CATHOLIC HIGH SCHOOL

PRELIMINARY EXAMINATION 2026

PRIMARY SIX

SCIENCE

BOOKLET A

Name: _____ ( )

Class: Primary 6 - _____

Date: 25 August 2026

30 questions

60 marks

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

INSTRUCTIONS TO CANDIDATES

Do not turn over this page until you are told to do so.
Follow all instructions carefully.
Answer all questions.
Shade your answers in the Optical Answer Sheet (OAS) provided.

This booklet consists of 20 printed pages, excluding the cover page.

Booklet A (30 × 2 marks)

For each question from 1 to 30, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). Shade your answer on the Optical Answer Sheet. (60 marks)

1 Which characteristic helps determine whether an animal is a reptile or a mammal?

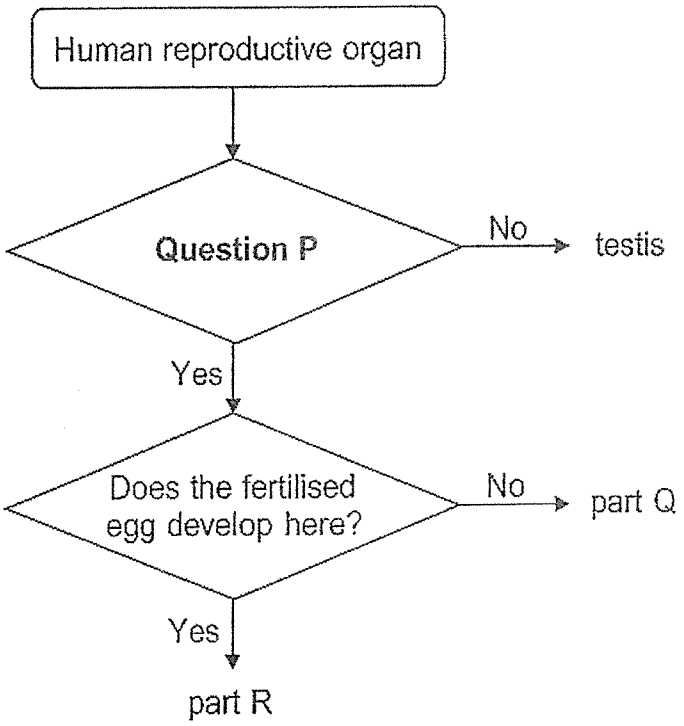
(1) number of legs

(2) place they live in

(3) type of body covering

(4) method of reproduction

2 Study the diagram.



Which row is correct?

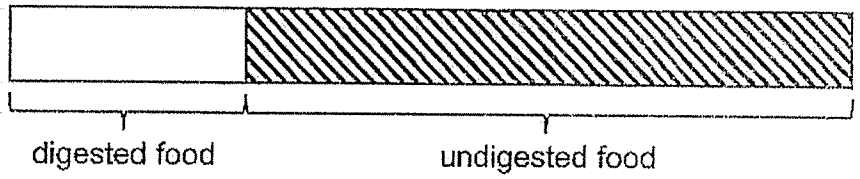
	Question P	Part Q	Part R
(1)	Is it found in males?	vagina	ovary
(2)	Is it found in males?	penis	womb
(3)	Is it found in females?	womb	vagina
(4)	Is it found in females?	ovary	womb

3 Which statements about plant parts and their functions are correct?

A The stem keeps the plant upright.
B The roots hold the plant firmly to the ground.
C The roots take in food and water from the soil.
D The leaves help the plant in the exchange of gases.

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

4 The diagram represents the composition of digested and undigested food that has just entered the stomach.

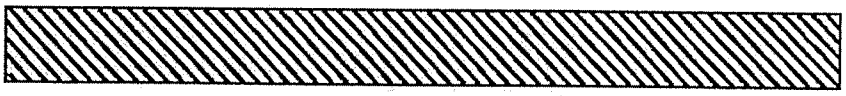


Which diagram most likely represents the correct composition of digested and undigested food that has just entered the large intestine?

(1)


(2)


(3)


(4)


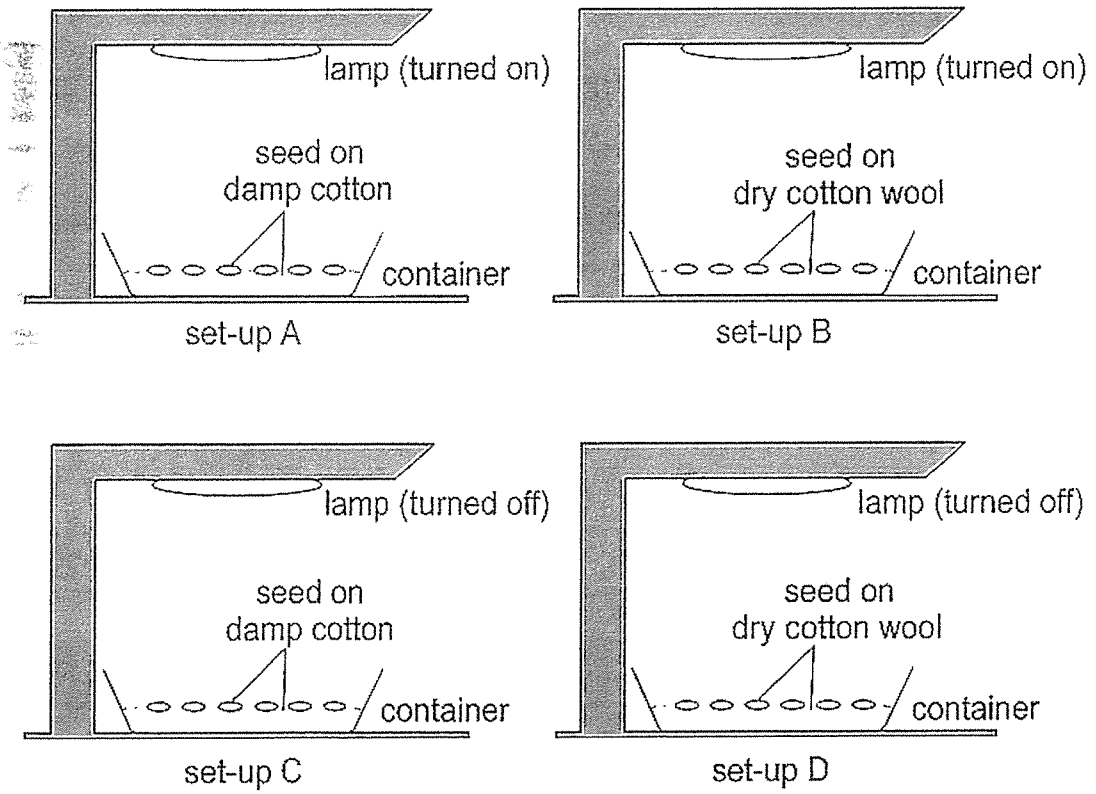
5 Which statement(s) is/are **correct** about a cockroach and a mealworm beetle?

[1m]

A Their young do not have wings.
B Their young look like the adults.
C They have four stages in their life cycles.

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

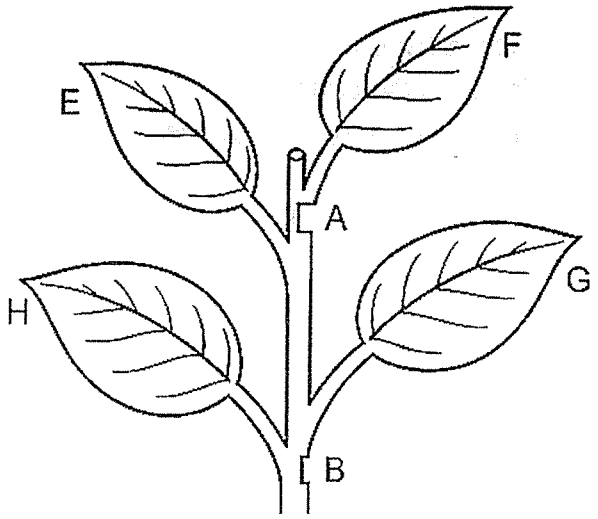
6 Leng Leng wanted to investigate if warmth affects seed germination. She placed two of the set-ups in a dark room. [1m]



Which two set-ups should she use? [1m]

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

7 Two rings, A and B, of different thickness were removed from the stem of a plant as shown.



The plant was left under the Sun for a week before the leaves, E, F, G and H, were plucked to be tested for the presence of starch.

It was observed that there was no change in colour of the Iodine solution on leaf F only.

Which row correctly describes the parts of the plant transport system that were removed at A and B?

	A	B
(1)	water carrying tubes	water carrying tubes
(2)	water and food carrying tubes	food carrying tubes
(3)	food carrying tubes	water and food carrying tubes
(4)	food carrying tubes	food carrying tubes

8 Which is **not** needed for photosynthesis to take place?

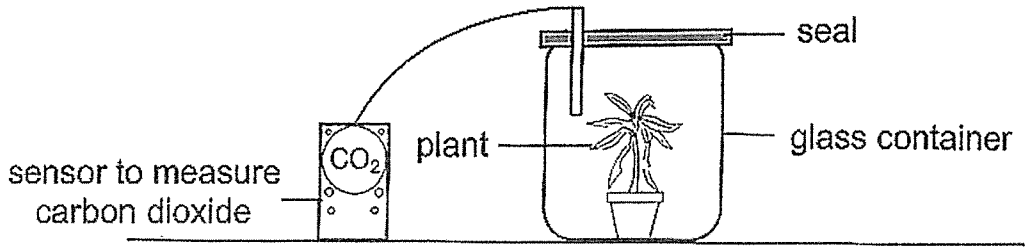
(1) water

(2) sugar

(3) chlorophyll

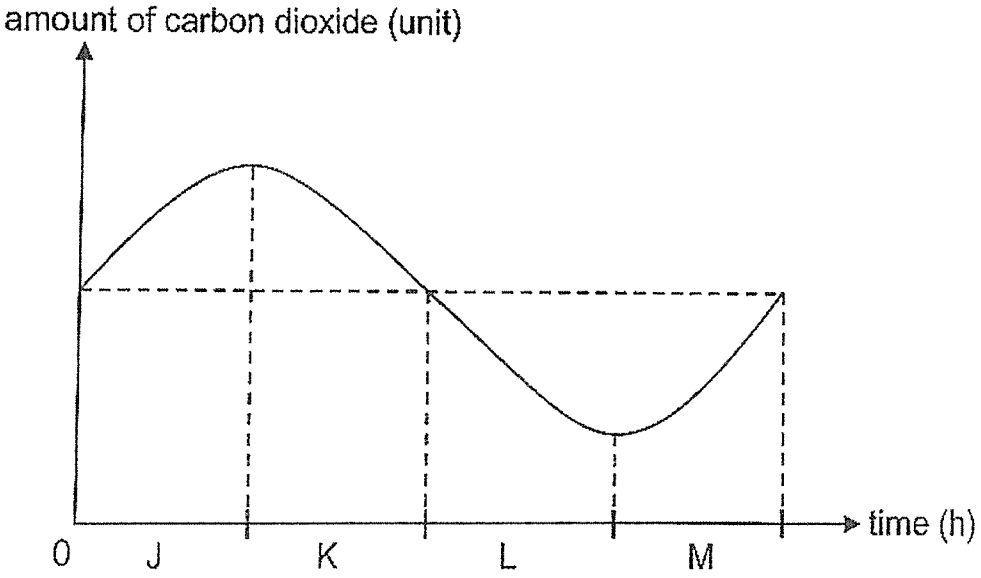
(4) carbon dioxide

9 Siti placed a potted plant in a sealed glass container as shown.



She left the set-up in a well-lit area of a garden and recorded the amount of carbon dioxide in the container over 24 hours.

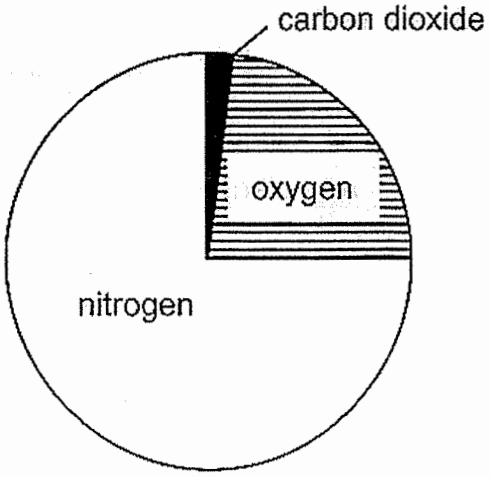
The results collected are plotted in the graph as shown.



In which time periods do these processes take place?

	Photosynthesis	Respiration
(1)	J and K	L and M
(2)	K and L	J and M
(3)	K and L	J, K, L and M
(4)	L and M	J, K, L and M

10 The diagram represents the composition of gases in the air inhaled by a child.

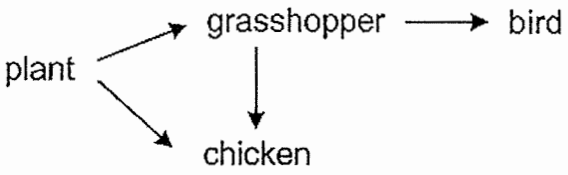


Which statement(s) is/are correct about the composition of gases in an enclosed room where a group of children are at rest after six hours?

A amount of oxygen increases.
B amount of carbon dioxide increases.
C amount of nitrogen remains the same.

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

11 The food web shows the flow of energy involving the organisms as shown.

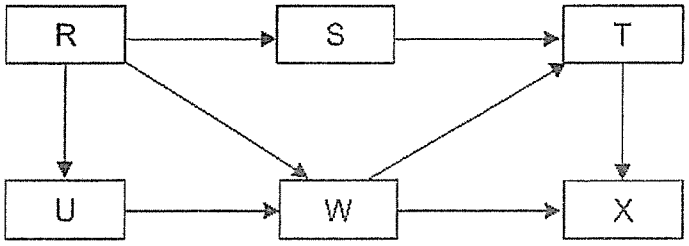


Which statement is correct?

(1) The energy from the Sun is passed on indirectly to the bird.
(2) The main source of energy for all the organisms is the plant.
(3) The plant gets its energy from the grasshopper and the chicken.
(4) The chicken gets its energy from only the grasshopper that it eats directly.

Use the information below to answer questions 12 and 13.

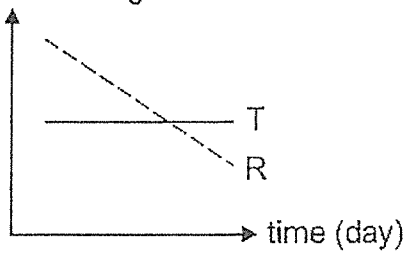
Study the food web.

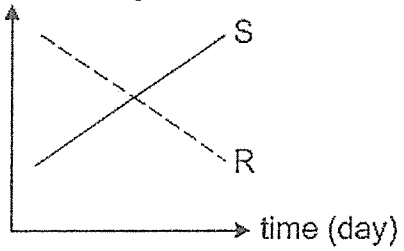


12 Which row is correct?

	Producer	Plant-eater only	Both prey and predator
(1)	U	S	T, X
(2)	X	T, W	S, U
(3)	R	S, U	T, W
(4)	R	S, U, W	T, X

13 Which graph correctly shows the relationship between the organisms when the population of R decreases?

(1)


(2)


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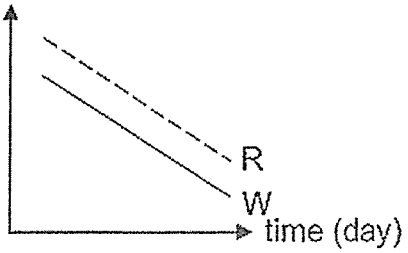

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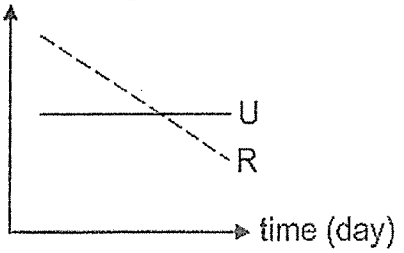
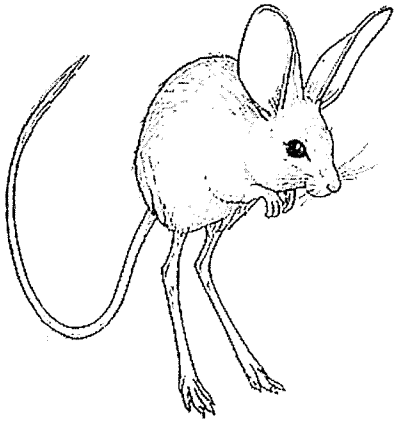


14 Animal Z lives in the desert. It has large ears for detecting sounds, stiff hairs on the soles of its feet to move on hot sand and long hind legs for hopping. It stays underground in the day and hunts at night when it is cooler.



Based on the information given, four pupils made the following statements about animal Z.

Pupil	Feature	Type of adaptation
Ali	hunts at night	structural
Bala	moves by hopping	behavioural
Chen	stiff hairs on the soles of its feet	structural
David	large ears with sensitive hearing	behavioural

Which pupil made the **correct** statement?

(1) Ali and Chen only

(2) Bala and Chen only

(3) Ali, Bala and Chen only

(4) Bala, Chen and David only

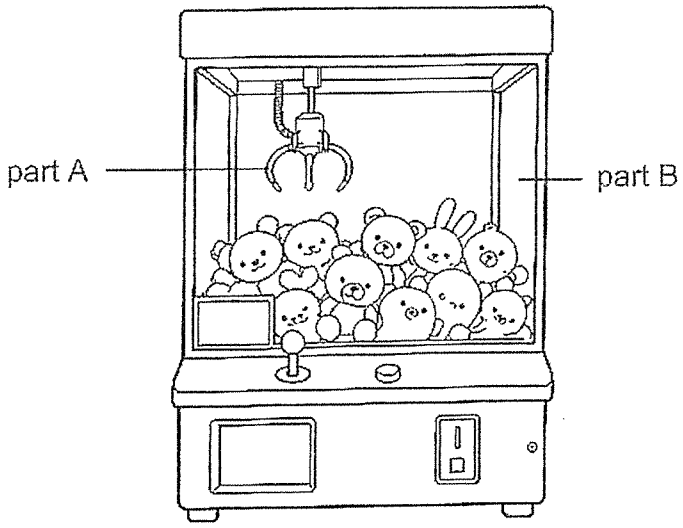
15 Polar bears live in the northern polar region and depend on sea ice to hunt seals. In recent years, more polar bears have been found entering human communities.

Based on the information given, which statements are most likely to explain these observations?

A Less sea ice is forming in the northern polar region.
B Polar bears are searching for alternative food sources.
C Hunting seals on sea ice has become easier for polar bears.
D Polar bears are moving into human communities as they are adapting to warmer temperatures.

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

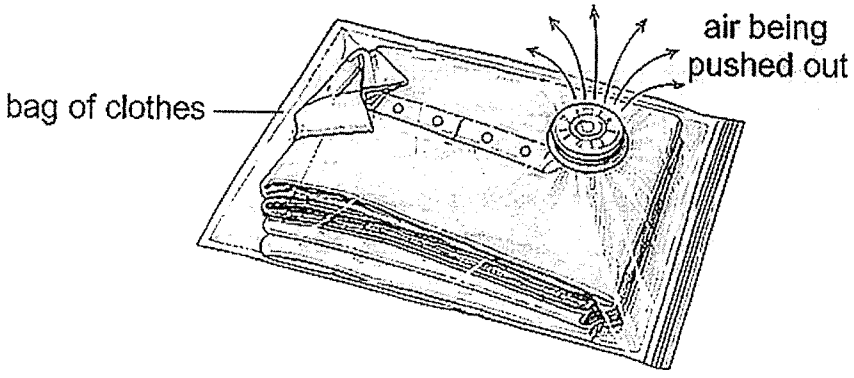
16 The diagram shows a claw machine.



What properties are most important for parts A and B to allow the toys to be seen and picked up?

	Part A	Part B
(1)	strong	transparent
(2)	strong	waterproof
(3)	flexible	waterproof
(4)	flexible	opaque

17 Layla packed some clothes into a bag and removed most of the air from it.



What change(s) took place?

A mass of clothes in the bag decreased
B volume of the bag remained the same
C volume of air inside the bag decreased
D mass of air in the bag remained the same

(1) B only

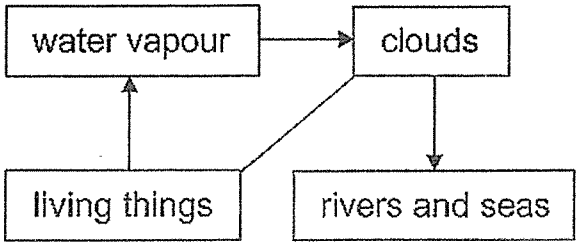
(2) C only

(3) A and C only

(4) B and D only

18 Which diagram correctly shows how living things play a part in the water cycle?

(1)



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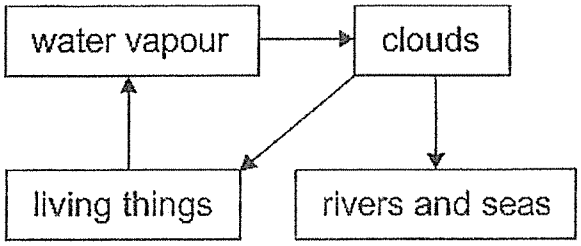

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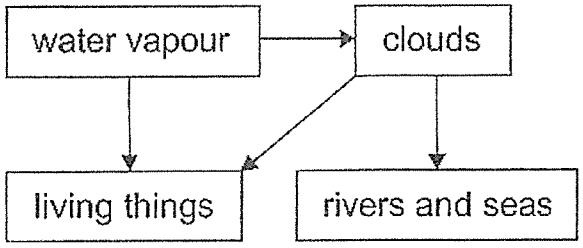
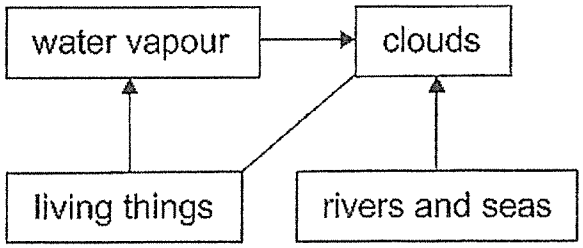
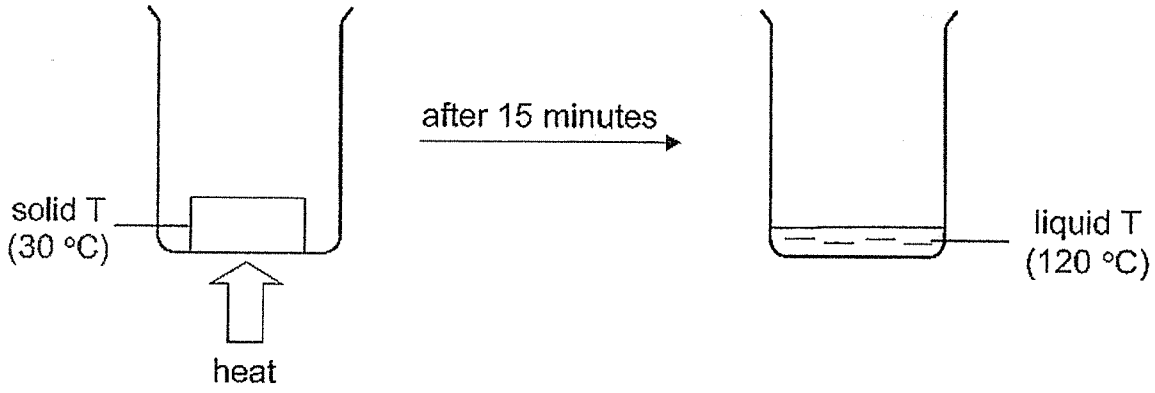


(4)



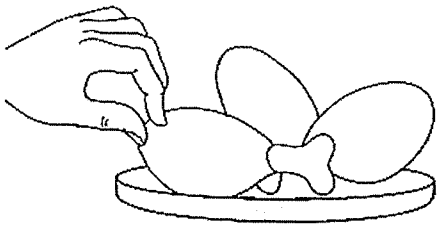
19 Jenny conducted an experiment by heating substance T. At the start, the substance was a solid at 30 °C. After 15 minutes of heating, it reached a temperature of 120 °C as shown.



Which now is possible?

	Melting point of T (°C)	Boiling point of T (°C)
(1)	25	120
(2)	35	110
(3)	80	140
(4)	125	150

20 Michael used his hand to pick up a piece of fried chicken that has just been fried as shown.

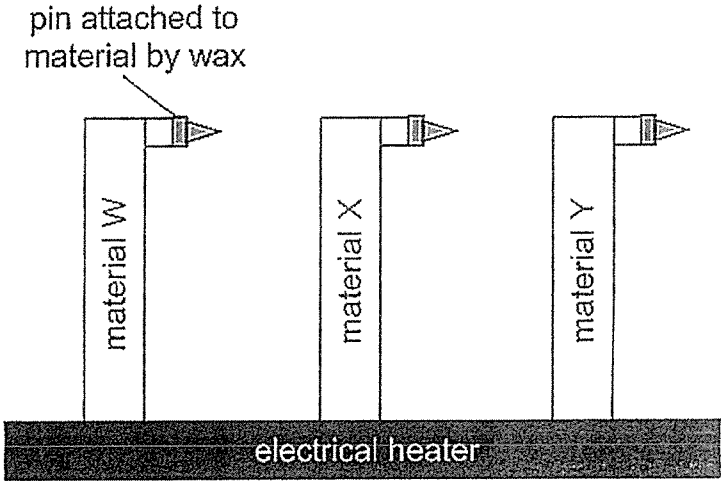


Which row correctly explains the heat flow?

	Chicken	Hand
(1)	gained heat from hand	gained heat from chicken
(2)	gained heat from hand	lost heat to chicken
(3)	lost heat to hand	lost heat to chicken
(4)	lost heat to hand	gained heat from chicken

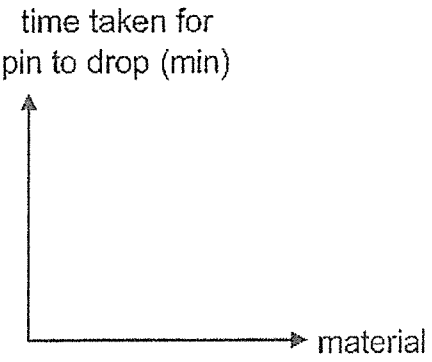
Use the information below to answer questions 21 and 22.

Ahmad set up an experiment as shown to find out how fast heat is conducted by three different materials, W, X and Y.



21 Which graph could use to record the results of his experiment?

(1)



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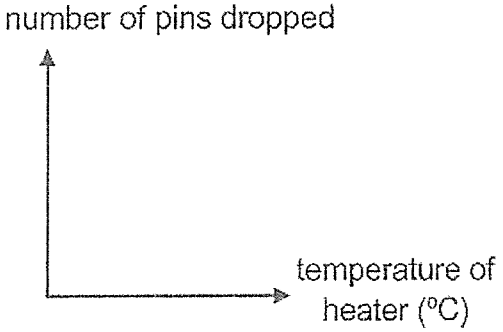

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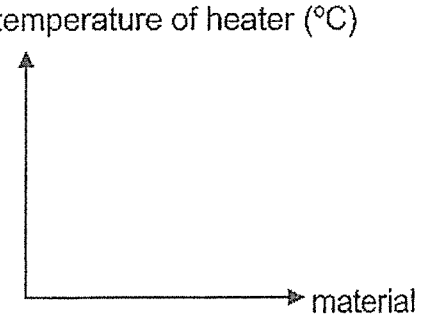

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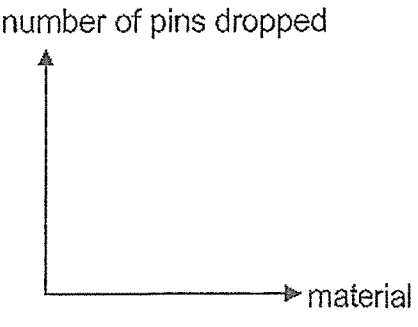
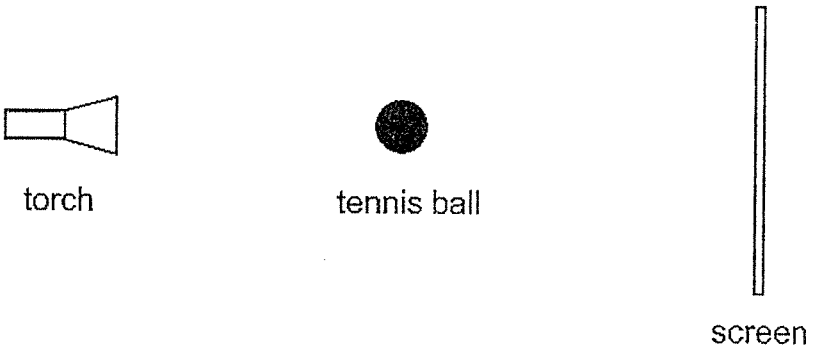


22 Which row shows the correct forms of energy in the various objects as the pins drop?

	Electrical heater	Material	Wax	Pin
(1)	electrical energy	heat energy	potential energy	kinetic energy
(2)	electrical energy	potential energy	heat energy	potential energy
(3)	heat energy	heat energy	heat energy	kinetic energy
(4)	heat energy	heat energy	potential energy	potential energy

23 Celine carried out an experiment with a torch, a tennis ball and a screen as shown.



Which action made correctly matches her observation?

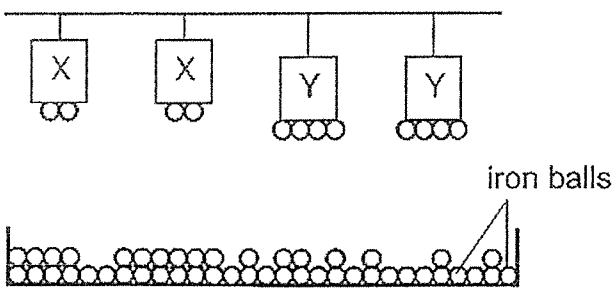
	Action	Observation
(1)	moved tennis ball closer to torch	size of shadow of tennis ball decreases
(2)	moved tennis ball closer to screen	size of shadow of tennis ball decreases
(3)	moved torch further away from tennis ball	size of shadow of tennis ball increases
(4)	moved screen further away from tennis ball	size of shadow of tennis ball remains the same

24 Wei Qiang made two claims.

- A magnet made of material X has greater magnetic force than that made of material Y.
- Magnetic force is affected by the distance of the magnet from the object it is to attract.

He prepared a set-up using magnets made of materials X and Y to verify his claims. Which set-up did he use to verify both claims?

(1)



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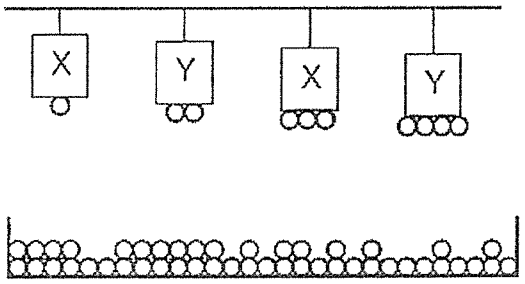

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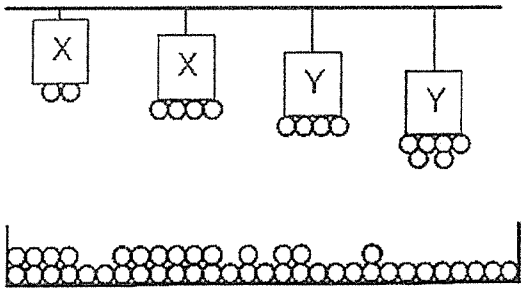

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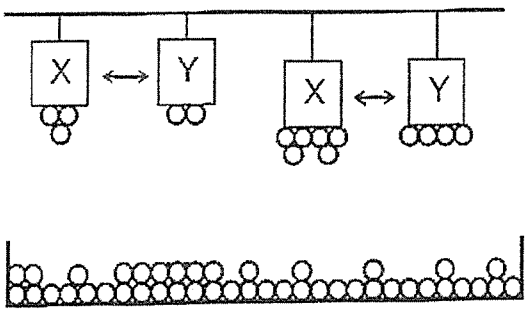
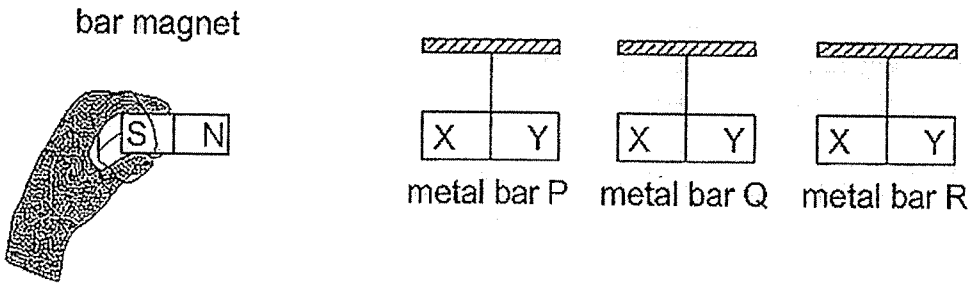


25 Li Ying hung three metal bars, P, Q and R from horizontal rods.



She brought the north pole of a bar magnet close to end X and then close to end Y of each suspended metal bar. Her observations are recorded as shown.

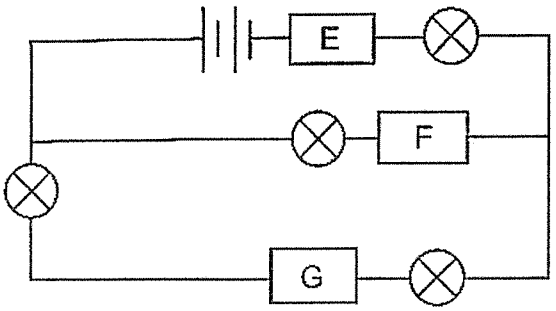
Metal bar	Observation	
	North pole and end X of metal bar	**North pole and end Y of metal bar**
P	attracted	attracted
Q	attracted	repelled
R	neither attracted nor repelled	neither attracted nor repelled

She wrote the following statements after conducting the experiment. Which statements were correct?

A Metal bar P is a magnetic material.
B End X of metal bar Q would attract the north pole of another magnet.
C Metal bar R could make a compass needle turn when placed near it.

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

26 Study the diagram.



Different materials are placed in positions E, F and G of the circuit.

Which row correctly matches the number of bulbs that light up in the circuit when different materials are placed in positions E, F, and G?

	E	F	G	Number of bulbs lit in the circuit
(1)	steel	wood	iron	3
(2)	steel	iron	wood	3
(3)	iron	steel	wood	0
(4)	wood	iron	steel	1

27 Which is **not** an example of the effects of a force?

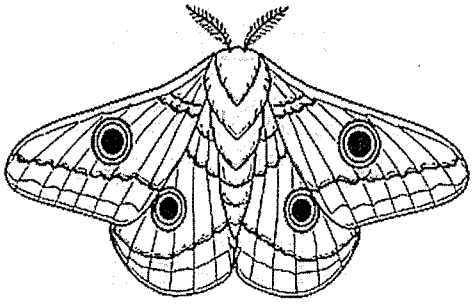
(1) a ball dropped by a boy

(2) light blocked by an object

(3) a balloon inflated by a pump

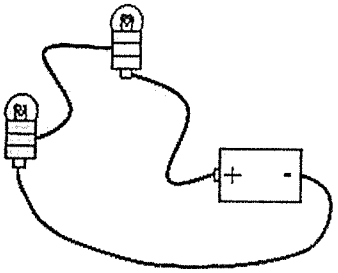
(4) pollen grains dispersed by wind

28 Insect W is attracted to very bright light and flies towards the brightest bulb it can find.



Which circuit would insect W be most likely attracted to?

(1)



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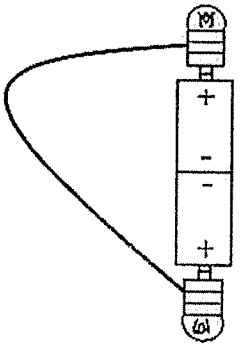

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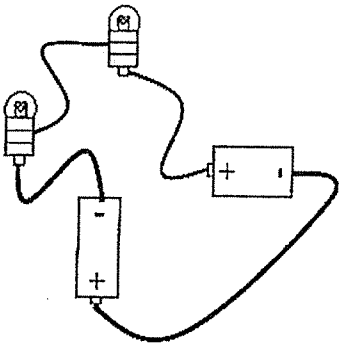
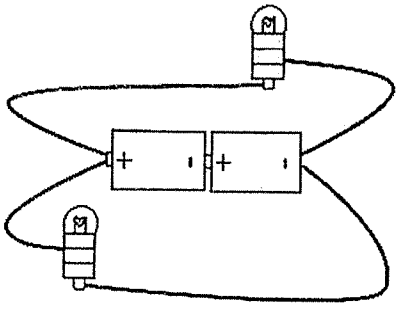
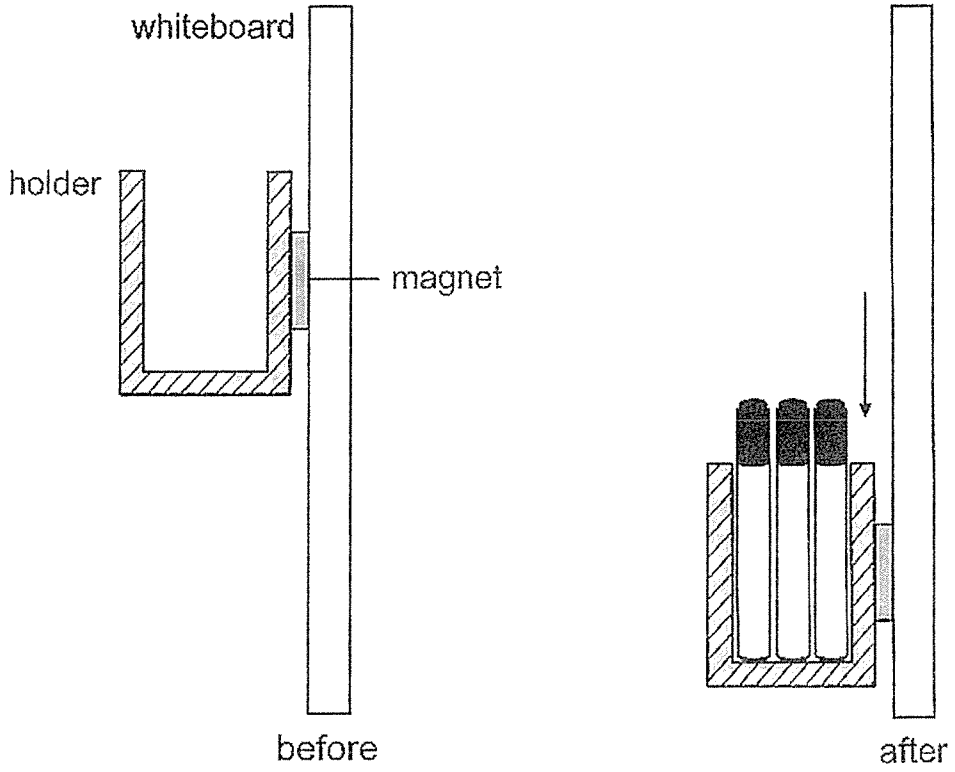


(4)



29 A holder containing a magnet was attached to a whiteboard made of magnetic material. After some markers were added to the holder, it began to slide down the whiteboard while remaining attached to it as shown.



Which statement explains the observation?

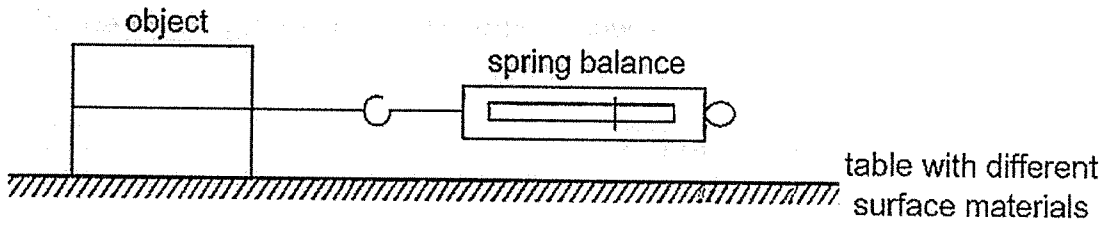
(1) The magnetic force of the magnet was equal to the weight of the holder and the markers.

(2) The magnetic force of the magnet was less than the weight of the holder and the markers.

(3) The frictional force between the magnet and the whiteboard was less than the weight of the holder and the markers.

(4) The frictional force between the magnet and the whiteboard was greater than the weight of the holder and the markers.

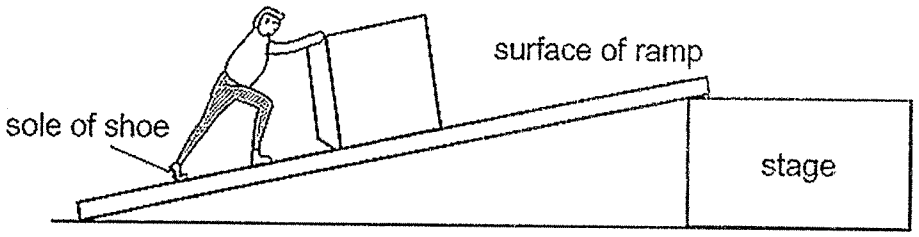
30 Ravi used the set-up to investigate the force needed to pull an identical object across different surface materials.



His results are as shown.

Material	Force needed (unit)
A	5.5
B	2.0
C	7.3

Ravi used a ramp to help push a box onto the stage.



Based on the results, which material(s) would be the most suitable for Ravi to push the box with the least force without slipping?

	Sole of shoe	Surface of ramp
(1)	material B	material B
(2)	material B	material C
(3)	material C	material A
(4)	material C	material B

End of Booklet A

CATHOLIC HIGH SCHOOL

PRELIMINARY EXAMINATION 2026

PRIMARY SIX

SCIENCE

BOOKLET B

Name: _____ ( )

Class: Primary 6 - _____

Date: 25 August 2026

Parent's Signature: _____

Booklet A	60
Booklet B	40
Total	100

11 questions

40 marks

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

INSTRUCTIONS TO CANDIDATES

Do not turn over this page until you are told to do so.
Follow all instructions carefully.
Answer all questions.
Write your answers in this booklet.

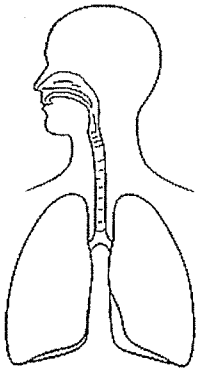
This booklet consists of 14 printed pages, excluding the cover page.

Booklet B (40 marks)

For questions 31 to 41, write your answers in this booklet. The number of marks available is shown in brackets [ ] at the end of each question or part question.

(40 marks)

31 The diagram shows a human body system.



(a) Name the system and state the function of the system. [2]

_____

_____

_____

(b) Describe how the circulatory system works with the body system described in (a). [2]

_____

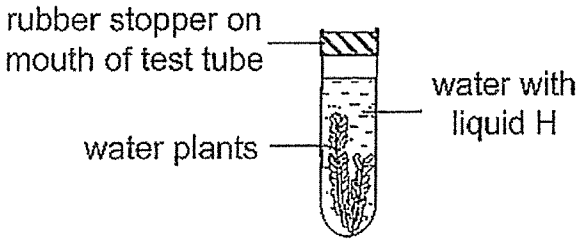
_____

_____

(Go on to the next page)

SCORE	/ 4

32 Jeremiah used the following set-up as shown to find out if water plants affect the amount of carbon dioxide in the water at different times of the day. The set-up was placed near a window.



The table shows the colour changes of liquid H.

Amount of carbon dioxide in the water	Colour of water with liquid H
less than normal	purple
normal	red
more than normal	yellow

(a) Complete the table by stating the colour of the water with liquid H at 2 p.m. and 8 p.m. [2]

Time of the day	Colour of water with liquid H
6 a.m.	red
2 p.m.	
8 p.m.	

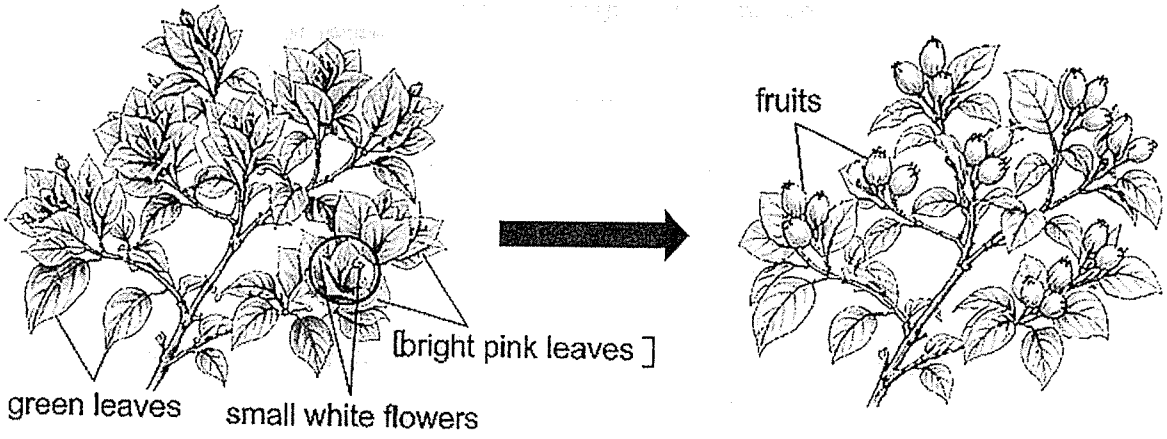
(b) Using the same set-up, Jeremiah wrapped a piece of tracing paper around the test tube. He placed the set-up near the window again.

He observed that the water with liquid H took a longer time to change colour. Explain why. [2]

(Go on to the next page)

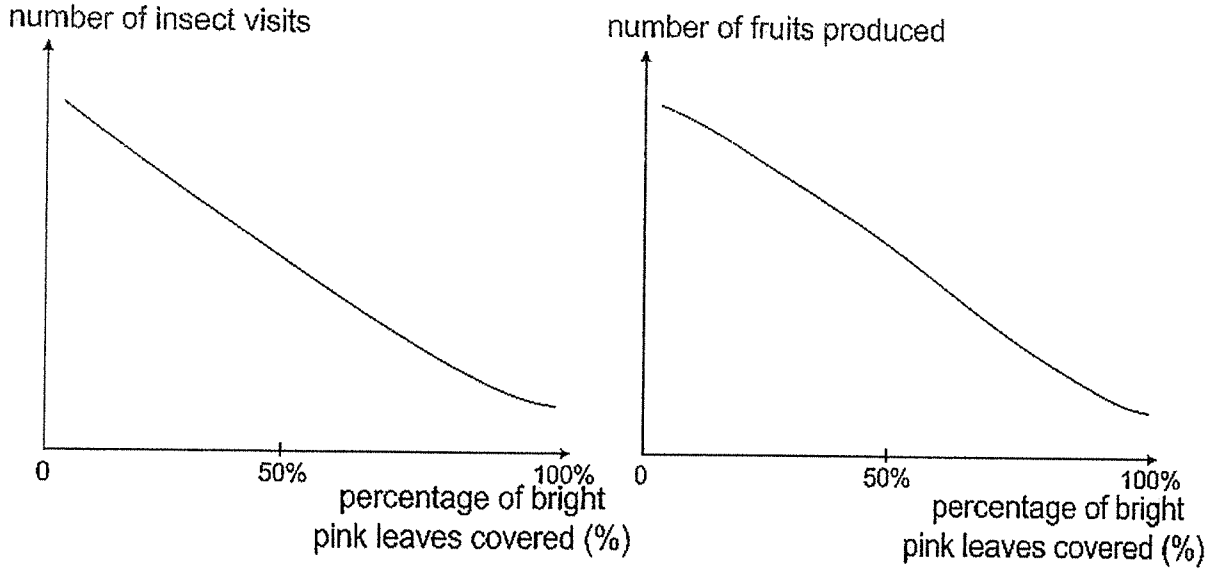
SCORE 4

33 A scientist wanted to find out how the percentage of bright pink leaves of plant Y affects insect visits and fruit production. The bright pink leaves are found only around the small white flowers as shown.



The scientist covered different percentages of the bright pink leaves with green paper but did not cover the flowers. He recorded the number of insect visits and the number of fruits produced by plant Y.

The results are as shown.



(a) (i) Using the results from both graphs, state the relationship between the number of insect visits and the number of fruits produced. [1]

_____

(Go on to the next page)

SCORE	/ 1

(ii) Explain the relationship stated in (i). [2]

_____

_____

_____

_____

(b) Apart from repeating the experiment, suggest one way the scientist could improve the investigation. [1]

_____

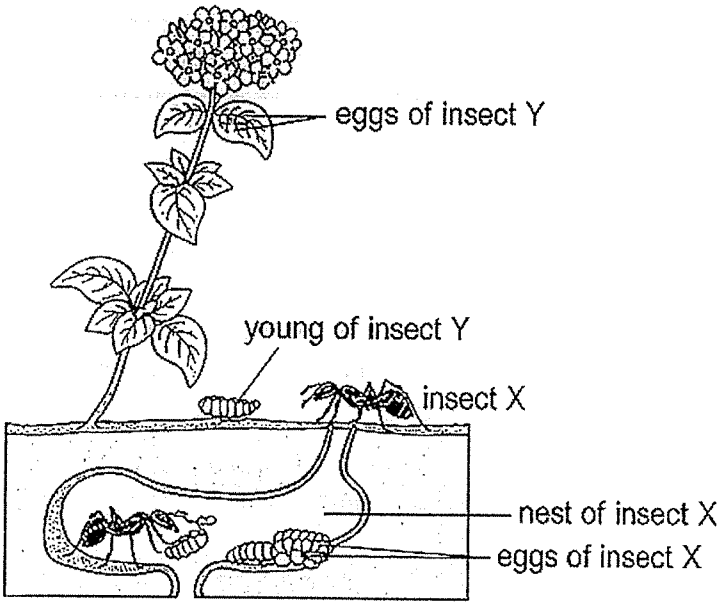
_____

(Go on to the next page)

SCORE	/ 3

34. Insect X lives in underground nests.

Researchers observed that the young of insect Y are carried into the nest by insect X even though they are not the young of insect X.



Insect Y lays many eggs on plants growing near the nest of insect X. When the eggs hatch, the young of insect Y drop to the ground. The young of insect Y have a smell and make sounds that are very similar to those of the young of insect X.

(a) Explain how smelling and sounding like the young of insect X is an advantage to the young of insect Y. [1]

_____

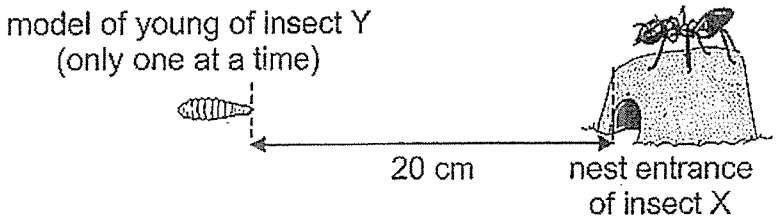
_____

(b) Researchers wanted to find out whether smell or sound was more important in causing insect X to carry the young of insect Y into its nest.

They made four different models, A, B, C and D, of the young of insect Y. One model was placed at a time 20 cm from the entrance of a nest of insect X. Each model was tested 20 times. After each test, the model was removed before the next test began.

(Go on to the next page)

SCORE	/ 1



The number of tests in which each model was carried into the nest was recorded as shown.

Model	Smell like young of insect X?	Sound like young of insect X?	Number of tests in which the model was carried into the nest
A	yes	yes	18
B	yes	no	15
C	no	yes	5
D	no	no	2

(i) State **two** other variables that should be kept constant for a fair test. [2]

1) _____

2) _____

(ii) Using the results, explain whether smell or sound had a greater effect on the behaviour of insect X. [1]

_____

_____

_____

(Go on to the next page)

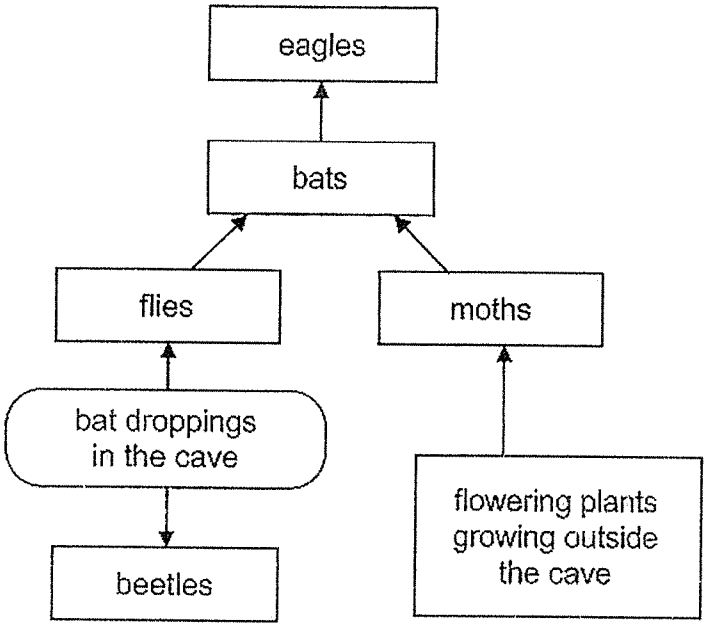
SCORE	

35 (a) State what a population is. [1]

_____

_____

(b) Study the food web. Bat droppings in the cave provide food for many animals living in the cave.



An insecticide sprayed on flowering plants outside the cave caused the population of moths to decrease greatly.

Suggest a reason why the population of bats and beetles decreased. [2]

Population of bats decreased: _____

_____

_____

Population of beetles decreased: _____

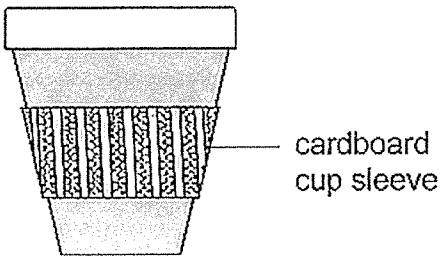
_____

_____

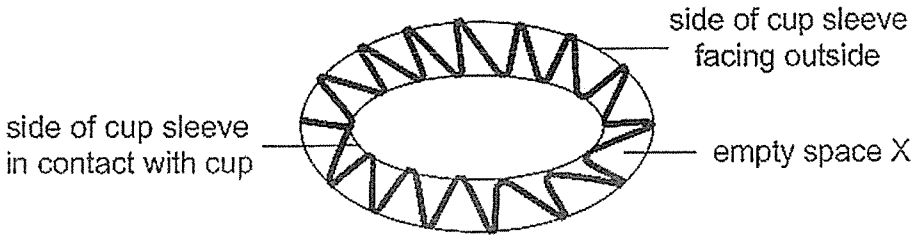
(Go on to the next page)

SCORE	/ 3

36 Mrs Tan observed that a cardboard cup sleeve was fitted around a cup of hot tea as shown.



The diagram shows how the cup sleeve looked when viewed from the top.



(a) State the substance in the empty space X. [1]

_____

(b) When Mrs Tan held the cup of hot tea by the cup sleeve, it felt less hot than the other parts of the cup.

Using your answer in (a), explain why Mrs Tan felt that the cup was less hot when she held it by the cup sleeve. [2]

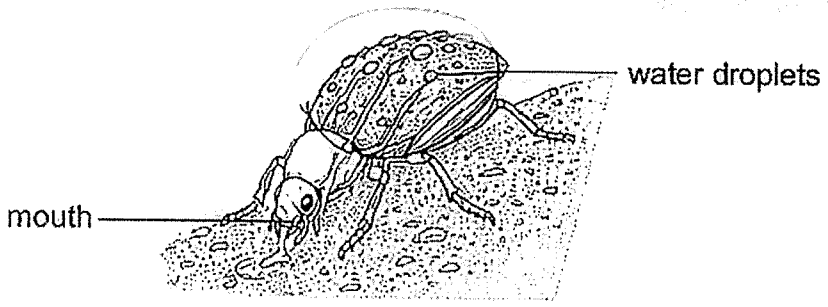
_____

_____

(Go on to the next page)

SCORE	/ 3

37 Organism Z lives in the desert. The temperature in the desert can range from as low as 10 °C at night to as high as 45 °C during the day.



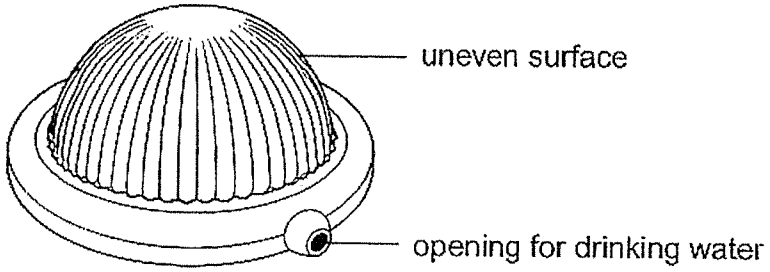
During the night, the back of organism Z cools down. In the morning, water droplets are found on its back. Organism Z then raises the back of its body causing the water droplets to flow towards its head.

(a) Explain how the water droplets are formed on the back of organism Z to help it obtain water for survival. [1]

_____

_____

The diagram shows a bottle which is designed to collect water from the air. The dome-shaped design resembles the body of organism Z.



The bottle is placed outside in the evening allowing the metal body to cool. In the morning, when the surrounding air is warmer, the water droplets are formed and collected in the bottle.

(b) Suggest how the uneven surface of the bottle helps it collect more water. [1]

_____

_____

(Go on to the next page)

SCORE	/ 2

(c) Predict whether the bottle will collect more or less water if it is placed outside during the day instead of overnight. Explain your answer. [2]

_____

_____

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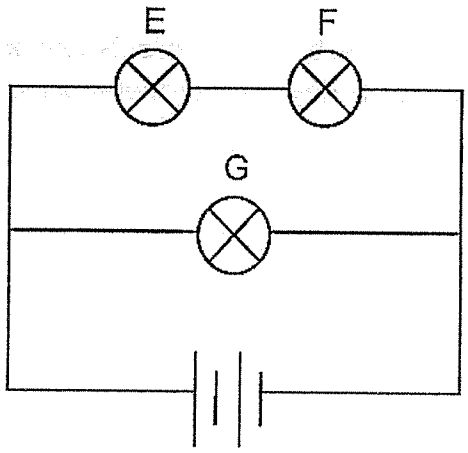
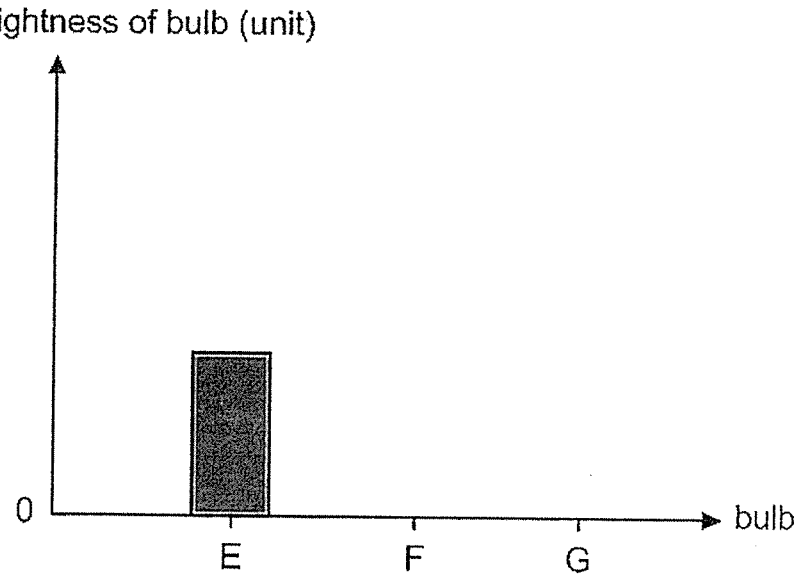
SCORE	/ 2

38 The circuit is set up using three identical bulbs and batteries. All the circuit components are working.



(a) Based on the circuit above, complete the graph to show the brightness of bulbs F and G. [2]



(b) State one disadvantage of the arrangement of bulbs E and F. [1]

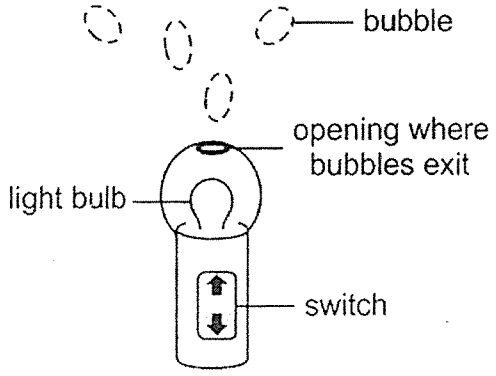
_____

_____

(Go on to the next page)

SCORE	/3

39 Sally has a battery-operated bubble-making machine as shown.

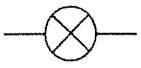


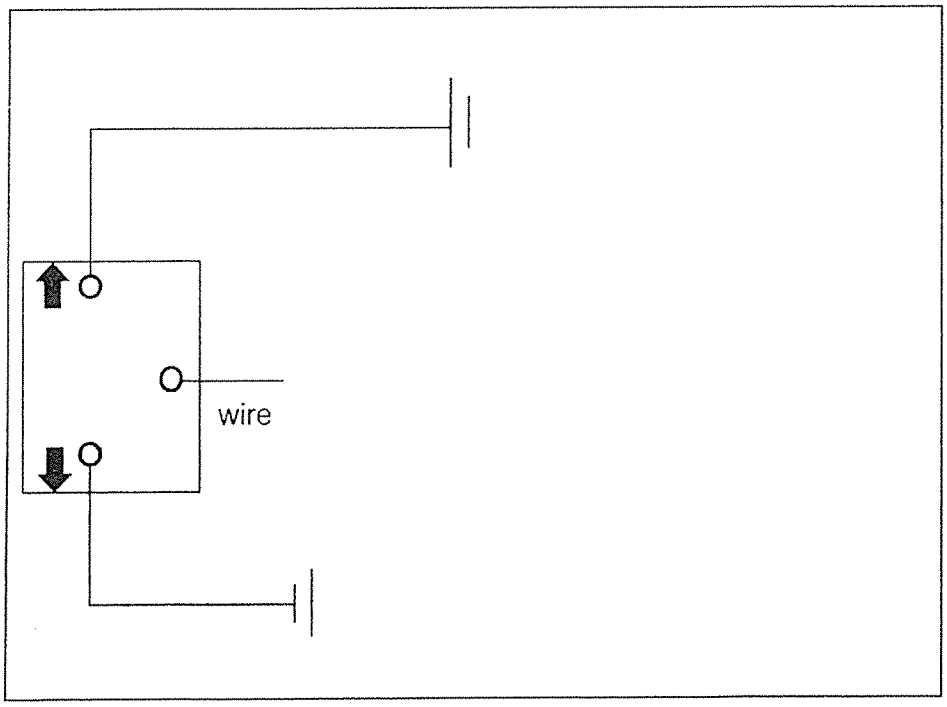
When she pushes the switch up (⬆), the machine lights up and bubbles exit from the opening.

When she pushes the switch down (⬇), in addition to the light and bubbles, there is music from the machine.

In the space, complete the circuit to show how the different parts of the circuit are connected for the battery-operated bubble-making machine to work as described.

Use the symbols below to complete the circuit. [3]

bubble-making motor | music box | 



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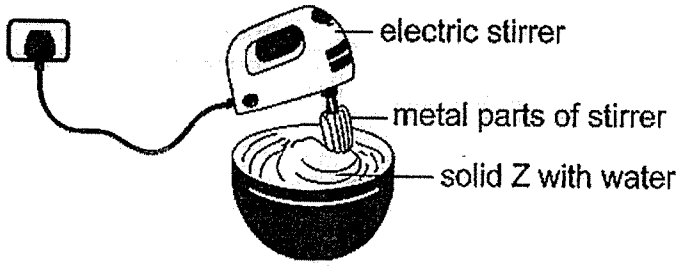
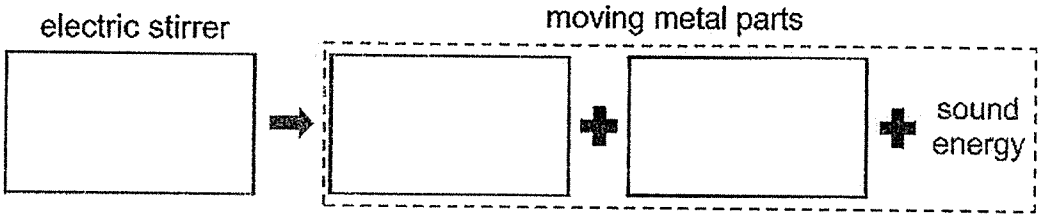
SCORE	3

40 Zhiming used an electric stirrer to mix solid Z with water.



(a) When he switched on the electric stirrer, the metal parts started moving to mix solid Z with water.

Fill in the boxes to show the energy conversion as the electric stirrer is used to mix solid Z with water. [1]



(b) Zhiming observed that when more solid Z is added to the mixture, the metal parts of the electric stirrer moved slower.

Explain, in terms of energy conversion, why the metal parts moved slower. [2]

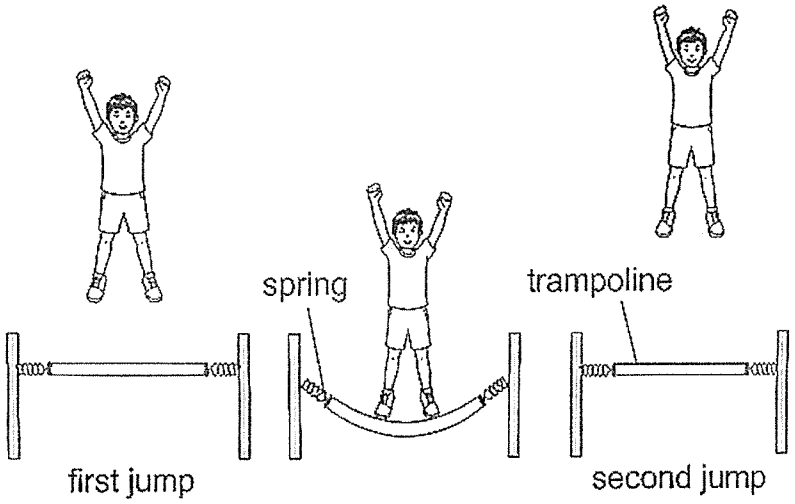
_____

_____

(Go on to the next page)

SCORE	/ 3

41 The diagram shows a boy making two jumps on a trampoline. During the second jump, he jumps higher. As he lands on the trampoline, it dips lower than during the first jump.



(a) State two forces acting on the boy when he lands on the trampoline. [2]

_____

(b) (i) State what happens to the springs when the boy lands on the trampoline during the second jump. [1]

_____

(ii) Explain why the boy jumps higher during the second jump. [2]

_____

_____

End of Booklet B

SCORE	/ 5

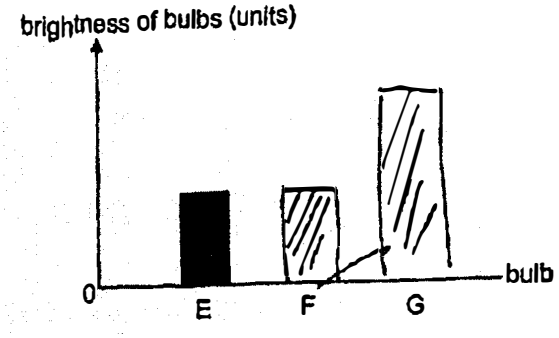
YEAR : 2026
LEVEL : PRIMARY 6
SCHOOL : CATHOLIC HIGH SCHOOL
SUBJECT : SCIENCE
TERM : PRELIMINARY EXAMINATION

(BOOKLET A)

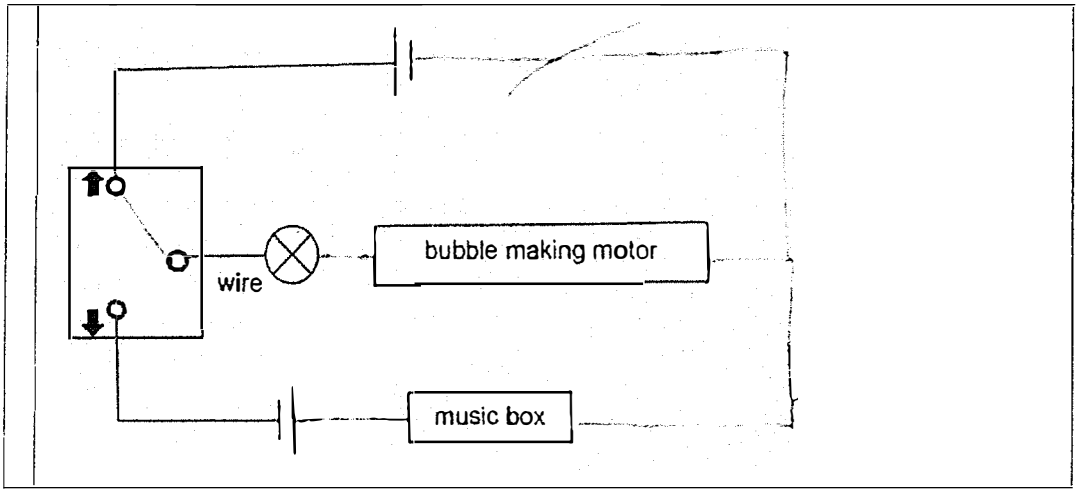
Q1	3	Q2	4	Q3	3	Q4	4	Q5	1
Q6	1	Q7	2	Q8	2	Q9	3	Q10	3
Q11	1	Q12	3	Q13	3	Q14	2	Q15	1
Q16	1	Q17	2	Q18	1	Q19	3	Q20	4
Q21	1	Q22	3	Q23	2	Q24	4	Q25	3
Q26	1	Q27	2	Q28	4	Q29	3	Q30	4

(BOOKLET B)

Q31	a)	Respiratory system. It takes in oxygen and gives out carbon dioxide, carrying out gaseous exchange between the body and the surroundings.
	b)	Respiratory system: Air is taken in through the nose and travels down the windpipe to the lungs. Oxygen is absorbed into the bloodstream while carbon dioxide passes from the blood into the lungs. Circulatory system: The heart pumps oxygen-rich blood to all parts of the body and transports carbon dioxide and other waste materials away for removal.
Q32	a)	2 p.m.: purple. 8 p.m.: yellow.
	b)	The tracing paper blocks some light, so the water plants receive less light. Their rate of photosynthesis decreases and carbon dioxide is absorbed more slowly, so liquid H takes longer to change colour.
Q33	a)(i)	As the number of insect visits decreases, the number of fruits produced decreases.
	(ii)	Fewer insect visits result in less pollination. This lowers the chance of fertilisation, so fewer fruits are produced.
	b)	Use more plants for each percentage of bright pink leaves covered and calculate the average result.

Q34	a)	The young of insect Y are mistaken for the young of insect X, so insect X carries them into its nest, where they receive protection and care.
	b)(i)	Keep the size and mass of every model the same, and place every model the same distance from the nest entrance.
	(ii)	Smell had the greater effect. With sound kept the same, model A, which had the smell, was carried into the nest 18 times compared with 5 times for model C, which had no smell.
Q35	a)	A population is a group of organisms of the same kind living and reproducing at the same place and time.
	b)	Bats: The moth population decreased, so less food was available to the bats and their population decreased. Beetles: With fewer bats, less bat droppings were produced, so less food was available to the beetles and their population decreased.
Q36	a)	Air.
	b)	Air is a poor conductor of heat, so heat is transferred more slowly from the hot tea to Mrs Tan's hand.
Q37	a)	Water vapour in the surrounding air touches the cooler back of organism Z, loses heat and condenses to form water droplets.
	b)	The uneven surface increases the exposed surface area, allowing more water vapour to condense and more water to be collected.
	c)	Less water. During the day, the bottle gains heat and remains warmer, so there is a smaller temperature difference between it and the surrounding air. Less water vapour condenses on its surface.
Q38	a)	
	b)	If either bulb E or F fuses, the circuit in that branch is broken and the other bulb will not light.

Q39



Q40

a)	Electrical energy is converted to kinetic energy, heat energy and sound energy.
b)	Adding more solid Z increases resistance to the moving metal parts. More electrical energy is converted to heat energy and less to kinetic energy, so the metal parts move more slowly.

Q41

a)	Gravitational force and elastic spring force.
b)(i)	The springs stretch more.
(ii)	During the second jump, the boy falls from a greater height and has more kinetic energy when he lands. The springs stretch more and store more elastic potential energy. More energy is then transferred back to the boy as he rebounds, so he reaches a greater height.

END