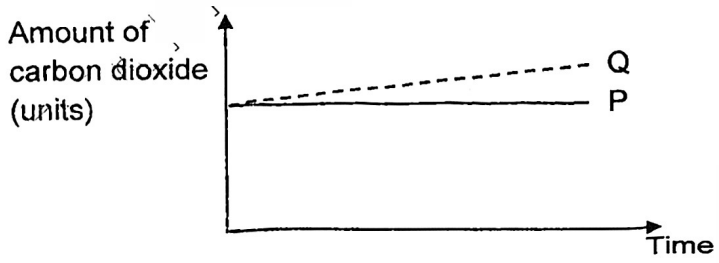
(4) Animal X fed on animals P and Y.

14. Zoe placed a plant under bright sun for three hours. She used two bags, P and Q, made of different materials to wrap two leaves each as shown and started measuring the amount of carbon dioxide in each bag.

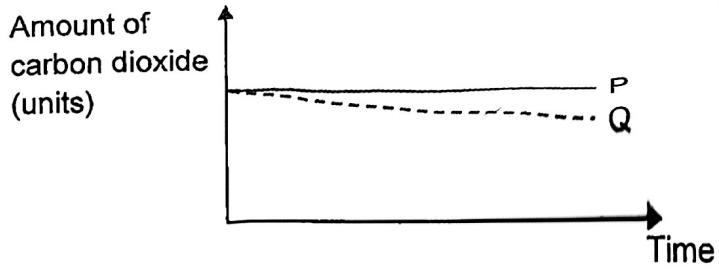


Which graph represents the change in the amount of carbon dioxide in each bag during the three-hour period?

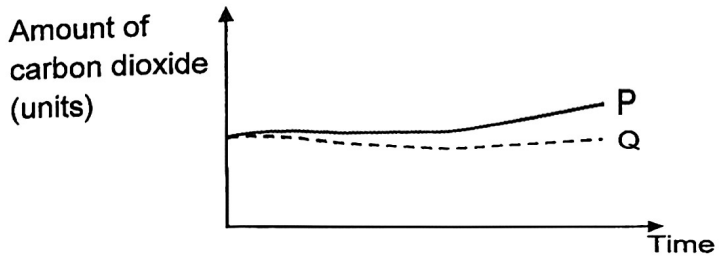
(1)



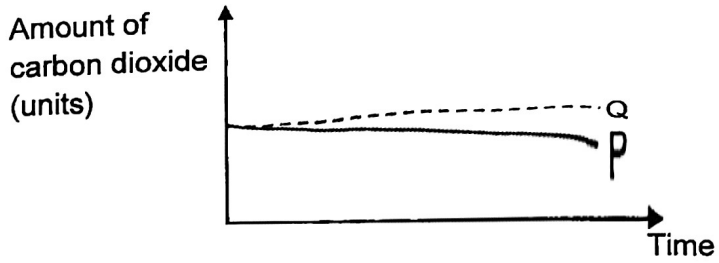
(2)



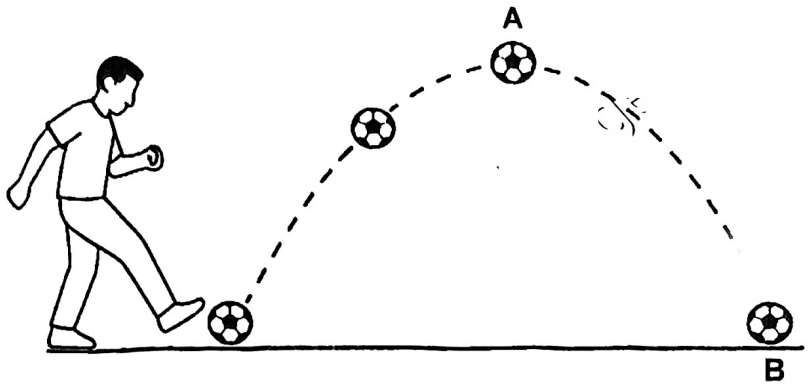
(3)



(4)



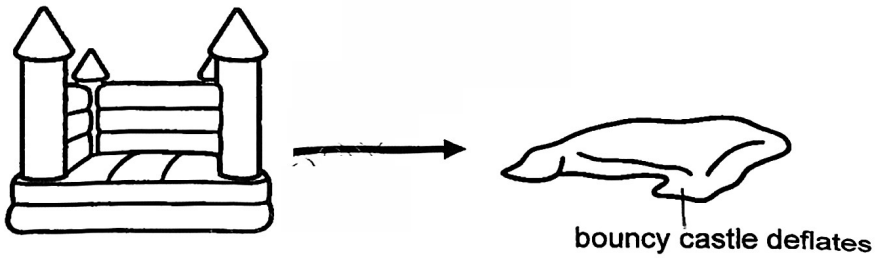
15. The diagram shows the path of a football after Ken had kicked it and just before it touched the ground at B.



What type of energy did the football have at points A and B?

	A	B
(1)	kinetic energy	potential energy
(2)	potential energy	kinetic energy
(3)	kinetic and potential energy	kinetic energy
(4)	kinetic and potential energy	potential energy

16. After a party ended, the air in a bouncy castle was let out.



bouncy castle during the party

Which of the following explains the deflated bouncy castle?

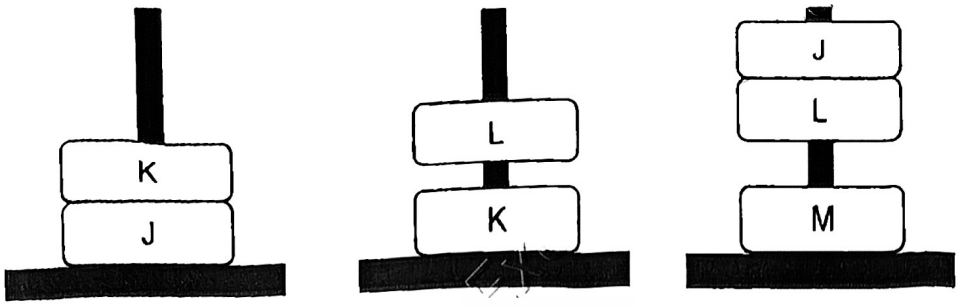
(1) Air has mass.

(2) Air occupies space.

(3) Air has a definite shape.

(4) Air cannot be compressed.

17. The diagrams show the interaction among four unknown objects, J, K, L and M.



Which object(s) is/are definitely a magnet?

(1) K and L only

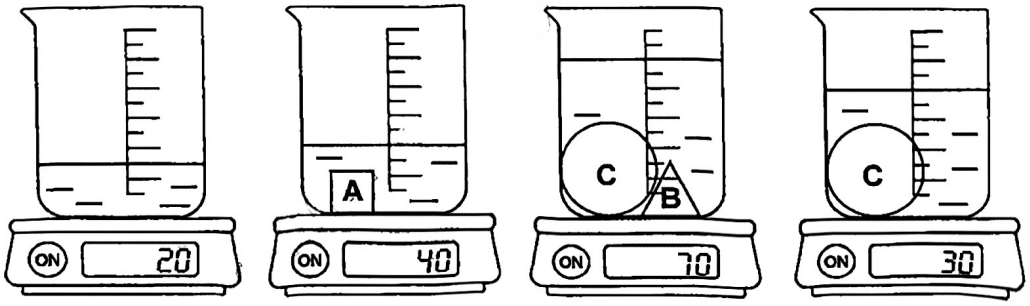
(2) L and M only

(3) K, L and M only

(4) J, K, L and M

18. Kyle wanted to compare three objects, A, B and C.

Using a beaker filled with the same amount of water each time, he put in the objects as shown below.



Which one of the conclusions that Kyle made is correct?

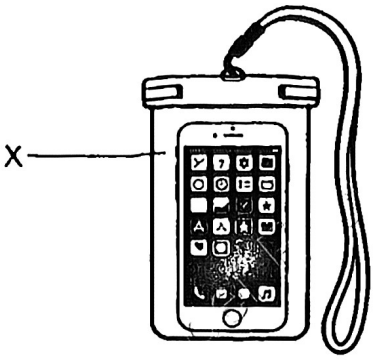
(1) C is the heaviest.

(2) B is heavier than A.

(3) C has the least volume.

(4) B takes up as much space as A.

19. The diagram shows a clear pouch commonly used to protect a mobile phone during wet activities. It enables the user to press the screen and continue using the mobile phone.



Which material is most suitable for making part X of the pouch?

	Material	Property		
		flexible	waterproof	allows light to pass through
(1)	A	✗		✓
(2)	B	✗		✓
(3)	C			✗
(4)	D		✓	✓

Key
✓ : yes
✗ : no

20. Jack could easily ride a bicycle on his own. However, he found it much harder to pedal when Tom stood at the back of the bicycle as shown below.

Which of the following is the best explanation?

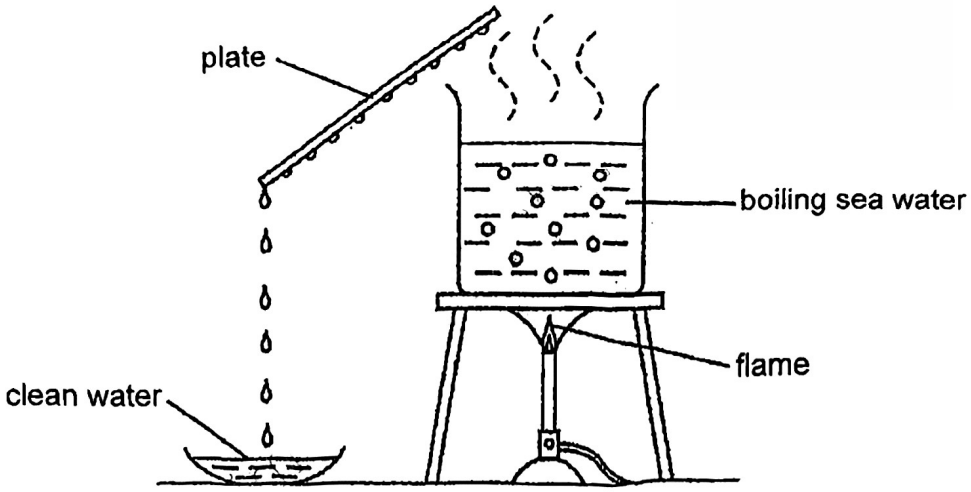
(1) Tom had a greater weight than Jack.

(2) There was a greater frictional force between Jack's shoes and the pedals.

(3) There was a greater gravitational force acting on Tom as he was standing up.

(4) The moving wheels of the bicycle were going against a greater frictional force.

21. The set-up below shows how clean water can be collected from sea water.



Which of the following would increase the amount of clean water collected within a short period of time?

(1) Using a cool glass plate

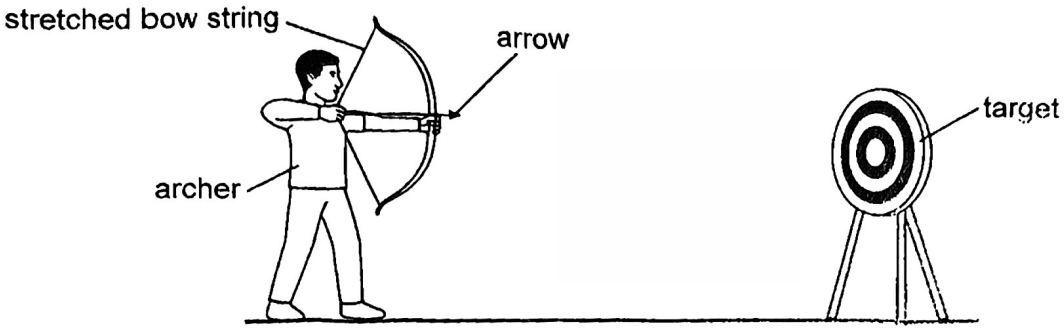
(2) Using a cool metal plate

(3) Using a warm glass plate

(4) Using a warm metal plate

22. The diagram shows an archer aiming at the target.

To shoot an arrow, he needs to pull the bow string back before releasing it.



Which of the following best represents the energy conversions involved in shooting an arrow from the point of release?

(1) kinetic energy (string) → kinetic energy (arrow) → sound energy (arrow)

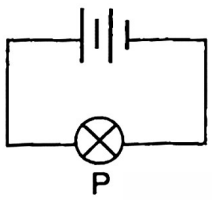
(2) kinetic energy (archer) → kinetic energy (string) → potential energy (arrow)

(3) potential energy (string) → kinetic energy (string) → kinetic energy (arrow)

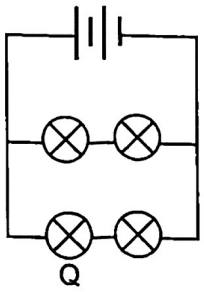
(4) potential energy (archer) → potential energy (string) → kinetic energy (arrow)

23. Which bulb, P, Q, R or S, will be the brightest?

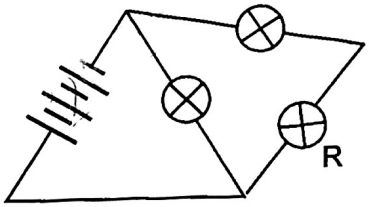
(1)



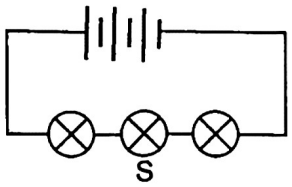
(2)



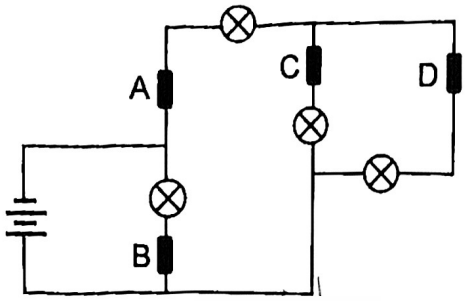
(3)



(4)



24. Four rods made of different materials are placed in various positions, A, B, C and D, of the electrical circuit shown below.



Only one bulb lit up.

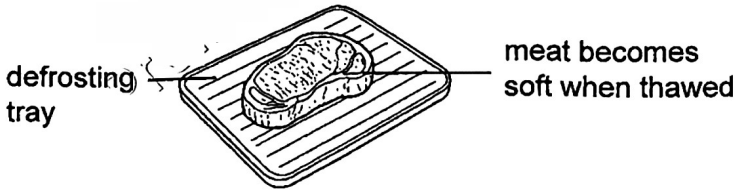
Which of the following shows the correct positions of the rods?

	Electrical conductor	Electrical insulator
(1)	A, B, C	D
(2)	A, B, D	C
(3)	A, C, D	B
(4)	B, C, D	A

25. The table below shows the time taken for an ice cube to melt on four materials, A, B, C and D.

	A	B	C	D
Time taken for an ice cube to melt (min)	15	1	4	10

The picture below shows a defrosting tray used for thawing frozen meat.



Which material should be used to make a defrosting tray that will thaw the frozen meat fastest?

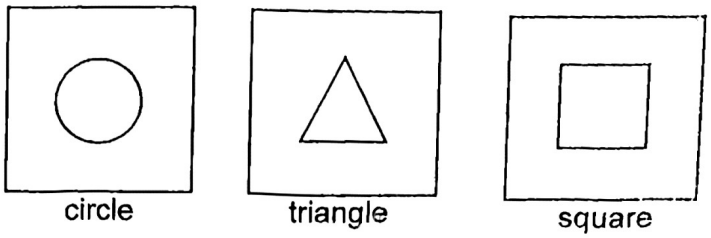
(1) A

(2) B

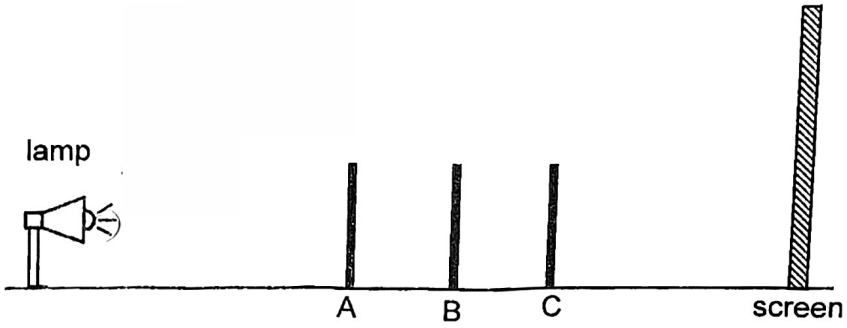
(3) C

(4) D

26. George has three boards made of different materials. He cut out shapes of the same height and width as shown below.



He placed the three boards at positions, A, B and C, as shown below.



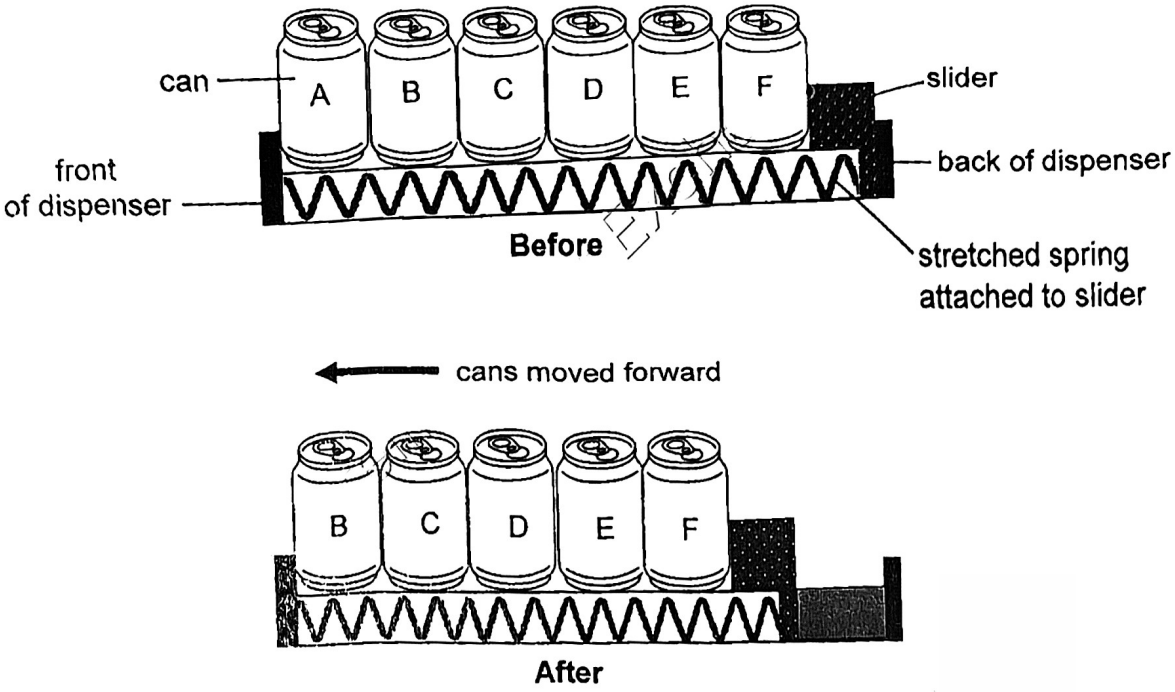
The board at position A is the only board made of a material that allows light to pass through.

The diagram below shows the shadow that he noticed on the screen.

Based on his observation, which of the following shows the correct positions of the boards in the setup?

	Circle	Triangle	Square
(1)	A	B	C
(2)	B	A	C
(3)	C	A	B
(4)	A	C	B

27. The diagram below shows the side view of a beverage dispenser before and after Can A was taken out.



The remaining cans moved forward after Can A was taken out.

What would happen to the spring when all the cans were removed?

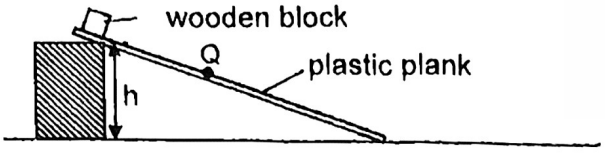
(1) The spring would be stretched more.

(2) The spring would be compressed less.

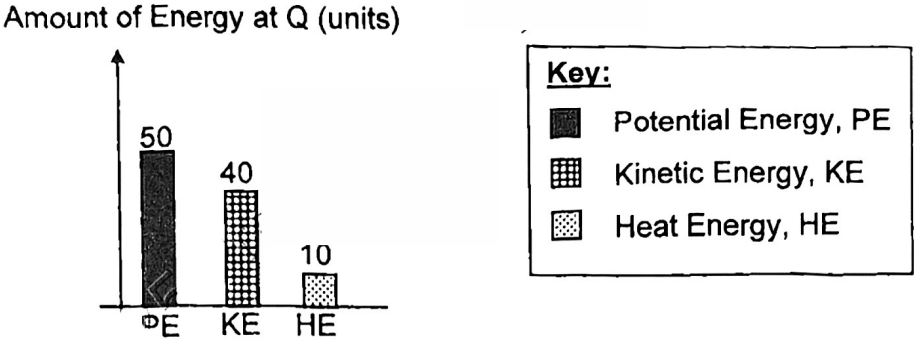
(3) The spring would return to its original length.

(4) The spring would exert an elastic spring force to push the slider.

28. John released a wooden block from the top of the plastic plank.

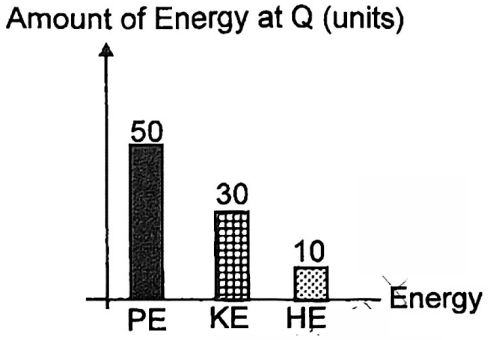


It moved down and stopped at the bottom of the plank. The different forms of energy of the wooden block at position Q are shown in the graph below.

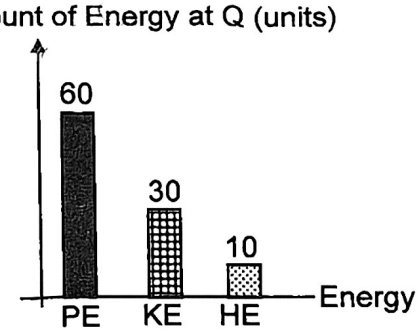


The wooden block was then released from the top of a wooden plank. It moved down more slowly. Which of the following graphs shows the correct result of the wooden block when it was at position Q of the wooden plank?

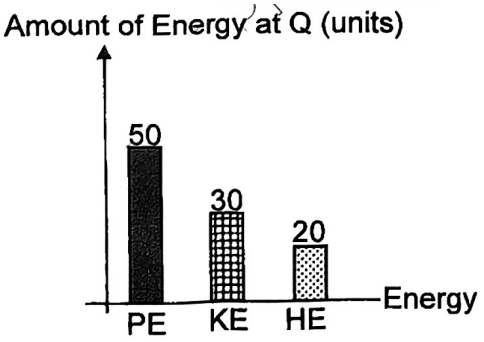
(1)



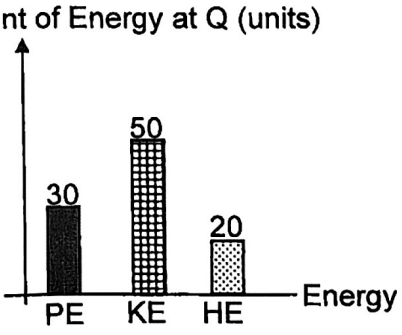
(2)



(3)



(4)



End of Booklet A

TAO NAN SCHOOL 道南学校

SINCERITY & PERSEVERANCE

2025 PRIMARY 6 PRELIMINARY EXAMINATION

Name : _____ ( )

Class : Primary 6 ( )

Parent's Signature : _____

Date: 21 August 2025

Time: 8.00 a.m. – 9.45 a.m.

Duration: 1 hour 45 minutes

SCIENCE

BOOKLET B

INSTRUCTIONS TO CANDIDATES

1. Write your name, class and register number.
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 dark blue or black ballpoint pen to write your answers in the space provided for each question.
6. Do not use correction fluid/tape or highlighters.

Booklet A	56
Booklet B	44
Total	100

Booklet B (44 marks)

For questions 29 to 41, write your answers clearly in this booklet.

The number of marks available is shown in brackets [ ] at the end of each question or part question.

(44 marks)

---

29. The diagram below shows 4 animals, A, B, C and D.

A B C D

(a) Which animal(s) is/are insects? Give one reason to explain your answer. [1]

(b) All the 4 animals A, B, C and D live in a rocky habitat with very few places to hide. All of them have a hard outer covering that is strong. Explain how having a hard outer covering that is strong helps them to survive in this habitat. [1]

(c) The animals have been classified into 2 groups as shown below.

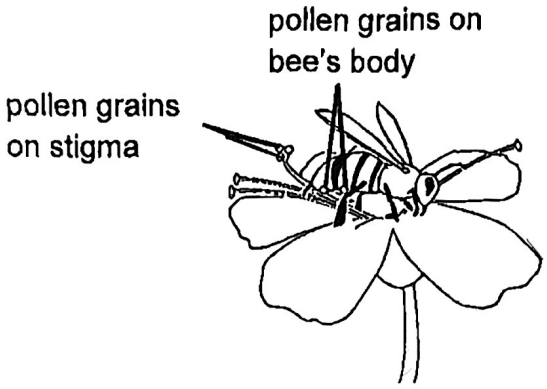
Group X : A and C

Group Y : B and D

Identify the characteristic used to classify them. [1]

Score	/3

The diagram below shows a bee visiting a flower of Plant K.



(a) Suggest a reason why the bee was on the flower. [1]

_____

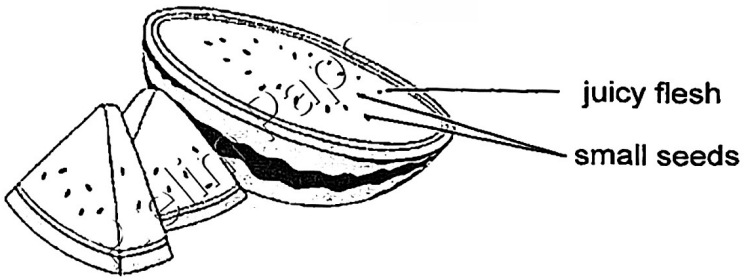
_____

(b) Based on the diagram above, describe how bees help plant K to reproduce. [1]

_____

_____

The diagram shows a fruit formed from the flower of plant K.



(c) Describe how the seeds of plant K are dispersed. [2]

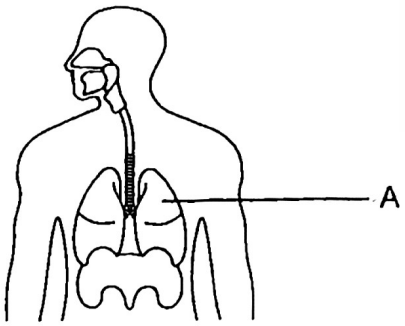
_____

_____

_____

Score	/ 4

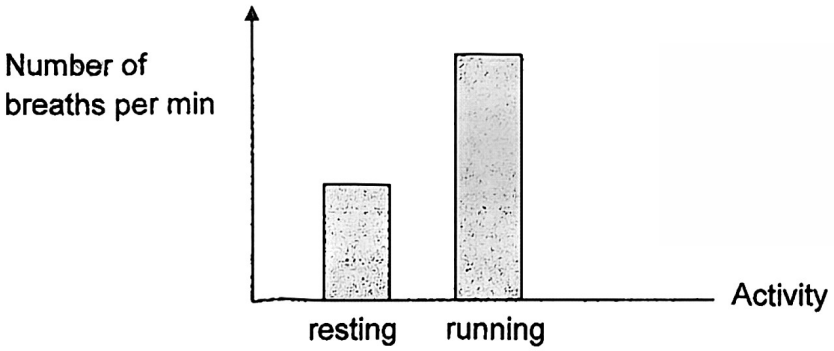
31. The diagram below shows a human respiratory system.



(a) Name part A. State the function of part A in the human respiratory system. [1]

_____

The bar graph below shows Ahmad's breathing rate for resting and running.



(b) Using the information above, compare the breathing rate during resting and running. [1]

_____

_____

(c) Describe how the respiratory system works together with the circulatory system to allow him to have more energy to run. [2]

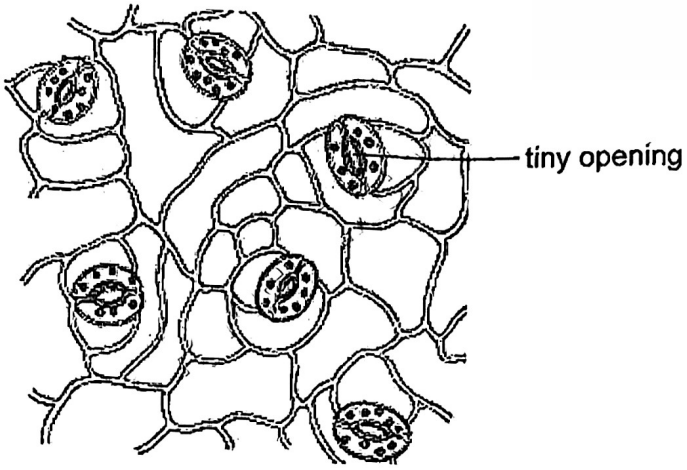
_____

_____

_____

Score	/ 4

32 Abel carried out an experiment to find out the effect of surrounding temperature on the average size of tiny openings in leaves.



His results are shown in the table.

Set-up	Temperature of surroundings (°C)	Average size of tiny openings (units)
A	20	6
B	25	5
C	30	3
D	35	2

(a) State the effect of surrounding temperature on the average size of tiny openings. [1]

_____

_____

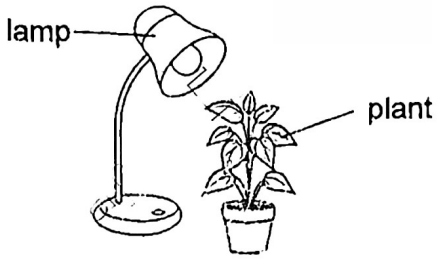
(b) Suggest how the effect in (a) helps the plant to survive. [1]

_____

_____

Score	2

33. Anisha conducted an experiment to find out how intensity of light affects the growth of plants. She planted three similar plants in three identical pots with the same amount of soil. The plants were placed under three lamps with different light intensities and watered with the same amount of water daily. She measured the mass of the plants after a few weeks.



The result of her experiment is shown in the table below..

Intensity of light (unit)	Mass of plant (g)
50	2.2
100	5
150	6.4

(a) Based on the results, explain how the intensity of light affects plant growth. [2]

_____

_____

_____

(b) Suggest one possible reason that could have resulted in Anisha obtaining inaccurate results? [1]

_____

_____

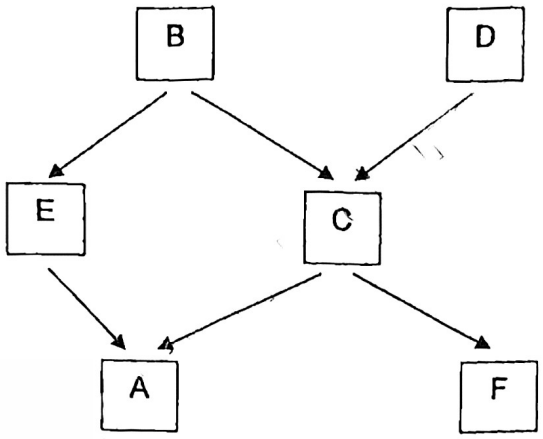
(c) What can Anisha do to ensure that her results are reliable? [1]

_____

_____

Score	/ 4

Study the food web below. A, B, C, D, E, and F are organisms.



(a) Identify the food producer(s). [1]

_____

(b) Identify the predator(s). [1]

_____

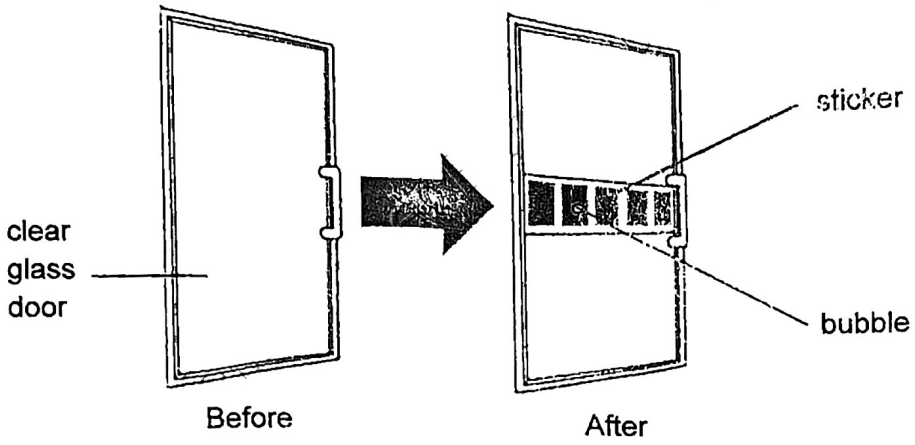
(c) What would happen to the population of organism C within two weeks if organism E was wiped out by a disease? Explain your answer. [1]

_____

_____

Score 3

35. Some customers of shopping malls would accidentally bump into the glass door and injure themselves. A sticker was placed across the glass door to prevent this from happening.



(a) How does placing a sticker across the glass door help to prevent people from bumping into it accidentally? [1]

_____

_____

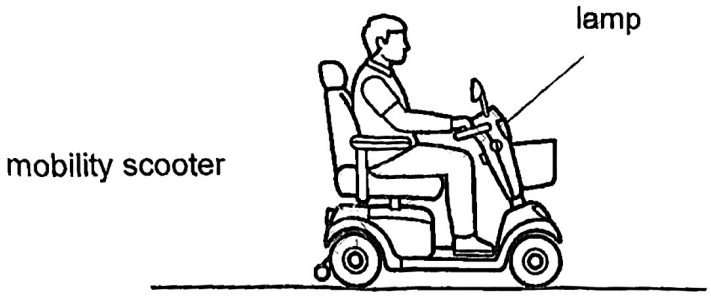
(b) A bubble was seen after the sticker was pasted on the door. Explain why the bubble increased in size on warm days. [1]

_____

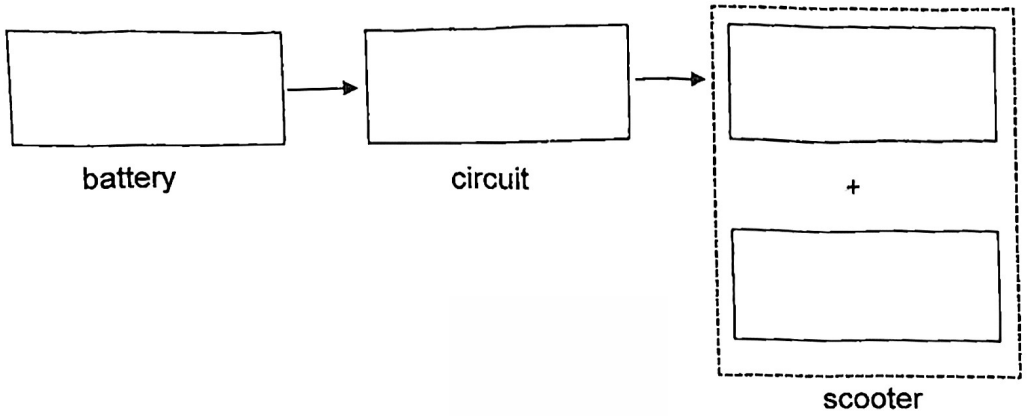
_____

Score 2

Mr Wong rides a mobility scooter that has a rechargeable battery. The mobility scooter has a lamp to help Mr Wong see the road better at night.



(a) Fill in the boxes below to show the energy conversion as Mr Wong rides the mobility scooter around at night. [2]



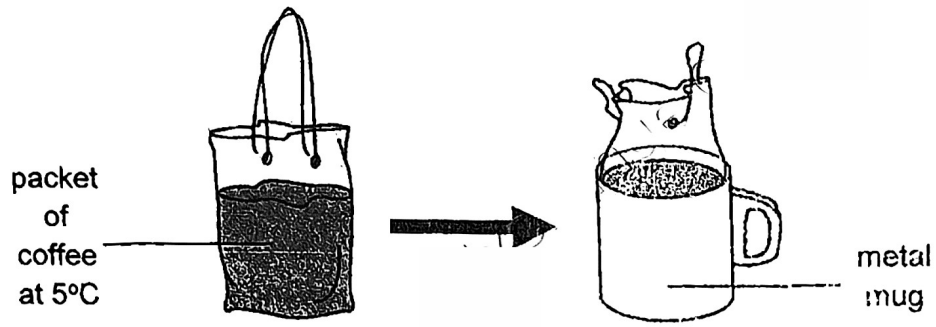
(b) The scooter moves slower as it goes up a ramp. Explain why. [1]

_____

_____

Score	3

37. Danielle placed a packet of coffee into a metal mug without overflowing.



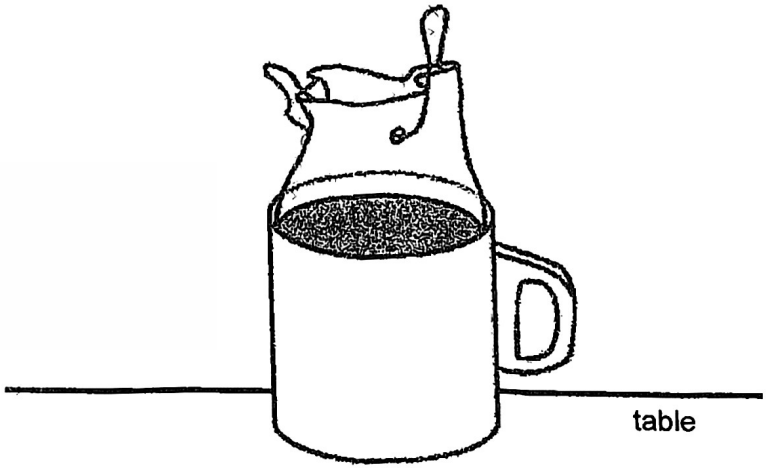
(a) Besides having a fixed volume, state another property of coffee that allows it to be placed in the cup without overflowing. [1]

_____

_____

After a short time, some water droplets were seen.

(b) Draw in the diagram below where the water droplets will be found if the room temperature is 30°C. [1]



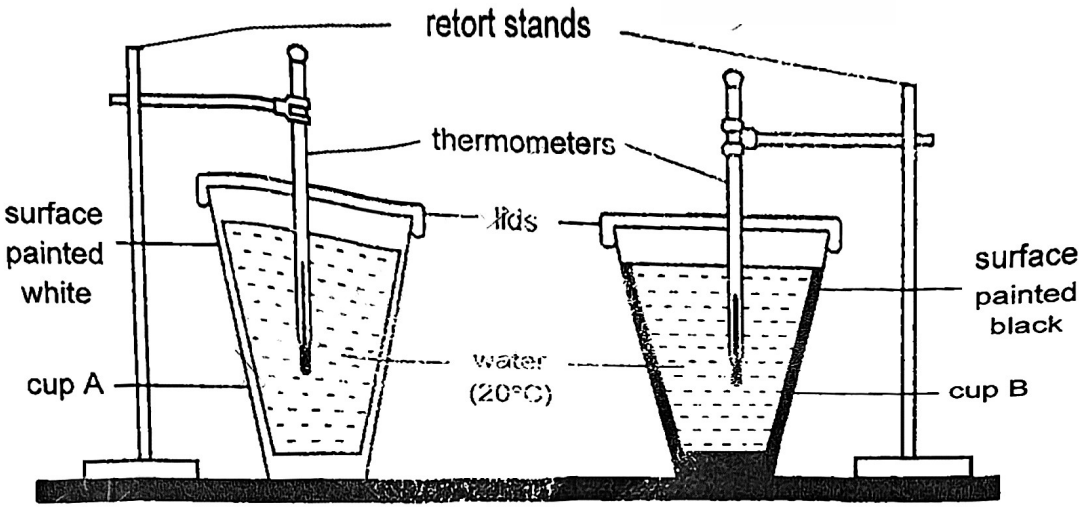
Score	/2

(c) Explain how the water droplets were formed for your answer in (b). [2]

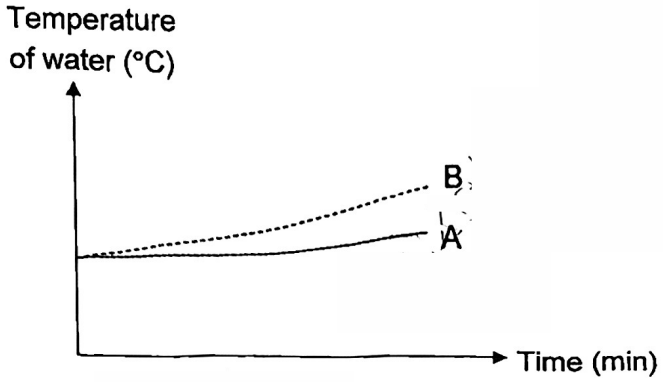
(d) The water droplets disappeared after some time. Explain why. [1]

Score 3

38. Lisa prepared two set-ups using two cups, A and B, of the same size and material as shown in the diagram below. She wants to find out how colours affect the amount of heat absorbed.



Both set-ups were placed under the Sun for two hours. Lisa recorded the change in temperature of the water in each cup in the graph below.



(a) State one other variable that Lisa must keep constant to ensure a fair test. [1]

_____

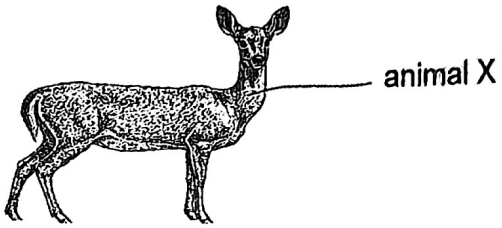
(b) Based on the results, what can Lisa conclude about the experiment? [1]

_____

_____

Score 2

Animal X has two types of fur, Type 1 and Type 2. It sheds its fur and grows the other type of fur during hotter and colder months of the year. The differences between both types of fur are shown in the table below.



Characteristic of fur	Type 1	Type 2
Thickness of fur	Thin	Thick
Colour of fur	Light	Dark

(c) Based on Lisa's findings, would animal X grow Type 2 fur during the hotter or colder months of the year? Explain your answer. [1]

_____

_____

(d) Explain how the thickness of animal X's fur further helps it to survive during the colder months of the year. [1]

_____

_____

Score / 2

39. An elastic rope was used to make a ride at the amusement park.

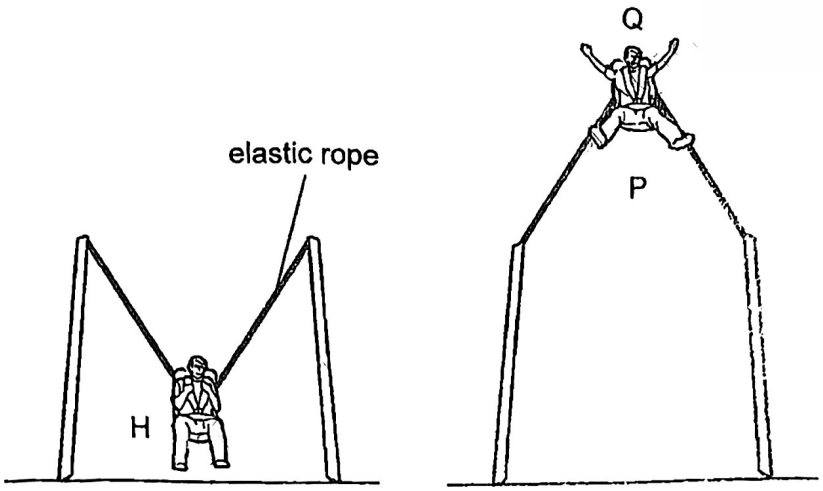


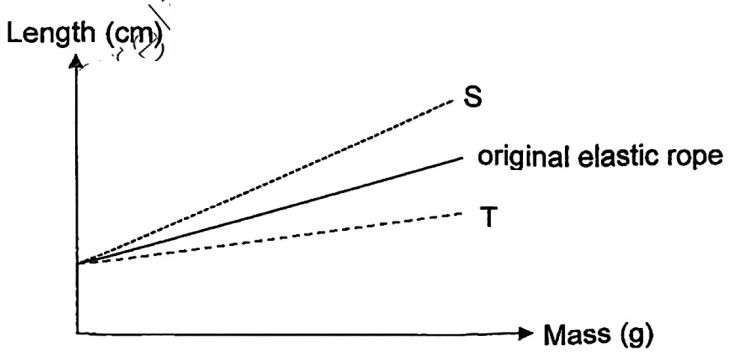
Diagram 1 Diagram 2

At the start of every ride, the seat that is attached to the elastic rope is pulled to position H to allow the rider to get on. When released, the stretched elastic rope pulled the rider until he reached the maximum height at point Q. After which he is pulled down. He moved up and down continuously before gradually coming to a stop.

(a) Identify two forces that made the rider move up and down continuously. [1]

_____

The graph below shows how the length of another two elastic ropes, S and T, increased when weights were hung on them.



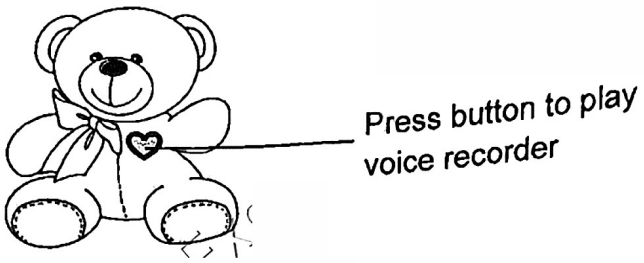
Score	/ 1

To make the ride less scary, the maximum height is decreased to point P as shown in Diagram 2.

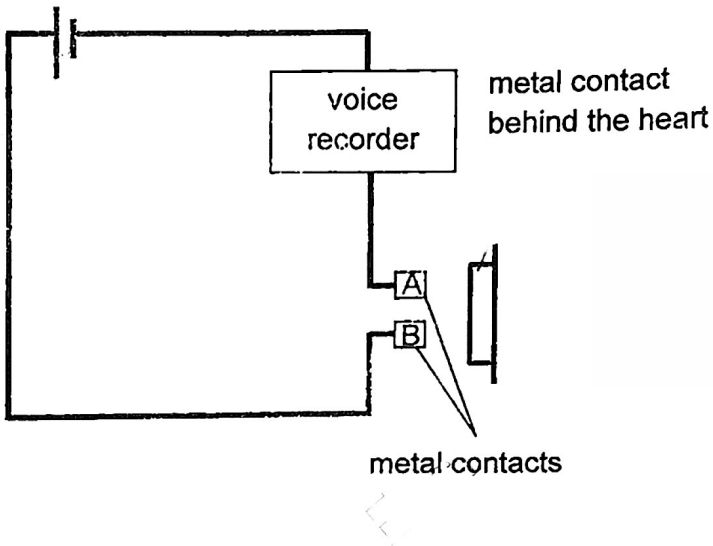
(b) Which elastic rope, S or T, should be used so that the maximum height of the ride will not exceed point P? Explain your answer. [2]

Score 2

40. Ada has a stuffed toy with a built-in voice recorder.



The circuit diagram of the voice recorder is shown below.



When Ada hugs the stuffed toy, a voice recording is played.

(a) State the property of the metal contacts that allow the voice recording to be played. [1]

_____

(b) Explain why the voice recording is heard when Ada hugs the toy. [1]

_____

_____

Score 2

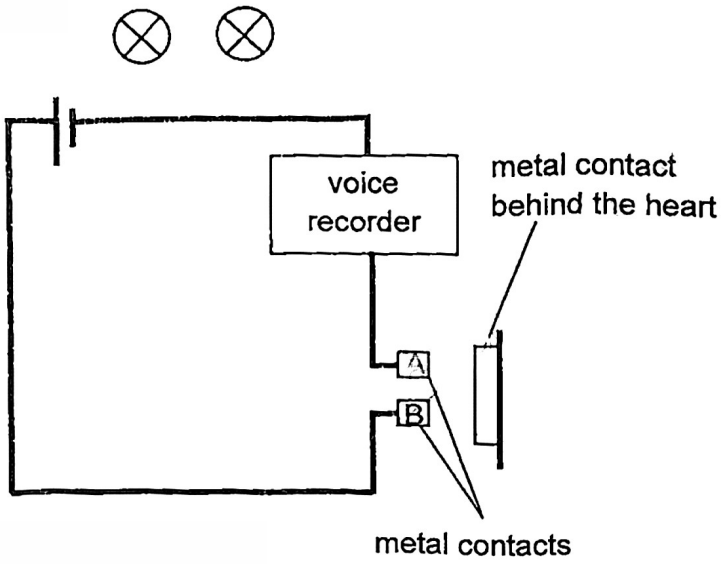
Ada played with the stuffed toy for a month.

(c) State a possible change in the voice recording played. Explain your answer. [1]

_____

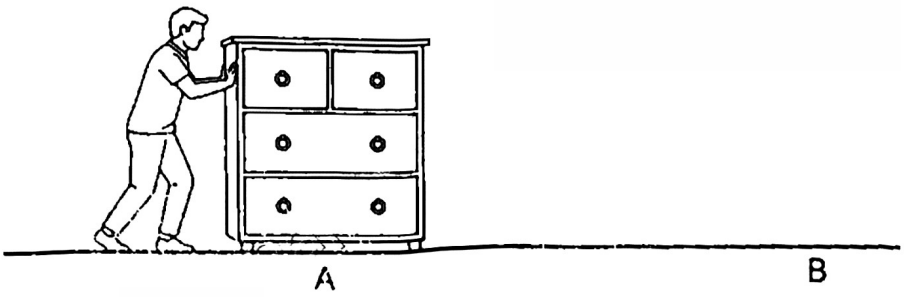
_____

(d) The eyes of the toy also light up when she hugged the toy. Complete the circuit diagram below such that the bulbs will light up the brightest possible. The bulbs have been drawn for you. [1]



Score / 2

41. Mr Lim exerted a force on a cupboard to move it from point A to point B as shown in the diagram below.



(a) State two forces acting on Mr Lim when he was pushing the cupboard. [1]

_____

(b) Besides pushing harder, what could Mr Lim do to the cupboard to decrease the time taken to move it? Explain your answer. [2]

_____

_____

_____

End of Paper

Score	3

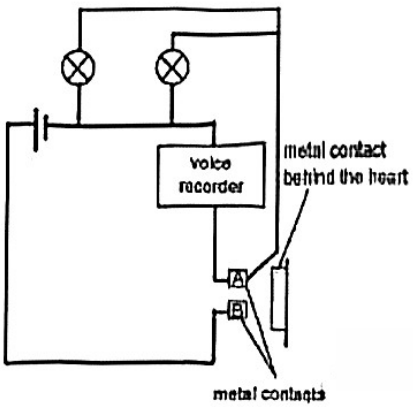
SCHOOL : TAO NAN PRIMARY SCHOOL
LEVEL : PRIMARY 6
SUBJECT : SCIENCE
TERM : PRELIM 2025

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

TAO NAN SCHOOL
P6 SCIENCE PRELIMINARY EXAM 2025
Simplified Answer Key (Booklet B)

This answer key only serves as a reference. Variations of students' answers have been accepted if they have shown conceptual understanding.

Qn	Suggested answers
29 (a)	A, B and D. They have 3 body parts or 6 legs.
29 (b)	Protect D (from injury) from rocks. OR Protect D from predators.
29 (c)	Absence or Presence of wings
30 (a)	The bee was collecting nectar/pollen for food or drinking nectar.
30 (b)	The bees help to transfer the pollen grains from the anther to the stigma.
30 (c)	Animal ate the fruits and passed out the seeds in its waste after moving a distance away.
31 (a)	Lungs. To allow exchange of gases with the surrounding.
31 (b)	He breathed faster when he is running compared to resting.
31 (c)	RS: More oxygen is taken in by respiratory system/lung CS: which is transported by blood to cell/all parts of the body. CS: More carbon dioxide is transported (by blood) to the lung RS: and removed/exhaled out of the body.
32 (a)	As the temperature of surroundings increases, the size of tiny openings decreases.
32 (b)	To reduce water loss
33 (a)	As the intensity of light increases, the rate of photosynthesis increases. The plant makes more food and the mass of the plant increases.
33 (b)	• The distance between the plant and light source is different. OR • There are other sources of light in the room/ uneven ambient light distribution.
33 (c)	• She should repeat her experiment AND check if the results are consistent/about the same. OR • She should repeat her experiment AND calculate the average. OR • She should ensure there is no unwanted light or do the experiment in the dark room.
34 (a)	B and D
34 (b)	A and F
34 (c)	The population of C will decrease as organism A will feed on more C.
35 (a)	The sticker is opaque/translucent so the customers can see the sticker.
35 (b)	Air in the bubble gained heat (from the surroundings) and expanded.
36 (a)	(chemical) potential energy → electrical energy → kinetic energy + light (energy)
36 (b)	The scooter is going/moving against gravitational force. OR Some of the kinetic energy is converted into (gravitational) potential energy.

Qn	Suggested answers
37 (a)	Coffee has no definite shape.
37 (b)	Water droplets drawn on the whole outer surface of the metal mug.
37 (c)	Water vapour from the surroundings condensed on the cooler (outer) surface of the mug.
37 (d)	The water droplets evaporated.
38 (a)	• Volume of water in each cup • Material/thickness of the lids • Thickness of each cup
38 (b)	Black absorbs more heat (than white).
38 (c)	Colder months. The darker fur will absorb more heat, keeping the animal warm.
38 (d)	During the colder months, the thick fur traps air which is a poor conductor of heat and reduces heat loss from the body to the surroundings. OR The thick fur is a poor conductor of heat, hence the animal loses heat slowly to the surroundings.
39 (a)	Elastic (spring) force, Gravitational force
39 (b)	Rope S as it is less stiff or S stretches longer when the same mass is hung. Hence it exerts less elastic (spring) force (on the rider) when stretched to the same position H or same height when the rider gets on it.
40 (a)	Conductor of electricity
40 (b)	When Ada hugs the stuffed toy, the metal contacts touches/comes into contacts with A and B. Hence, a closed circuit is formed.
40 (c)	Softer. Battery is weaker or there is less electricity flowing through the circuit.
40 (d)	
41 (a)	• Gravitational force • Frictional force
41 (b)	Apply a lubricant to the base of the cupboard. The lubricant reduces friction between the cupboard and the floor. OR Put the cupboard on a trolley. The wheels reduce the friction between the cupboard and the floor. OR Take out all the items in the cupboard. When there is less weight, there will be less frictional force opposing the moving cupboard.