AI TONG SCHOOL

2025 PRELIMINARY EXAMINATION
PRIMARY SIX SCIENCE

(BOOKLET A)

21 AUGUST 2025 **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.
2. Do not turn over this page until you are told to do so.
3. Follow all instructions carefully.
4. Answer all questions.
5. Use a dark blue or black ballpoint pen to write your answers in the space provided for each question.
6. Do not use correction fluid/tape or highlighters

Name : _____
Form Class _____

姓名：_____
华文班：_____

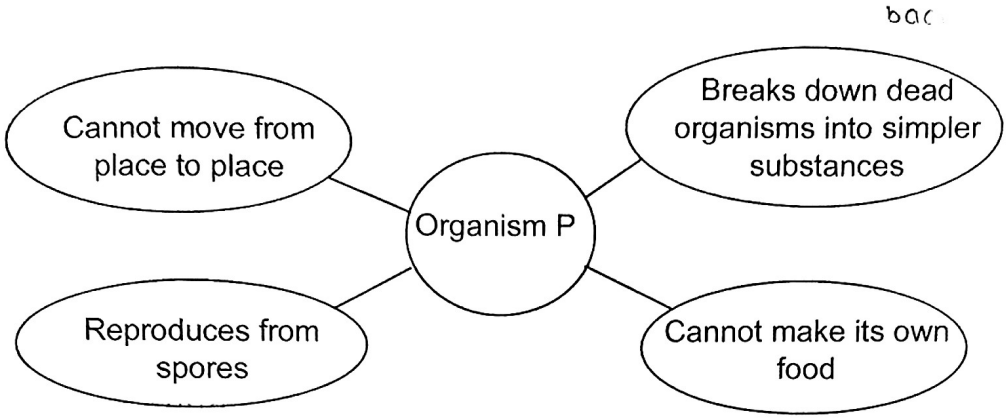
Booklet A	56
Booklet B	44
Total	100

Parent's Signature : _____

Section A (28 x 2 marks)

For each question from 1 to 28, four options are given. One of them is the correct answer. Make your choice and shade the correct oval (1, 2, 3 or 4) on the Optical Answer Sheet.

1. The diagram below shows a bubble map on characteristics of an organism P.

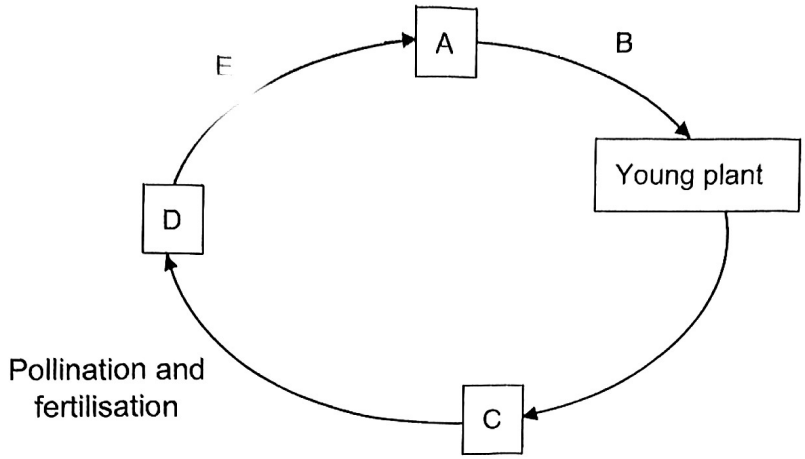


What could organism P be?

A Bacteria
B Mushroom
C Bread mould
D Bird's nest fern

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

2. The diagram below shows the processes of reproduction in a flowering plant.



What do the letters A, B, C, D and E in the diagram represent?

	A	B	C	D	E
(1)	Seed	Seed dispersal	Adult plant with flowers	Adult plant with fruits	Germination
(2)	Seed	Germination	Adult plant with flowers	Adult plant with fruits	Seed dispersal
(3)	Germination	Seed dispersal	Adult plant with flowers	Adult plant with fruits	Seed
(4)	Germination	Seed	Seed dispersal	Adult plant with flowers	Adult plant with fruits

3. Three statements about sexual reproduction in plants and humans are shown below:

A Fertilisation occurs in a female reproductive part.

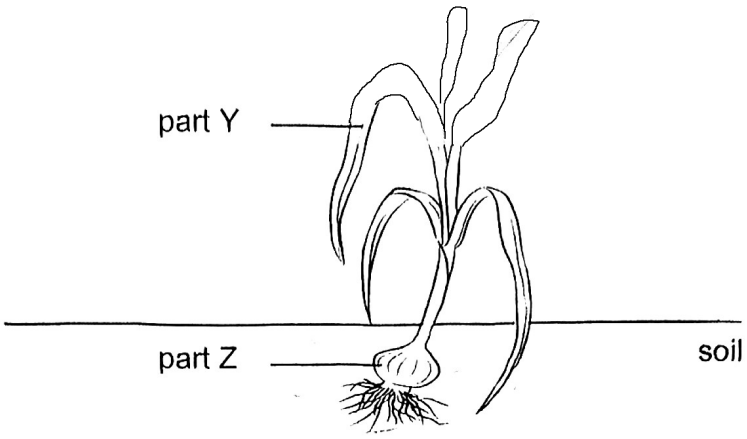
B Reproductive cells are produced in the anthers.

C The fertilised egg is found in the ovary.

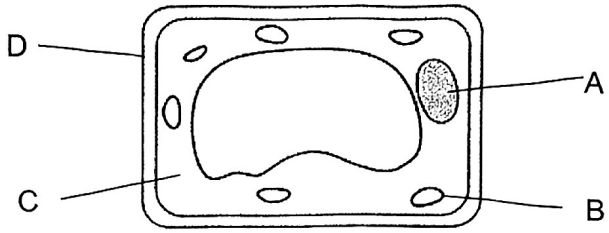
Which of the following is correct?

	Plants	Humans
(1)	B	A, C
(2)	A, C	C
(3)	A, B, C	A
(4)	A, B, C	A, C

4. The diagram below shows an onion plant.



A cell is then taken from a part of the onion plant as shown below.



Which cell parts, A, B, C or D are found in both parts Y and Z of the onion plant?

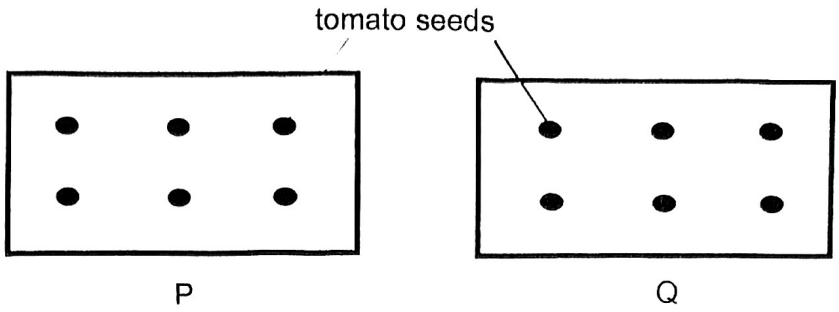
(1) A and B only

(2) B and D only

(3) A, C and D only

(4) A, B, C and D

5. Mr Samy has two different plots of land, P and Q. He wants to find out which plot is better for growing tomato plants.



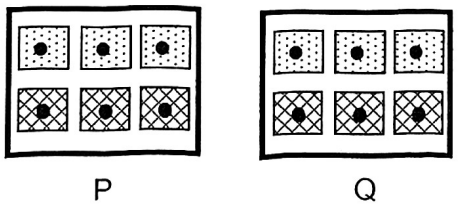
He predicts that the tomato seeds will germinate and grow faster if he gives each seed 10g of fertiliser.

However, his wife thinks that the seeds will germinate and grow faster if they were given 20g of fertiliser.

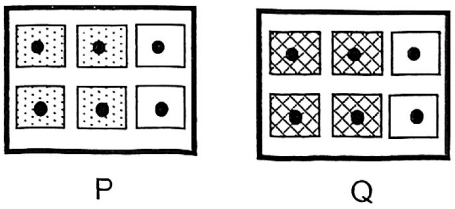
Which of the following arrangement should Mr Samy use to carry out a fair test for their predictions?

Key: - 10g of fertiliser given
- 20g of fertiliser given
- No fertiliser given

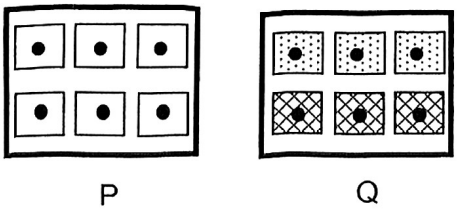
(1)



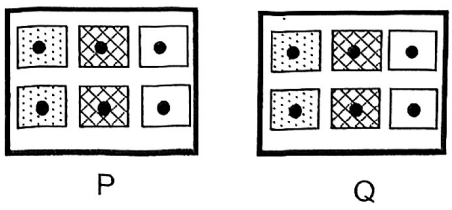
(2)



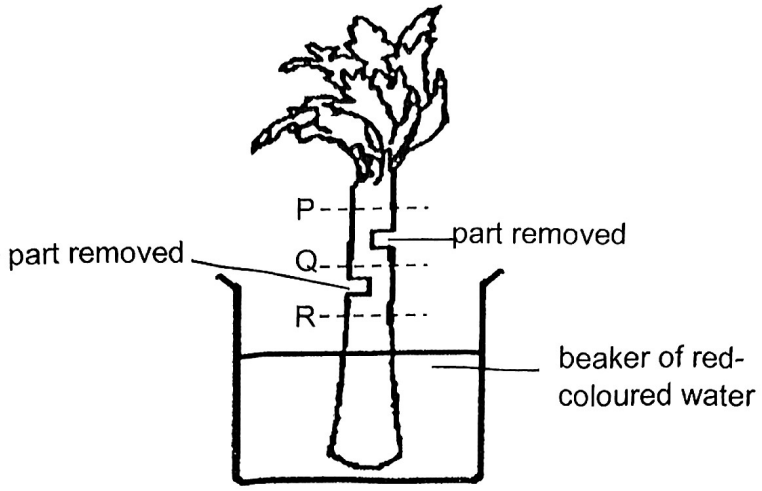
(3)



(4)

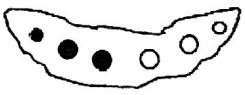


6. Mrs Lim removed parts of a celery stalk at two positions as shown in the diagram below. She then lowered the celery stalk into a beaker of red-coloured water. After some time, she removed the stalk from the beaker and cut it horizontally at positions P, Q and R.



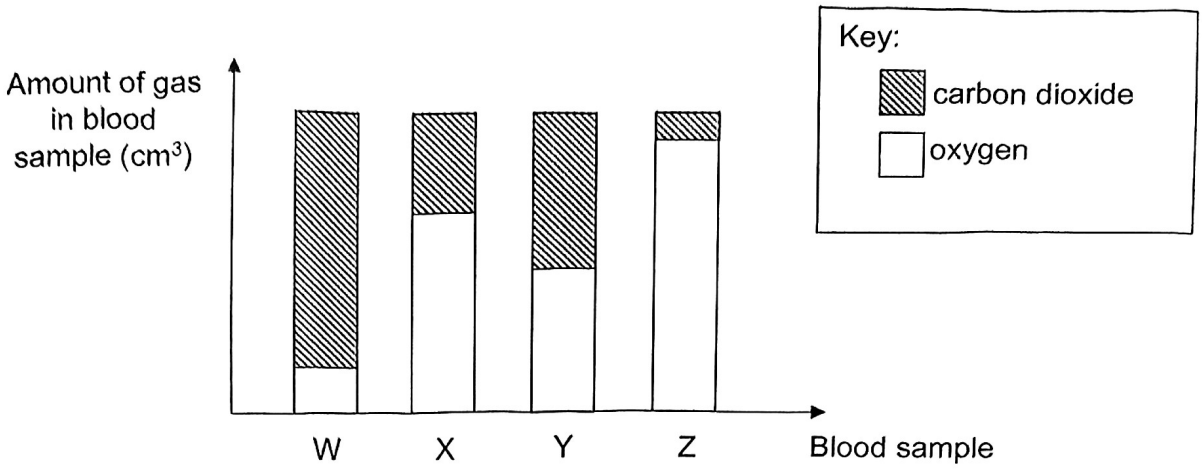
She observed and drew out the cross-sections of the celery stalk. In her drawing, she shaded the parts of the cross-sections that were stained red.

Which one of the following best matches the drawings of the cross-sections of the celery stalk to positions P, Q and R?

	From P	From Q	From R
(1)			
(2)			
(3)			
(4)			

2

7. Four blood samples, W, X, Y and Z were taken from different parts of the human body.



Based on the graph above, which of the blood samples, W, X, Y or Z was most likely taken from blood flowing from the lungs to the heart?

(1) W

(2) X

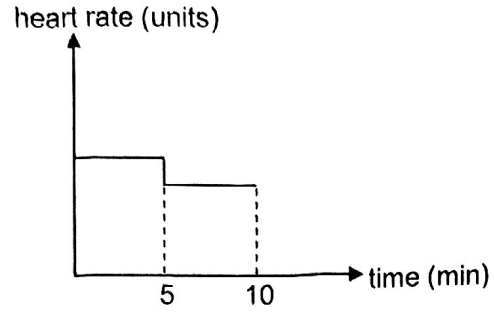
(3) Y

(4) Z

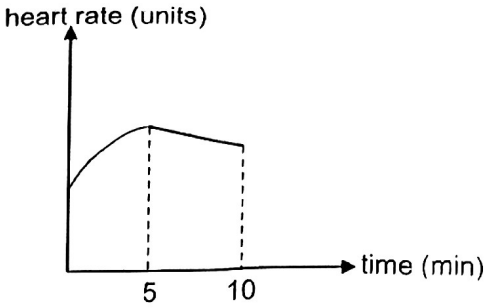
8. Xiuwen did not want to miss her school bus in the morning. She ran very quickly for five minutes from her home to the pick-up point. She was able to rest for five minutes before her school bus arrived.

Which graph below shows her heart rate during the ten-minute period?

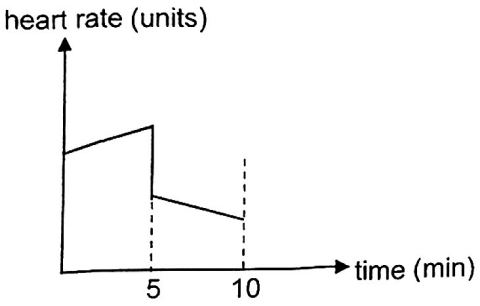
(1)



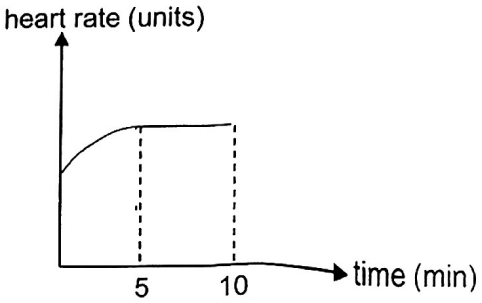
(2)



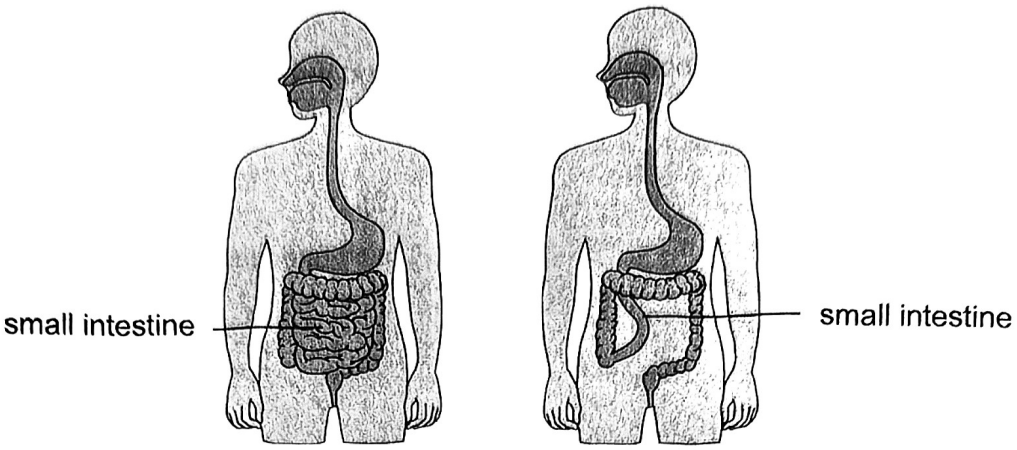
(3)



(4)



9. The diagrams below show the digestive system of two men, Mr A and Mr B. Mr B had surgery to remove part of his small intestine.



Digestive system of Mr A

Digestive system of Mr B, with part of the small intestine removed

Both Mr A and Mr B had the same meal with equal portion of food.
Which statement(s) about digestion taking place in their bodies is/are correct?

A More undigested food will enter the small intestine of Mr A.

B More undigested food will enter the large intestine of Mr B.

C Less digested food will be absorbed at the small intestine of Mr B.

D Equal amounts of digested food will enter the bloodstreams of Mr A and Mr B.

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

10. Which one of the following describes a behavioural adaptation?

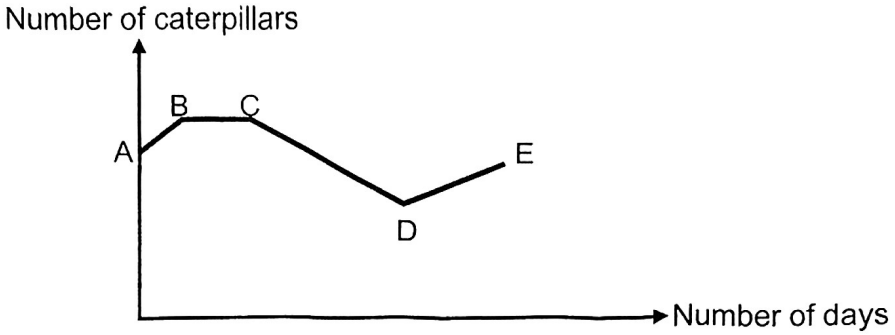
(1) Stick insect looks like a twig so its predators cannot spot it easily.

(2) Desert fox only hunts after the sun has set because it is cooler at night.

(3) The camel's hump stores fats which provides energy for it to travel long distances.

(4) Hummingbirds have a very long beak that they use like a straw to drink nectar from flowers.

11. The graph below shows the change in the number of caterpillars in a garden over a period of time.



Which of the following could be taking place from C to D?

A More butterflies came to lay eggs.

B Some caterpillars hatched from eggs.

C Some pesticides were sprayed on the plants.

D More birds were seen flying around the garden.

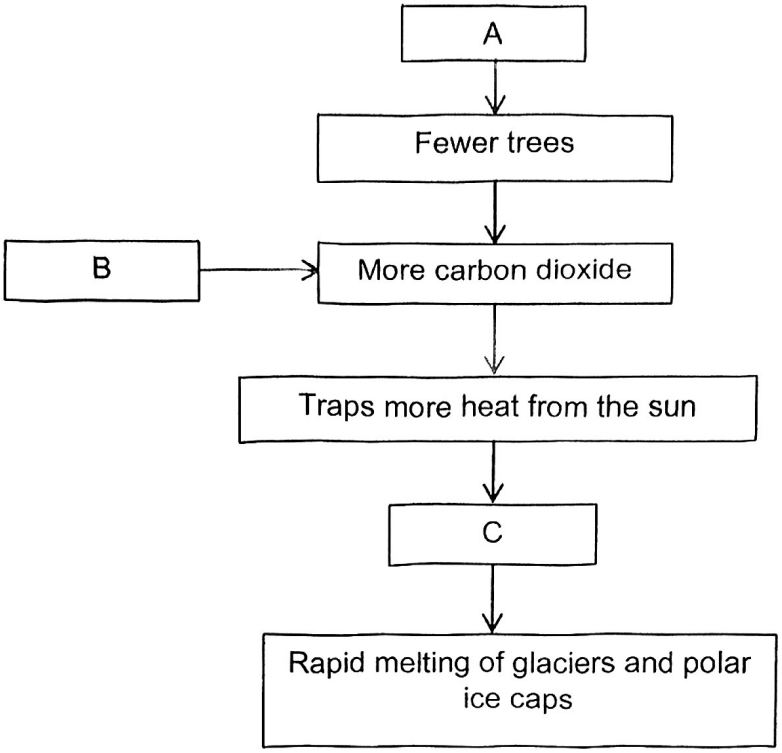
(1) A and B only

(2) C and D only

(3) B, C and D only

(4) A, B, C and D

12. The diagram below shows how some of Man's activities affect the environment.



Which of the following correctly represents A, B and C?

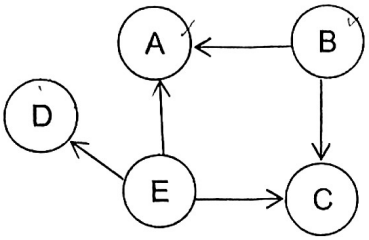
	A	B	C
(1)	Use of CFCs	Deforestation	Burning fossil fuels
(2)	Global warming	Use of CFCs	Deforestation
(3)	Deforestation	Burning fossil fuels	Global warming
(4)	Burning fossil fuels	Global warming	Use of CFCs

13. There are five organisms, A, B, C, D and E in a food web. The information below shows their relationship:

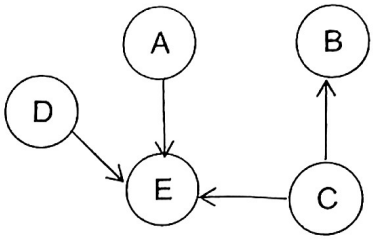
- D is a carnivore.
- B is the prey of A.
- B and E are herbivores.
- A and D are predators of E.

Based on the information given above, which of the following food webs is correct?

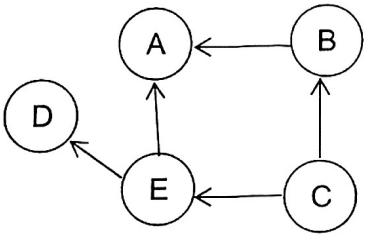
(1)



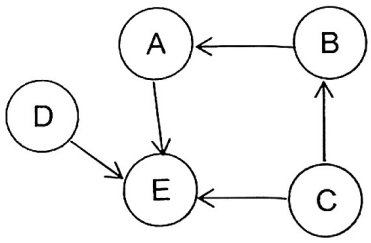
(2)



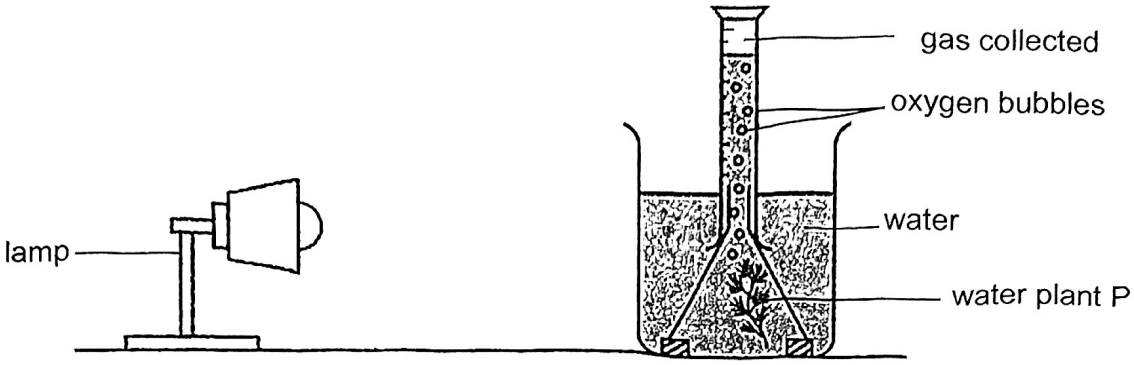
(3)



(4)



14. Alan and his friends wanted to find out if the number of leaves of a water plant or the size of the leaves of the water plants affects the rate of photosynthesis. They were given four different set-ups which were placed under the same light source. After 20 minutes, they counted the number of oxygen bubbles produced in each set-up for one minute.



They recorded the results in the table below.

Set-up	Size of leaves	Number of leaves	Amount of oxygen bubbles produced per minute
1	Small	35	35
2	Medium	20	40
3	Small	20	20
4	Medium	35	70

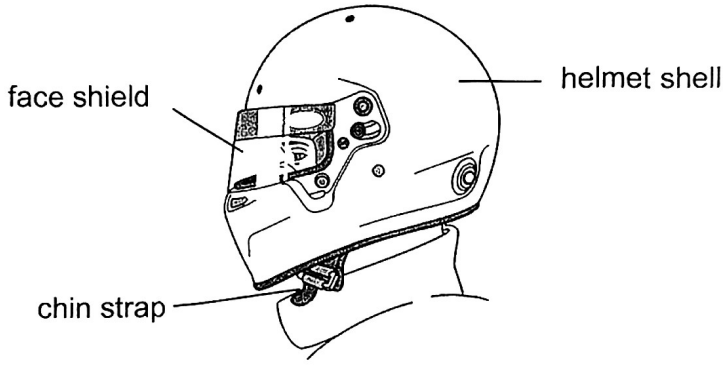
Which set-ups should they choose to make the comparisons?

	How the number of leaves affect rate of photosynthesis.	How the size of leaves affect rate of photosynthesis.
(1)	Set-ups 1 and 3	Set-ups 1 and 3
(2)	Set-ups 2 and 4	Set-ups 1 and 4
(3)	Set-ups 1 and 3	Set-ups 3 and 4
(4)	Set-ups 2 and 3	Set-ups 1 and 2

15. The table shows the properties of four materials, W, X, Y and Z. A tick (√) indicates the presence of the property.

Material	Property			
	Allows light to pass through	Flexible	Strong	Waterproof
W	√		√	√
X	√	√		√
Y		√	√	√
Z				√

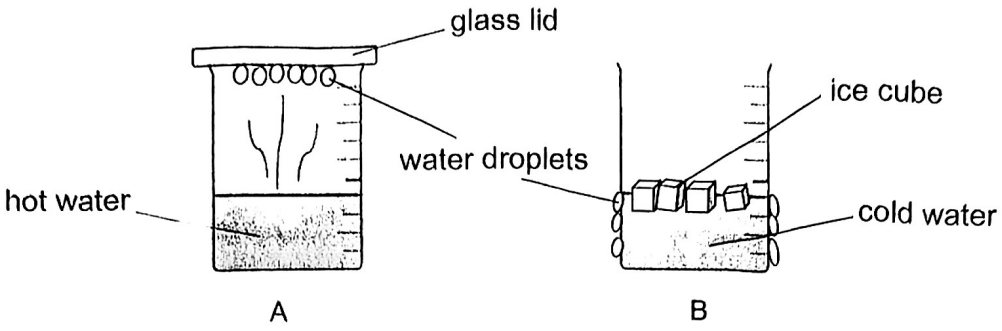
Motorcyclists wear helmets to protect their heads when they ride on the road. The diagram below shows a helmet that is commonly worn by a motorcyclist.



Which of the following materials are most suitable for making the different parts of the helmet?

	Helmet shell	Face shield	Chin strap
(1)	X	Y	W
(2)	Y	X	Z
(3)	Z	W	Y
(4)	W	Z	X

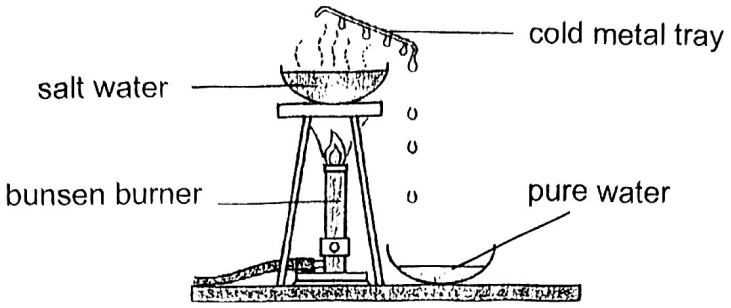
16. Study the following diagram.



Where did the water droplets on each surface come from?

	Setup A	Setup B
(1)	cool glass lid	cold surface of beaker
(2)	hot water vapour from hot water	ice cubes in cold water
(3)	hot water vapour from hot water	warm water vapour from surrounding air
(4)	warm water vapour from surrounding air	warm water vapour from surrounding air

17. Lucien used the set-up shown below to get pure water from salt water.



Which process in the water cycle is similar to the process where water droplets formed on the cold metal tray?

(1) Formation of clouds

(2) Rain falling back to the ground

(3) Evaporation of water from the sea

(4) Formation of water vapour from all water bodies

18. The table below shows the freezing and boiling points of four substances, A, B, C and D.

Substance	Freezing Point (°C)	Boiling Point (°C)
A	2	27
B	10	50
C	0	100
D	16	35

At which temperature will only one of the above substances be at its solid state?

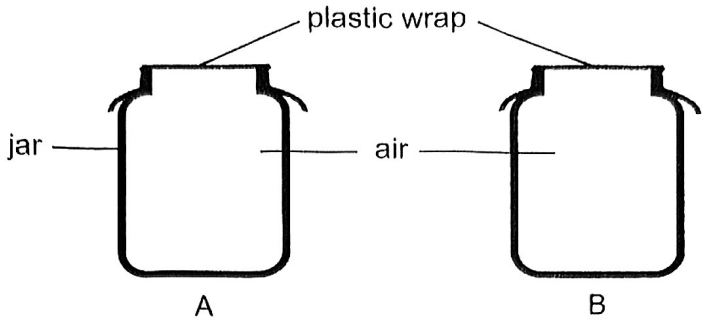
(1) 8 °C

(2) 12 °C

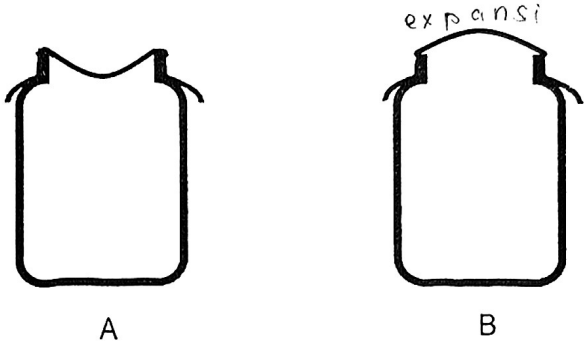
(3) 18 °C

(4) 40 °C

19. Tim covered two identical jars, A and B, tightly with plastic wrap so that air could not escape or enter the jars, as shown below.



He placed jar A in the freezer, while he heated jar B. The diagram below shows his observations after 20 minutes.

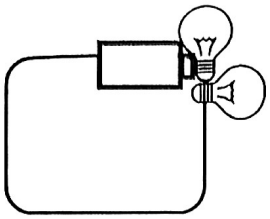


Which of the following correctly describes the changes in the volume of air in jar A and the mass of air in jar B?

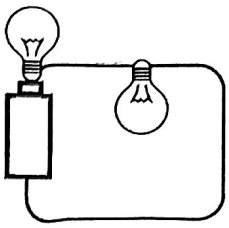
	Volume of air in jar A	**Mass of air in jar B**
(1)	decreased	increased
(2)	decreased	remained the same
(3)	remained the same	decreased
(4)	remained the same	remained the same

20. The diagrams below show four different electrical circuits A, B, C and D. Each of them consists of an identical battery and two similar light bulbs, all of which are in working condition.

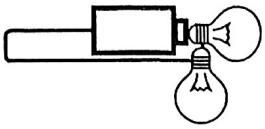
Circuit A



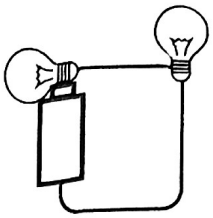
Circuit B



Circuit C



Circuit D



Which circuit(s) would allow both bulbs to light up?

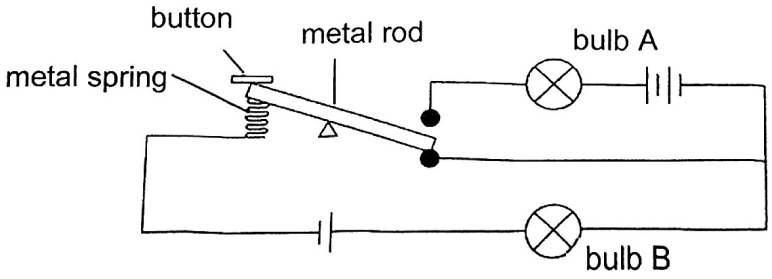
(1) B only

(2) A and B only

(3) C and D only

(4) A, B and D only

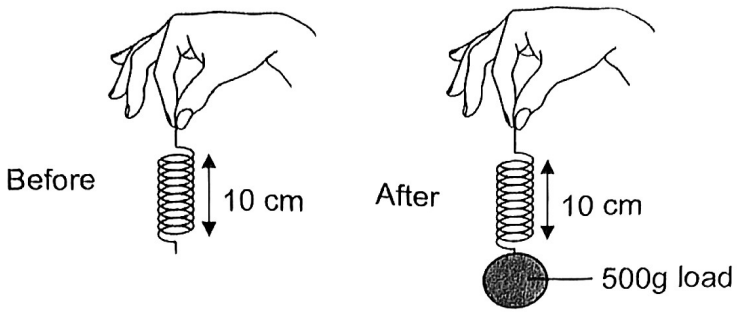
21. The circuit below uses two identical bulbs, A and B and three identical batteries. Bulb A is unlit at first and bulb B is lit with a brightness of 2 units.



When the button is pressed and held down, what would happen to bulbs A and B?

	bulb A	**bulb B**
(1)	as bright as 2 units	unlit
(2)	brighter than 2 units	unlit
(3)	as bright as 2 units	as bright as 2 units
(4)	brighter than 2 units	brighter than 2 units

22. The diagrams below show a spring before and after a 500g load was hung on it. The spring remained unstretched after the load was hung on it.



Based on the information given, which of the following statements are correct?

A There is no gravitational force acting on the spring at the beginning.

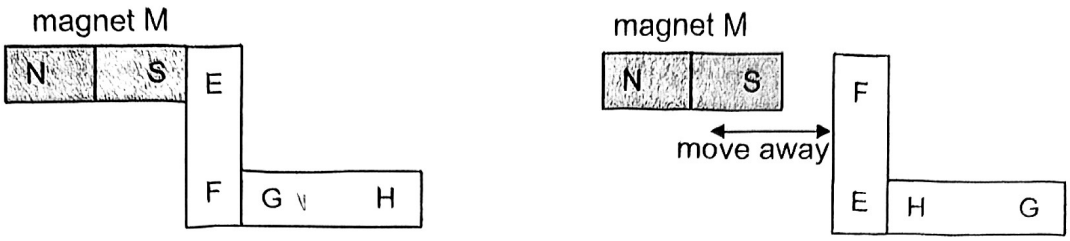
B The gravitational force acting on the 500g load was not enough to stretch the spring.

C There is no elastic spring force acting on the load when the 500g load was hung from it.

D The gravitational force acting on the 500g load is in the same direction as the elastic spring force exerted by the spring.

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

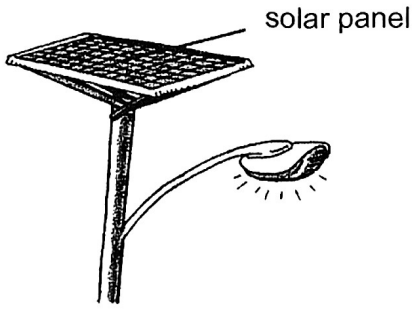
23. The diagrams below show the different arrangements of magnet M with bars EF and GH.



Which of the following correctly identifies bars EF and GH?

	Magnet	Not a magnet	Not possible to tell
(1)	EF	GH	-
(2)	EF and GH	-	-
(3)	GH	EF	-
(4)	EF	-	GH

24. The diagram below shows a solar lamp which has a solar panel to trap energy from the Sun during the day and gives out light at night.



Which one of the following shows the conversion of energy in the solar lamp?

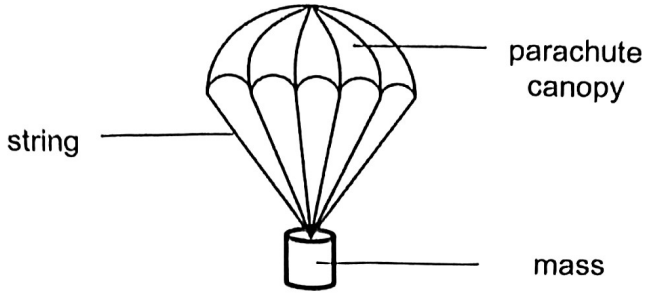
(1) heat energy → light energy + heat energy

(2) heat energy + light energy → electrical energy → light energy

(3) light energy → electrical energy → light energy + heat energy

(4) light energy → potential energy → electrical energy → light energy + heat energy

25. Larry wanted to find out more about air resistance. He carried out an experiment using two toy parachutes A and B. He concluded that the larger the parachute canopy, the greater the amount of air resistance. Which of the data shown in the table below led him to the conclusion?



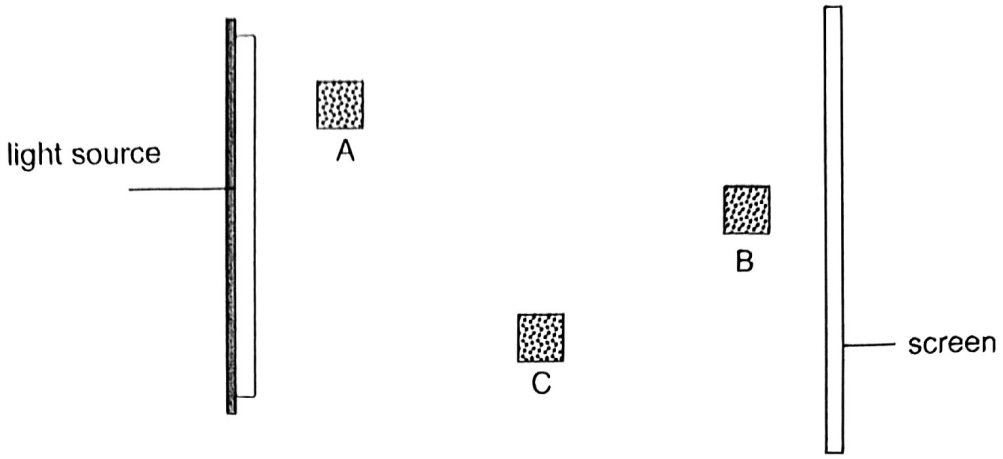
(1)	Parachute	Area of parachute canopy (cm^2)	Length of string (cm)	Mass (g)	Time taken to reach the ground (s)	Height released from (m)
	A	10	15	50	15	2
	B	30	30	50	45	3

(2)	Parachute	Area of parachute canopy (cm^2)	Length of string (cm)	Mass (g)	Time taken to reach the ground (s)	Height released from (m)
	A	10	15	25	15	2
	B	30	15	25	45	2

(3)	Parachute	Area of parachute canopy (cm^2)	Length of string (cm)	Mass (g)	Time taken to reach the ground (s)	Height released from (m)
	A	10	30	25	45	3
	B	10	15	50	15	2

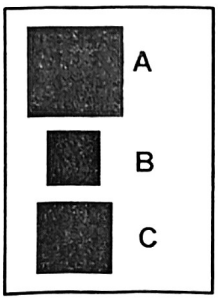
(4)	Parachute	Area of parachute canopy (cm^2)	Length of string (cm)	Mass (g)	Time taken to reach the ground (s)	Height released from (m)
	A	10	30	25	45	2
	B	30	30	25	15	2

26. Three metal objects of the same size, A, B and C are placed at different locations between a light source and a white screen as shown in the diagram below.

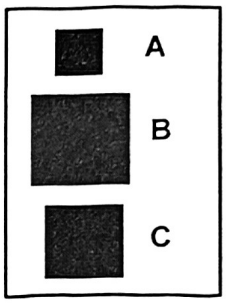


When the light source is switched on, which one of the following diagrams correctly shows the shadows cast on the screen by the three metal objects?

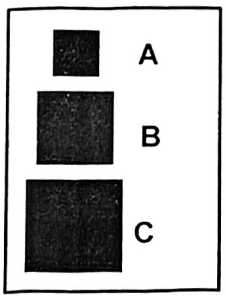
(1)



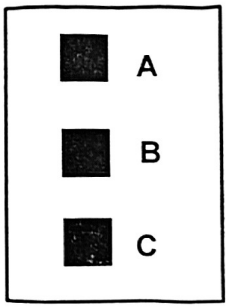
(2)



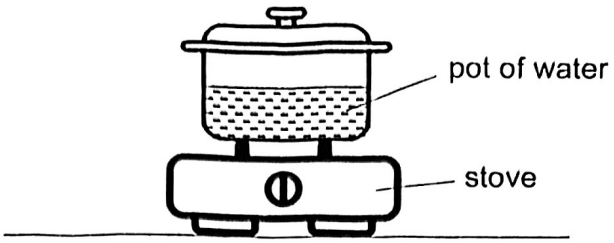
(3)



(4)



27. Ryan boiled some water using three identical pots of different materials, X, Y and Z. He was told that the materials conduct heat at different rates.



He recorded the time taken for the water to boil in each pot in the table below.

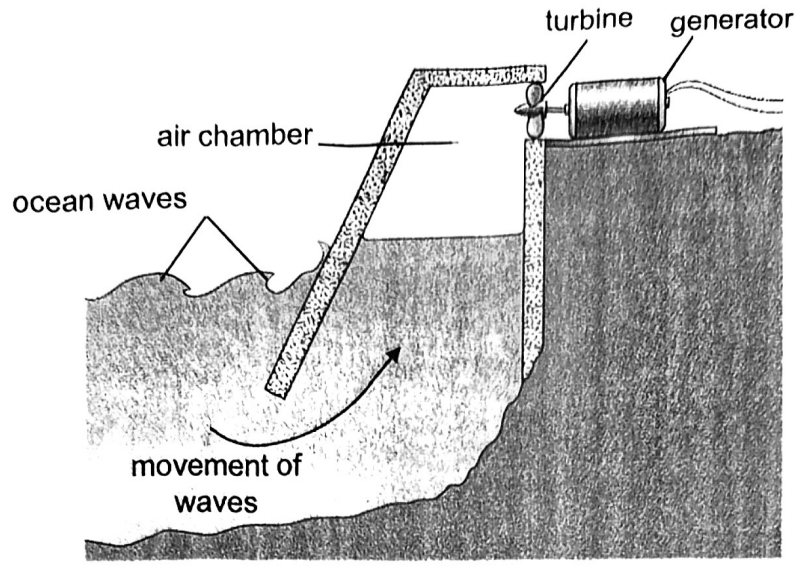
Pot	How well the material conducts heat	Time taken for the water to boil (minutes)
X	Best conductor of heat	6
Y	Good conductor of heat	6
Z	Poor conductor of heat	6

Ryan realised that he had made a mistake as he did not start his experiment with the same amount of water.

Which one of the following most likely shows the volume of water he used at the start of the experiment?

	Amount of water at the start of experiment (ml)		
	Pot X	**Pot Y**	**Pot Z**
(1)	100	300	500
(2)	500	300	100
(3)	100	500	300
(4)	300	500	100

28. For his research, Sean found out how ocean waves can be used to generate electricity. He drew a simplified diagram shown below.



Sean wrote down, in no particular order, how electricity is generated.

A The generator produces electricity.

B The air turns the turbine.

C The turbine turns the generator.

D The waves push the air up the chamber.

E The waves move up the chamber.

What is the correct order of how electricity is generated in the diagram?

(1) D, B, C, E, A

(2) D, E, B, C, A

(3) E, B, D, A, C

(4) E, D, B, C, A

End of booklet A

AI TONG SCHOOL

2025 PRELIMINARY EXAMINATION
PRIMARY SIX SCIENCE

(BOOKLET B)

21 AUGUST 2025 **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.
2. Do not turn over this page until you are told to do so.
3. Follow all instructions carefully.
4. Answer all questions.
5. Use a dark blue or black ballpoint pen to write your answers in the space provided for each question.
6. Do not use correction fluid/tape or highlighters

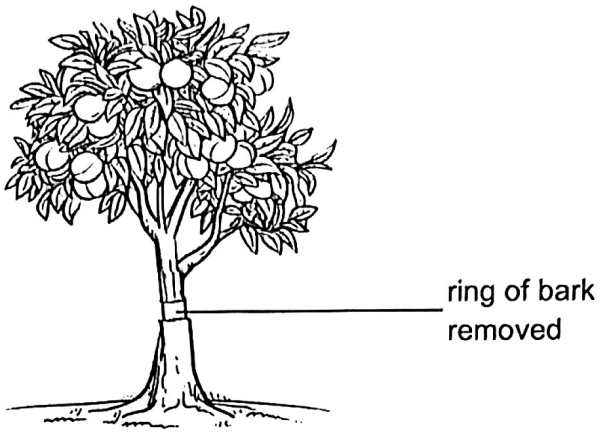
Booklet B	**44**

Parent's Signature : _____

Section B: 44 marks

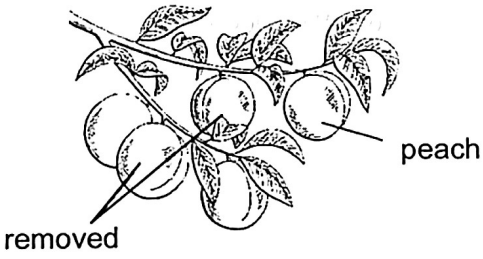
Read the questions carefully and write down your answers in the spaces provided.

29. Farmer Lim, who grows peaches, thought of a method to produce sweeter fruits. He removed a ring of bark containing only food-carrying tubes. The tree would remain alive and he would get sweeter peaches.



(a) Explain how this method produces sweeter peaches. [2]

Farmer Lim's friend told him that he should also remove a few peaches from each cluster when they start to grow.

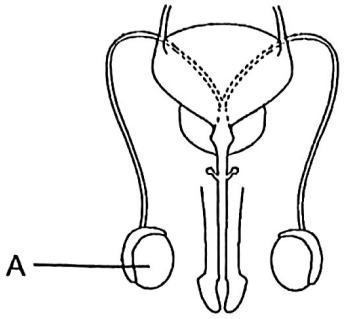


(b) How would this affect the size of the remaining peaches? Explain why. [1]

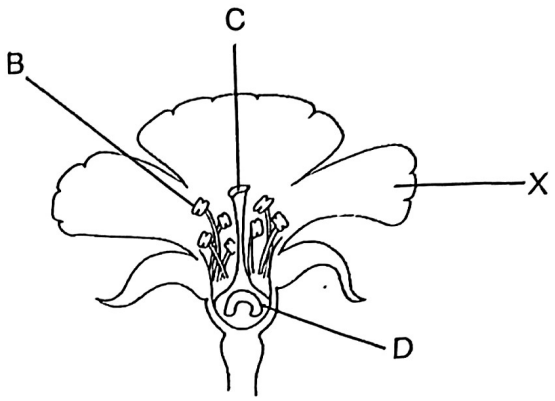
(Go on to the next page)

3

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



Human reproductive system



Plant reproductive system

(a) (i) Name part A of the human reproductive system. [½]

_____

(ii) Which plant part, B, C or D of the plant reproductive system has a similar function as part A? [½]

_____

(b) Part X is important in the production of fruits by the plant. Explain why. [2]

_____

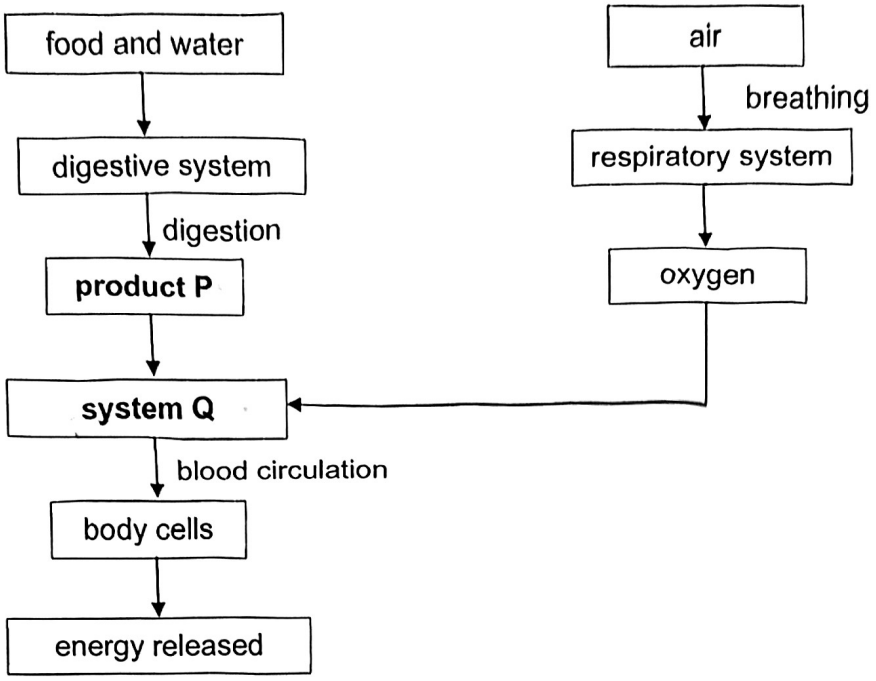
_____

_____

(Go on to the next page)

3

31. The flow chart below shows the systems and processes in a human body.



(a) Name the following in the flow chart. [1]

(i) Product P: _____

(ii) System Q: _____

Organisms living in a certain environment were exposed to air that contained tiny harmful particle X. When many of these organisms died, scientists discovered that particle X was found in the brain of many of these dead organisms.

(b) Explain how particle X was found in the brains of these dead organisms. [2]

_____

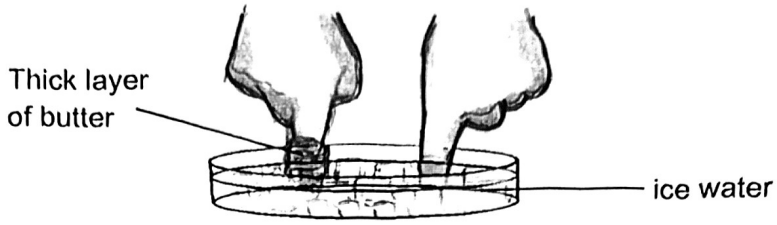
_____

_____

(Go on to the next page)

3

32. Angeline dipped two fingers into a dish of ice water. One finger was covered with a thick layer of butter. She timed how long she could keep the fingers inside the ice-cold water without feeling uncomfortable.



Her results are shown below.

	Amount of time finger stayed in ice water
Bare finger	45 s
Finger with butter	3 min

(a) Explain why her bare finger feels colder first. [1]

_____

_____

(b) What should Angeline do to make her results more reliable? [1]

_____

_____

Question 32 continues on the next page.

(Go on to the next page)

2

Continues from previous page.

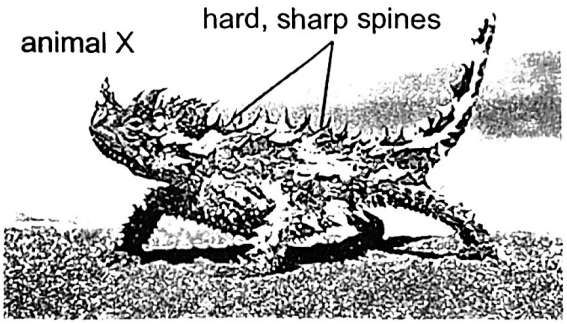
Animal A is a large mammal that survives well in cold regions. It has a layer of fat under its skin, a short tail and small ears to help it survive the winter conditions.

(c) Based on the results of Angeline's investigation, how does the thick layer of fat under its skin help animal A survive the cold weather? [1]

_____

_____

The picture below shows animal X which lives in the desert. It is coloured in various shades of brown. Its body is covered entirely with hard, sharp spines.



(d) Explain how the following adaptations help animal X in its survival.

(i) Hard, sharp spines: [1]

_____

_____

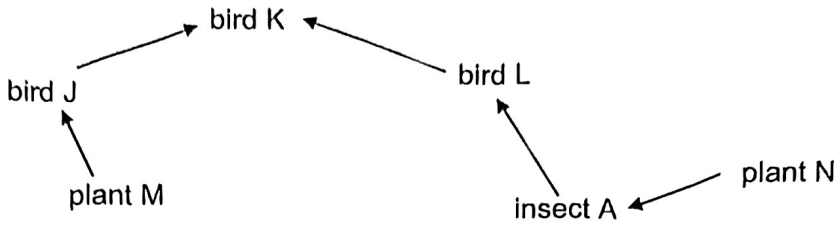
(ii) Body coloured in various shades of brown: [1]

_____

_____

(Go on to the next page)

33. The diagram below shows a food web in habitat X.



Many insect B moved into habitat X. Insect B is the predator of insect A.

(a) If the population of bird K remained the same, would the populations of bird L and bird J *increase*, *decrease* or *remain the same* after the migration of insect B? Explain your answer. [2]

Bird L: _____

_____

Bird J: _____

_____

Trees and plants in habitat X were cut down and burnt to clear the land to build roads.

(b) Explain how clearing of trees would lead to global warming. [2]

_____

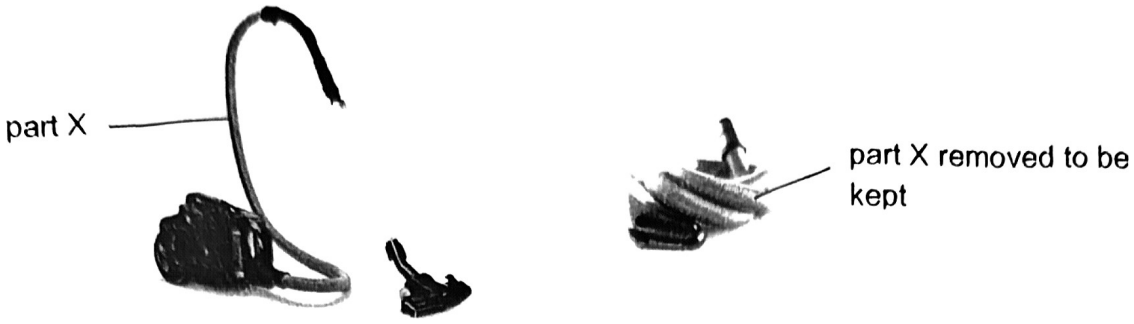
_____

_____

(Go on to the next page)

4

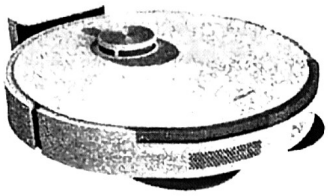
34. The diagram below shows Mrs Ng's old vacuum cleaner.



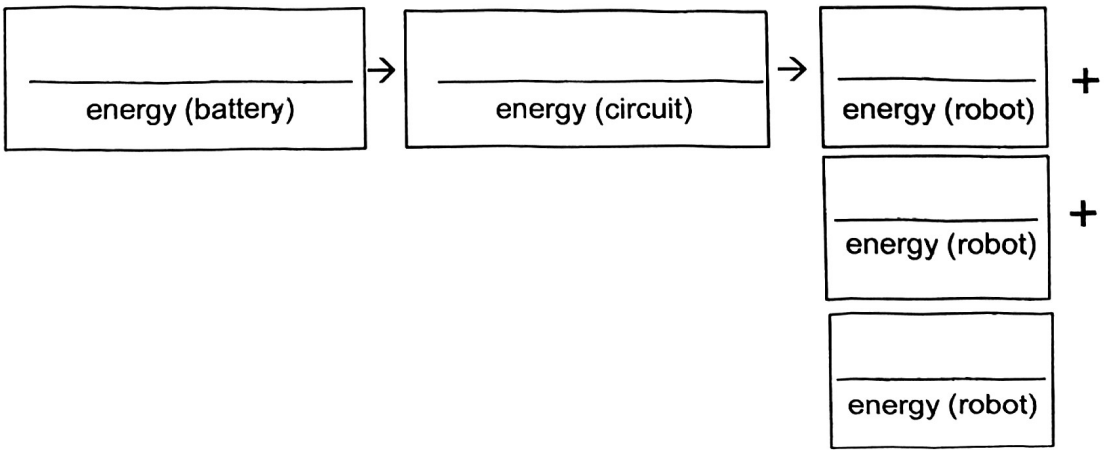
(a) State one property of the material that was used to make part X so that it can be removed and kept. [1]

_____

Mrs Ng bought a new battery-operated robot vacuum cleaner as shown below. It can run on its own without any supervision.



(b) Fill in the boxes below to show the energy conversions that occur when the robot vacuum cleaner is switched on. [2]

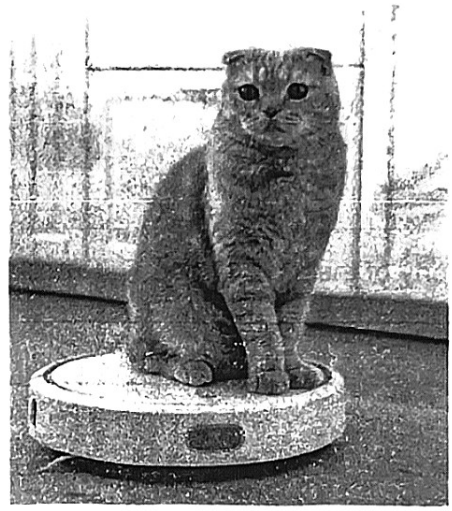


Question 34 continues on the next page.

(Go on to the next page)

Continues from previous page.

Mrs Ng's pet cat loves to sit on the robot vacuum cleaner when it is switched on.



(c) Explain in terms of energy conversion, why the robot vacuum cleaner with the cat sitting on it moved slower. [1]

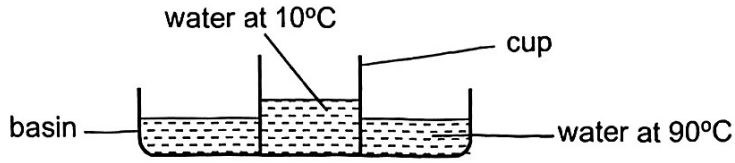
_____

_____

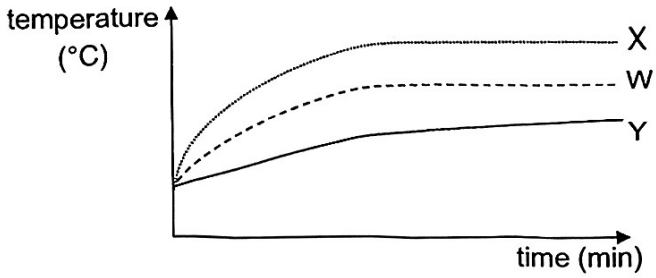
(Go on to the next page)

1

35. Nora wanted to test how cups made of different materials would affect the temperature of its contents. Three similar cups made of different materials, W, X and Y, were filled with cold water at 10°C. The cups were placed in three similar basins filled with water at 90°C.



The graph below shows the change in temperature of the water inside the cups over time.



(a) Explain why the thickness of the cups would need to be kept the same for all three set-ups. [1]

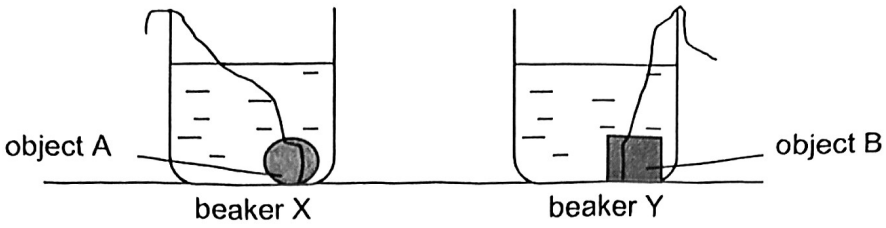
(b) Which material, W, X or Y, would be most suitable for making a coffee cup to keep the contents hot for the longest period? Explain your answer. [2]

(c) What would happen to the temperature of water in the basin over time? Explain your answer. [1]

(Go on to the next page)

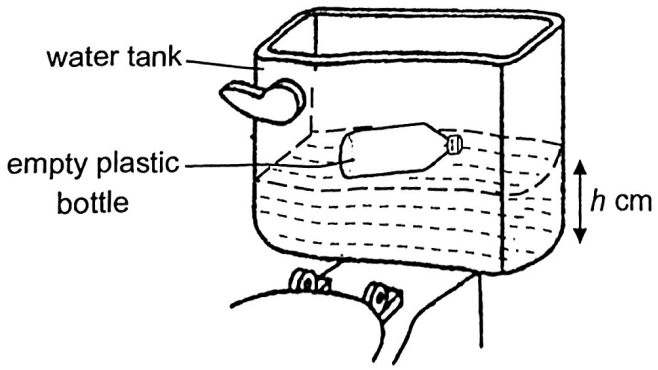
4

36. Ruby carried out an experiment as shown below. There are two identical beakers, X and Y, each with a different object submerged in it. The water levels in both beakers are the same.



(a) Without using any other materials, list the steps Ruby should take to find out which object A or B, has a bigger volume. [2]

The picture below shows a water tank containing water for flushing a toilet bowl. After every flush, the water tank fills up water to the level *h* cm. Ruby was told that if a plastic bottle was placed in the water tank, it would reduce the amount of water used for flushing.

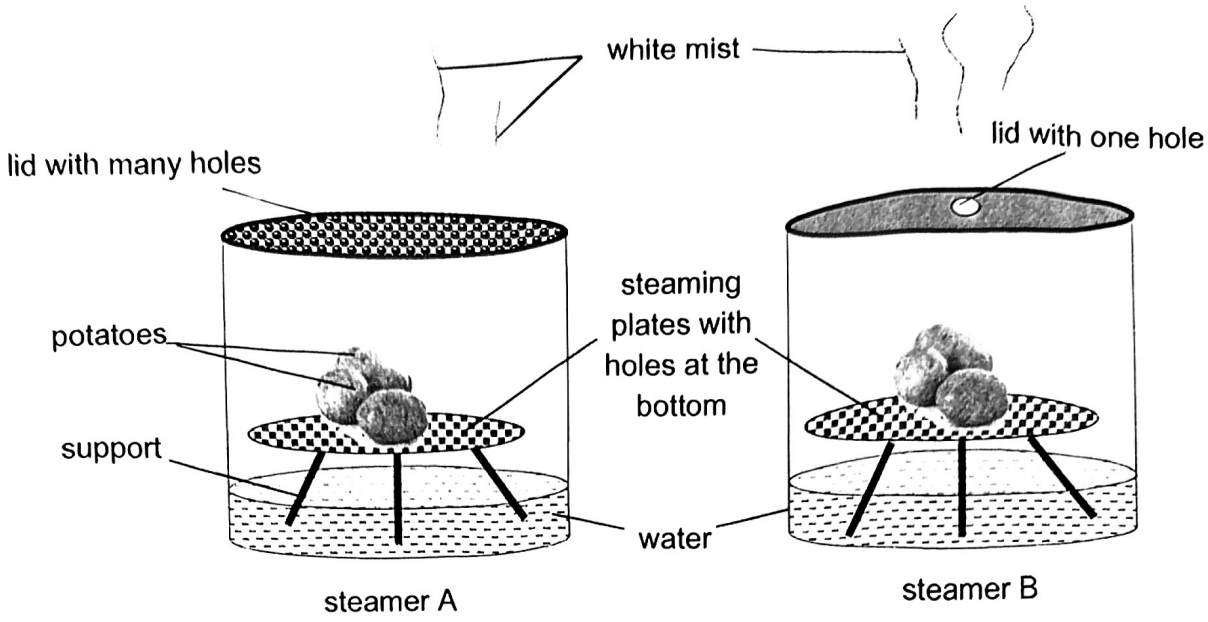


(b) Ruby found that the method did not reduce the amount of water used for each flush. Explain why this is so. [1]

(Go on to the next page)

3

37. Alice wanted to cook some potatoes using steamers A and B as shown below.



She placed both steamers over similar heat sources to boil the water.

Alice needed to add more water into one of the steamers after a short while.

(a) Which steamer, A or B, did she need to add more water to? Explain why. [1]

_____

_____

(b) White mist was seen arising from both steamers. Explain how it was formed. [2]

_____

_____

_____

(c) Suggest one thing that Alice could do to cook the potatoes faster in both steamers, without changing any part of the steamers. [1]

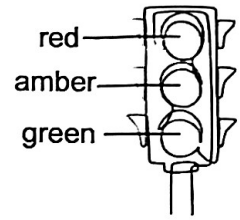
_____

_____

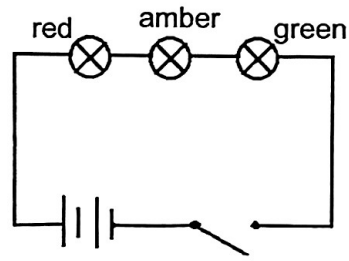
(Go on to the next page)

4

38. The diagram below shows a traffic light commonly seen on the roads. The different coloured lights turn on one at a time.

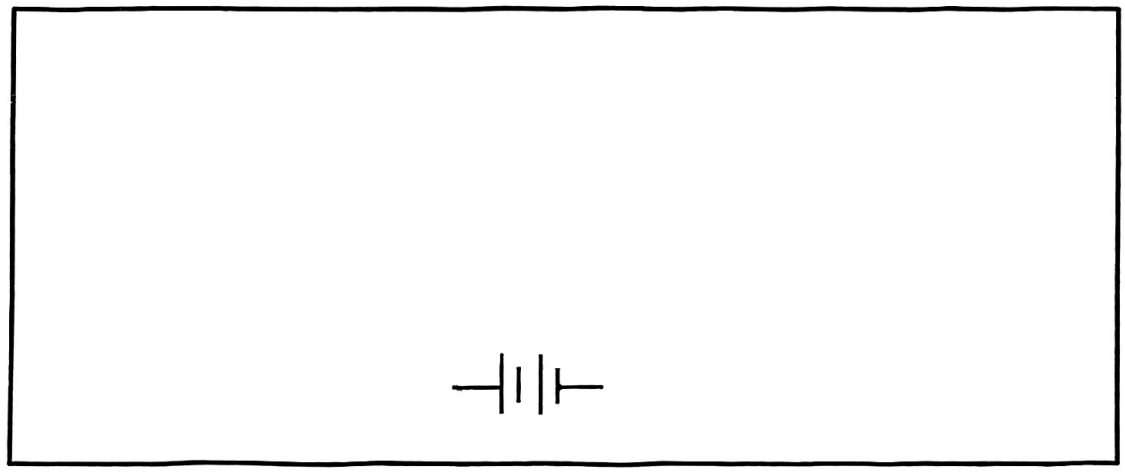


Abel wanted to construct a model circuit that works like the traffic lights. He constructed the circuit as shown below.



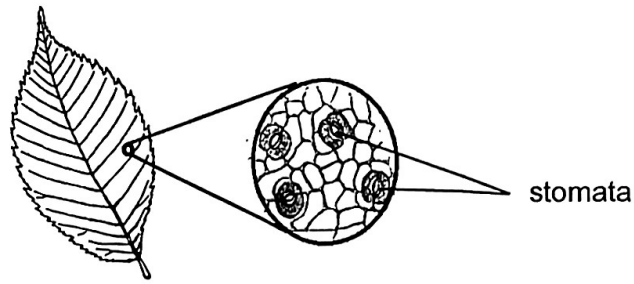
(a) Abel's teacher told him that his circuit would not work like the traffic light. Explain why his teacher said so. [1]

Complete the circuit below to show how Abel should construct his circuit so that it will work like the actual traffic light. You may add additional switch(es) where needed. The batteries have been drawn for you. [2]

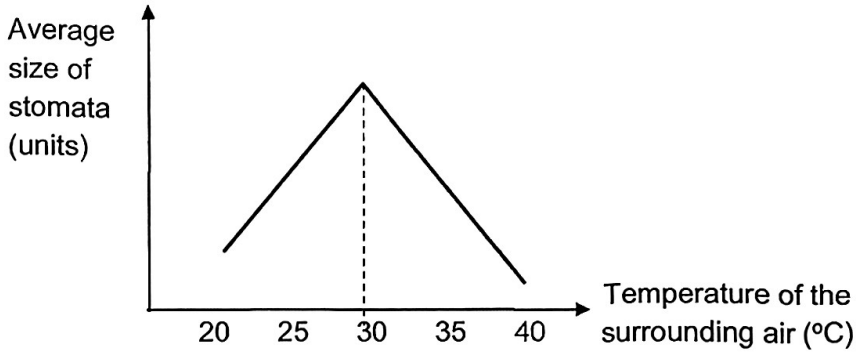


(Go on to the next page)

39. The diagram shows the stomata found on the leaves of plants. The rate of photosynthesis increases when the size of the stomata increases.



Zhen Kai observed the changes in the size of the stomata of plant X at different temperatures and plotted a graph below.



(a) What is the source of energy for the leaves to photosynthesise? [1]

_____

(b) Based on the graph above, explain how the change in size of stomata from 20°C to 30°C helps plant X. [1]

_____

_____

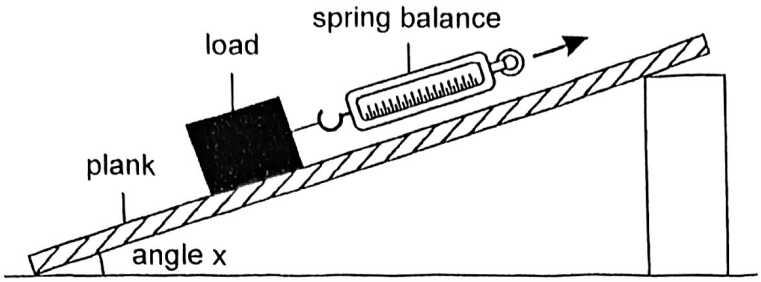
(c) It is observed that the size of the stomata started to decrease after 30°C. Explain why. [1]

_____

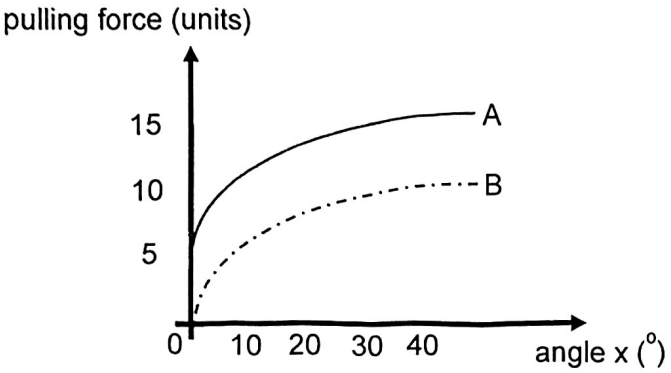
_____

(Go on to the next page

40. Leon set up an experiment as shown below. He pulled the load up the plank using a spring balance to find the pulling force for different values of angle x.



Leon then plotted two lines, A and B, to represent the results of the experiment.



(a) State two forces acting on the load as it was pulled up the plank. [1]

_____

(b) Which line, A or B, is the correct representation of the results of the experiment Leon conducted? Explain why. [2]

_____

_____

_____

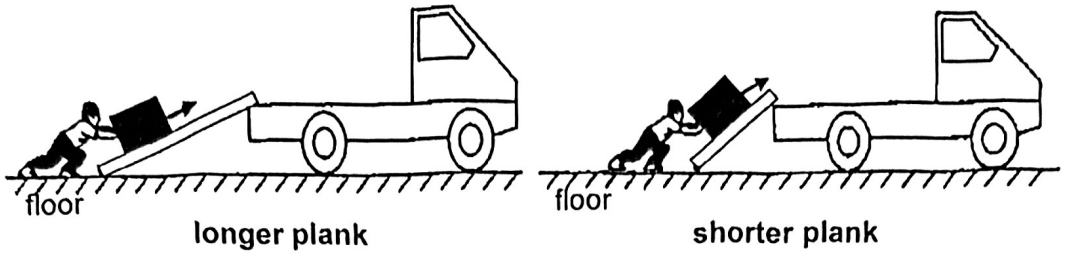
(Go on to the next page)

Question 40 continues on the next page.

3

Continues from previous page.

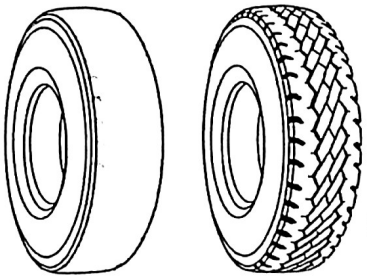
A worker wanted to push a heavy box up a plank from the ground to the back of a lorry as shown below.



longer plank **shorter plank**

(c) Based on the results of the experiment, explain why it is a disadvantage to use the shorter plank instead of the longer plank. [1]

The worker examined the tyres of his lorry and noticed that they had no grooves on them. He decided to change them to tyres with grooves.

tyre without grooves  tyre with grooves

(d) Explain how changing to tyres with grooves increases the safety of driving the lorry on a rainy day. [1]

End of paper

Please check your work

2

SCHOOL : AITONG PRIMARY SCHOOL
LEVEL : PRIMARY 6
SUBJECT : SCIENCE
TERM : PRELIM 2025

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

Corrections for Prelim Science 2025
Section B

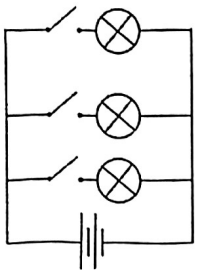
Name: _____ _____( ) P6 _____ Date:

Qn	Answer	Remarks
29 (a)	The food made by the **leaves** could not be transported down to the roots. **more** food is then stored in the peaches, making them sweeter.	**Not accepted** • **All** the food will go to the peaches. • Transport starch.
29(b)	Grow bigger. **more food** made by the leaves will be stored in the remaining peaches. OR The remaining peaches have more **space** to grow bigger/ less competition for water and minerals.	**Not accepted** • Less competition for food/ air/oxygen/carbon dioxide
30(a)	i) Testis ii) Part B	
30(b)	Pt 1 - Part X **attract pollinators** to the **flower**. Pt 2 - to **pollinate** the **flower** Pt 3 - so **fertillisation** can take place Pt 4 - and the **ovary** can **develop** into fruit.	**Not accepted** • pollinate the plant (for Pt 2)
31(a)	i)Product P: Digested food (ii)System Q: Circulatory system	

31(b)	Pt 1 - When the organism breathes in particle X, it enters the **respiratory** system /lungs. Pt 2 - particle X enters the **blood streams** in the circulatory system. Pt 3 - The **heart** pumps the **blood** containing particle X to the brain.	**Not accepted** • Heart pumps oxygen containing particle X
32(a)	The bare finger **lost** heat **faster** to the ice water.	**Not accepted** • Fats trap air and air is a poor conductor of heat. • fast/ quick/ quickly (must use comparative word)
32(b)	She can **repeat** her experiment a few times to obtain **consistent** readings.	**Not accepted** • constant results
32(c)	The layer of fat is a **poor** conductor of heat and **slows down** heat transfer from the **body** to the surrounding.	
32(d)	(i) The hard, sharp spines protect animal X from **predators**. (ii) The brown body colour helps it **camouflage** / blends in with the surrounding.	

33(a)	**Bird L:** Population will __decreate__. There are __lesser__ insect A for bird L to feed on. **Bird J:** Population will __decrease__. There are __l esser__ bird L for bird K to feed on, so it will feed on __more__ bird J.	
33(b)	Point 1: Burning trees releases more __carbon dioxide__ which traps heat on Earth. Point 2: There are __lesser__ trees to take in carbon dioxide to carry out __photosynthesis__.	
34(a)	Flexibility	
34(b)	(Chemical) potential →electrical → kinetic + heat + sound	
34(c)	More __electrical__ energy is needed to convert to more __kinetic__ energy of robot for it to move at the same speed. Or The electrical energy is converted to more heat energy.	**Note:** Question asked for energy conversion and not in terms of force.
35(a)	This would ensure that the results would be solely due to the __type__ of __material__ and not the thickness of the cup/other variables.	

35(b)	Choice: Material Y. Data: The temperature of the water **increase** the **least** over the same period of time. Explain: Thus, it was the **poorest** conductor of **heat**.	
35(c)	It would **decrease**. The water would **lose** heat to the cold water and surrounding.	
36(a)	Pt 1: Take the objects X and Y **out of the water.** Pt 2: **compare** the **level** of water left in the containers. The beaker with less water has the object with a larger volume.	**Note:** The objective is to find the volume of the objects from the given set up.
36(b)	The bottle is floating so did not **occupy** space **in the water** / displace any water.	**Common misconceptions:** • Water did not enter the bottle as the cap was closed. • Bottle needs to sink to block water from flowing out to flush toilet If there is no cap, water can enter the bottle, so there is less water left to flush toilet.
37 (a)	Steamer A. The lid has **more** holes than B and **more** steam / hot water vapour had **escaped** through the holes.	**Not accepted** • The water in A evaporates faster than water in B • Hot air/white mist escape faster

37(b)	Pt 1: Hotter water vapour/Steam from the **water** escaped and Pt 2: touched the **cooler surrounding** Pt 3: lost heat and Pt 4: **condensed** to form tiny water droplets /mist.	Must state the correct source of water vapour (pt 1).
37(c)	Any possible answer: • Increase the intensity of the heat source • Add more heat source • Cut the potatoes into smaller pieces • Poke holes in the potatoes	**Not accepted** • change both lids to without holes • make support shorter
38(a)	The bulbs are arranged in **series**.	
38(b)		
39(a)	The sun	
39(b)	The size of the stomata **increases** and the leaves can carry out **faster** rate of **gaseous** exchange.	**Not accepted** • The size of the stomata increases and the leaf can carry out more photosynthesis. (given in question)
39(c)	To reduce the amount of water loss.	
40(a)	Gravitational force / frictional force / elastic spring force	**Not accepted** • Gravity

40(b)	Line A. When angle x is 0°, **a force is still needed** to pull the load along the plank to go against **frictional** force **between** the surfaces of the **load** and the **plank** .	
40(c)	The shorter plank is **steeper**, so **more** force is required to push the box up the shorter plank. **OR** With the shorter plank, the angle of inclination increased, so more force is required to push the box up.	
40(d)	On rainy days, grooves on the tyre increases **friction** **between** **tyre** and the wet road.	**Note:** Grooves enhance grip by channeling away water which acts like a lubricant and reducing the risk of losing control on the road.

www.sgexam.com