# AI TONG SCHOOL

## 2026 PRELIMINARY EXAMINATION
## PRIMARY SIX SCIENCE

## (BOOKLET A)

**20 AUGUST 2026** **Total time for booklets A and B : 1 h 45 min**

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## INSTRUCTIONS

1. Please check that your name, school and index number are printed **CORRECTLY** on the label before pasting it within the box provided.
2. Do not turn over this page until you are told to do so.
3. Follow all instructions carefully.
4. Answer all questions.
5. Use a dark blue or black ballpoint pen to write your answers and use a pencil for drawings, diagrams or graphs.
6. Do not use correction fluid/tape.

| Booklet A | /56 |
|---|---|

**Parent's Signature :** _____

**Section A** *(30 x 2 marks)*

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

1. X and Y are organisms.

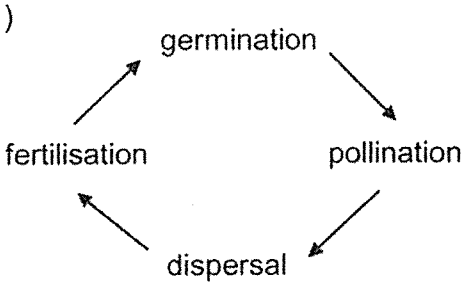
   - X produces pollen grains, but Y does not.
   - X makes its own food, but Y does not.

   What could X and Y be?

| | X | Y |
|---|---|---|
| (1) | fern | fungi |
| (2) | fungi | flowering plant |
| (3) | flowering plant | fern |
| (4) | flowering plant | fungi |

2. Which of the following shows the correct order of the processes in the life cycle of a flowering plant?

(1)

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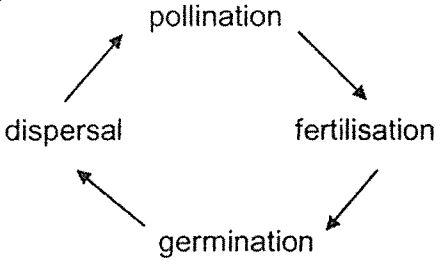


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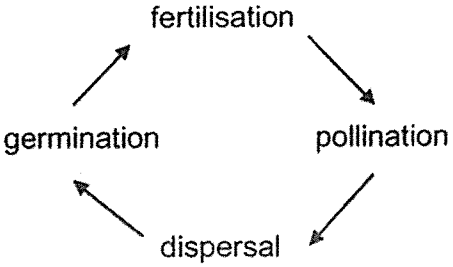


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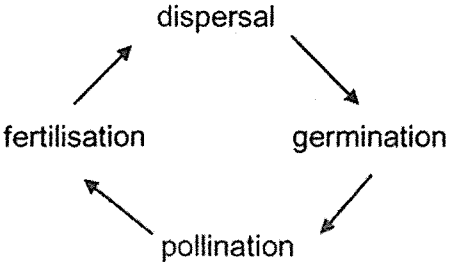


3. A certain plant grows in a dense forest where very little wind reaches it. Which of the following sets of characteristics would most likely be found in the flowers of this plant?

A Petals are smaller, scentless and dull coloured.

B Petals are large, and pollen grains are heavy with a rough surface.

C Stigma is large with feathery branches for catching pollen grains.

D Stigma is sticky so that pollen grains that land on it cannot be easily shaken off.

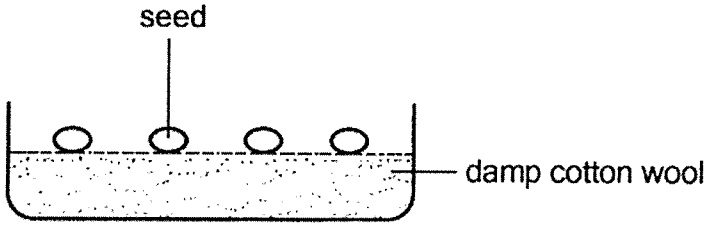
(1) A and C only

(2) B and D only

(3) A, C and D only

(4) B, C and D only

4. Annie placed the set-up shown below in a dark room.




She placed a similar set-up in another dark room at a lower temperature. After a few days, she recorded the number of seeds that germinated in each set-up.

What was the hypothesis tested in this experiment?

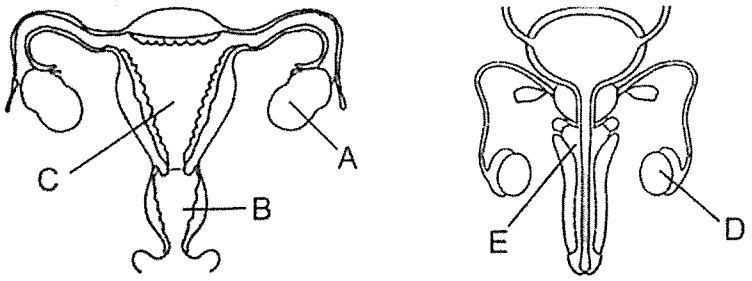
(1) Seeds only germinate if there is water.

(2) Seeds will not germinate when kept in the dark.

(3) Seeds will not germinate when they are placed too close together.

(4) Seeds will germinate at a higher temperature than at a lower temperature.

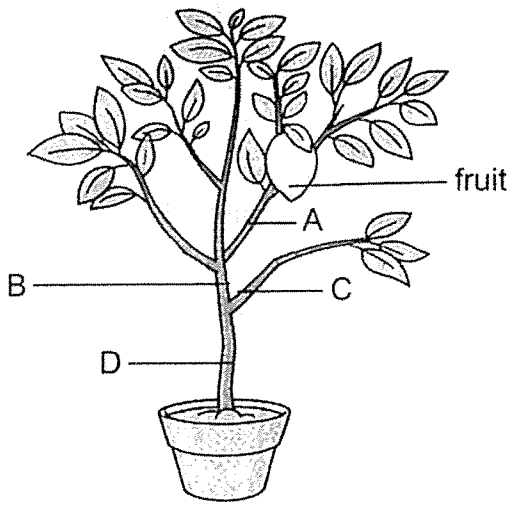
5. The diagram below shows the reproductive systems in humans.




Which two parts of the reproductive systems produce cells that can fuse together to develop into a baby?

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

6. The diagram below shows a plant with a fruit.

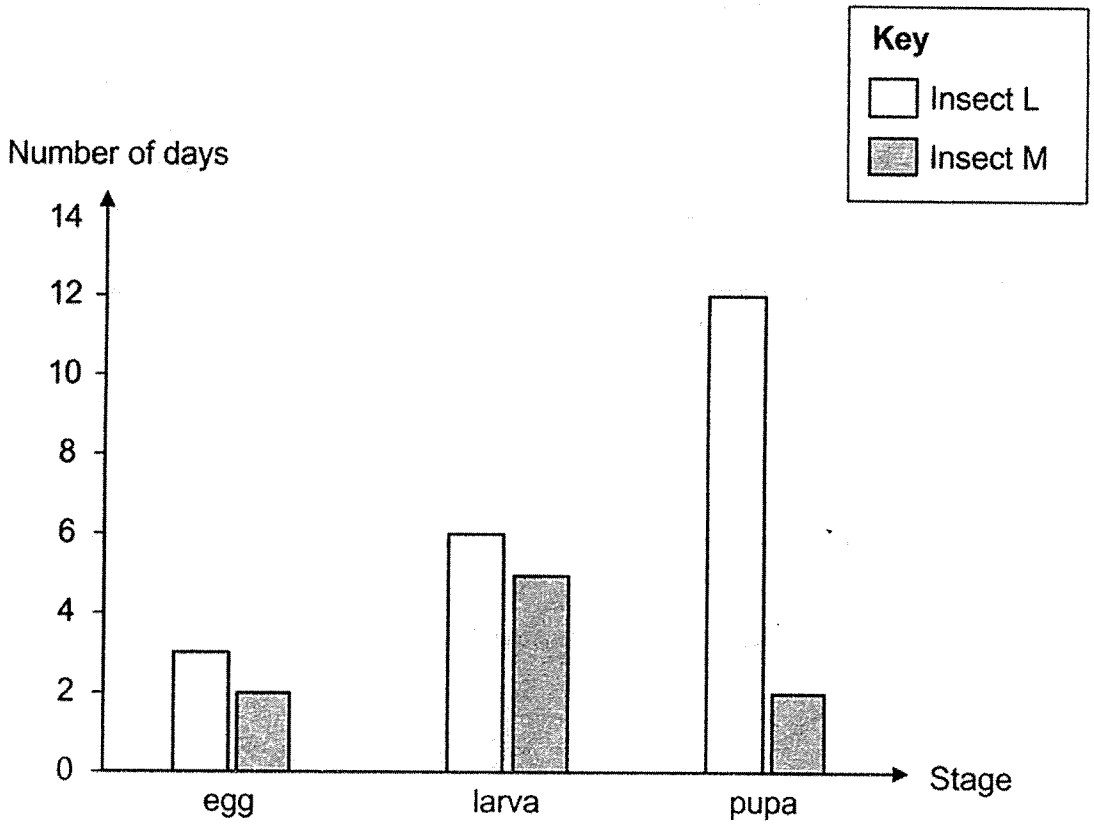



Positions A, B, C and D are locations where the food-carrying tube can be removed from the plant by cutting away the outer ring of its stem.

Which of the following correctly shows where the food-carrying tubes have been removed from the plant, resulting in the observations made?

| | **Observations about the plant:** | |
|---|---|---|
| | **the fruit becomes the biggest** | **the plant wilts the fastest** |
| (1) | A | B |
| (2) | A | D |
| (3) | D | B |
| (4) | D | C |

7. The graph below shows the duration of parts of the life cycles of insects L and M.




Based on the information, four students made the following observations.

| | |
|---|---|
| Abel | Both insects have a 4-stage life cycle. |
| Barry | Insect L takes a shorter time to become a pupa than insect M. |
| Chris | The young of both insects do not resemble the adults. |
| Dan | Insect M has a shorter life span than insect L. |

Which two students made the correct observations?

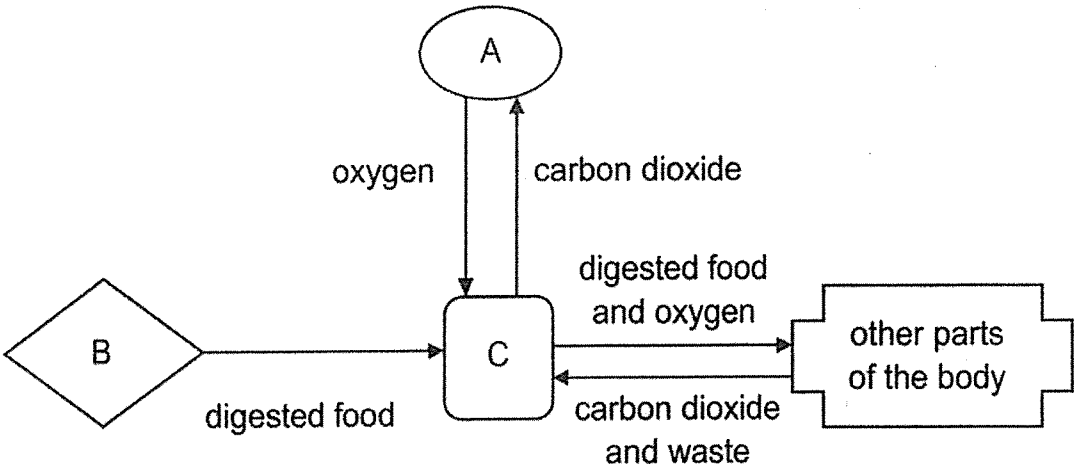
(1) Abel and Barry

(2) Chris and Dan

(3) Abel and Chris

(4) Barry and Dan

The diagram below shows the different systems in the human body working together. Study it carefully and answer questions 8 and 9.




8. Based on the diagram above, what are systems A and C?

| | Systems | |
|---|---|---|
| | **A** | **C** |
| (1) | Digestive | Circulatory |
| (2) | Respiratory | Circulatory |
| (3) | Respiratory | Digestive |
| (4) | Circulatory | Respiratory |

9. What is the relationship between systems B and C?

(1) System C gets digestive juices from the body for system B to digest the food.

(2) System C transports food to system B to break it down into simpler substances.

(3) System B breaks the food into smaller pieces so that system C can digest it completely.

(4) System B breaks the food down into simpler substances for system C to transport to all parts of the body.

10. Luke wrote some statements below about humans, fish and plants.

A The lungs and gills are part of the circulatory system.

B Oxygen and carbon dioxide are carried by the blood in humans and fish.

C Gaseous exchange takes place at the lungs, gills and tiny openings.

Which statement(s) is/are correct?

(1) C only

(2) A and B only

(3) B and C only

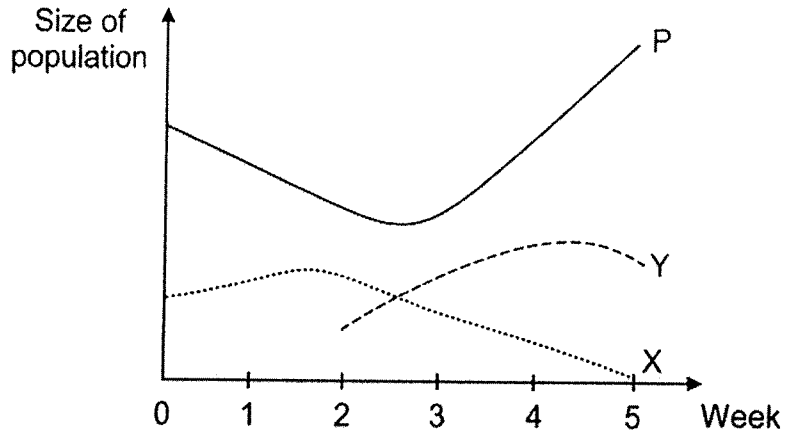
(4) A, B and C

11. Paul conducted an experiment to study the food relationship between animals X, Y and P.

Animal P feeds on leaves only. Animals X, Y and P had no disease.

At the start, Paul placed some animals P and X in a tank with some leaves. He counted the number of animals at the end of each week. After two weeks, he added animal Y.

Paul's results are shown below.




Based on the graph, which statement is correct?

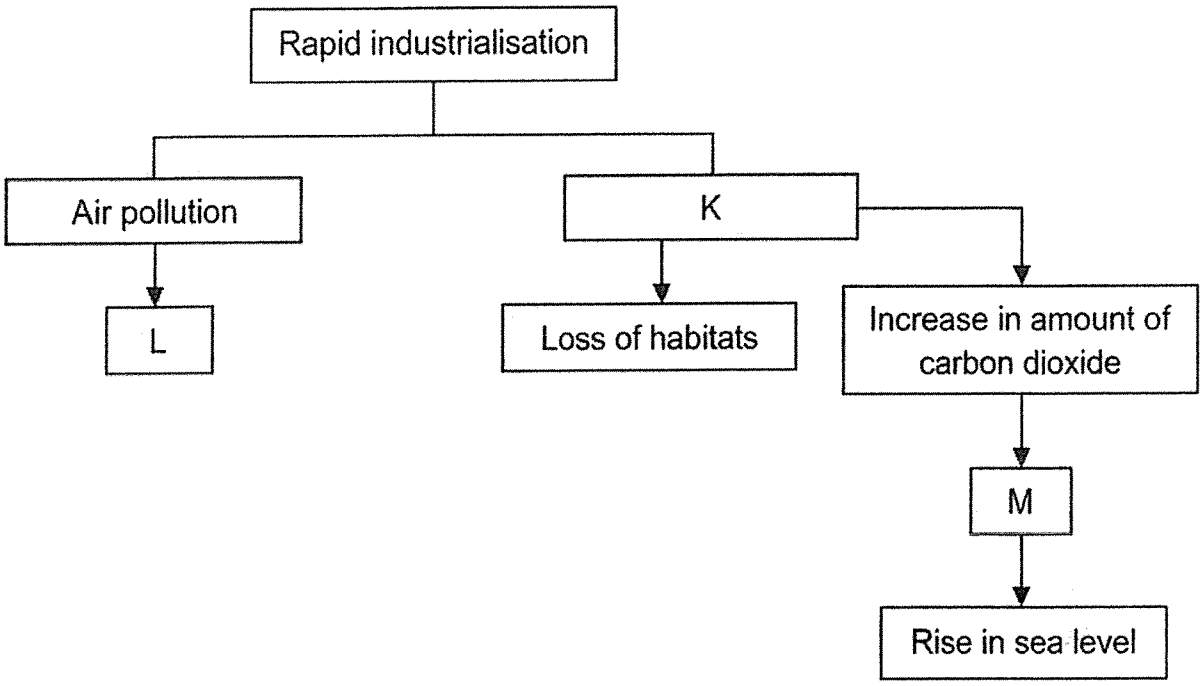
(1) Animal Y fed on animal X.

(2) Animal Y fed on animal P.

(3) Animal X fed on animal Y.

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

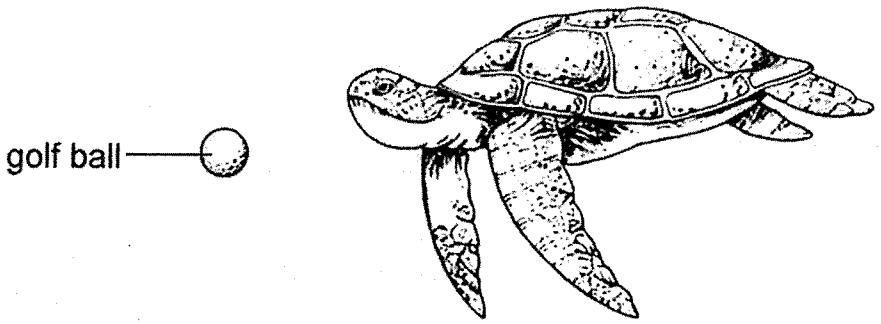
12. The diagram below shows human activities and their negative impact on the environment.




Which one of the following best represents K, L and M?

| | K | L | M |
|---|---|---|---|
| (1) | Burning of fossil fuels | Global warming | Landslide |
| (2) | Deforestation | Formation of rain that carries harmful substances | Global warming |
| (3) | Burning of fossil fuels | Soil erosion | Formation of rain that carries harmful substances |
| (4) | Landslide | Global warming | Burning of fossil fuels |

13. Some people on cruise ships practise golf. They hit golf balls into the sea. Turtles in the sea may die if they swallow these golf balls.




A new type of golf ball has been made for use on cruise ships. It contains fish food covered in hardened paper.

Which of the following are possible reasons why this type of golf ball might be better for the environment than a normal golf ball?

A They are more reusable.

B They are less harmful to turtles.

C They reduce pollution in the sea.

D They are more visible to the turtles.

(1) A and D only

(2) B and C only

(3) A, B and C only

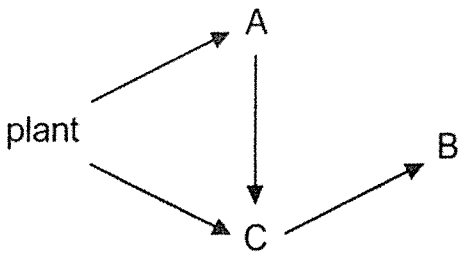
(4) A, B, C and D

14. Evan conducted two experiments on food relationships in a community consisting of a plant and three other organisms, A, B and C. The table below shows the observations of the experiments conducted over two days.

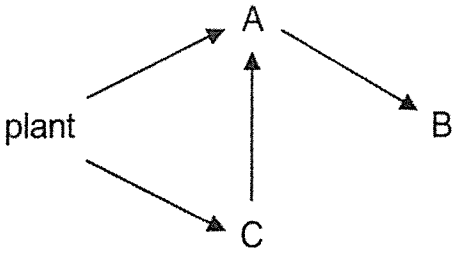
| Experiment | Start of experiment | End of experiment |
|---|---|---|
| 1 | • ten freshly plucked leaves from the plant<br>• one living organism A<br>• one living organism C | • bits of leaves left<br>• one living organism C |
| 2 | • one living organism A<br>• one living organism B<br>• one living organism C | • one living organism B |

Based on the above information, which of the following shows a possible food web?

(1)




(2)

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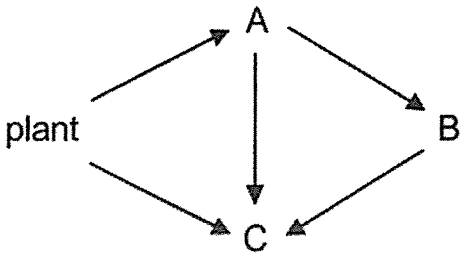
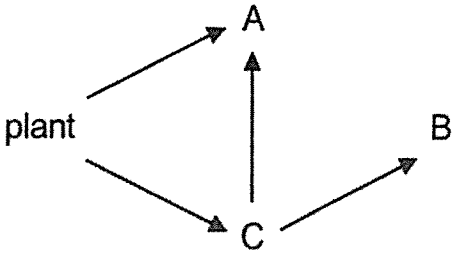
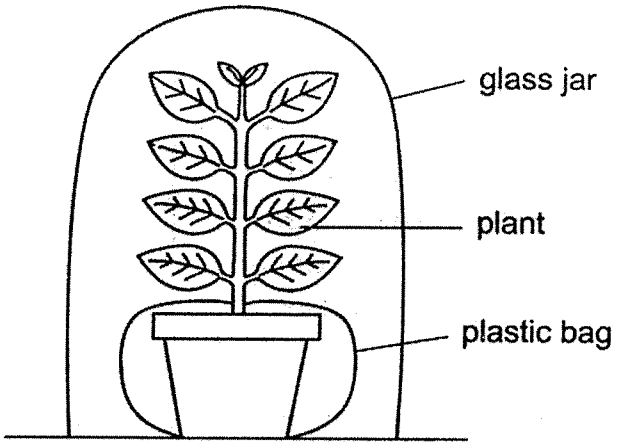



(4)

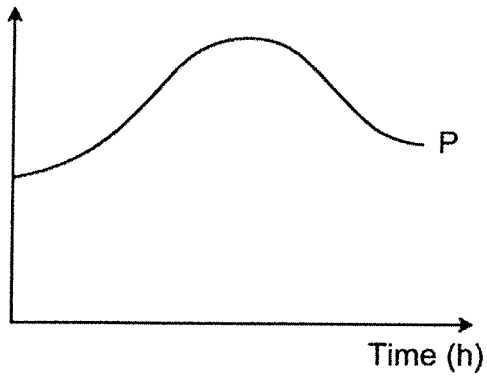


15. Mr Sam prepared set-up P as shown below. He gave the set-up water and placed it in the sun for a day.

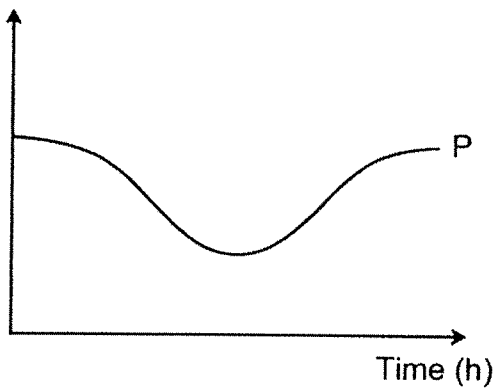



Which of the following correctly shows the amount of carbon dioxide in set-up P throughout the day?

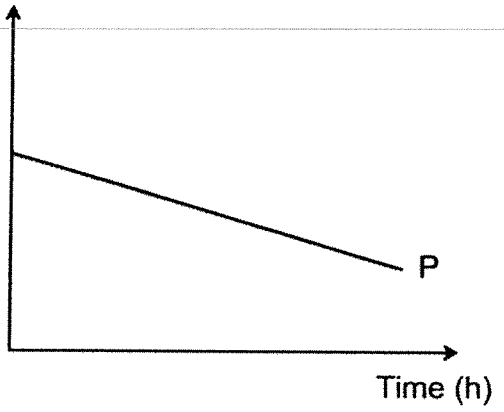
(1)



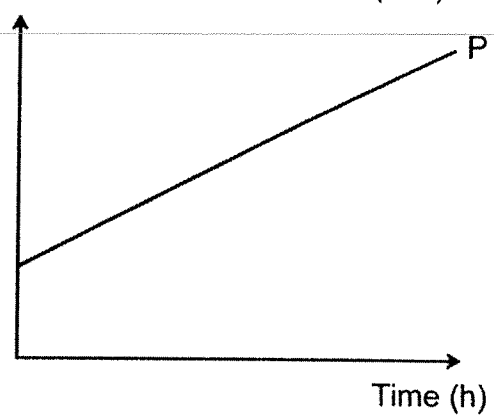

(2)



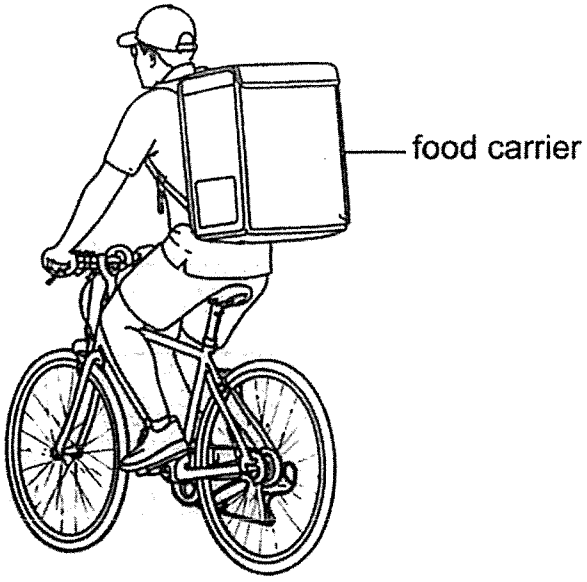

(3)




(4)



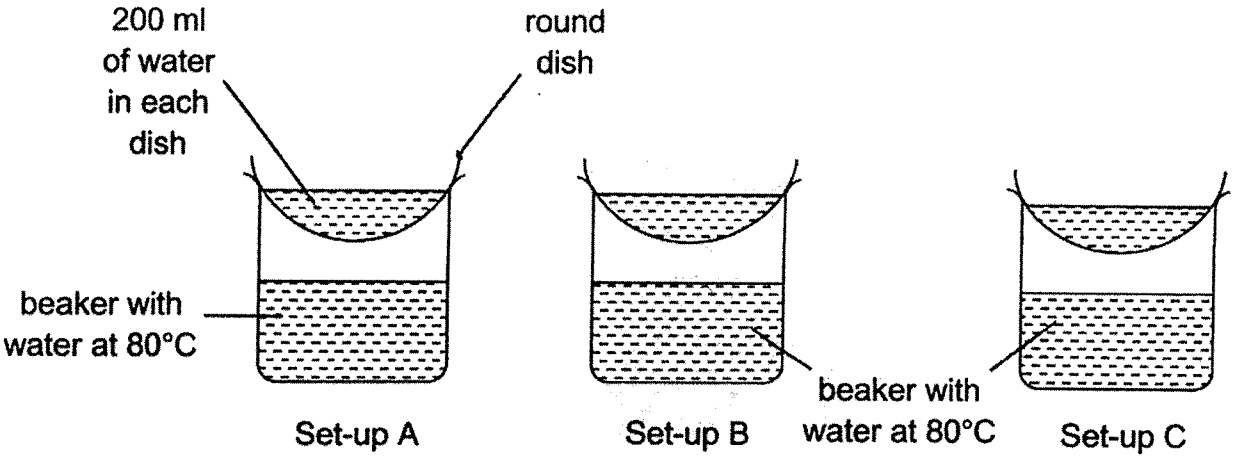
16. A food delivery rider uses the food carrier shown below to deliver meals to customers.




Based on the properties shown below, which material, A, B, C or D, is most suitable for making the food carrier?

| | Materials | Properties | | | |
|---|---|---|---|---|---|
| | | Strong | Flexible | Waterproof | Good conductor of heat |
| (1) | A | No | Yes | No | Yes |
| (2) | B | Yes | No | Yes | No |
| (3) | C | Yes | Yes | Yes | No |
| (4) | D | Yes | Yes | Yes | Yes |

17. Eugene set up an experiment as shown below. 200 ml of water at different temperatures was poured into identical round dishes placed over the beakers. He observed water droplets forming at the bottom of the dishes. He recorded the time taken for the first water droplet to fall from each dish.




The table below shows the results of his experiment.

| Set-up | Time taken for first water droplet to fall (s) |
|---|---|
| A | 100 |
| B | 35 |
| C | 60 |

Which one of the following most likely shows the temperature of the water in the round dish in set-ups A, B and C at the start of the experiment?

| | Temperature of water in the round dish (°C) | | |
|---|---|---|---|
| | **Set-up A** | **Set-up B** | **Set-up C** |
| (1) | 40 | 20 | 5 |
| (2) | 20 | 5 | 40 |
| (3) | 5 | 25 | 40 |
| (4) | 40 | 5 | 25 |

18. Hamid had four plastic containers, A, B, C and D, each filled with the same amount of water.

| Container | Exposed surface area ($cm^2$) | Temperature of water (°C) | Wind |
|---|---|---|---|
| A | 40 | 40 | Absent |
| B | 40 | 80 | Absent |
| C | 80 | 40 | Present |
| D | 80 | 80 | Absent |

Which containers should he use to carry out the following aims?

| | To find out if exposed surface area affects the rate of evaporation of water. | To find out if temperature of water affects the rate of evaporation of water. |
|---|---|---|
| (1) | Containers A and B | Containers B and D |
| (2) | Containers B and D | Containers A and B |
| (3) | Containers C and D | Containers B and C |
| (4) | Containers B and C | Containers C and D |

19. The table below shows the properties of a substance at different temperatures.

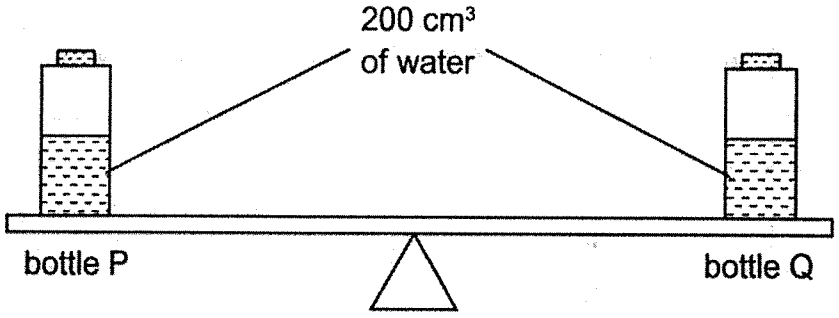
| Temperature (°C) | Has a fixed volume? | Has a fixed shape? |
|---|---|---|
| 0 | Yes | Yes |
| 100 | Yes | Yes |
| 150 | Yes | No |
| 250 | No | No |

Which statements about the substance are definitely true?

**A** It is water.
**B** It is a gas at 250°C.
**C** It only melts at 150°C.
**D** Its freezing point is lower than 150°C.

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

**20.** James placed two identical bottles, each filled with 200 $cm^3$ of water, on a balance beam as shown below.




He then removed 100 $cm^3$ of air from bottle P only. Which statement correctly describes what happens after air is removed from bottle P?

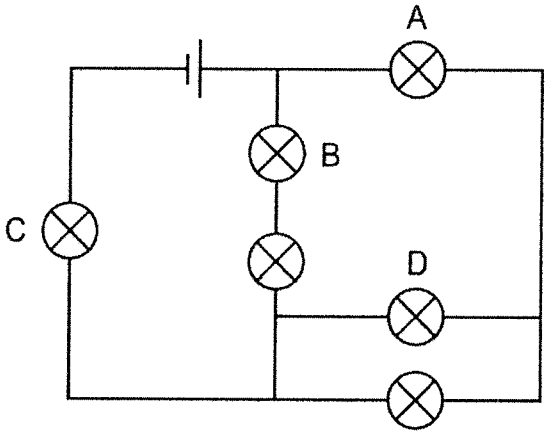
(1) The final mass of air in bottle P decreased.

(2) The final volume of air in bottle P decreased.

(3) The water in bottle Q took up more space in the bottle.

(4) The side of the balance beam with bottle Q would tilt upwards.

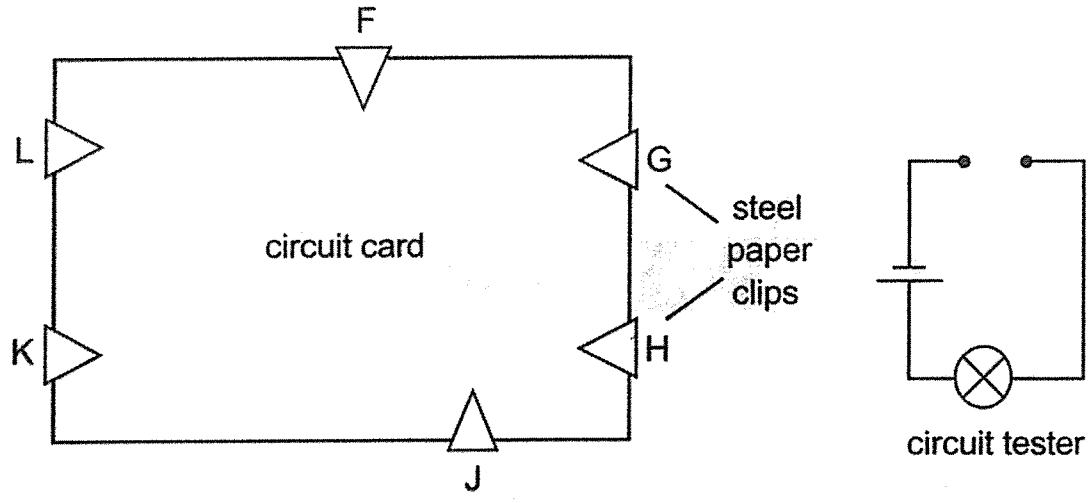
**21.** Study the circuit shown below.




Which of the following is correct?

| | When this bulb was blown, all the other bulbs did not light up. | When this bulb was blown, all the other bulbs lighted up. |
|---|---|---|
| (1) | A | C |
| (2) | A | B |
| (3) | C | D |
| (4) | C | B |

22. Maia was given a circuit card as shown below. She did not know how the copper wires were connected inside the card and had to use a circuit tester to find out.

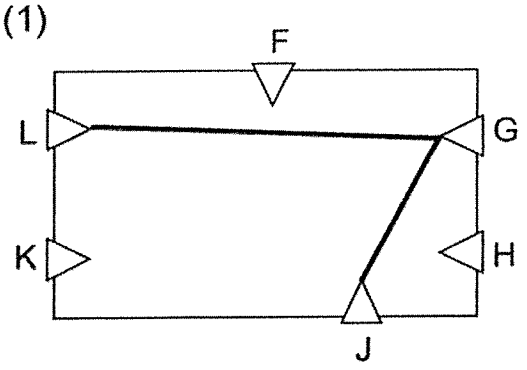



She recorded her results in the table below.

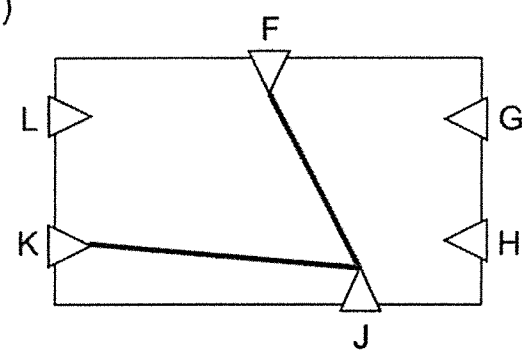
| | Connections on the circuit card | | | |
|---|---|---|---|---|
| | **K and G** | **J and F** | **G and J** | **K and F** |
| **Did the bulb light up?** | Yes | No | Yes | No |

Based on her results, which one of the following is the correct arrangement of wires in the circuit card?

(1)




(2)

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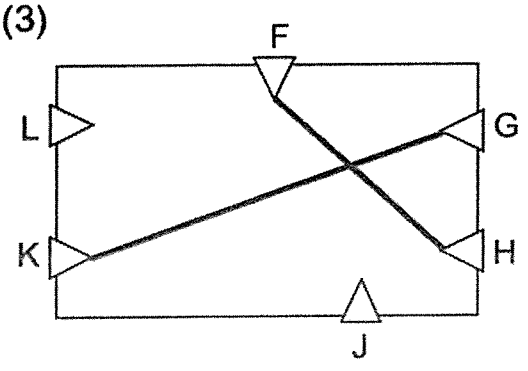


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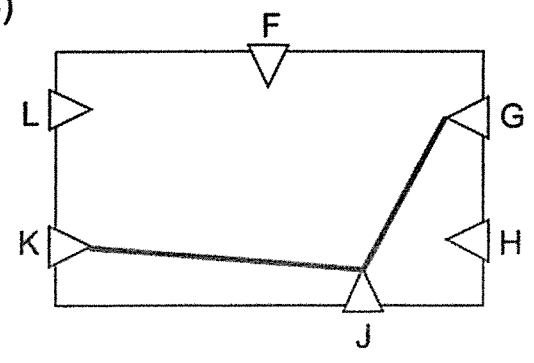
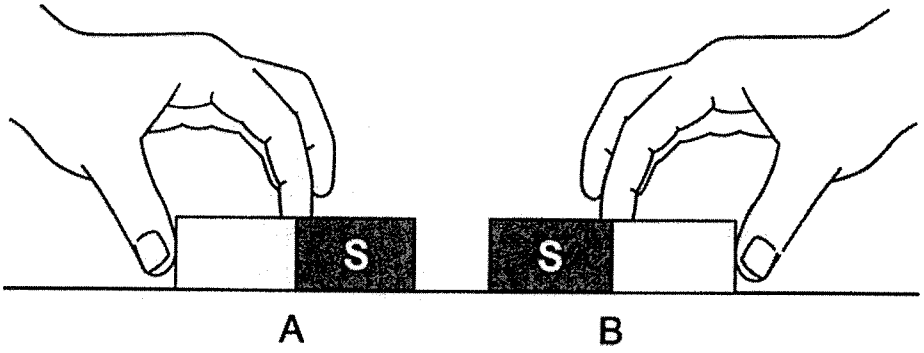


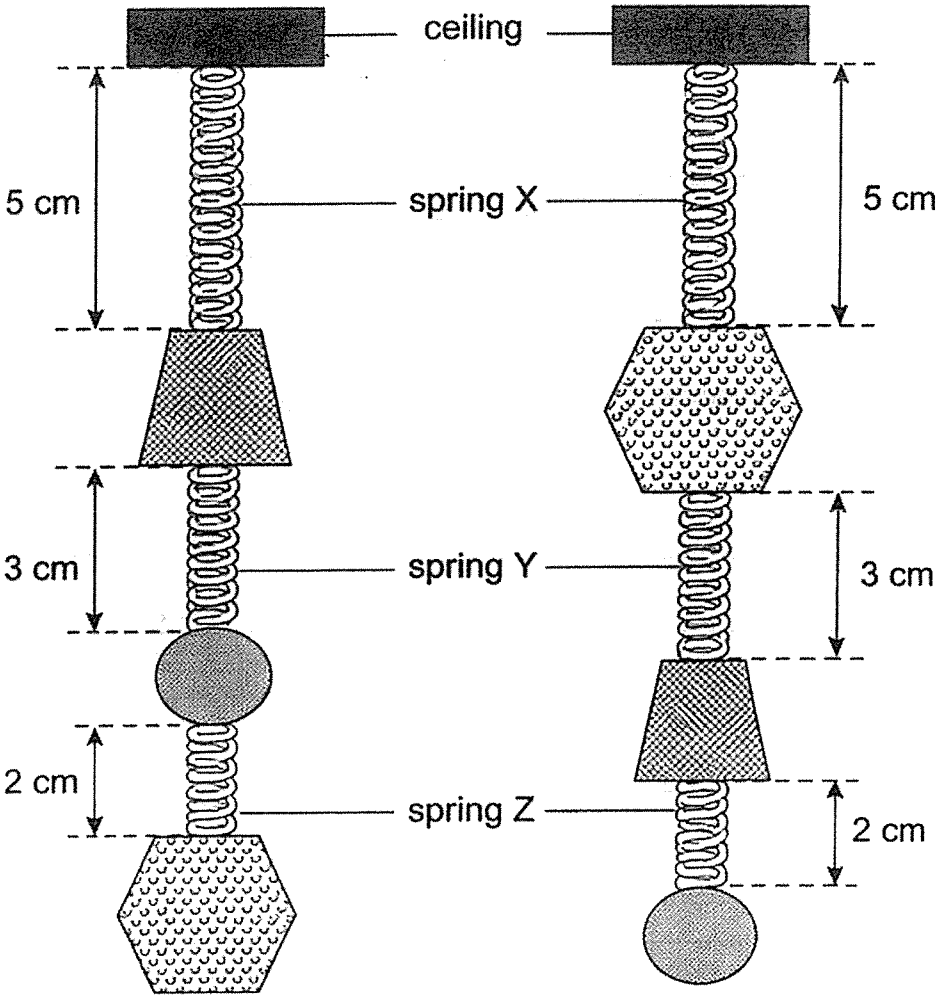
23. Two magnets A and B were placed close together with their south poles as shown.




When A is released, it moved along the surface of the floor. Which of the following shows the direction of the frictional force acting on A and the direction of magnetic force acting on B?

| | Frictional force acting on A | Magnetic force acting on B |
|---|---|---|
| (1) | → | → |
| (2) | → | ← |
| (3) | ← | → |
| (4) | ← | ← |

24. Tom hung three identical springs, X, Y and Z from a ceiling. Each spring was attached to loads of different shapes and sizes. The diagram below shows the new length of each spring.




Based on the information given, which statements about the set-ups are correct?

A The loads are all of the same mass.

B Spring X is more elastic than spring Z.

C Least elastic spring force acted on spring X.

D Spring Y exerts more elastic spring force than spring Z.

(1) A and D only

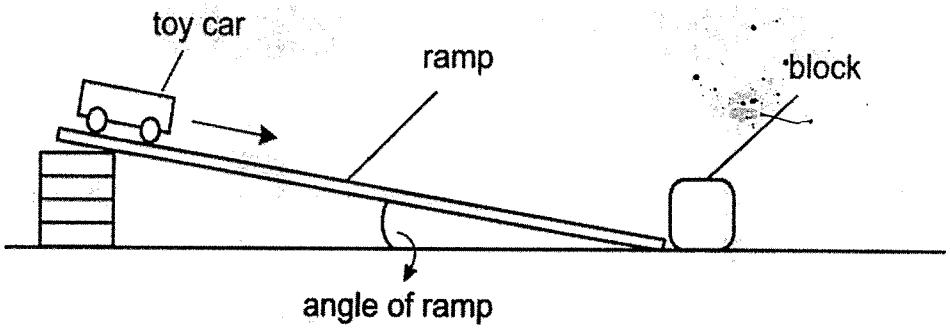
(2) B and C only

(3) A, B and D only

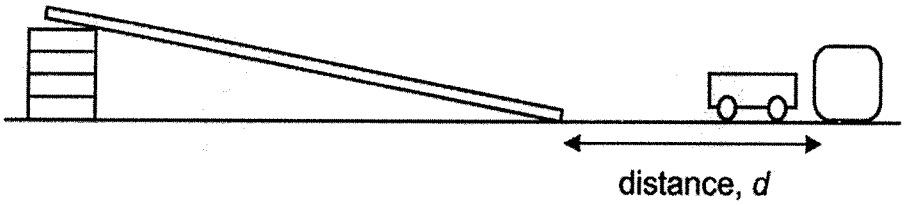
(4) B, C and D only

**25.** Aiden set up an experiment as shown in the diagram below.

When released, the toy car moved down the ramp and hit the block, causing it to move.




*d* refers to the distance moved by the block after being hit by the toy car, as shown below.




Aiden investigated how the different variables in the set-up above affected distance, *d*.

Which observations are correct?

| | **Change to the experimental set-up** | **Change in distance d observed** |
|---|---|---|
| A | reduce the mass of the block | increase |
| B | increase the angle of the ramp | decrease |
| C | increase the mass of the toy car by adding weights on it | increase |
| D | use a ramp with a rougher surface | decrease |

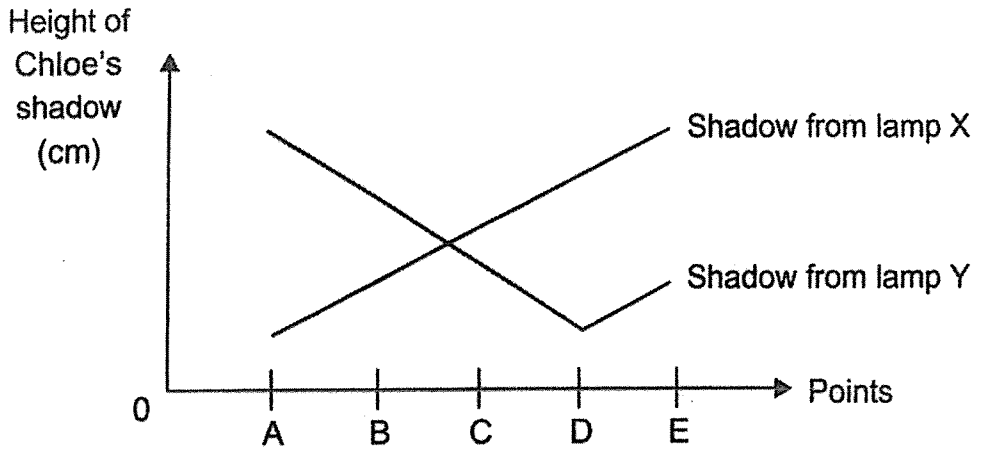
(1) A and B only

(2) B, C and D only

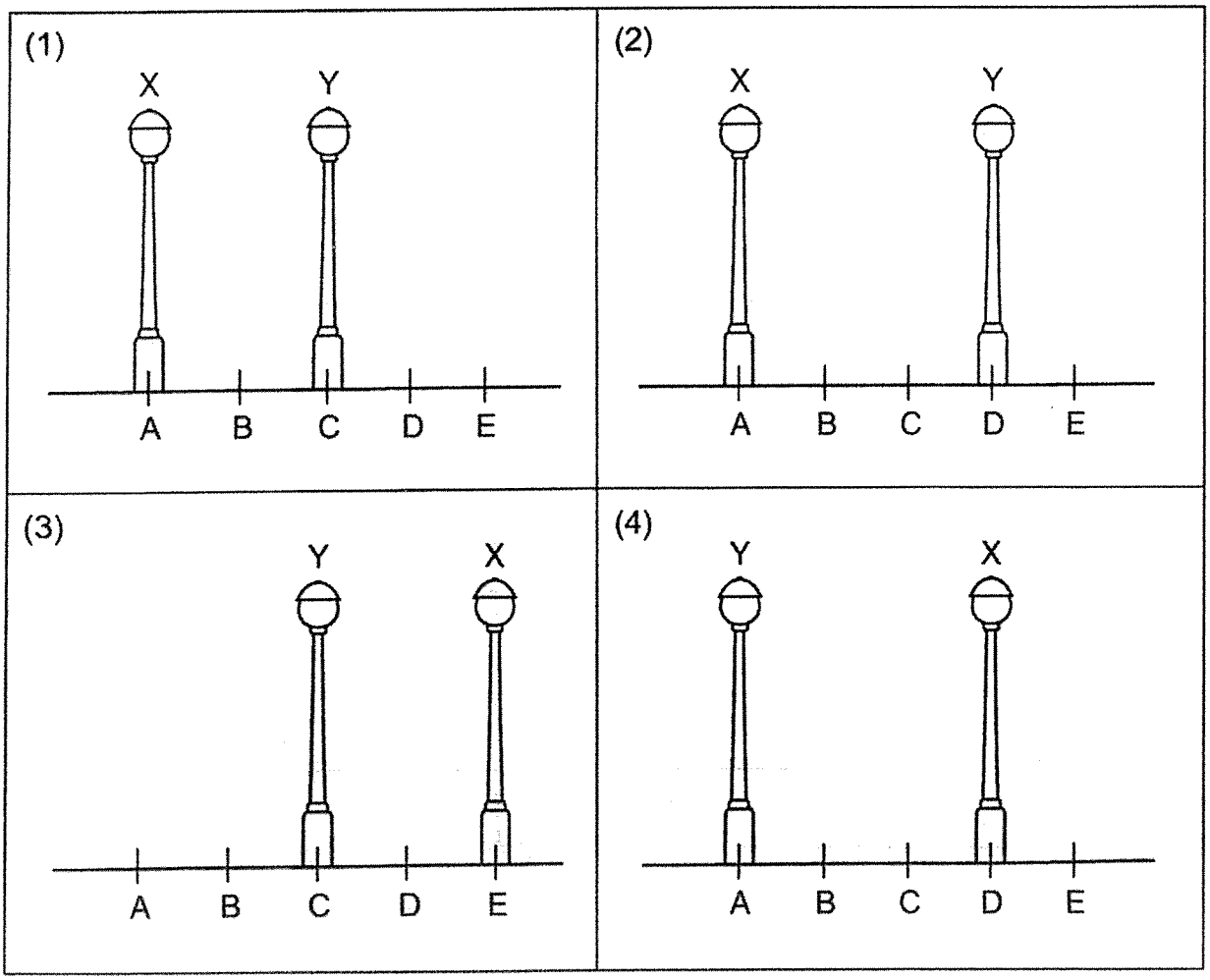
(3) A, C and D only

(4) A, B, C and D

26. Two street lamps, X and Y, were placed at different positions along a straight road. Chloe noticed two shadows of herself as she walked from points A to E. The graph below shows the length of her shadows cast by the two different lamps.




Which of the following correctly shows the positions of lamps X and Y?

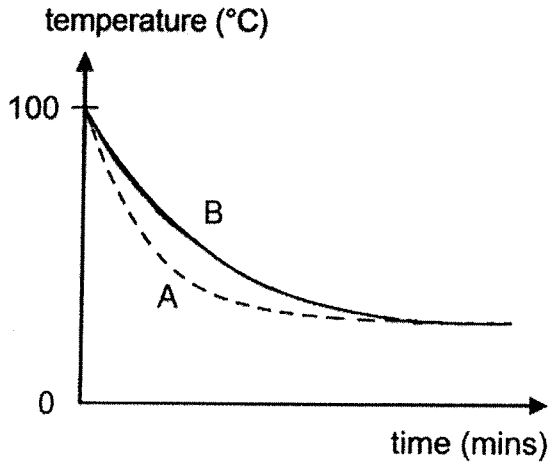


27. Zul placed two empty identical containers, A and B, both initially at room temperature, on a table. He poured 500 $cm^3$ of boiling water into container A and 250 $cm^3$ of boiling water into container B.

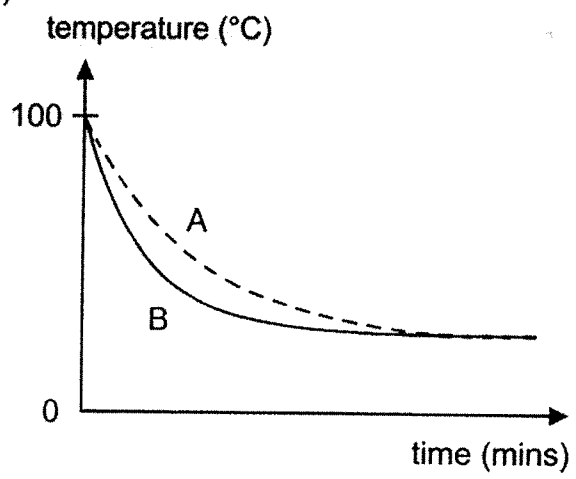

The temperatures of the water in both containers were recorded every minute for some time.

Which one of the following is the correct graph for his results?

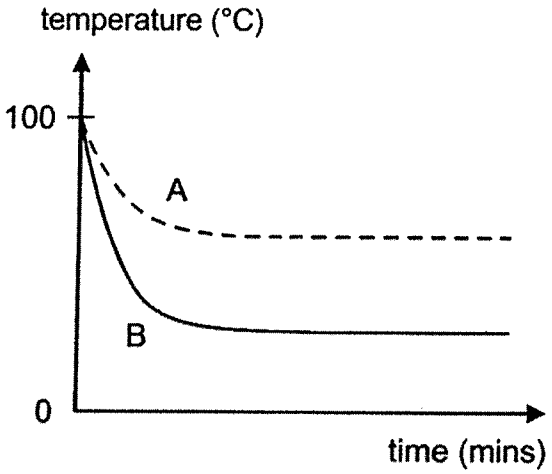
(1)



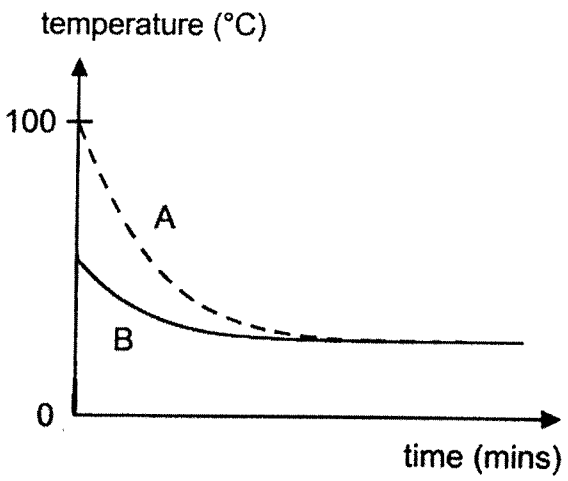

(2)



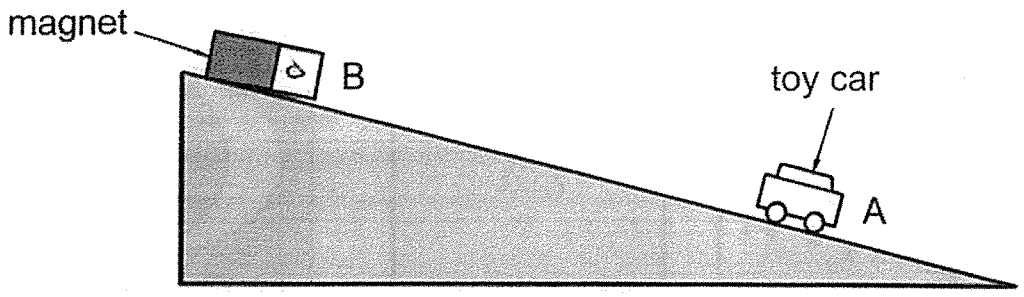

(3)




(4)



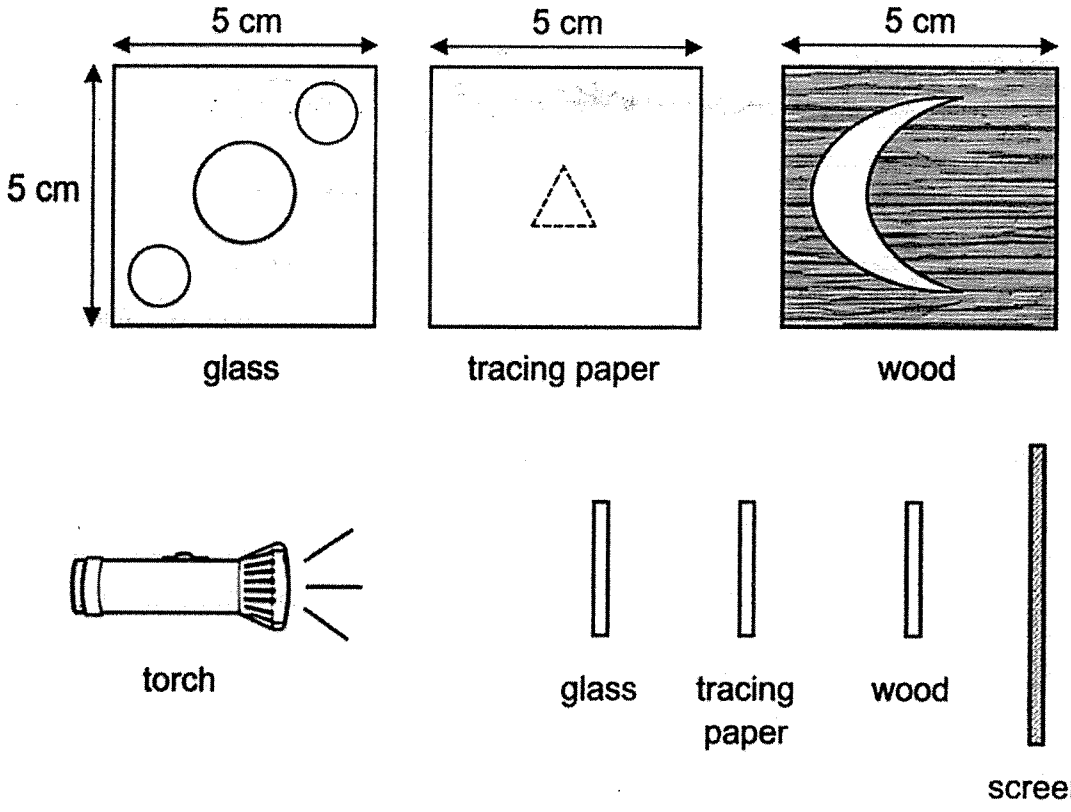
28. A metal toy car was speeding up a ramp from A due to the attractive force of a magnet.




Which of the following shows the change in kinetic energy and gravitational potential energy of the toy car as it moved from A to B?

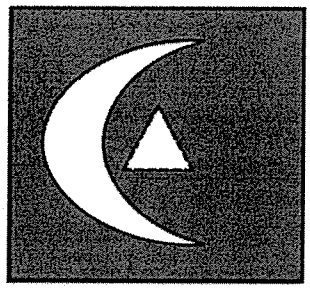
| | **Kinetic energy** | **Potential energy** |
|---|---|---|
| (1) | decrease | decrease |
| (2) | decrease | increase |
| (3) | increase | decrease |
| (4) | increase | increase |

29. Andy shone a torch light through three sheets of different materials. Each sheet of material had different shapes cut out as shown in the diagram below.

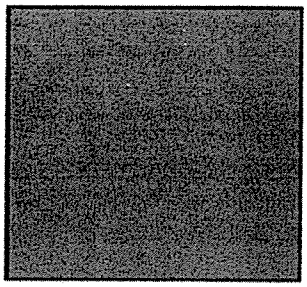



Which of the following shadows would he observe on the screen?

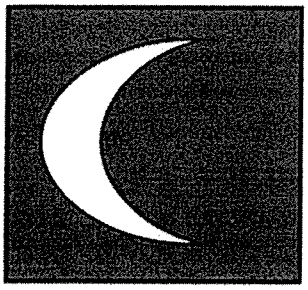
(1)



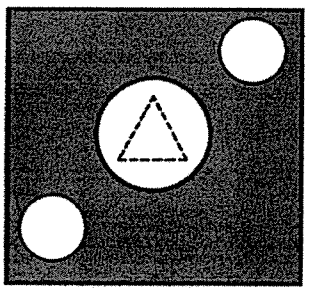
(2)




(3)



(4)



**30.** The actions P, Q, R and S below involve different conversions of energy.

P Burning a piece of wood

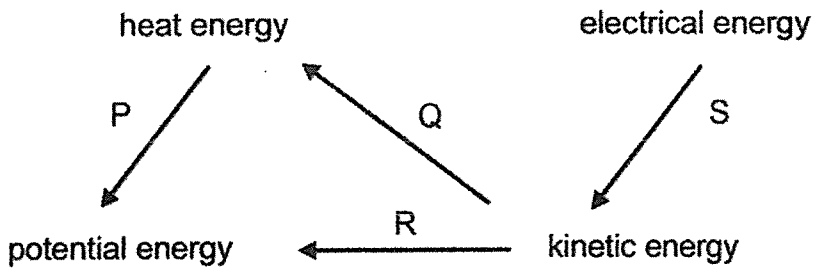
Q Releasing a wound-up car

R Rubbing a piece of wood repeatedly on a rough floor

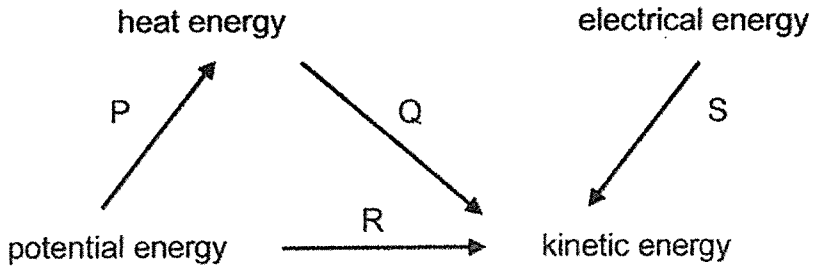
S Using fast running water to move a turbine in a generator

Which of the following diagrams shows the correct energy changes?

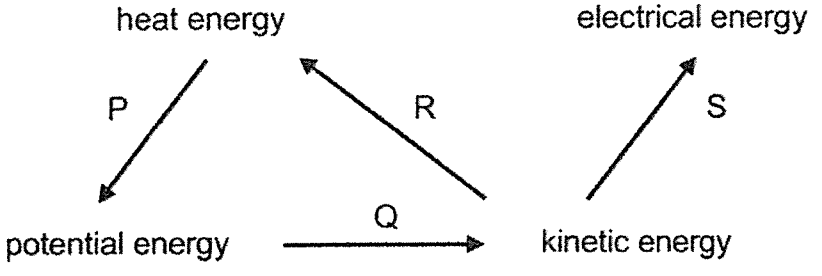
(1)



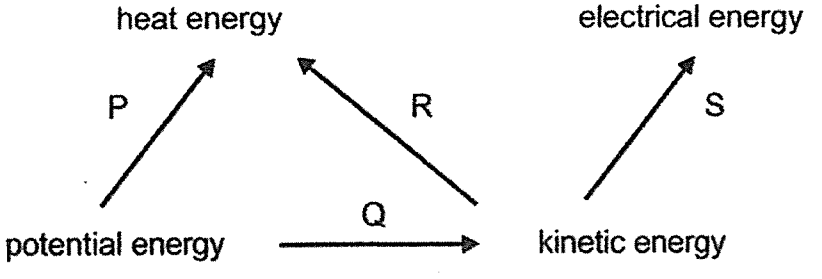

(2)




(3)




(4)




**End of booklet A**

# AI TONG SCHOOL

## 2026 PRELIMINARY EXAMINATION
## PRIMARY SIX SCIENCE

## (BOOKLET B)

**20 AUGUST 2026** **Total time for booklets A and B : 1 h 45 min**

---

## INSTRUCTIONS

1. Please check that your name, school and index number are printed **CORRECTLY** on the label before pasting it within the box provided.
2. Do not turn over this page until you are told to do so.
3. Follow all instructions carefully.
4. Answer all questions.
5. Use a dark blue or black ballpoint pen to write your answers and use a pencil for drawings, diagrams or graphs.
6. Do not use correction fluid/tape.
7. Do not use highlighter on any part of your answers.

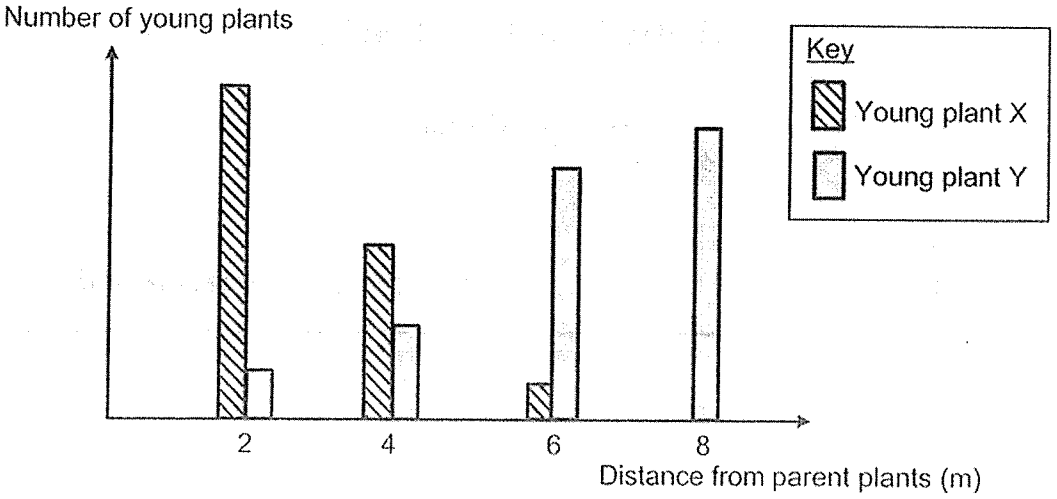
---

Section B: 40 marks

For question 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.**

31. Devi counted the number of two different types of young plants, X and Y, growing at different distances from their parent plants. The graph below shows the results.




(a) Based on the graph above, state one characteristic of the fruits of plant X that would result in its dispersal pattern. [1]

_____

Butterflies are found near plants X and Y.

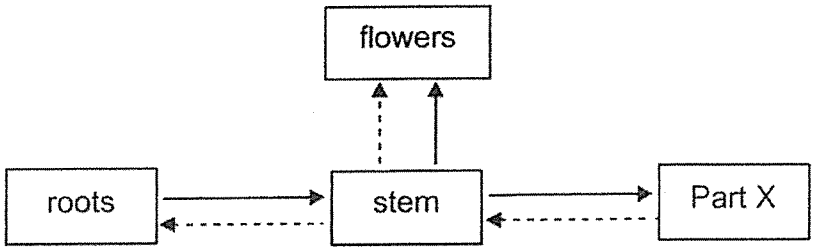
(b) State how the butterflies help the plants to reproduce. [1]

_____

(Go on to the next page)

2

32. The diagram below shows how substances are being transported in a plant.

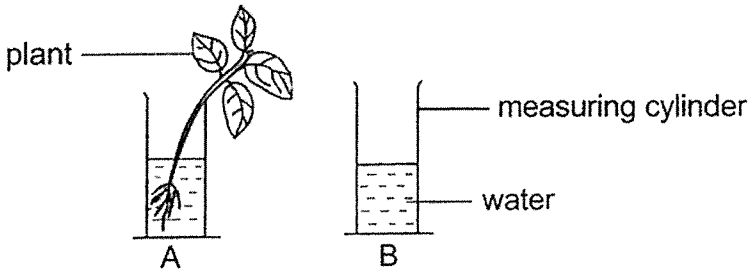



(a) What do the following represent in the flow chart? [1]

(i) Part X: _____

(ii) ◀- - - : _____

Linda wanted to find out the volume of water taken in by a plant. She placed a plant in measuring cylinder A and set up measuring cylinder B as shown below.




Measuring cylinders A and B were left in the open for a week. The table below shows the volume of water in A and B on Day 1 and Day 7 of the experiment.

| Measuring cylinder | Volume of water ($cm^3$) | |
|---|---|---|
| | Day 1 | Day 7 |
| A | 1500 | 1350 |
| B | 1500 | 1450 |

(b) What was the volume of water taken in by the plant? [1]

_____

(c) If Linda had not set up B, what could she do to A to obtain an accurate result? [1]

_____

_____

(Go on to the next page)

33. The diagram below shows how blood flows through blood vessels W to Z during exercise.

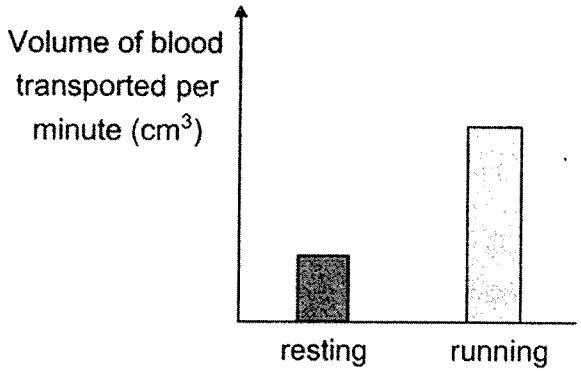

(a) (i) What is organ A? [1]

_____

(ii) Which blood vessel, W to Z, transports most carbon dioxide in the blood? [1]

_____

The graph below shows the volume of blood transported per minute to the leg muscles during resting and running.




(b) Explain why there is a difference in the amount of blood transported to the leg muscles when running. [2]

_____

_____

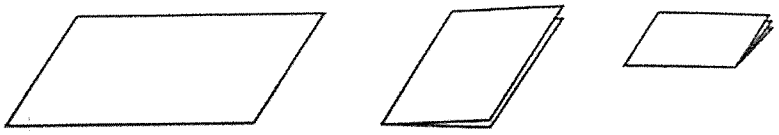
_____

(Go on to the next page)



4

34. Zelda conducted an experiment using three identical pieces of paper, P, Q and R. Paper P was not folded while papers Q and R were folded as shown.



paper P paper Q paper R

Zelda dropped each piece of paper from the same height and measured the time taken for the piece of paper to reach the ground.

The table below shows his results.

| **Paper** | **P** | **Q** | **R** |
|---|---|---|---|
| **Time taken for paper to fall to ground (s)** | 12 | 9 | 5 |

(a) What is the relationship between the surface area of the paper and the time taken for the paper to reach the ground? [1]

_____

_____

(b) What is/are the force(s) acting on the piece of paper as it falls to the ground? [1]

_____

_____

(Go on to the next page)

**Question 34 continues on the next page.**

2

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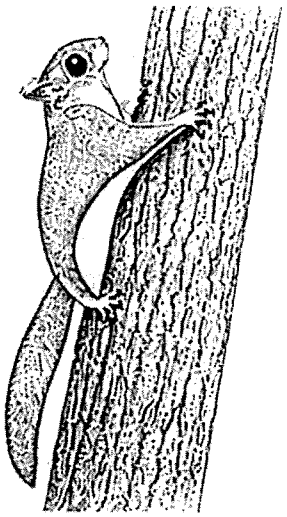
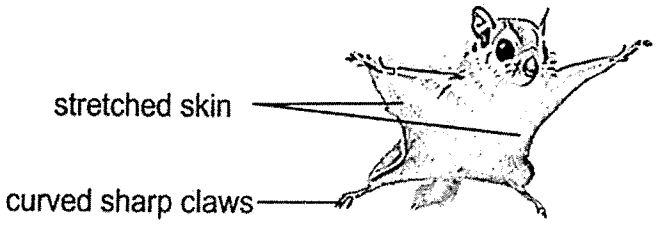
Animal X is a mammal which lives in dense forests. It is sometimes seen on tree trunks or gliding from tree to tree.



animal X on a tree trunk




animal X gliding

(c) How does animal X's stretched skin enable it to glide in the air and move from one tree to another? [1]

(d) How do Animal X's curved, sharp claws help it to land safely on a tree? [1]

(Go on to the next page)



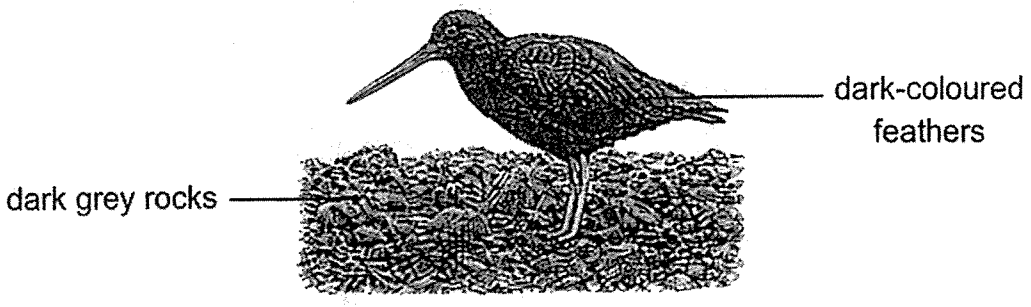
2

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

_____

_____

The diagram below shows bird A which has dark-coloured feathers. It lives near seashores that are covered with dark grey rocks.



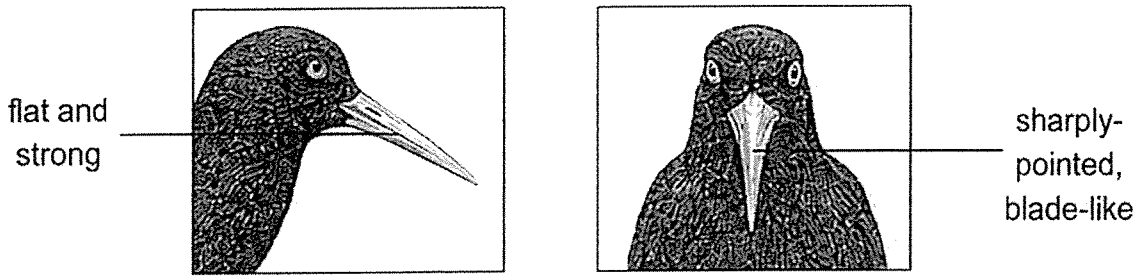

bird A

(b) Explain how having dark-coloured feathers helps bird A survive better on those rocky seashores. [1]

_____

_____

The diagrams below show what the beak of bird A looks like. Bird A has a flat, strong and blade-like beak.




side view front view

(c) Bird A uses its beak to obtain its prey living among the rocks on the seashore. Based on the information given above, state the food that bird A would eat. [1]

_____

_____

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Question 35 continues on the next page.



3

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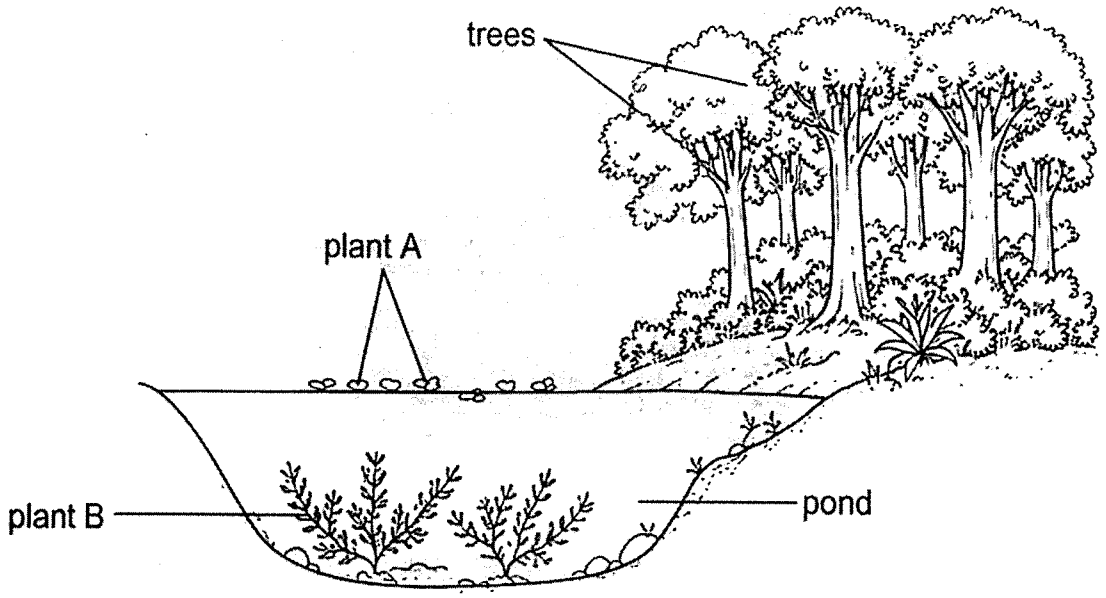
The diagram below shows a pond near a forest.




(d) When the trees were cut down, a large amount of soil was washed down into the pond. This action caused the population of plant A to increase after some time. Explain why. [1]

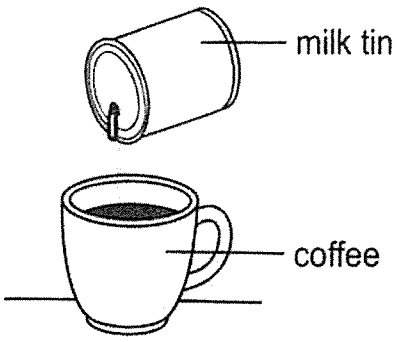
(e) What would happen to the population of plant B if the population of plant A increases in large numbers? Explain your answer. [1]

(Go on to the next page)



2

36. Kaili wanted to add milk to her coffee as shown below. She noticed that the milk flowed out of the tin slowly.

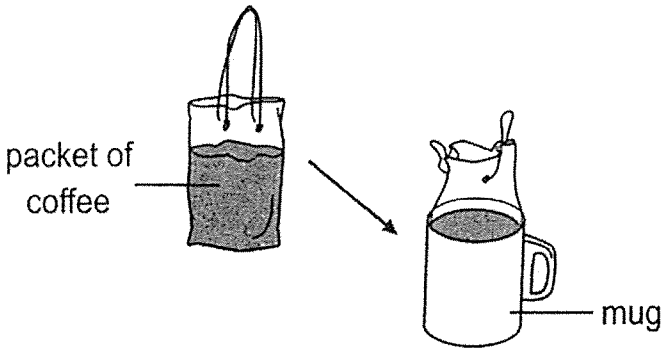



(a) Explain why the milk flowed out slowly. [1]

_____

_____

On another day, Kaili went to a coffee shop to buy a packet of coffee. She placed the packet of coffee into a mug, as shown, without the coffee overflowing.




(b) State a physical property of the coffee that enables it to be placed into the mug. [1]

_____

_____

(Go on to the next page)

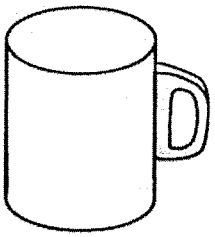
**Question 36 continues on the next page.**



2

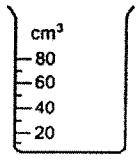
**Continues from the previous page**

Kaili wants to find out the maximum volume of liquid that can be poured into the mug without it overflowing.

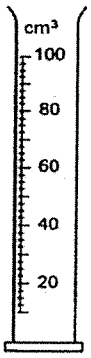


mug

She has some apparatus as shown and she can get water from a tap.

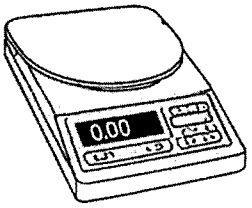



beaker




measuring cylinder

string




digital balance

container

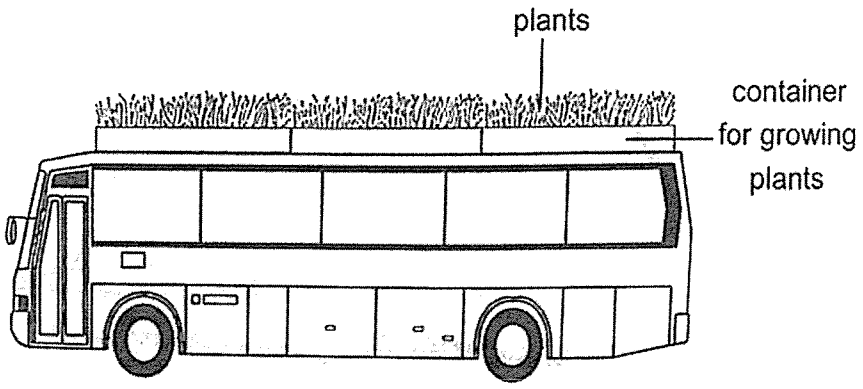
(c) Describe how Kaili can use the apparatus and water from the tap to determine the maximum volume of liquid that the mug can hold. [2]

(Go on to the next page)



2

37. Mr Samad and his team conducted an experiment to find out how growing plants on a bus would affect the temperature inside the bus. He fixed some containers of plants on top of a bus as shown below.




(a) Explain how growing plants on a bus would affect the temperature inside the bus. [2]

_____

_____

(b) Mr Samad's teammates told him that he needs a control set-up for his experiment. Describe the control set-up. [1]

_____

(c) The plants used in the experiment had flexible stems.
How does this characteristic help the plants survive better on a moving bus? [1]

_____

(Go on to the next page)

Question 37 continues on the next page.



4

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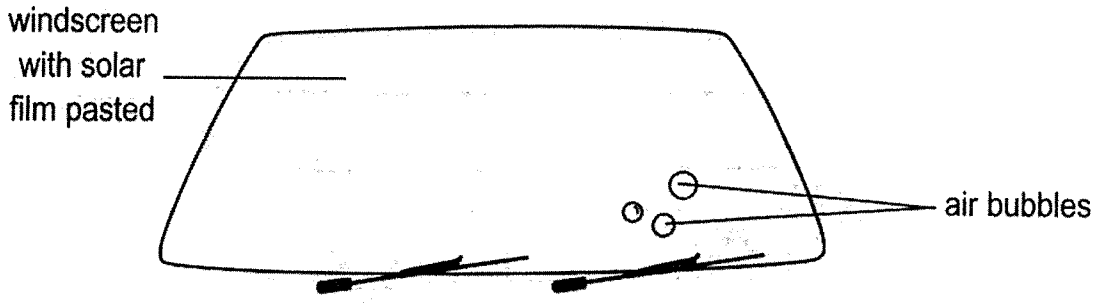
To reduce heat gain from the sun, Mr Samad pasted a thin layer of solar film on the windscreen of the bus.




Mr Samad noticed some air bubbles between the solar film and windscreen. The air bubbles became bigger on a hot day.

(d) Explain why the air bubbles become bigger. [1]

_____

_____

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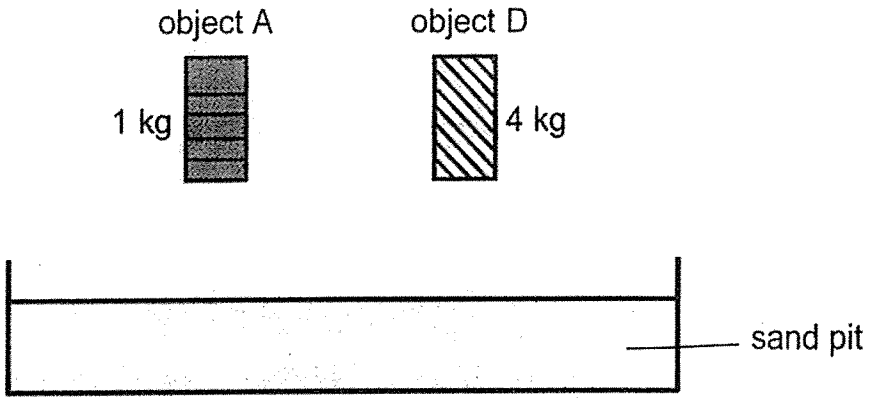
38. Sam has objects A and D, which are the same size and shape but are made of different materials. He dropped objects A and D onto a sand pit and recorded the depths of the dents formed in the sand.




| | **Object A** | **Object D** |
|---|---|---|
| **Depth of dent formed in the sand pit (cm)** | 2.3 | 3.1 |

(a) Sam observed that a greater dent was created when object D was dropped. Explain his observation using energy conversion. [2]

_____

_____

Sam repeated the experiment and observed that the results from the second try were kinetic different from the first. He recorded his results for the second try below.

| | **Object A** | **Object D** |
|---|---|---|
| **Depth of dent formed in the sand pit (cm)** | 5.4 | 6.7 |

(b) Suggest a reason why the depths of the dents formed in the sand pit in the second tries are different from the first tries. [1]

_____

(Go on to the next page)



3

39. Paul opened a rice cooker after the rice was cooked. He saw white fumes rising above the rice.


Explain how the white fumes were formed. [2]

(Go on to the next page)

40. Andy built a gadget, as shown in diagram 1, for a competition. Inside the gadget, he had a switch, a bulb, a motor (M) and two batteries to create the circuit as shown in diagram 2.

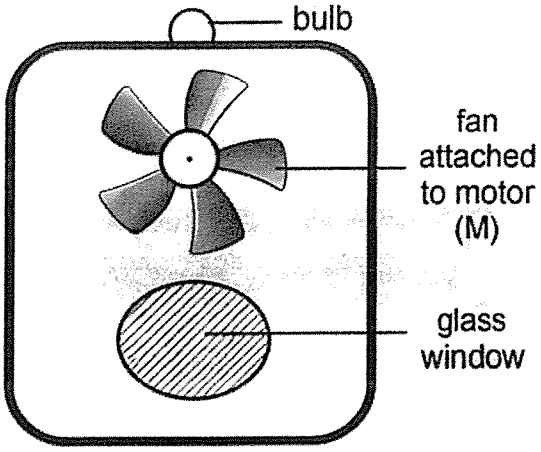



Diagram 1

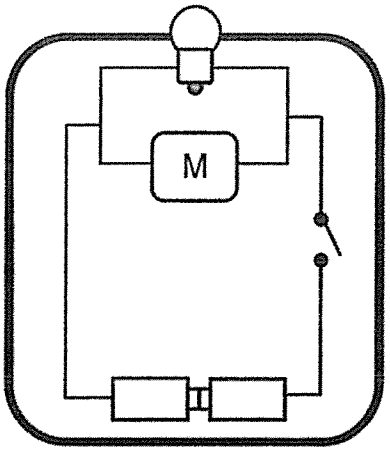
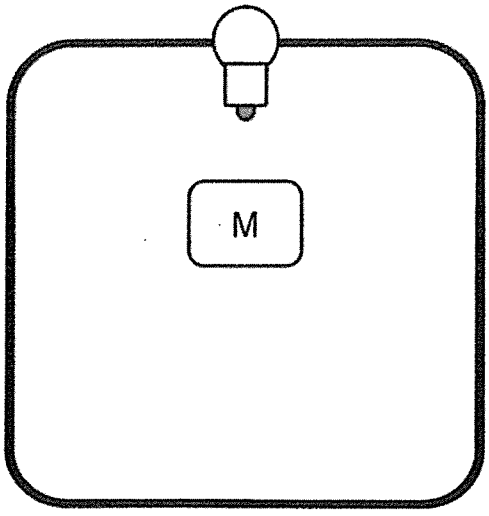



Diagram 2

When Andy closed the switch, the blades of the fan did not turn, and the bulb did not light up. His teacher told him he had made two mistakes in his circuit.

(a) Correct Andy's mistakes by drawing a circuit which will enable both the bulb and fan to work in the diagram below. (Draw in pencil.) [2]




(b) Andy wants to add one more bulb to his gadget so that it can be seen through the glass window. Both the bulbs must be equally bright when he closes the switch and the fan must turn. Draw in your diagram in (a) to show how the additional bulb should be connected. [1]

(Go on to the next page)

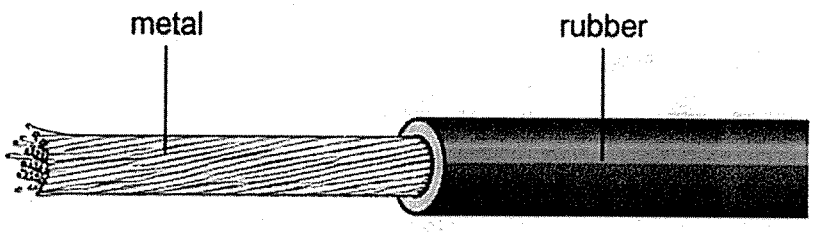
Question 40 continues on the next page.



3

**Continues from the previous page**

(c) Andy noticed that the electrical wires he used were made of metal but were covered with a rubber coating. Explain why rubber coating is necessary. [1]



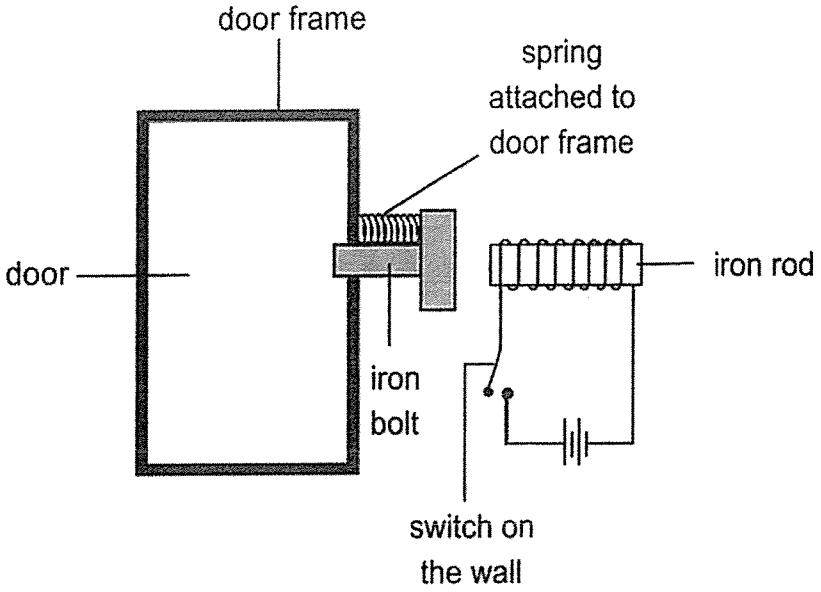

electrical wire

(Go on to the next page)



1

41. Lina created a set-up to show how an automatic door lock would look like as shown in the diagram below.




(a) When Lina pressed on the switch, the iron bolt moved towards the iron rod and the door was unlocked. Explain how this happened. [2]

_____

_____

_____

_____

(b) What will Lina observe about the door lock if she replaced the iron rod with a magnet? Explain. [2]

_____

_____

_____

_____

**End of paper**

**Please check your work**

B-16

4

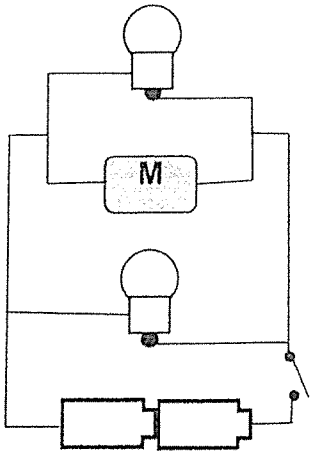
YEAR : 2026
LEVEL : PRIMARY 6
SCHOOL : AI TONG SCHOOL
SUBJECT : SCIENCE
TERM : PRELIMINARY EXAMINATION

(BOOKLET A)

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

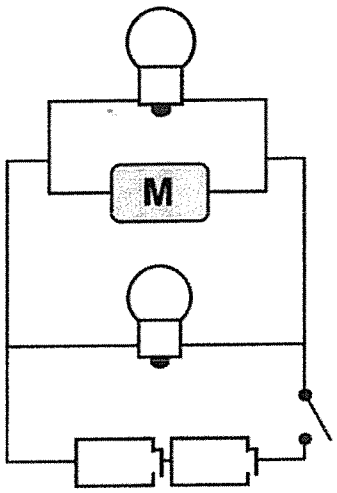
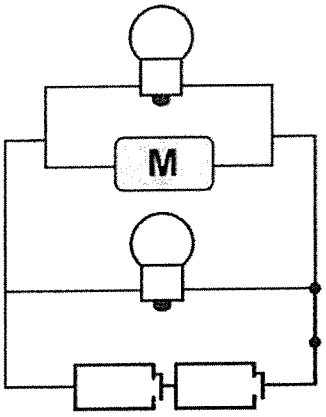
(BOOKLET B)

| | |
|---|---|
| Q31 | (a) The fruit has a pod-like structure.<br>(b) It helps in pollination of the plants, thus allowing the plants to undergo pollination, fertilisation and seed dispersal. |
| Q32 | (a) (i) Leaves<br>(a) (ii) Food / sugar / glucose<br>(b) 100 $cm^3$<br>(c) Add a layer of oil on top of the water in the measuring cylinder. |
| Q33 | (a) (i) Heart<br>(a) (ii) Blood Vessel X<br>(b) The body needs more energy. The heart pumps blood faster to transport more oxygen and digested food to the leg muscles and to remove more carbon dioxide and waste materials away from the muscles. |
| Q34 | (a) As the surface area of the paper increases, the time taken for the paper to reach the ground increases.<br>(b) Gravitational force and frictional force.<br>(c) The stretched skin increases its exposed surface area and allows animal X to glide in the air longer to travel further.<br>(d) The claws help animal X to grab, hook or cling onto the tree. |
| Q35 | (a) A community is two or more different populations of organisms living together in a particular habitat.<br>(b) Bird A uses its feathers to camouflage with its surroundings so that it will not be spotted easily by its predators. |

| | |
|---|---|
| | (c) Shellfish / crabs / clams / oysters.<br>(d) The soil that was washed down provides mineral salts for plant A to grow.<br>(e) The population of plant B will decrease. Light is blocked by plant A. Without light, plant B cannot photosynthesise and will die. |
| Q36 | (a) As the milk flows out, air enters the tin slowly to push the milk out, so the milk flows out slowly.<br>(b) Coffee has no definite shape.<br>(c) Fill the mug to the brim with water. Pour all the water into a measuring cylinder gently to avoid splashes. Read the volume of water at eye level. |
| Q37 | (a) The temperature would decrease. The plants block sunlight from reaching the roof of the bus, so less heat is transferred into the bus.<br>(b) Use the same type of bus with no plants.<br>(c) It allows the stem to bend without breaking due to the force exerted by the wind when the bus moves.<br>(d) The air bubbles gained heat from the Sun and expanded. |
| Q38 | (a) Object D made a deeper dent as it has more mass. More potential energy in D is converted to more kinetic energy when it falls, which is transferred to more kinetic energy in the sand.<br>(b) Sam dropped objects A and D from a greater height than in the first trial. |
| Q39 | Hot water vapour from the rice comes into contact with the cooler surrounding air, loses heat and condenses to form tiny water droplets, forming the white fumes. |
| Q40 |  <br>(c) The rubber coating acts as an electrical insulator to protect people from electric shock. |
| Q41 | (a) It forms a closed circuit and electric current flows through the circuit. The iron rod becomes an electromagnet and attracts the iron bolt, unlocking the door.<br>(b) The door will remain unlocked. The magnet will attract the iron bolt even when the switch is opened. |

| Qn | Answer | Remarks |
|---|---|---|
| 31. | **Reproduction in plants and humans** | |
| (a) | The fruit has a **pod-like structure.** | Focus on characteristic of fruit instead of the method of seed dispersal. |
| (b) | Butterflies helps in **pollination.** | Take note of command word of "state" and do not need to explain. |
| 32. | **Plant parts and functions** | |
| (a) | (i) leaves / leaf<br><br>(ii) food / **sugar / glucose** | Not acceptable:<br>• leave |
| (b) | 100 $cm^3$ / **100 ml** | Need to write the correct unit. |
| (c) | Add a layer of oil on top of the water in the measuring cylinder. | Accuracy is not the same as reliability of results. |
| 33. | **Human systems** | |
| (a) | (i) Heart<br>(ii) X | |
| (b) | The body needs **more energy**. The **heart pumps blood faster** to **transport more oxygen** and **digested food** to the leg muscles and to remove **more carbon dioxide** and **waste materials** away from the muscles. | Need to show comparison using comparative terms. |
| 34. | **Forces and Adaptations** | |
| (a) | As the surface area of the paper increases, the time taken for the paper to reach the ground increases. | Process skill: Writing relationship statements |
| (b) | **Gravitational force** and **frictional force** | **gravity** |
| (c) | The stretched skin **increases its exposed surface area** and allows X to **glide in the air longer** to travel further. | Relate the exposed surface area to its movement. |
| (d) | The claws help animal X to **grab onto the tree**. | **catch / hook / cling** |

| Qn | Answer | Remarks |
|---|---|---|
| 35. | **Interactions within environment** | |
| (a) | A community is two or more different populations of organisms living together in a particular habitat. | |
| (b) | Bird A uses its feathers to camouflage with its surroundings so that it will not be spotted easily by its predators. | Need to relate to the survival of bird A. |
| (c) | Shellfish / crabs / clam / oyster / young turtle | |
| (d) | The soil that was washed down provides mineral salts for plant A to grow. | Not acceptable:<br>The soil is a fertiliser. |
| (e) | Choice: The population of plant B will decrease.<br>**Explain:** Light is blocked by plant A. Without any light, plant B cannot photosynthesise and will die. | Need to mention the correct choice. |
| 36. | **Matter** | |
| (a) | As the milk flows out, air enters the tin slowly to push the milk out, so the milk flows out slowly. | |
| (b) | Coffee has no definite shape. | Property of liquids. |
| (c) | Fill mug to the brim with water. Pour all the water into a measuring cylinder gently to avoid splashes. Read the volume of water at eye level to find the volume of water. | Need to select the correct apparatus from the question.<br>Not acceptable:<br>Height / Amount of water |
| 37. | **Heat transfer** | |
| (a) | Choice: The temperature would **decrease**.<br>Explain: The plants blocks sunlight from reaching the roof of the bus so less heat is transferred into the bus. | Relate to heat transfer. |
| (b) | Same type of bus with no plants | Control set-up |
| (c) | It allows the stem to bend without breaking due to the force exerted by the wind when the bus moves. | Applying the idea of flexibility |
| (d) | Air bubble gained heat from the Sun and expanded. | |
| 38. | **Energy forms and uses, energy conversion** | |
| (a) | Object D made a deeper dent as it has more mass.<br>**More potential energy** in D is converted to more **kinetic energy** when it falls, which is transferred to more kinetic energy in the sand. | Need to use comparative terms in energy conversion. |
| (b) | Sam dropped objects A and D at a higher height than the first try. | |

| Qn | Answer | Remarks |
|---|---|---|
| **39.** | **Water cycle** | |
| | Hot water vapour from the rice, comes in contact with the cooler surrounding air, loses heat and condenses to form tiny water droplets, forming the white fumes. | Need to state the correct source of water vapour. |
| **40.** | **Electrical system** | |
| (a) |  | Idea of connecting bulb at metal casing and metal tip.<br><br>Idea of battery in the same direction. |
| (b) |  | Idea of bulbs connected in parallel arrangement |
| (c) | The plastic coating acts as an electrical insulator to protect people from electric shock. | Relate to the user. |
| **41.** | **Forces – magnetic force** | |
| (a) | It forms a closed circuit and electric current flows through the circuit.<br>The iron rod becomes an electromagnet and attracts the iron bolt, unlocking the door. | |
| (b) | The door will remain unlocked. The magnet will attract the iron bolt even when the switch is opened. | Need to write the correct observation and then explain. |



END