RAFFLES GIRLS' PRIMARY SCHOOL
PRELIMINARY EXAMINATION
PRIMARY SIX
2025

SCIENCE
(BOOKLET A)

Name: _____ ( ) **Date : 26 August 2025**

Class: P6 _____ **Total Time: 1h 45min**

INSTRUCTIONS TO CANDIDATES

1. **Write your name, class and index number in the spaces provided above.**
2. **Do not turn over this page until you are told to do so.**
3. **Follow all instructions carefully.**
4. **Answer all questions.**
5. **For Question 1- 28, use 2B pencil to shade your answers on the Optical Answer Sheet (OAS).**

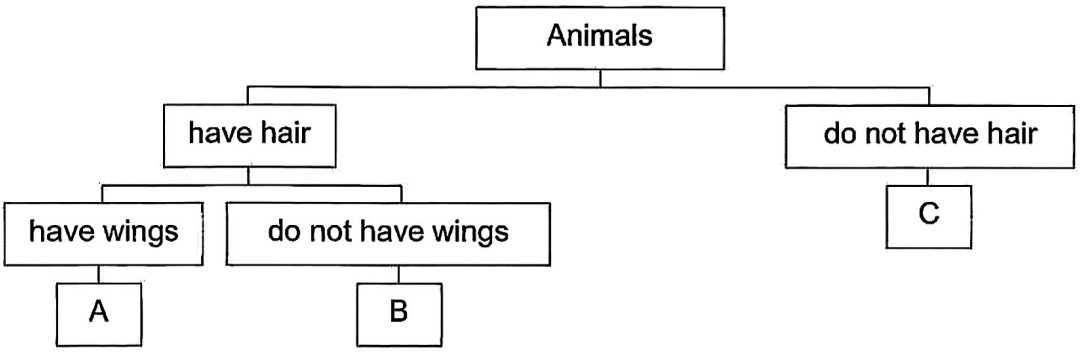
Booklet A	56
Booklet B	44
Your score **out of 100**	
Parent's signature	

1. Which of the following reproduce(s) by spores?

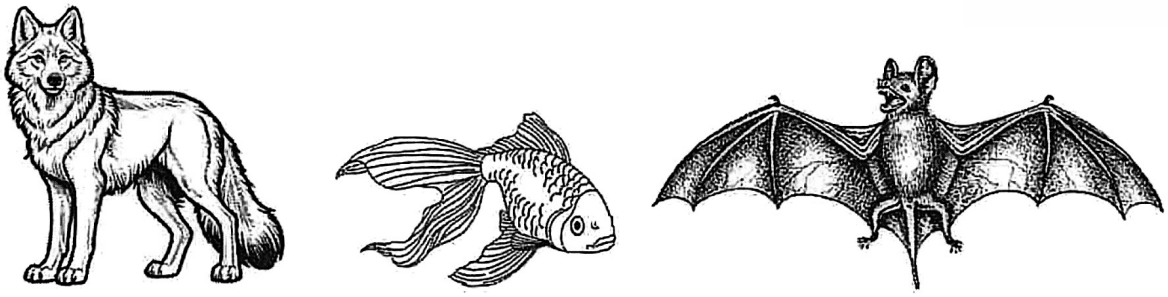
A Penguin
B Mushroom
C Bird's nest fern
D Sunflower plant

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

2. Study the classification chart.



Three animals, X, Y and Z, are shown below.



X Y Z

Which of the following shows the correct classification of the animals in groups A, B and C?

	A	B	C
(1)	X	Z	
(2)	Y	X	Z
(3)	Z	Y	X
(4)	Z	X	Y

3. Which of the following statements is correct about germination of a seed?

(1) Seeds need sunlight to germinate.
(2) The shoot of the plant will emerge first.
(3) Both root and shoot appears at the same time.
(4) Seeds need air, water and warmth to germinate.

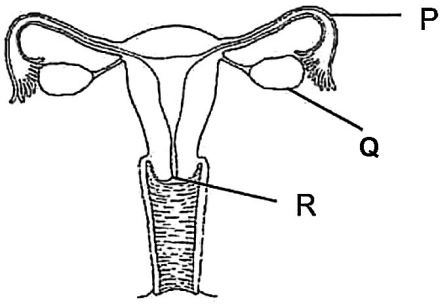
4. Some characteristics of animals L and M are listed in the table as shown.

Characteristics	Animal L	Animal M
It has three stages in its life cycle.	✓	
The young resembles the adult.	✓	
It spends part of its life cycle in water.		✓

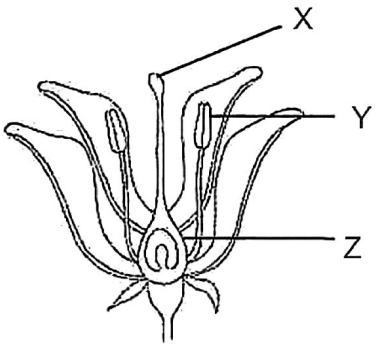
Based on information, which of the following identifies animals L and M correctly?

	Animal L	Animal M
(1)	Hen	Mosquito
(2)	Frog	Eagle
(3)	Butterfly	Frog
(4)	Beetle	Hen

5. The diagrams below show some parts of the reproductive systems of a human and a plant respectively.



Human Reproductive System



Plant Reproductive System

Which of the following statements is correct?

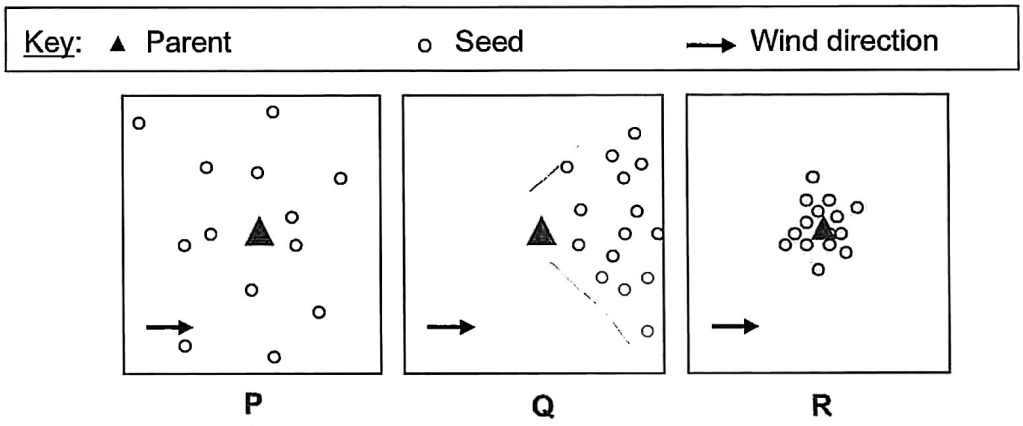
(1) Pollination occurs at parts R and X.

(2) Reproductive cells are stored at parts Q and Y.

(3) The fertilised egg will develop at parts R and Z.

(4) The male and female reproductive cells fuse at parts P and X.

6. Study the seed dispersal pattern of plants P, Q and R as shown.



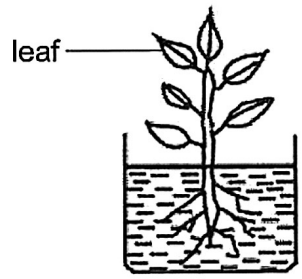
Which of the following shows the methods of seed dispersal for plants P, Q and R?

	Animals	Wind	Splitting
(1)	P	Q	R
(2)	Q	P	R
(3)	Q	R	P
(4)	R	P	Q

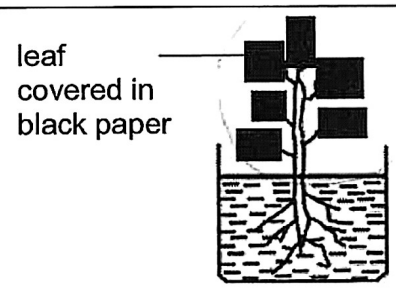
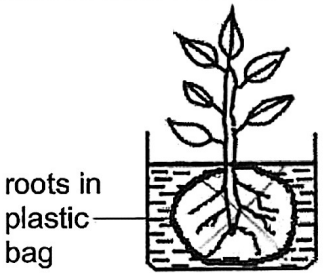
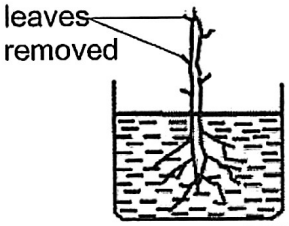
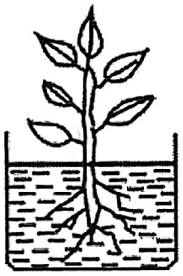
7. The table shows three body systems.
Which of the following organs are found in the respective body systems?

	Digestive system	Respiratory system	Circulatory system
(1)	Nose	Mouth	Bone
(2)	Mouth	Lungs	Heart
(3)	Small intestine	Heart	Lungs
(4)	Blood vessel	Windpipe	Heart

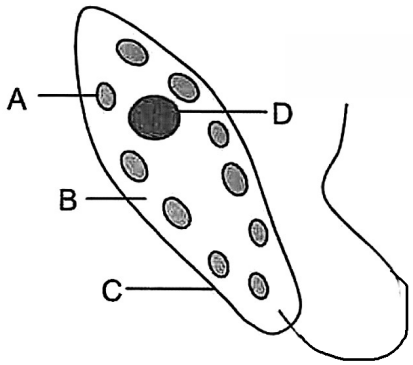
8. Muthu wanted to find out if plants need leaves to make food. He prepared two set-ups. The diagram shows one of the set-ups, placed in the garden.



Which of the following set-ups should Muthu use as his second set-up for his experiment?

(1)		(2)	
	Placed in a dark room		**Placed in the garden**
(3)		(4)	
	Placed in the garden		**Placed in a dark room**

9. The diagram shows a single-cellular organism which is able to make its own food.

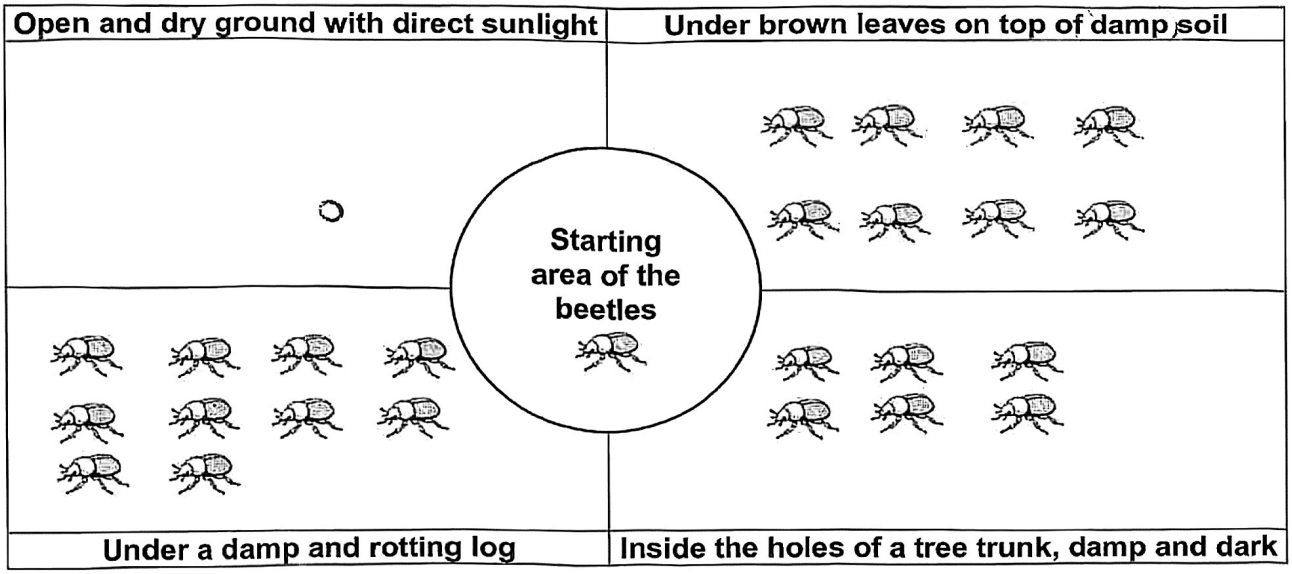


Which of the following parts are also found in an animal cell?

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

10. In a forest, a student observed the movement of forest beetles. She placed twenty-five beetles in the middle of the forest floor where she marked out the four areas with different conditions.

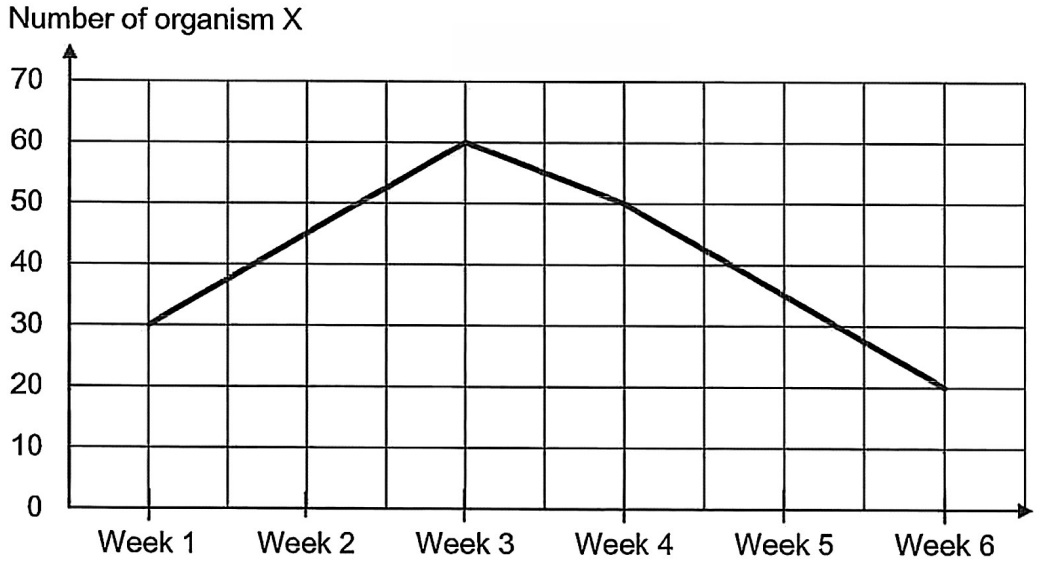
After fifteen minutes, she recorded the number of beetles found in each area.



Based on the above information, which of the following factors determined the preferred condition for the forest beetles?

(1) Type of soil
(2) Amount of water
(3) Number of predators
(4) Number of dry leaves

11. The graph below shows the change in the number of organism X in a grassland habitat over six weeks. Organism X feeds on grass.



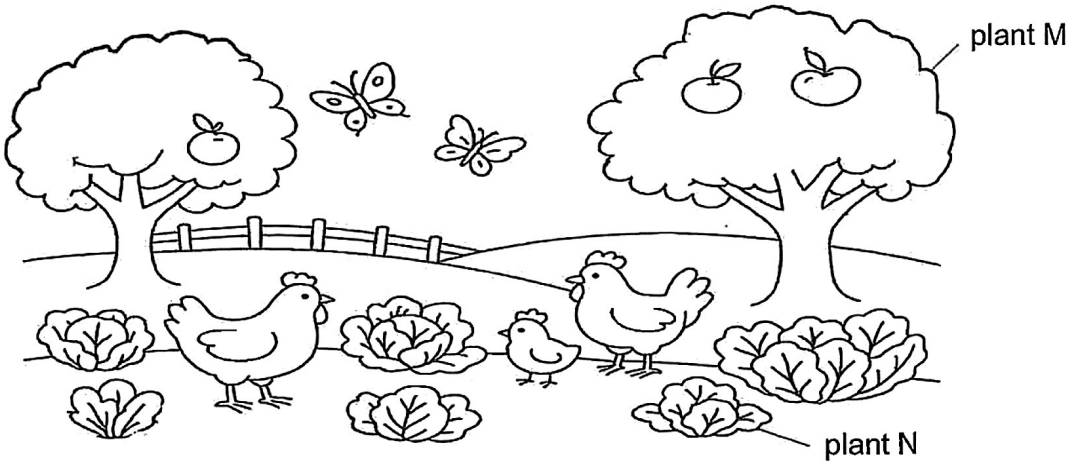
Based on the information, which of the following could have most likely caused the change in the population of organism X from week 3 onwards?

(1) More holes were dug by the organism X for shelter.
(2) A population of animal eaters was introduced into the habitat.
(3) The weather became warmer, allowing the grass to grow faster.
(4) More organism X moved into the grassland habitat from week 3 onwards.

12. Which of the following represents a community?

(1) A lion sleeping under a tree
(2) A group of zebras drinking water near a river
(3) Six elephants eating pieces of sugar canes in a field
(4) Two birds, three spiders and several trees living in a forest

13. The diagram shows the organisms living together in a place.



The food chain shows the feeding relationship among some organisms in the place.

plant N ⟶ caterpillar ⟶ chicken

It was observed that plants N were rapidly being destroyed by the caterpillars. Chemical T was used to spray on the plants to get rid of the caterpillars for the next three months.

Based on the above information, which of the following statements are most likely to be correct?

A The population of plant N would increase.

B The number of fruits of plant M would increase.

C The population of the chickens would decrease.

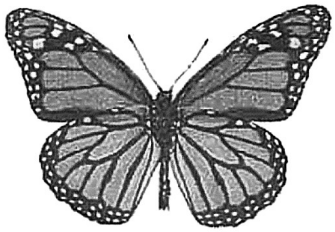
(1) A and B only

(2) A and C only

(3) B and C only

(4) A, B and C

14. The diagram shows two different organisms, X and Y. Organism X is a brightly coloured insect that tastes very bitter and is avoided by predators. Organism Y has similar bright colours as X but does not taste bitter.



Organism X

Organism Y

Based on the information, which of the following best explains how looking like organism X helps organism Y in its survival?

(1) Organism Y will have less predators.

(2) Organism Y will fly as fast as organism X.

(3) Organism Y can feed on the young of organism X.

(4) Organism Y can eat the same type of food as organism X.

15. The amount of greenhouse gases released into the atmosphere increased over the years.

Which of the following is **least likely** to be a reason for the increase in the amount of greenhouse gases?

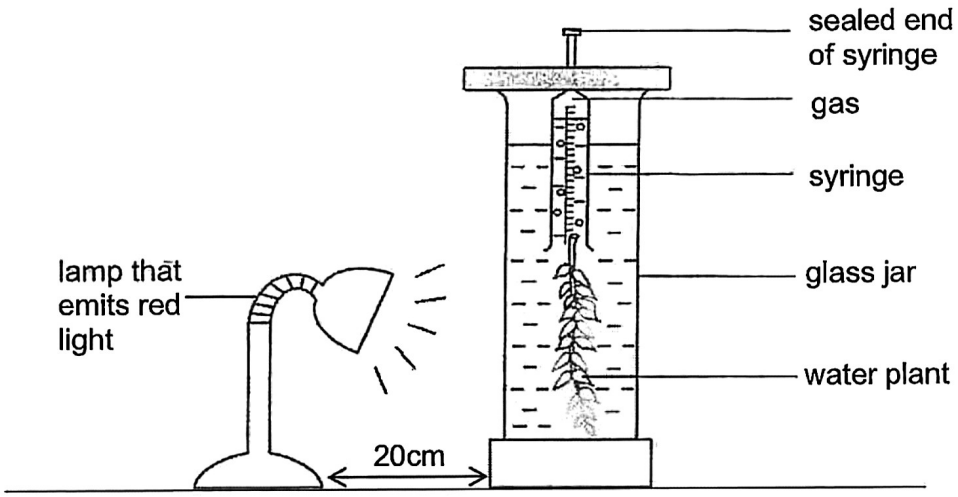
(1) Increase in the number of cars on the road

(2) Increase in the number of ships on the sea

(3) Increase in the use of fossil fuels to generate electricity

(4) Increase in the use of renewable sources of energy to generate electricity

16. Betty set up an experiment in a dark room.

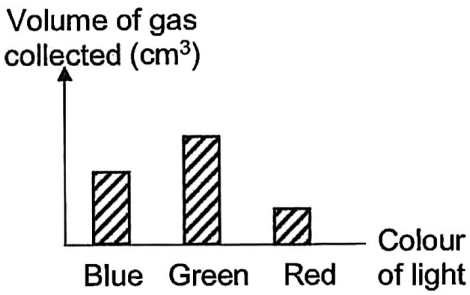


After one hour, she recorded the volume of gas collected in the syringe as shown above. She repeated the experiment by using lamps that emit blue and green light, respectively.

Based on her results, she concluded that red light is most effective for photosynthesis while green light is least effective.

Which of the following most likely shows the result of her experiment?

(1)



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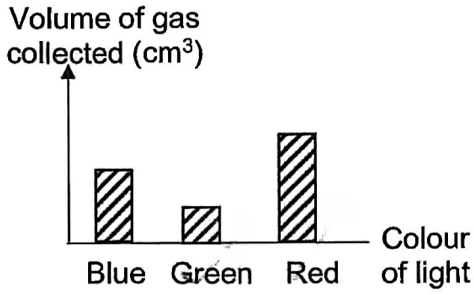

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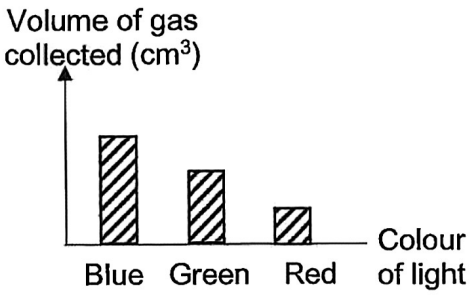
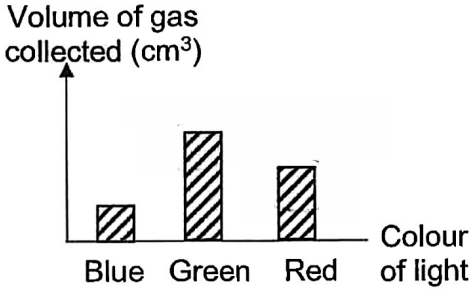
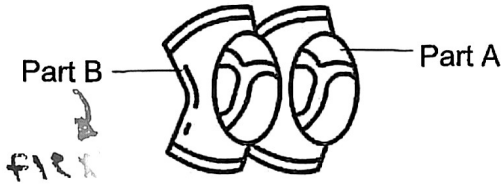


(4)



17. The diagram shows a pair of knee pads used to protect the knees during cycling. Part A of the knee pad protects the knee from being grazed by rough and hard surfaces while part B is worn around the knee to keep part A in place.



Which of the following properties of materials should parts A and B have?

	Part A	Part B
(1)	Strong	Sink in water
(2)	Strong	Flexible
(3)	Flexible	Sink in water
(4)	Flexible	Strong

18. The diagrams below show two ways tea can be served.

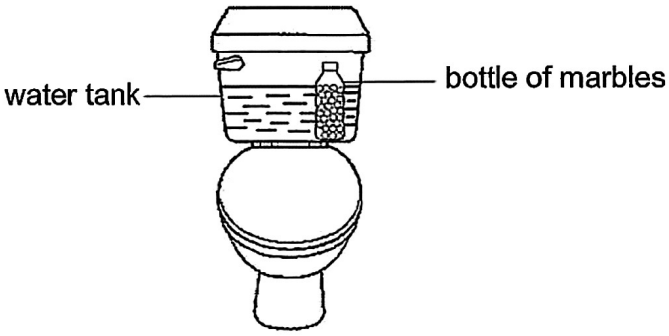

tea in a plastic bag


tea in a cup

Which property of liquid does the diagrams show?

(1) It has mass.
(2) It has a fixed volume.
(3) It can be compressed.
(4) It does not have a fixed shape.

19. The diagram shows a toilet bowl. Water fills the water tank to a fixed level after each flush. A bottle of marbles is placed in the water tank to help conserve water.



Less water is needed to flush the toilet when the bottle is in the water tank because

_____.

A water does not have a fixed shape.

B the bottle of marbles has a fixed shape.

C the bottle of marbles occupies space in the water tank.

(1) A only

(2) C only

(3) A and B only

(4) A, B and C

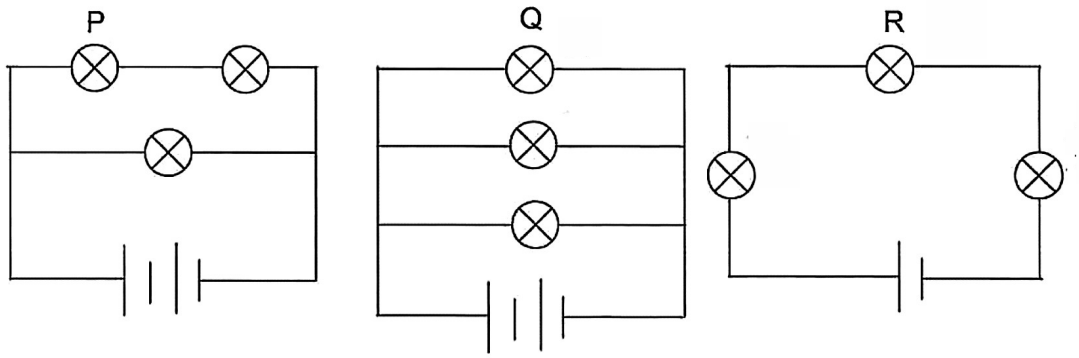
20. The table shows the melting and boiling points of two substances, A and B.

Substance	Melting point (°C)	Boiling point (°C)
A	56	123
B	100	330

Which of the following is the most suitable temperature for both substances A and B to be stored as liquids?

(1) 25°C
(2) 110°C
(3) 155°C
(4) 300°C

21. Three circuits are set up using identical bulbs and batteries as shown below.

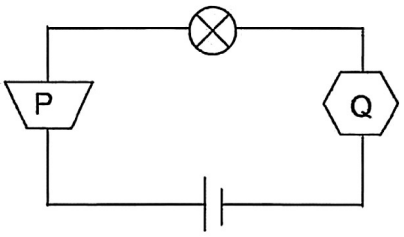


Which of the following shows the correct arrangement of bulbs, P, Q and R, in order of brightness, starting with the dimmest bulb?

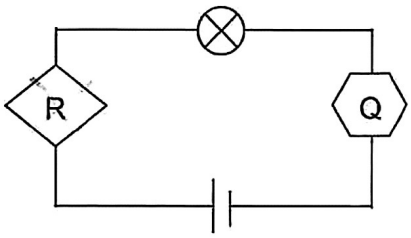
	Dimmest → Brightest		
(1)	P	Q	R
(2)	Q	P	R
(3)	R	P	
(4)	R	Q	P

22. A bulb, a battery and objects P, Q and R were used in the two circuits below. The three objects were made of different materials.

Bulb lit up



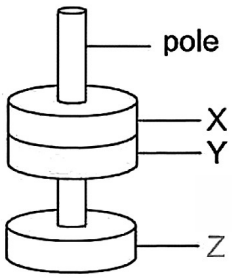
Bulb did not light up



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

	P	Q	R
(1)	Nickel	Glass	Aluminium
(2)	Aluminium	Plastic	Plastic
(3)	Aluminium	Nickel	Glass
(4)	Plastic	Nickel	Glass

23. The diagram below shows three rings X, Y and Z arranged on a pole. One of the rings is copper and the other two rings are magnets.



Based on the information, which of the following statement(s) is/are correct?

A X and Y are attracted to each other.

B X is made of non-magnetic material.

C Like poles of Y and Z are facing each other.

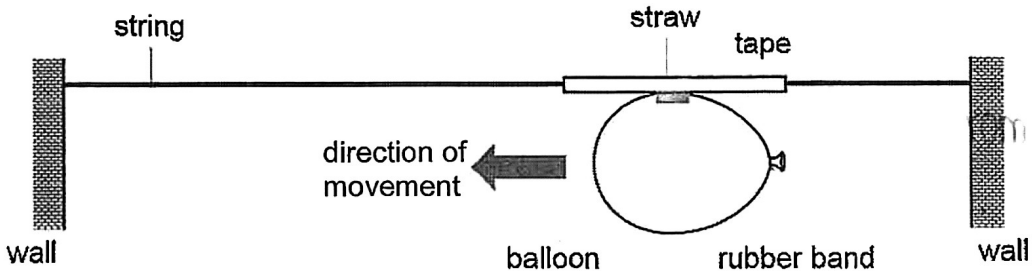
(1) B only

(2) C only

(3) A and B only

(4) B and C only

24. A string was passed through a straw. A balloon was then taped to the straw as shown below.



When the rubber band was removed, the balloon and the straw moved together in the direction as shown in the diagram.

Which of the following correctly explains this observation?

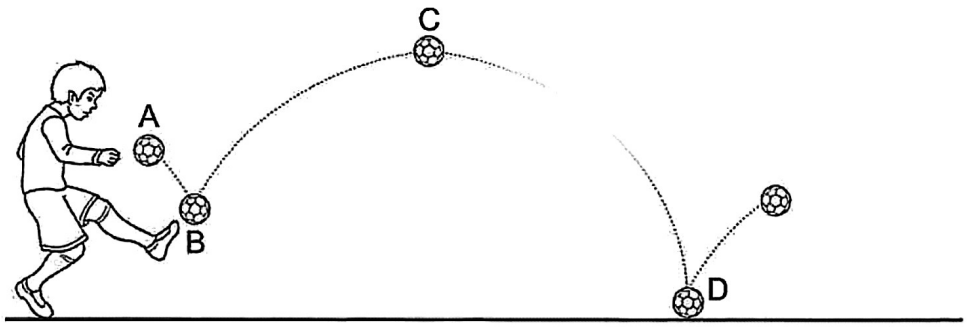
(1) There was no frictional force between the balloon and the air.

(2) There was no frictional force between the string and the straw.

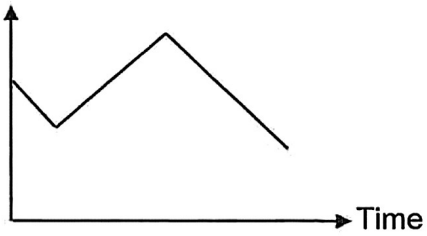
(3) The force of the air rushing out of the balloon was greater than the gravitational force acting on the balloon.

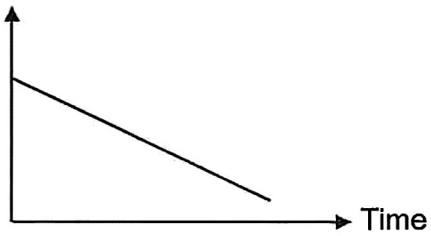
(4) The force of the air rushing out of the balloon was greater than the frictional force between the straw and string.

25. A boy released a ball from his hands and kicked the ball up into the air as shown in the diagram below.



Which of the following shows the amount of gravitational force acting on the ball as the ball moves from points A to D?

(1)


(2)


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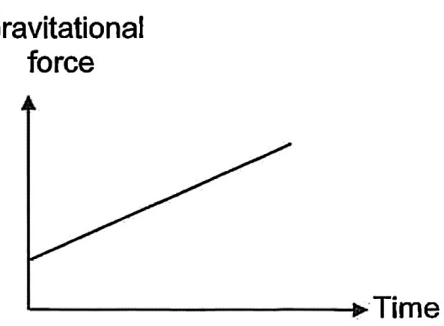

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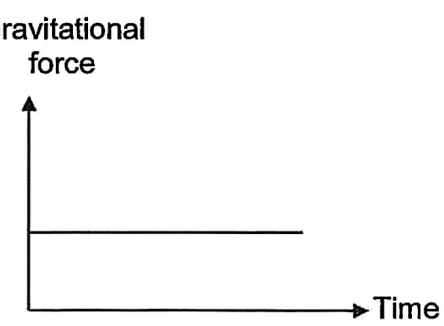
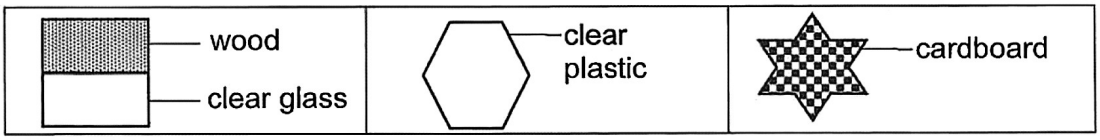
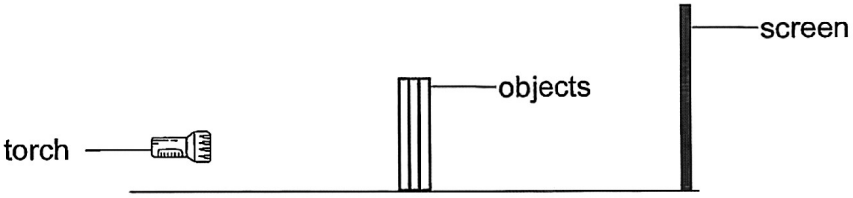


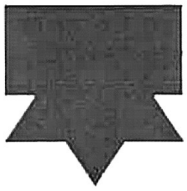
26. The diagrams show three objects of identical height and width. They are of different shapes and made of different materials.

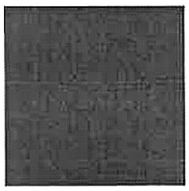


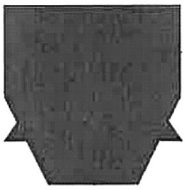
The three objects were glued together and placed between a torch and a screen as shown.

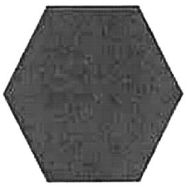


Which of the following shows the correct shadow on the screen?

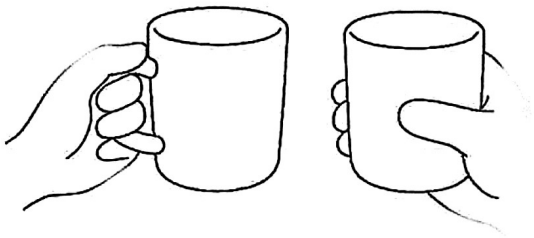
(1) 

(2) 

(3) 

(4) 

27. Amanda poured equal amount of hot tea into cups A and B, that were made of the same material.



Cup A **Cup B**

Which of the following best explains why Amanda could hold cup A for a longer time without her hands feeling hot?

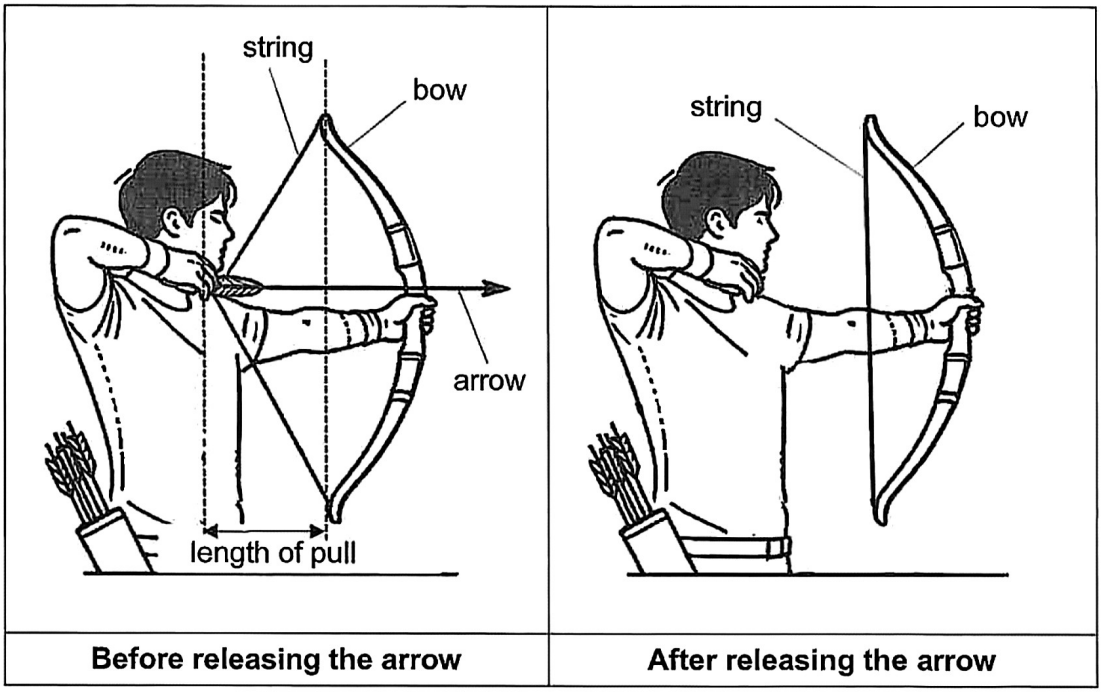
(1) Cup A is poorer conductor of heat than cup B.

(2) Cup B is a better conductor of heat than cup A.

(3) The distance of her hand from the hot tea is greater in cup A.

(4) The coldness from her hands transferred to the hot tea faster in cup B.

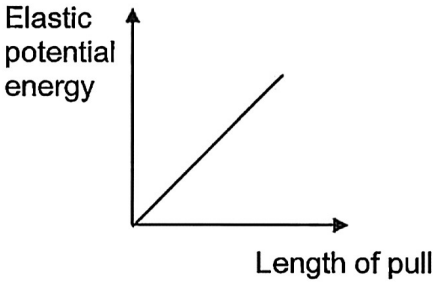
28. The diagrams show a man holding a bow and arrow, just before and after releasing the arrow respectively.



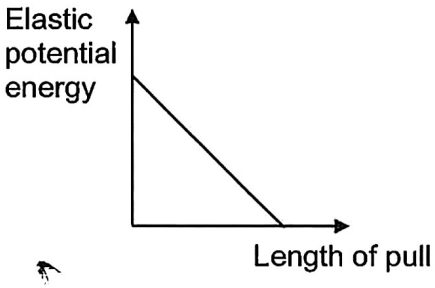
Before releasing the arrow	After releasing the arrow

Based on the information, which of the following graphs shows the relationship between the length of his pull and the elastic potential energy possessed by the string just before he released the arrow?

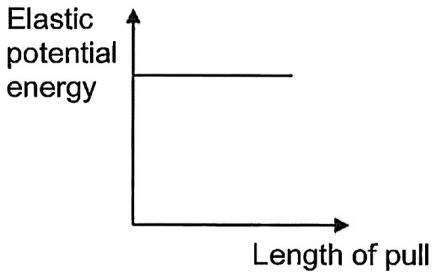
(1)



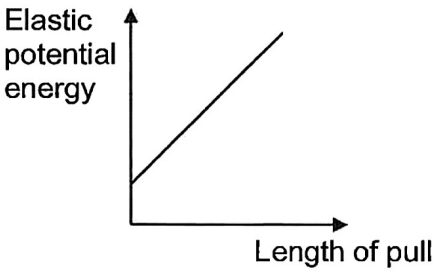
(2)



(3)



(4)



RAFFLES GIRLS' PRIMARY SCHOOL
PRELIMINARY EXAMINATION
PRIMARY SIX
2025

SCIENCE
(BOOKLET B)

Name: _____ ( ) **Date : 26 August 2025**

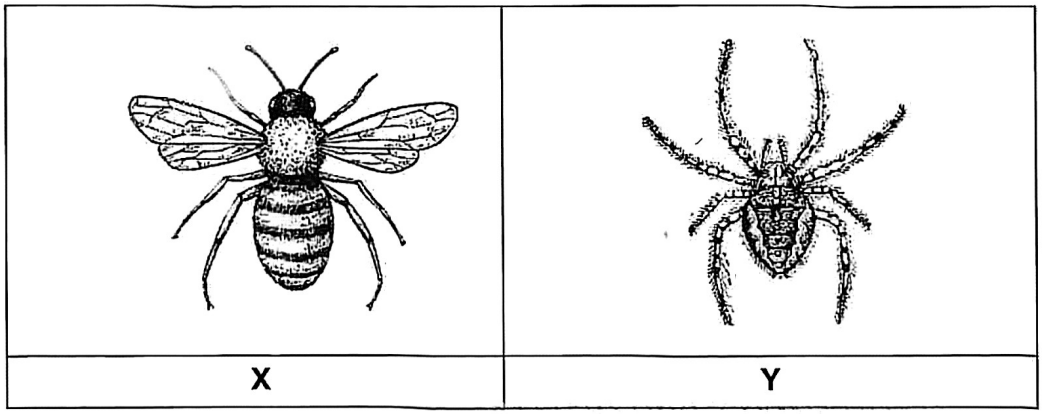
Class: P6 _____ **Total Time : 1h 45min**

INSTRUCTIONS TO CANDIDATES

1. Write your name, class and index number in the spaces provided above.
2. Do not turn over this page until you are told to do so.
3. Follow all instructions carefully.
4. Answer all questions.
5. For questions 29 – 41, write your answers clearly in the spaces provided.
6. The number of marks is shown in brackets[ ] at the end of each question or part question.

Score	/ 44

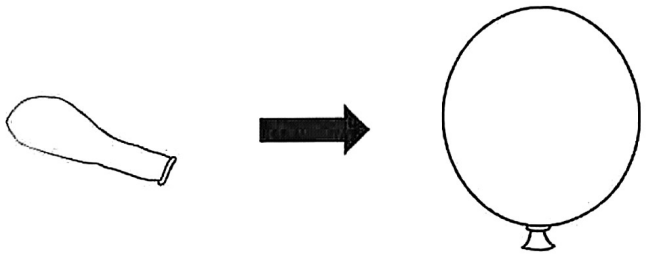
29. The diagram shows two animals.



X	Y

(a) Which animal, X or Y, is an insect? State two characteristics of the identified animal that show that it is an insect. [2]

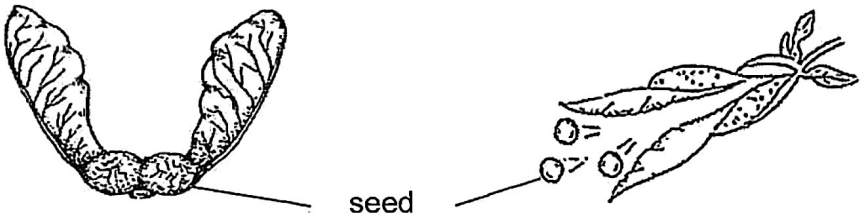
The diagram shows a balloon before and after it was inflated.



(b) Joshua commented that the balloon is a living thing as it grew. Do you agree? Give a reason for your answer. [1]

Score	3

30. The diagrams below show the fruits of plants X and Y.



Fruit of plant X **Fruit of plant Y**

(a) Identify the method of dispersal for the fruits of plants X and Y. [1]

(i) Fruit of plant X : By _____

(ii) Fruit of plant Y : By _____

(b) State a characteristic of the fruit of plant X that helps in its seed dispersal. [1]

_____

_____

(c) State one advantage and one disadvantage of the method of seed dispersal of the fruit of plant Y as compared to the fruit of plant X. [2]

(i) Advantage :

_____

_____

(ii) Disadvantage :

_____

_____

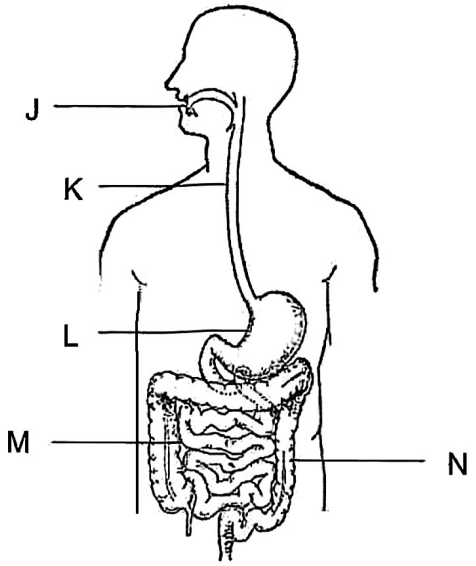
Score	4

31. (a) State what is digestion. [1]

_____

_____

The diagram shows the human digestive system.



(b) State the part(s) which carry out the following functions by writing the letters, J, K, L, M and/or N in the boxes provided. [2]

	Function	Part(s)
(i)	Absorbs water from undigested food.	
(ii)	Breaks food into smaller pieces.	

Score	/ 3

Blank Page

32. The food chain shows the feeding relationship among some organisms in the sea.

aquatic plant → small fish → large fish → sea eagle

A factory nearby releases chemical M which is absorbed by aquatic plants in the sea.

The graph below shows the relationship between the amount of chemical M in the sea and the percentage of sea eagle eggs that hatched successfully.

Based on the information, answer the following questions.

(a) State the relationship between the amount of chemical M in the sea and the percentage of sea eagle eggs successfully hatched. [1]

_____

_____

Continue on page 27

Score 1

Continued from page 26

(b) Explain how chemical M enters the body of a sea eagle. [1]

_____

_____

(c) The sea eagle lays only one or two eggs at a time.
Explain how continuously releasing chemical M into the sea could affect the sea eagle population over time. [2]

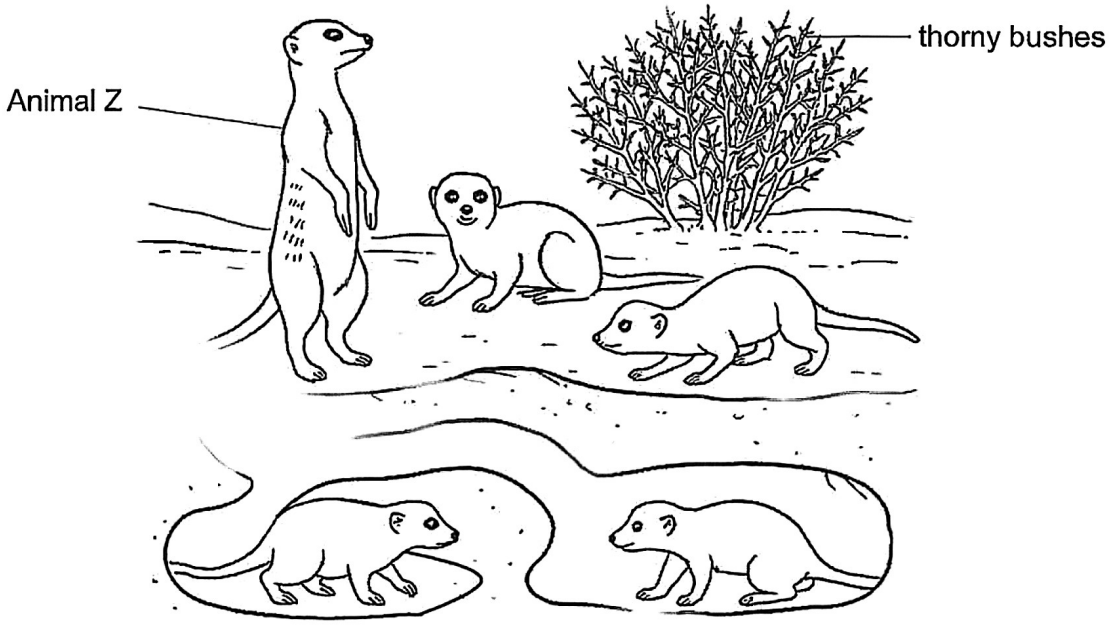
_____

_____

_____

Score	/3

33. A group of animals Z built their burrows in an open desert area. The burrows had many entrances and tunnels and were located near thorny bushes. Animals Z stand upright and puff up their fur when they take turns to stand guard while others went in search of food.



burrows

Based on the information, answer the following questions.

(a) Why do animals Z build their burrows with many entrances? [1]

_____

_____

(b) How do standing upright and puffing up their fur at the same time help to defend themselves? [1]

_____

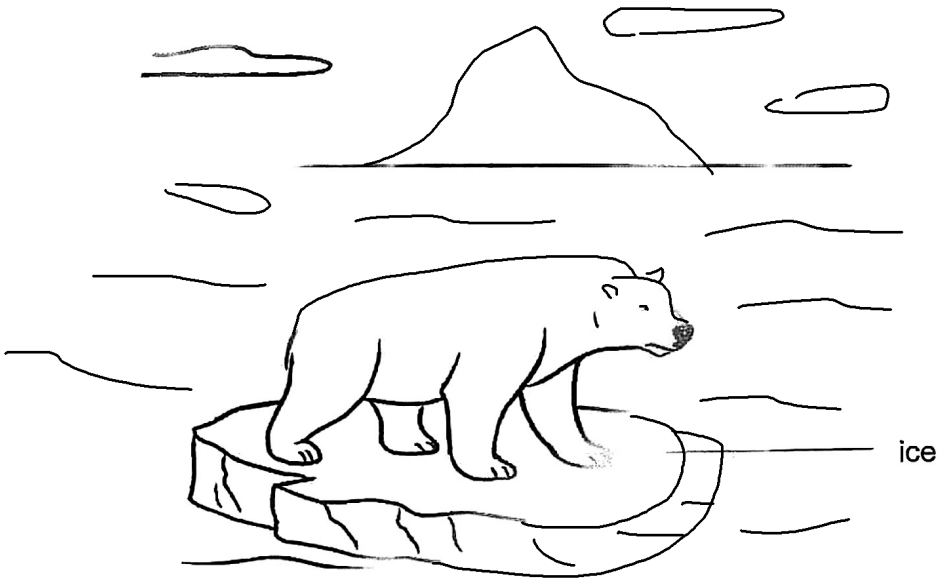
_____

Continue on page 29

Score	
	2

Continued from page 28

Polar bears can swim long distances and hunt. After some time, they need to rest on the ice. Global warming causes the temperature of the environment to rise and ice melts quicker at higher temperatures.



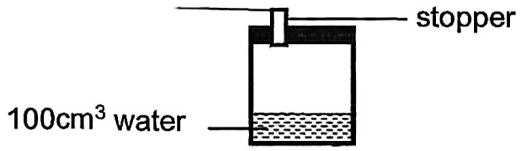
(c) Based on the information given, describe how global warming affects the survival of the polar bears. [1]

_____

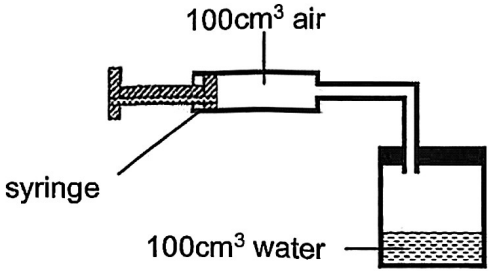
_____

Score	/ 1

34. The set-up shows 400-cm^3 container filled with 100cm^3 of water. Jason measured the mass of the set-up and recorded it.



Jason removed the stopper and pumped in 100cm^3 of air using a syringe.



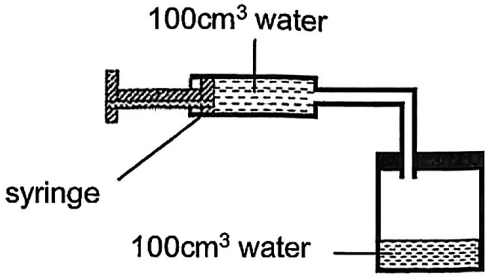
He then removed the syringe and sealed the set-up with the stopper and measured the mass of the set-up again.

(a) Will the mass of set-up increase, decrease or remain the same after 100cm^3 of air is pumped into the container? State a reason for your answer. [1]

_____

_____

Jason then pumped in another 100cm^3 of water into the same set-up.



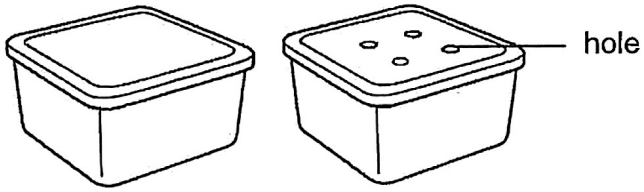
(b) What will be the final volume of the air in the container? Explain your answer. [2]

_____

_____

Score	/ 3

35. A food delivery company tested two containers to deliver hot crispy French fries. Container X was covered with a lid with no holes, while container Y was covered with a lid with holes, as shown in the diagram.



Container X **Container Y**

Each container was packed with the same amount of similar hot crispy French fries at the same time.

After fifteen minutes, it was observed that more water droplets were formed on the inner surface of the lid of container X than on the inner surface of the lid of container Y.

Based on the information, answer the following questions.

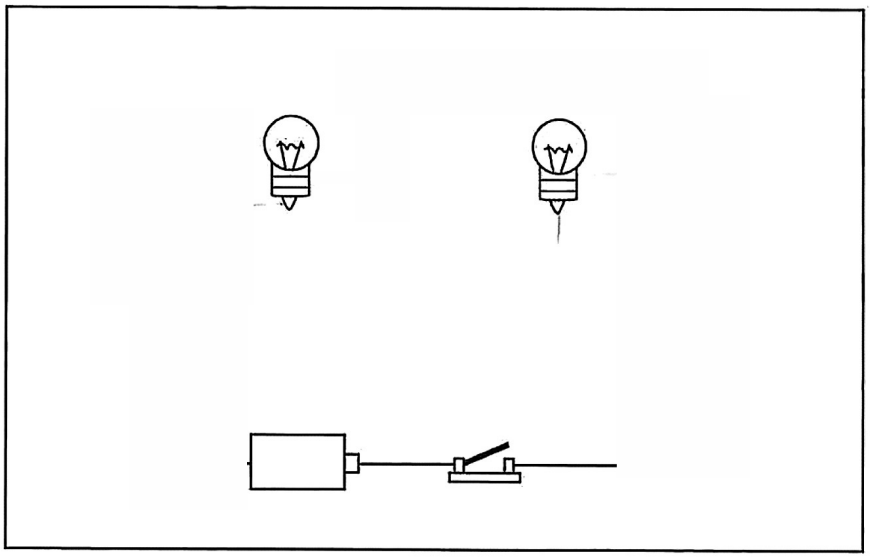
(a) Explain the difference in the amount of water droplets on inner surfaces of the lids of containers X and Y. [2]

(b) State one disadvantage of using container X to deliver the hot crispy French fries. Give a reason for your answer. [1]

Score	3

36. Michelle set up an electrical circuit with two bulbs, one battery, one switch and some wires. When she closed the switch, both bulbs lit up. After some time, she observed that one bulb was fused, while the other bulb remained lit.

(a) The diagram below shows the electrical components used in Michelle's electrical circuit. Draw wires to complete the circuit. [2]



(b) Explain why only one bulb could still remain lit after the bulb was fused. [1]

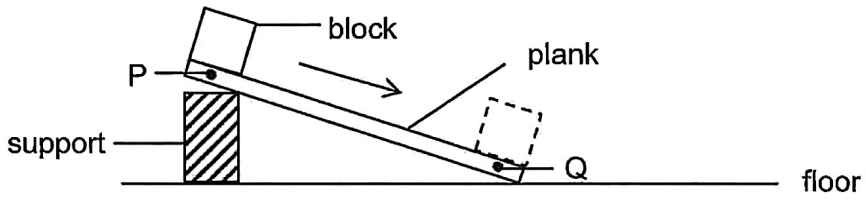
_____

_____

Score	
	3

Blank Page

37. Ally conducted an experiment on planks X, Y and Z using the set-up shown in the diagram. She released the block at the top end of the plank and measured the time taken to move down the plank from point P to point Q.



Based on her experiment results, Ally concluded that plank Y is the roughest, followed by X and then Z.

(a) Arrange planks X, Y and Z according to the time taken for the block to move down the plank. [1]

Shortest time ⟶ Longest time

☐ ☐ ☐

(b) Name the force(s) acting on the block when it is moving down the plank. [1]

_____

_____

(c) Put a tick (✓) in the correct box(es) for the variable(s) that should be kept constant to ensure a fair test. [1]

	Variables	To keep constant
(i)	Surface texture of each plank	
(ii)	Angle between the floor and the plank	
(iii)	Position of the block placed on the plank at the start	

Continue on page 35

Score ___/3

Continued from page 34

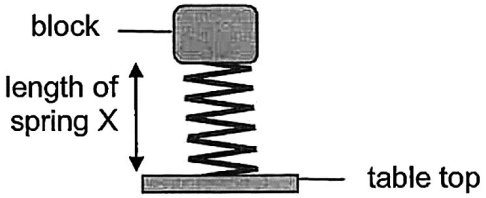
(d) Without adding or removing any materials from the set-up, suggest what Ally could do so that the block could slide down each plank more quickly. [1]

_____

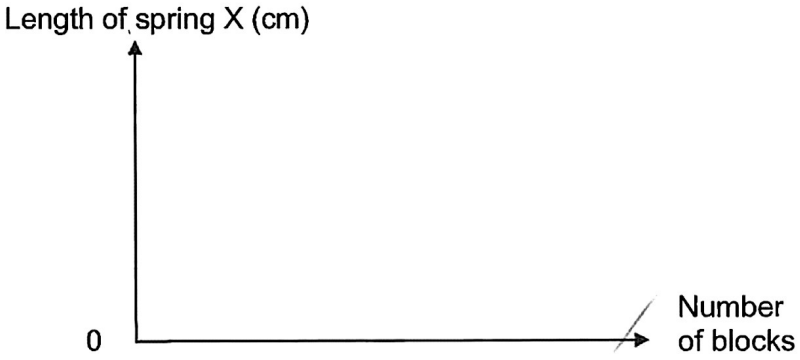
_____

Score	/ 1

38. Valerie attached one end of spring X to a table top. Then she added different number of blocks on top of the spring and measured the length of spring X.



(a) Draw a line graph below to show the relationship between the length of spring X and the number of blocks. [1]

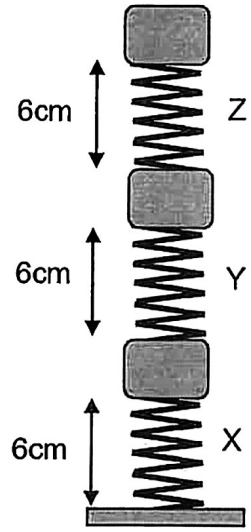


Continue on page 37

Score	
	1

Continued from page 36

Valerie added another two different springs, Y and Z, and identical blocks to the set-up. She recorded the length of each spring as shown in the diagram.

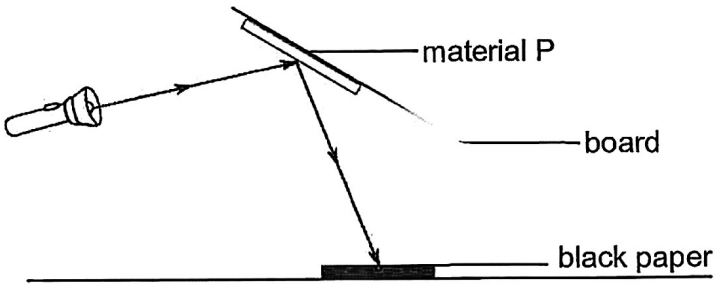


Valerie set up another experiment as shown below. She fixed one end of the spring to the wall and placed a ball at the other end of the spring. Then she pushed the ball towards the spring until the spring reached 6cm long. When she released the ball, the ball will roll towards the bell to produce a sound.

(b) Which spring, X, Y or Z, should Valerie use so that the bell will produce the loudest sound? Explain your answer in terms of force. [2]

Score 2

39. Zaki wanted to investigate which material, P, Q, R or S, is best at reflecting light. He set up his experiment in a dark room as shown in the diagram.



He shone a torch onto the material P and observed the brightness of the light reflected on the black paper.

(a) Zaki's teacher suggested using a light sensor to record the amount of light reflected by each material.

Explain how this suggestion will improve Zaki's experiment. [1]

Zaki then used a light sensor to measure the amount of light reflected by the materials and recorded his observation in the table below.

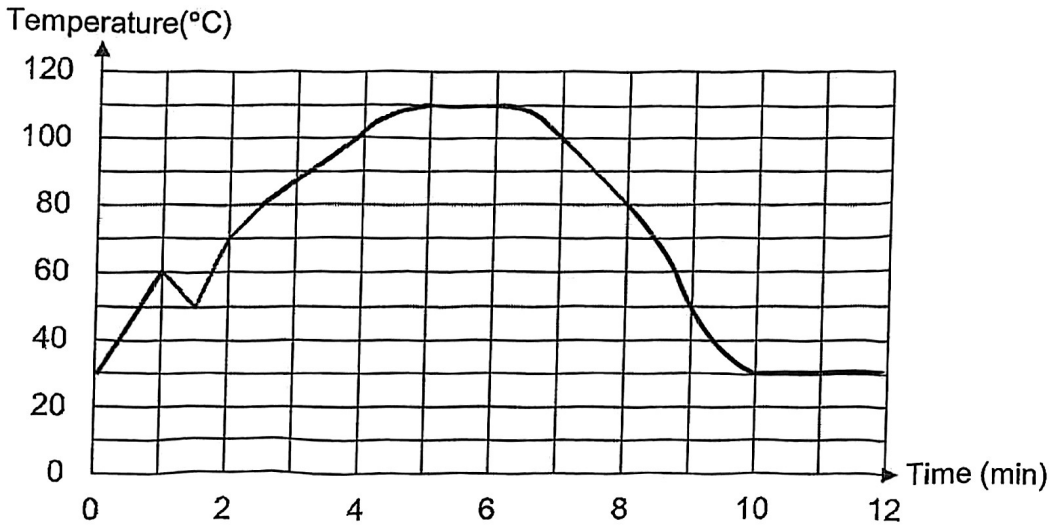
Material	P	Q	R	S
Amount of light reflected (units)	100	300	250	320

(b) Based on the results of his experiment, which material, P, Q, R or S, is most suitable to make into a vest for Zaki to wear for his night cycling activity? Explain your answer.

[2]

Score	/3

40. Siti wanted to melt chocolate. She heated up an empty metal bowl for some time before adding the solid chocolate. She stopped heating after six minutes. The graph shows the temperature changes of the bowl over a period of twelve minutes. The room temperature is 30°C.



(a) Complete the graph from ten to twelve minutes on the above graph. [1]

(b) At which point of time did Siti add the chocolate into the bowl? [1]

_____

Siti left the bowl of melted chocolate overnight on the table.
However, the next day she observed that the chocolate turned into a solid.

(c) Explain her observation. [2]

_____

_____

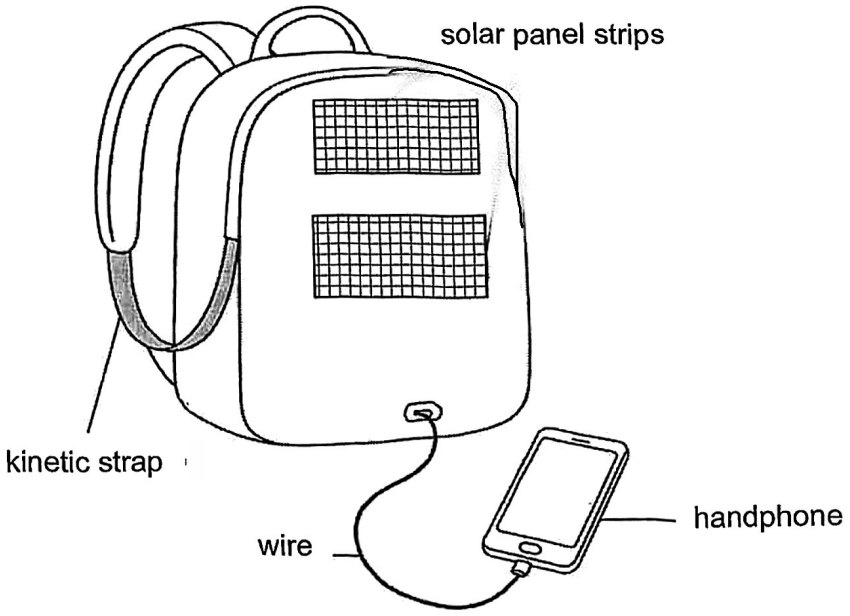
_____

Score	4

41. The diagram shows a smart backpack designed to generate electricity and store energy as the user carries it while walking.

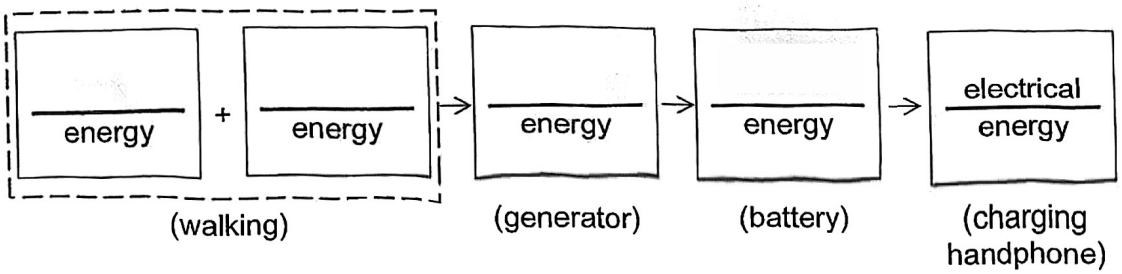
It has two features:
(i) solar panels stitched onto the surface of the backpack and
(ii) kinetic straps that move with the swaying movement of the user

The electricity generated can be used to charge devices like handphones.



Based on the information, answer the following questions.

(a) State the main energy conversion that occurs to charge the handphone from the time the user carries the bag and starts walking under the sun. [2]



Continue on page 41

Score 2

Continued from page 40

(b) Suggest one change that can be made to the backpack to increase the rate of charging of the handphone. [1]

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

END OF PAPER

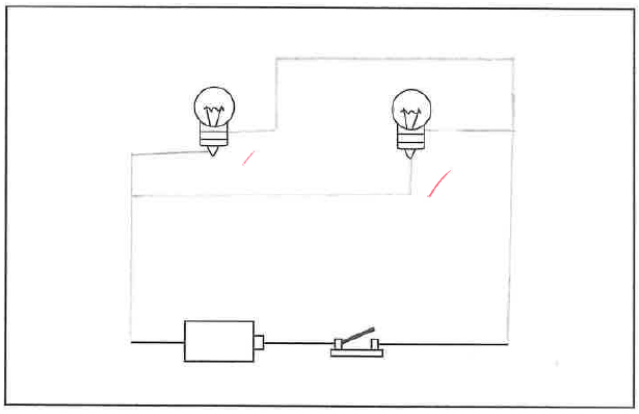
Score / 2

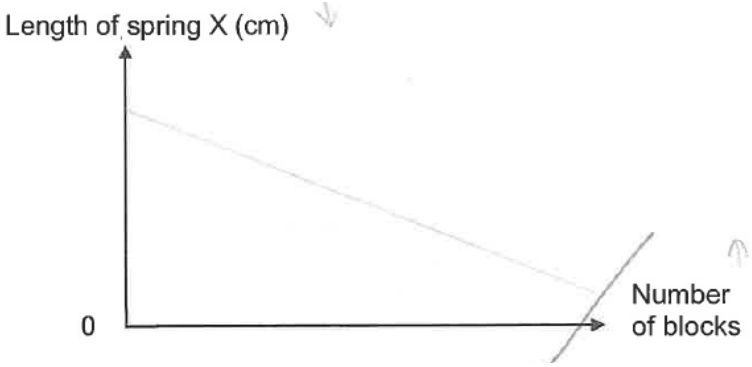
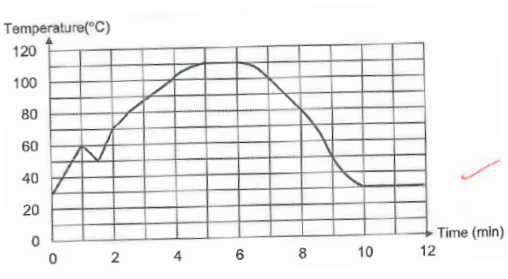
SCHOOL : RAFFLES GIRLS PRIMARY SCHOOL
LEVEL : PRIMARY 6
SUBJECT : SCIENCE
TERM : PRELIM 2025

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

PAPER 2

Q29)	a) Animal X. As anima X has 6 legs and 3 body parts. b) No.It does not need air, food and water.
Q30)	a)i)wind ii)explosive action b)It has a wing-likes structure to stay in the air for a longer period of time. c)i)The fruit of plant Y does not rely on anything to disperse its seeds.It does not require the presence of wind. ii)Fruit of Y will travel shorter distance may result in overcrowding.
Q31)	a) Digestion is the process where by food is broken down into simpler substances. b) i)N ii)J
Q32)	a) As the amount of chemical M in the sea increase, the percentage of sea eagle eggs successfully hatched decreases. b) The aquatic plant takes in chemical M through the roots, transports to the other parts of the plant. The plant in then paten by the small fish. The small fish is eaten by the big fish. The big fish his eaten by a sea eagle.

	c) The population of the sea eagle will decrease and eventually go into extinction. The continued release of they will decrease and percentage of the eggs hatched success fully. With only one or two eggs laid at a time, the chances of hatching and developing into adult to mate is further reproduced over time.
Q33)	a) So that if one entrance is blocked by one of their predators,they can escape through another to look for food. b) It helps make them look bigger to scare off their predators. c) Global warming reduces sea ice, forcing polar bears to swim longer distances without less ice to rest on. They will drown, Thus decreasing the rate of survival.
Q34)	a) The mass of the set-up would increase. As air is a matter , Hence, matter has mass and occupies spaces. b) The volume of the air in the container will be 200cm3. When additional 100cm3 water was pumped into the container the water which has definite volume occupied 200cm3 of space in the container and the air which has no definite volume will be compressed.
Q35)	a) The hot water vapour inside container X could not escape and lost heat to the cooler inner surface of the lid so more water vapour could escape through the holes, so there was less condensation taking place. b) The more water droplets formed on the lid would a rip onto the lid cause causing the hot crispy French fries to be soggy.
Q36)	a)  b)When one bulb fused, electricity can still flow through the other bulb to light up the other bulb as the other bulb was in a closed circuit.
Q37)	a) Z, X, Y b) Gravitational force, frictional force. c) ii) iii) d) Put the plank at a steeper angle.

Q38)	**a)**  **b)Spring X . X is the stiffest and exerts the most elastic spring force, when compressed to the same length as Y and Z. Therefore,spring X will exert the greatest force on the ball to hit the ball.**
Q39)	**a) Zaki will be able to measure the amount of light reflected by each material using the light sensor accurately.** **b) Materials. It reflected the most units of light. S will be able to reflect the most light into the driver S eyes so that the driver could see the cyclist most clean y in the dark.**
Q40)	**a)**  **b)1 minute** **c)The temperature of the chocolate decreases to below freezing point as the chocolate lost heat to the cooer surrounding and froze.**
Q41)	**a) Kinetic energy + light energy →electrical energy →chemical potential energy** **b) Add more solar panel strips.** **c) More solar panels increase the amount of light energy absorbed and converts it to more electrical energy at the generator, which is then converted to more electrical energy to charge then and phone faster.**

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