NAN HUA PRIMARY SCHOOL

END-OF-YEAR EXAMINATION 2025

PRIMARY 5

SCIENCE
(BOOKLET A)

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

INSTRUCTIONS TO CANDIDATES

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

Marks Obtained

Booklet A		**/ 60**
Booklet B		**/ 40**
Total		**/ 100**

Name: _____ ( )

Form Class: P5 _____ **Teaching Group: 5S** _____

Date: 28 October 2025 **Parent's Signature:** _____

This booklet consists of 20 printed pages

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

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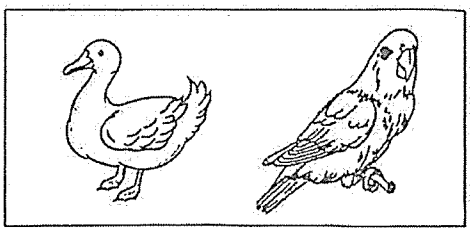
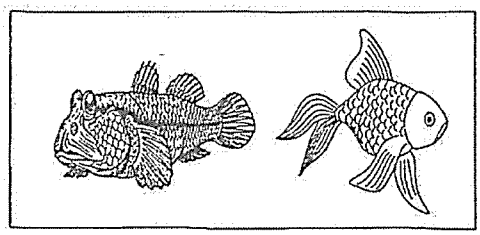
1 Which of the following are the characteristics of all living things?

(1) make its own food, grow and reproduce
(2) grow, reproduce and respond to changes
(3) make its own food, reproduce and respond to changes
(4) move from place to place, reproduce and respond to changes

2 Study the two groups of organisms, A and B.



A



B

Which of the following represents A or B?

	Group	Covered with scales	Covered with feathers	Lay eggs	Breathe through gills
(1)	A	Yes	No	No	No
(2)	A	No	Yes	Yes	Yes
(3)	B	Yes	No	Yes	Yes
(4)	B	No	Yes	No	No

3 The table below shows the comparison between the life cycle of a cockroach and butterfly.

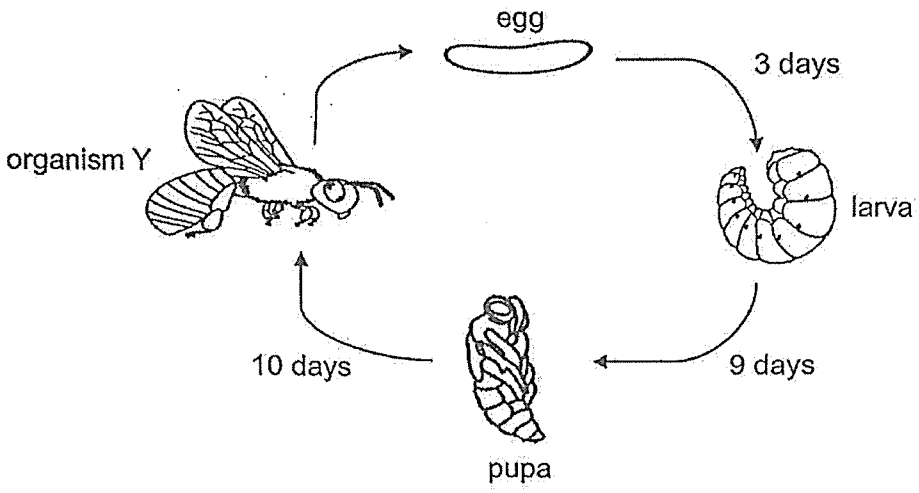
	Comparison	Cockroach	Butterfly
A	Has a three-stage life cycle	Yes	No
B	Has a pupa stage	Yes	No
C	The young resembles the adult	Yes	No
D	The life cycle takes place partially in water	No	No

Which comparisons are correct?

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

(Go on to the next page)

4 The diagram shows the life cycle and the number of days in the different stages of the life cycle of organism Y.



Based on the life cycle, which statement is correct?

(1) Organism Y can only live for 22 days.

(2) Organism Y is an insect because it has wings.

(3) Organism Y takes 19 days to turn into an adult after hatching.

(4) The first stage in the life cycle of organism Y is the egg stage.

5 Which statement about the passing on of characteristics is correct?

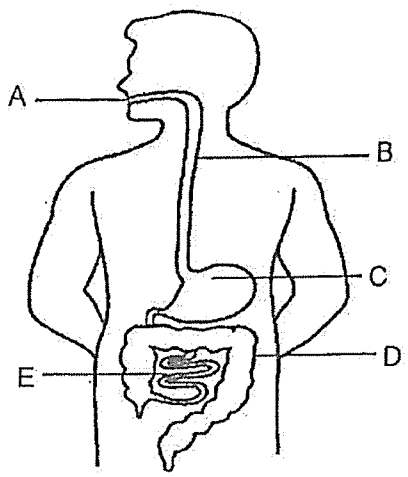
(1) The shape of hairline can be inherited from parents.

(2) A female parent only passes on her traits to her daughter.

(3) Parents and their offspring will always live to the same age.

(4) Offspring will always inherit the same traits from their parents.

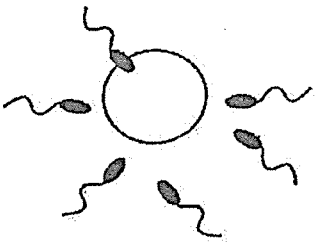
6 The diagram shows the digestive system.



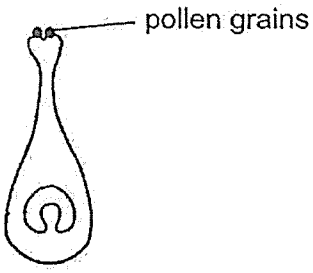
Which statement about the digestive system is correct?

(1) Digestion starts at part A and ends at part D.
(2) Food is broken down into smaller pieces at parts B and C.
(3) Digestion ends at part E and undigested food enters part D.
(4) Water from the digested food is removed from the body at part D.

7 The diagram shows the process of reproduction in humans and flowering plants.



Process A



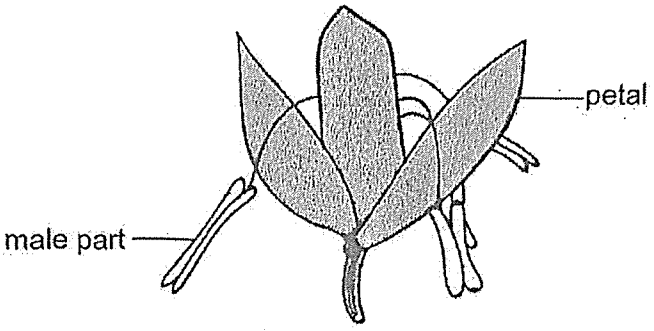
Process B

Which statement is **not** correct?

(1) Process A occurs in the female's body.
(2) Process B occurs in plants that produce fruits.
(3) Both processes will not always produce identical offspring.
(4) Both processes show the fusion of the male and female reproductive cells.

(Go on to the next page)

8 Justin drew a picture of a flower of plant Q. He observed that plant Q produced flowers with either only male or only female parts.



flower of plant Q

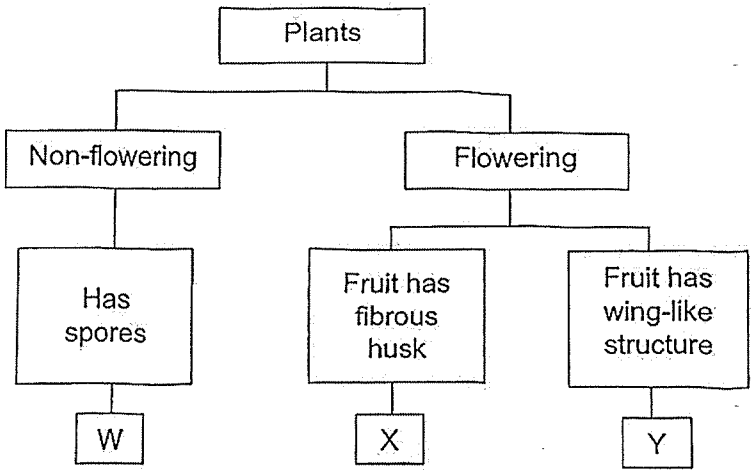
Based on both Justin's drawing and observation, how is plant Q pollinated?

	method	within one flower or between two flowers
(1)	wind	one flower
(2)	insect	one flower
(3)	wind	two flowers
(4)	insect	two flowers

9 The table shows the characteristics of two plants, A and B. A tick (✓) shows the characteristics that the plants have.

Characteristics	Plant A	Plant B
reproduce from seeds		✓
reproductive parts dispersed by wind	✓	✓

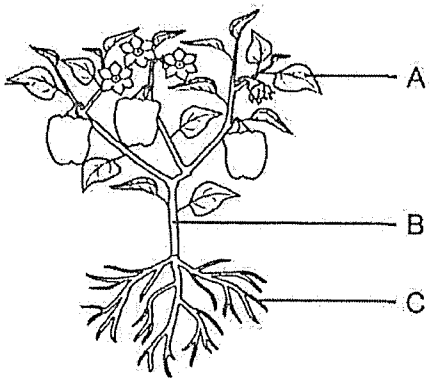
From the information given above, identify the groups that plants A and B belong to as shown in the classification chart below.



	Plant A	Plant B
(1)	X	Y
(2)	W	X
(3)	W	Y
(4)	Y	W

(Go on to the next page)

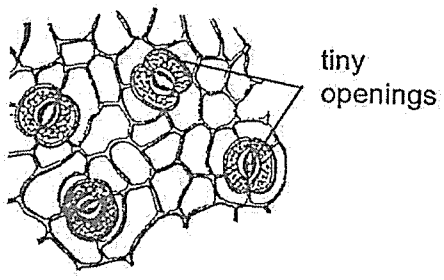
10 The diagram shows a plant with parts labelled A, B and C.



Where are the food-carrying and water-carrying tubes found?

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

11 The diagram shows part of a leaf from a plant when viewed under a microscope.

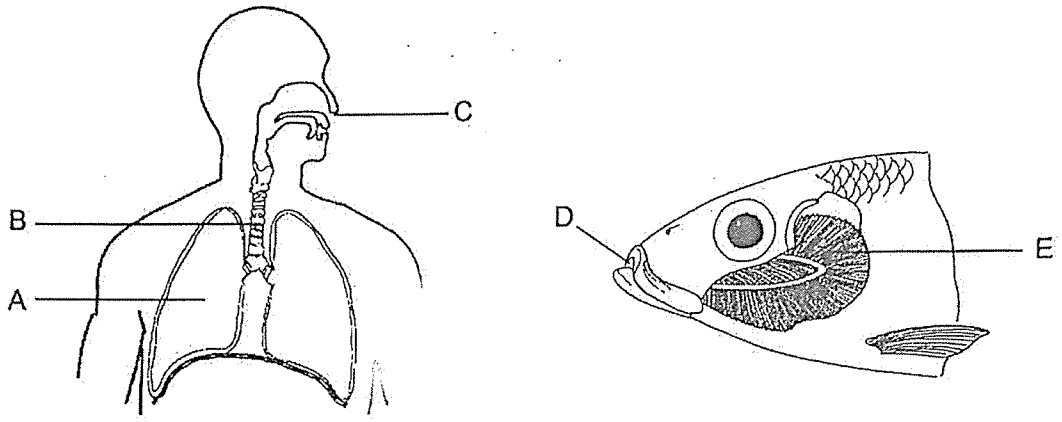


Which of the statements about the tiny openings are correct?

A They make food.
B They take in oxygen only.
C They allow water vapour to leave the leaf.
D They allow gaseous exchange to take place.

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

12 The diagram shows parts of the respiratory system of human and fish.

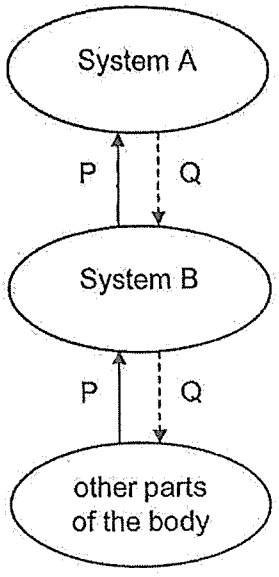


Which of the following parts allow the exchange of gases?

	Human	Fish
(1)	A	D
(2)	A	E
(3)	B	E
(4)	C	D

(Go on to the next page)

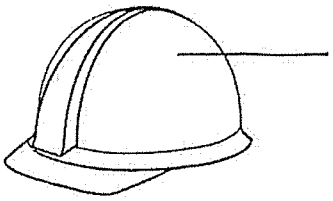
13 The chart shows how substances P and Q are transported in the human body.



What are systems A and B and substances P and Q?

	System A	System B	P	Q
(1)	respiratory	circulatory	carbon dioxide	oxygen
(2)	circulatory	respiratory	carbon dioxide	oxygen
(3)	respiratory	circulatory	oxygen	carbon dioxide
(4)	circulatory	respiratory	oxygen	carbon dioxide

14 Mr Bala wants to choose a suitable material for making a safety helmet to protect the head of his construction workers from falling objects.



Which material is most suitable for making the safety helmet?

	Material	Property		
		Strong	Flexible	Waterproof
(1)	W	✓	✓	✓
(2)	X	×	✓	✓
(3)	Y	✓	×	✓
(4)	Z	×	✓	×

Key
✓: yes
×: no

15 Which two groups of objects can be separated using a bar magnet?

(1) iron needles and steel clips
(2) glass marbles and copper wires
(3) iron needles and aluminium foils
(4) glass marbles and plastic buttons

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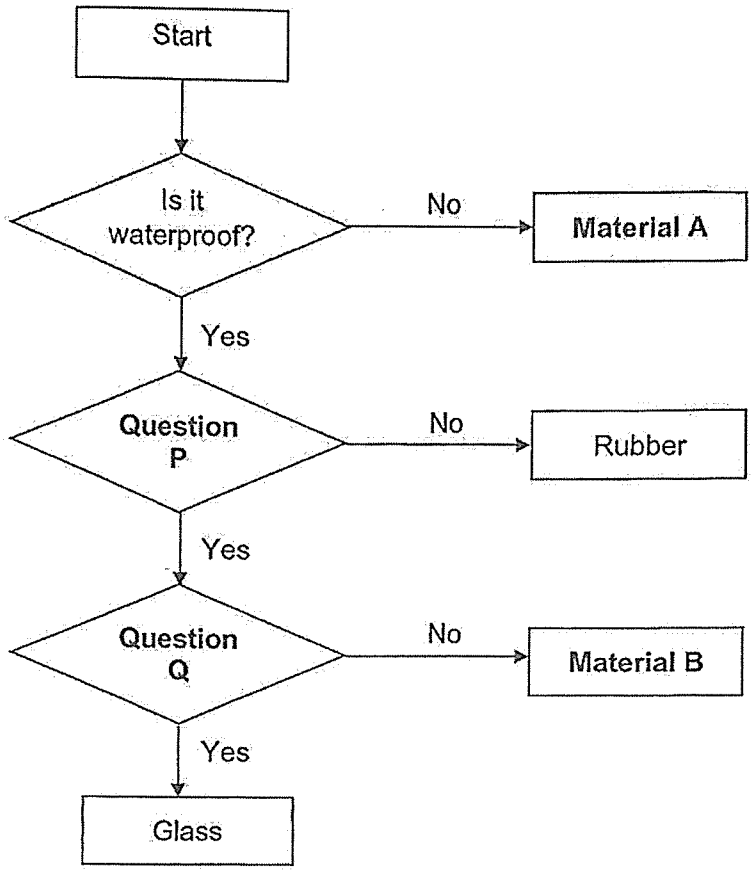
16 Study the flowchart.



Which of the following represents A, B, P and Q?

	A	P	Q	B
(1)	Fabric	Does it break easily when dropped?	Does it allow light to pass through?	Ceramic
(2)	Fabric	Does it allow light to pass through?	Is it flexible?	Ceramic
(3)	Plastic	Does it break easily when dropped?	Does it allow light to pass through?	Metal
(4)	Plastic	Is it flexible?	Does it allow light to pass through?	Metal

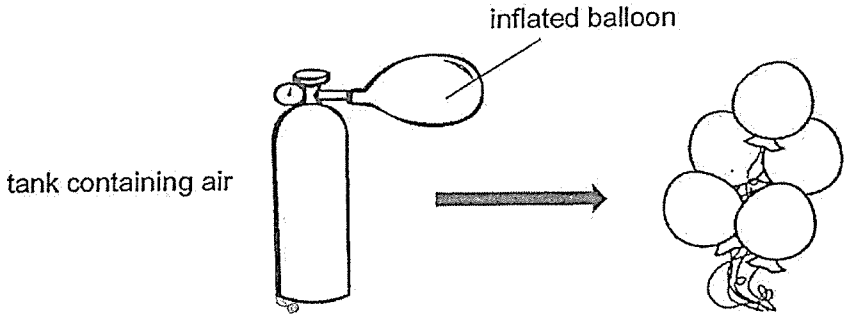
17 Ginny classified six items as shown below.

Group X	Group Y
sand	water
ruler	oil
ice cube	air

Which of the following shows suitable headings for groups X and Y?

	X	Y
(1)	solid	liquid
(2)	solid	gas
(3)	has fixed shape	has no fixed shape
(4)	has fixed volume	has no fixed volume

18 John used air from a large tank to inflate balloons for a party.



Which of the following shows the changes in the volume and mass of the air in the tank after five balloons were inflated?

	Volume	Mass
(1)	Remains the same	Remains the same
(2)	Remains the same	Decreases
(3)	Decreases	Decreases
(4)	Decreases	Remains the same

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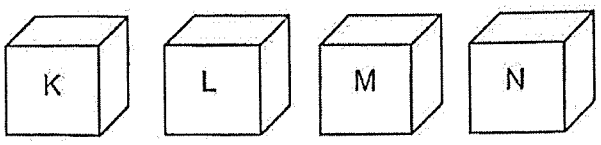
19 The diagram shows four empty boxes made of different materials, K, L, M and N. The temperature of air inside each box at the start of the experiment is 30°C.



The boxes are placed under the sun at the same location. After an hour, the temperature of air inside each box is measured and recorded in the table below.

Material used	Temperature of air inside each box (°C)
K	35
L	40
M	32
N	42

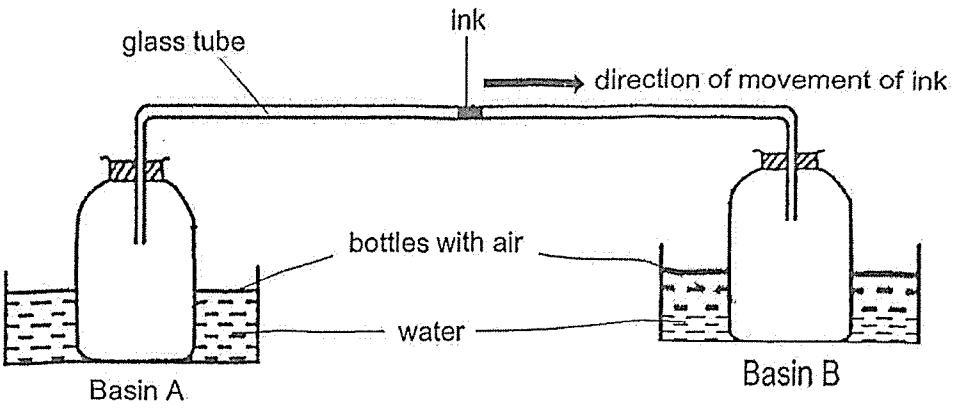
Which material would be most suitable for making a box to keep drinks cold for the longest time?

(1) K
(2) L
(3) M
(4) N

20 Which of the following is a possible effect on the water cycle when the temperature of the environment increases?

(1) Condensation of water vapour decreases resulting in more rain.
(2) Condensation of water vapour increases resulting in less clouds.
(3) Evaporation of water increases resulting in more rain.
(4) Evaporation of water decreases resulting in less water vapour in the air.

21 Jack connected two identical bottles using a glass tube which contained a drop of ink. He placed one bottle in basin A and the other bottle in basin B as shown in the set-up. Both basins contain equal amount of water.



Which of the following is a possible reason for the ink to move in the direction shown in the set-up?

(1) Both basins of water have the same temperature, but basin A has more heat energy.

(2) Both basins of water have different temperature and basin A has more heat energy.

(3) Both basins of water have the same amount of heat energy, but basin A has a higher temperature.

(4) Both basins of water have the same amount of heat energy, but basin B has a higher temperature.

22 Substance H freezes at 73°C and boils at 630°C.
Which of the following shows the correct state of substance H at 60°C and 500°C?

	60°C	500°C
(1)	solid	liquid
(2)	solid	gas
(3)	liquid	liquid
(4)	liquid	gas

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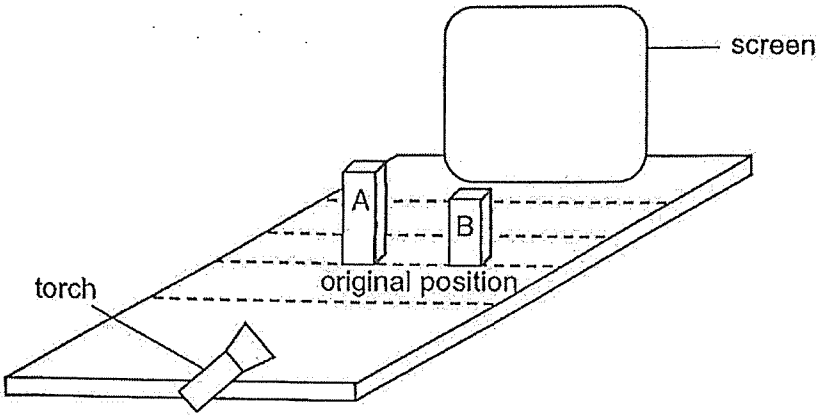
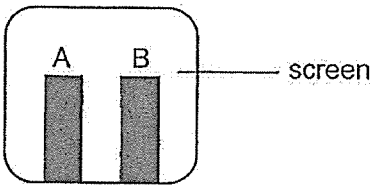
Use the information below to answer Q23 and Q24.

Jane set up an experiment shown below to investigate the length of shadows using two different blocks, A and B.



Jane moved the positions of blocks A and B from the original position. Then, she switched on the torch. The shadows of both blocks were cast on the screen as shown below.



23 Which of the following could have resulted in the shadows cast on the screen?

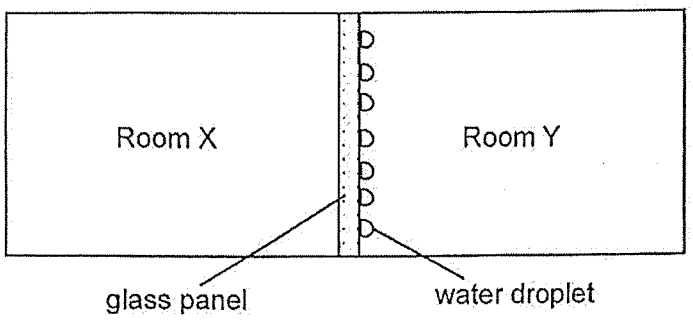
(1) Both blocks were moved nearer to the screen.
(2) Both blocks were moved further from the screen.
(3) Block A was moved nearer to the screen and block B was moved nearer to the torch.
(4) Block A was moved nearer to the torch and block B was moved nearer to the screen.

24 How is Jane able to see the shadows of blocks A and B on the screen clearly?

A The screen does not allow light to pass through.
B Light from the torch is blocked by blocks A and B.
C The shadows of blocks A and B reflect light from the torch into her eyes.

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

25 The diagram shows a glass panel between Room X and Room Y.
Water droplets were formed on the side of the glass panel that faces Room Y.



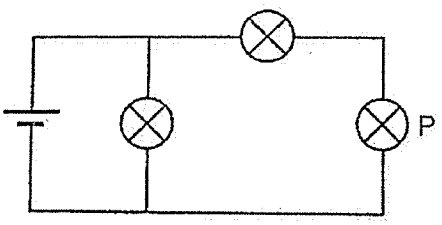
What could be a possible reason for the above observation?

(1) Air-conditioner was switched on in Room X only.
(2) Air-conditioner was switched on in Room Y only.
(3) Air-conditioners were switched on in Room X and Y.
(4) Air-conditioners were not switched on in Room X and Y.

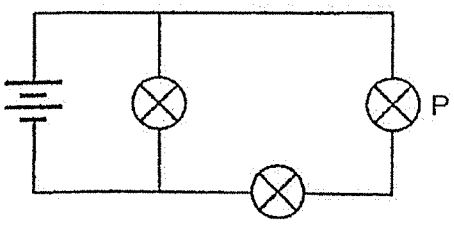
26 Tim set up four different circuits using identical bulbs and batteries as shown.

In which circuit would bulb P be the brightest?

(1)



(2)



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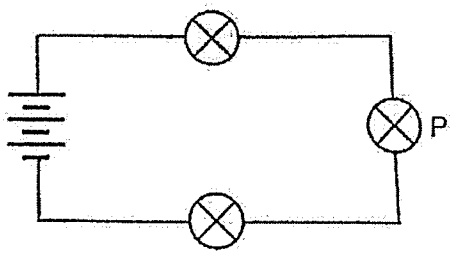
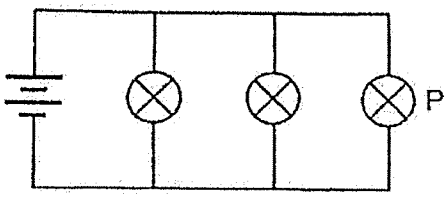


(4)



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Use the information below to answer Q27 and Q28.

Ming conducted an experiment to find out how temperature of liquid B affects its rate of evaporation. He placed beakers 1 and 2, each containing 30 mℓ of liquid B kept at different temperatures in the same room. He measured the volume of liquid B remaining in each beaker after some time. His results are shown below.

Beaker	Exposed surface area (cm^2)	Temperature of liquid B (°C)	Volume of liquid B remaining (mℓ)
1	35	70	20
2	35	*W*	10

Ming repeated the experiment to find out how exposed surface area of liquid B affects its rate of evaporation. He placed beakers 3 and 4, each containing 30 mℓ of liquid B with different exposed surface areas in the same room. His results are shown below.

Beaker	Exposed surface area (cm^2)	Temperature of liquid B (°C)	Volume of liquid B remaining (mℓ)
3	35	70	18
4	*X*	70	28

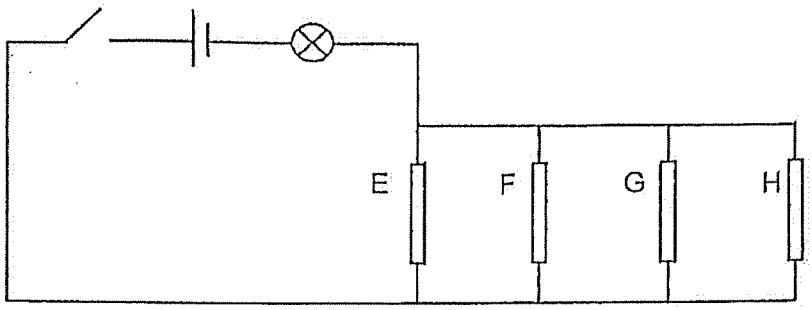
27 What are the possible values of W and X?

	W	X
(1)	40	10
(2)	40	60
(3)	90	10
(4)	90	60

28 Ming wants to find out how wind speed affects the volume of liquid B remaining. Which two beakers should Ming use to conduct a fair test?

(1) 1 and 3
(2) 1 and 4
(3) 2 and 3
(4) 2 and 4

29 David wanted to investigate whether four rods, E, F, G and H, were electrical conductors or insulators. He used the circuit shown below.



The table below shows what happened when the switch was closed and certain rod(s) was/were removed.

Rod(s) removed from circuit	Did the bulb light up?
E	Yes
F and G	Yes
E, F and G	No
E, G and H	No

Which of the following conclusions about the rods, A, B, C and D is correct?

	E	F	G	H
(1)	insulator	conductor	conductor	conductor
(2)	insulator	conductor	insulator	conductor
(3)	conductor	insulator	insulator	insulator
(4)	conductor	insulator	conductor	insulator

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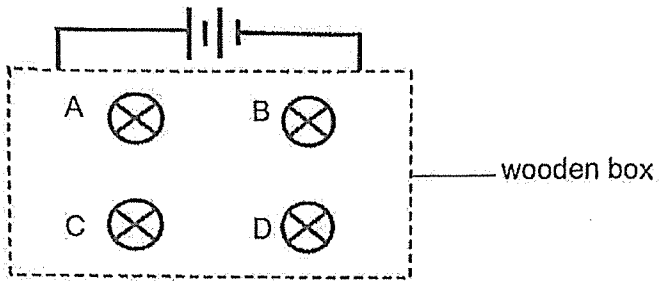
30 Bulbs A, B, C and D were connected in a circuit hidden in a wooden box as shown. All the light bulbs lit up when the circuit was closed.

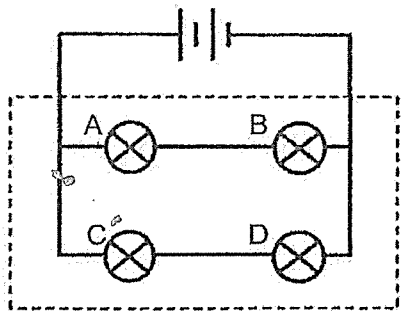


Jane removed one light bulb from the circuit each time and observed what happened to the rest of the light bulbs. Her observations are recorded in the table below.

Bulb removed	Bulb(s) lit
A	B, C and D
B	None
C	A and B
D	A and B

Which of the following correctly shows the circuit hidden in the wooden box?

(1)



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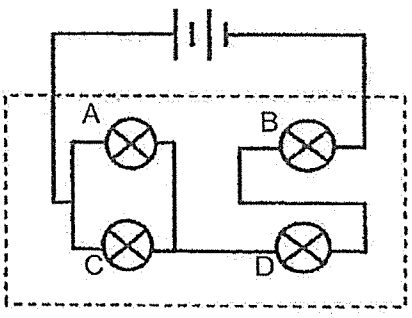

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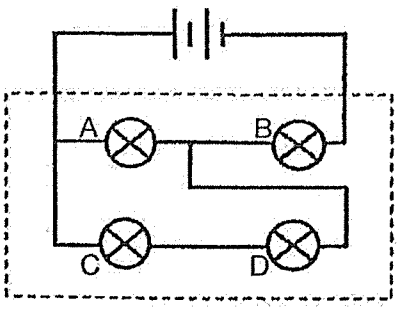
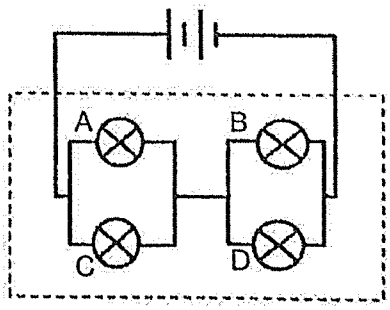


(4)



(Go on to Booklet B)

NAN HUA PRIMARY SCHOOL

END-OF-YEAR EXAMINATION 2025

PRIMARY 5

SCIENCE
(BOOKLET B)

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

INSTRUCTIONS TO CANDIDATES

1. Write your name, index number and class in the spaces provided below.
2. Do not turn over the page until you are told to do so.
3. Follow all instructions carefully.
4. Answer all questions.
5. Use 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 highlighter.

Marks Obtained

Booklet B		/ 40

Name: _____ ( )

Form Class: P5 _____ **Teaching Group: 5S** _____

Date: 28 October 2025 **Parent's Signature:** _____

This booklet consists of 15 printed pages

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

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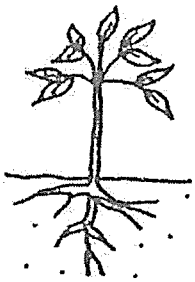
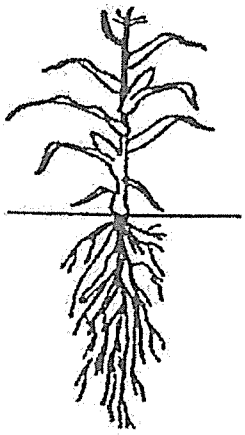
31 Jialing planted two types of plants, A and B.



Plant A



Plant B

(a) State a difference between the roots of plant A and plant B. [1]

_____

_____

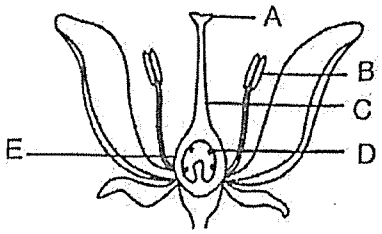
(b) Give a reason why Jialing found it more difficult to pull out plant B than plant A from the ground. [1]

_____

_____

Score	
	2

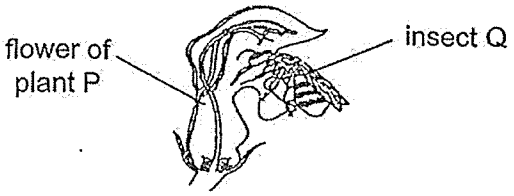
32 The diagram shows a flower.



(a) Complete the table below with the parts of the flower, A, B, C, D or E, that have similar functions to the reproductive parts of a human. [1]

Reproductive parts of a human	Reproductive parts of the flower
Testes	
Ovary	

Plant P and insect Q depend on each other as shown in the diagram below.



(b) **(i)** How does plant P help insect Q? [1]

_____

_____

(ii) How does insect Q help plant P? [1]

_____

_____

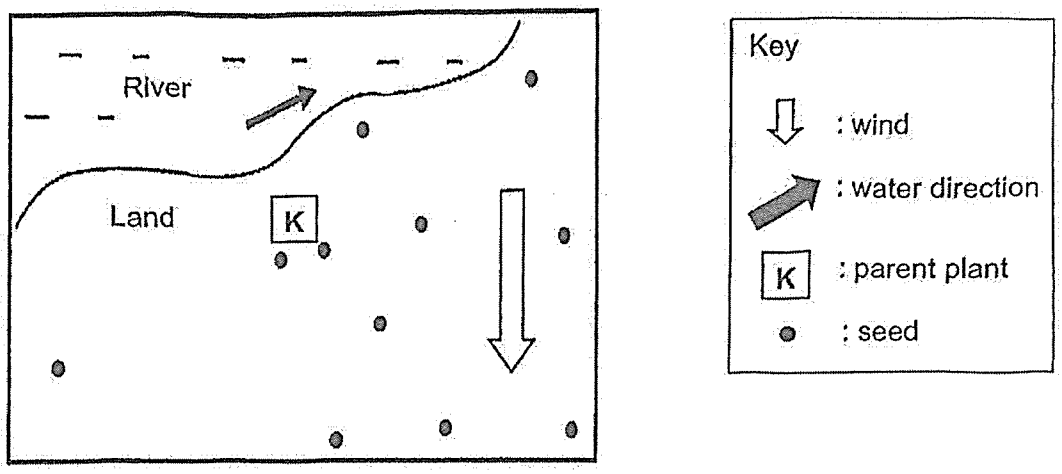
(c) State the effect on the number of fruits of plant P if a large number of insect Q died. [1]

_____

Score	4

(Go on to the next page)

33 The diagram shows the dispersal of plant K's seeds.



(a) State one characteristic of the seeds of plant K and explain how this characteristic helps with its dispersal. [2]

40 seeds were soaked in water at the same temperature for different durations. The number of seeds that germinated were counted after 5 hours and 10 hours of soaking. The table below shows the results.

Attempt	1st	2nd	3rd	4th
Number of seeds germinated after 5 hours of soaking	10	9	12	10
Number of seeds germinated after 10 hours of soaking	18	15	17	16

(b) Based on the experimental results, what is the relationship between the number of seeds germinated and the duration which the seeds are soaked? [1]

The experiment was repeated by soaking another 40 seeds in water at different temperatures for 5 hours. The table below shows the results.

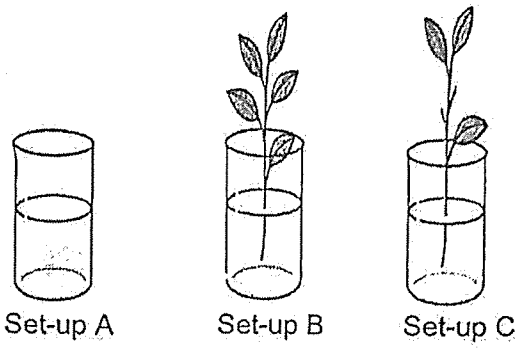
Temperature (°C)	25	35	40	45
Number of seeds germinated after 5 hours of soaking	10	28	3	0

(c) Based on the experimental results, what is the relationship between the number of seeds germinated and the temperature of water? [1]

Score	
	4

(Go on to the next page)

34 Jun Wei prepared three set-ups as shown. He wanted to find out how the number of leaves on plant X can affect how much water the plant takes in.



After some time, he observed the decrease in the water level in each set-up and recorded his findings in the table below.

	Amount of water in container (mℓ)	
Set-up	**Start of experiment**	**End of experiment**
A	500	400
B	500	300
C	500	200

(a) Based on the information in the table, what is the amount of water taken in by the plant in set-up C? [1]

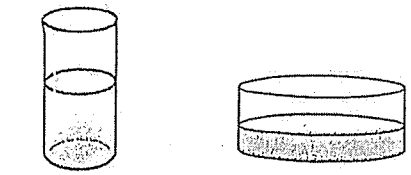
_____

(b) State the purpose of set-up A. [1]

_____

_____

Before the experiment, Jun Wei was given two containers, G and H, to choose for the experiment. His teacher advised him to use container G to obtain more accurate results.



Container G Container H

(c) Give a reason why he had used container G instead of H to observe the decrease the water level. [1]

_____

_____

(d) State what changes Jun Wei needs to make to set-up C if he wants to find out if the presence of roots affects how much water plant X takes in. [1]

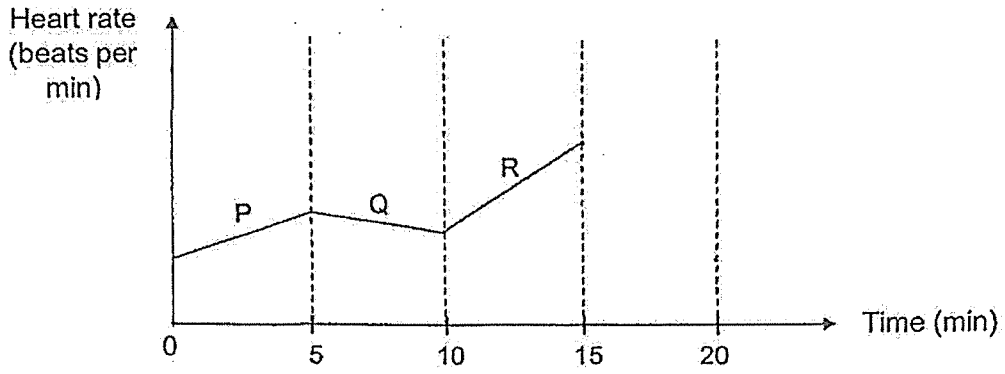
_____

_____

Score	4

(Go on to the next page)

35 Ali was resting on a chair before he carried out different activities P, Q and R, for 15 minutes. He then stopped and rested for five minutes. The graph shows how Ali's heart rate changed during the activities.



(a) Complete the graph above to show how Ali's heart rate changed from the 15th to 20th minute. [1]

(b) In the table below, put a tick (✓) in the correct box to show the change in the amount of gas in Ali's exhaled breath compared to inhaled breath. [2]

Gas	Change in the amount of gas in exhaled breath		
	Increase	Decrease	Remain the same
oxygen			
carbon dioxide			
water vapour			
nitrogen			

(c) Which activity, P, Q or R, required most energy to carry out? Explain your answer. [2]

Score	/5

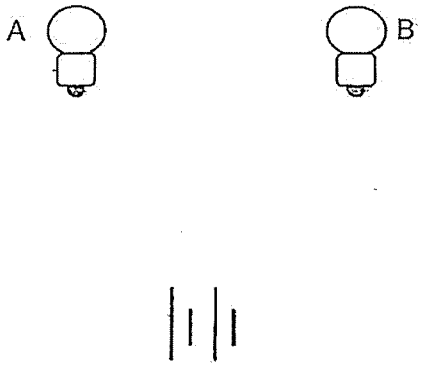
36 Peter set up a circuit using all the components below:

- two identical working batteries
- some wires
- two switches (S1 and S2)
- two identical bulbs (A and B)

He then recorded which bulb(s) lit up when the switches were opened and/or closed in the table below.

Switch 1	Switch 2	Bulb A	Bulb B
open	open	unlit	unlit
close	open	lit	unlit
open	close	unlit	unlit

(a) The diagrm below shows part of Peter's circuit. Use a pencil to complete the circuit with labelled switches so that it will work as described in the above table. [3]

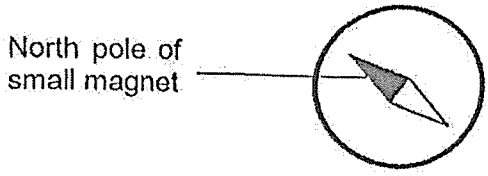


(b) Suggest why electrical appliances in household circuits are usually connected in parallel. [1]

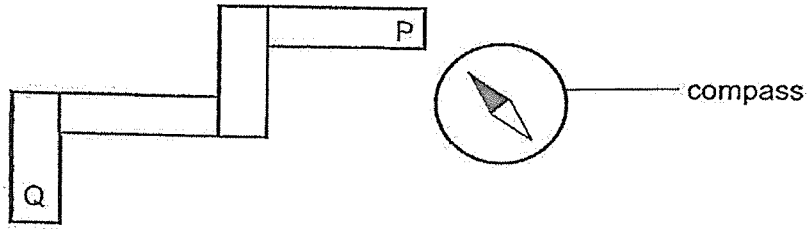
Score 4

(Go on to the next page)

37 A compass has a small magnet that can rotate freely as shown below.



Four bar magnets were arranged such that they were attracted to one another. A compass was then placed near end P and the direction of the compass needle is shown below.



(a) Name the pole of the bar magnet at Q. [1]

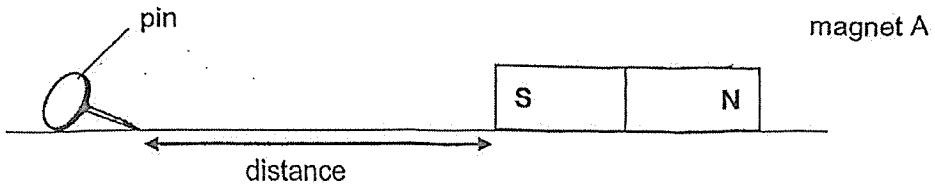
_____

(b) Describe how you can confirm your answer in (a) using a bar magnet. [1]

_____

_____

Mrs Lee carried out an experiment with a pin and magnet A as shown below.



She moved magnet A towards the pin until the magnet could attract the pin. She then measured the distance between the pin and magnet A.

She repeated the experiment with magnets B and C. The results are as shown in the table.

Magnet	Distance (cm)
A	9
B	2
C	5

(c) Which magnet, A, B or C, is the weakest? Explain your answer. [1]

_____

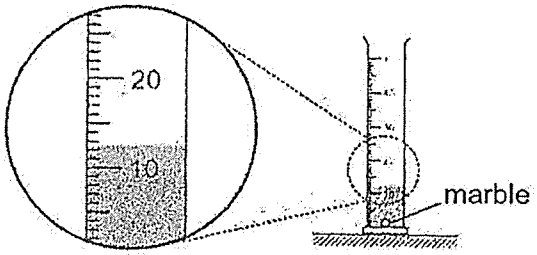
_____

Score	3

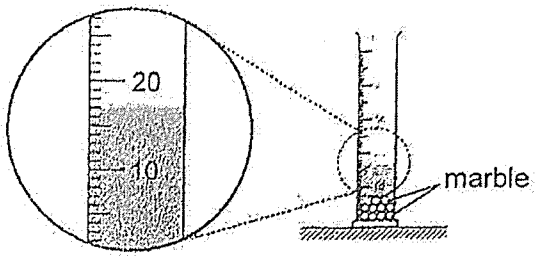
(Go on to the next page)

38 Kate and Gary have a bag of similar marbles. They wanted to find the volume of a marble. Each of them has a measuring cylinder filled with 12 mℓ of water.

Kate placed a marble into the measuring cylinder to find its volume. Gary used 10 marbles to find the volume of one marble. Their results are shown below.



Kate's result



Gary's result

(a) Give a reason why Gary's method is more accurate than Kate's. [1]

_____

_____

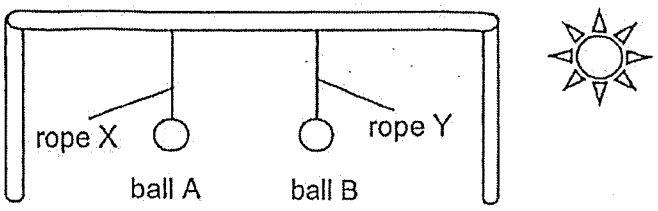
(b) Kate and Gary did not drop their marbles in the water but lowered them gently. Explain why this gives a more accurate result. [1]

_____

_____

Score	2

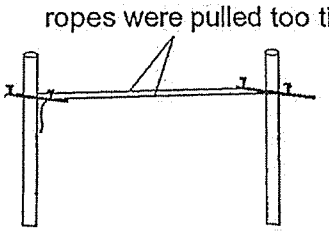
39 Mary set up an experiment to investigate the effects of heat on two different types of ropes made of different materials, X and Y, as shown below. Balls A and B are identical.



(a) After a few hours in the hot sun, ball A was observed to be hanging at a lower height than ball B. Explain why. [1]

(b) Other than the length of the rope, suggest another variable of the rope to keep the same to ensure a fair test. [1]

Mary built a structure for hanging clothes to dry outdoors as shown.



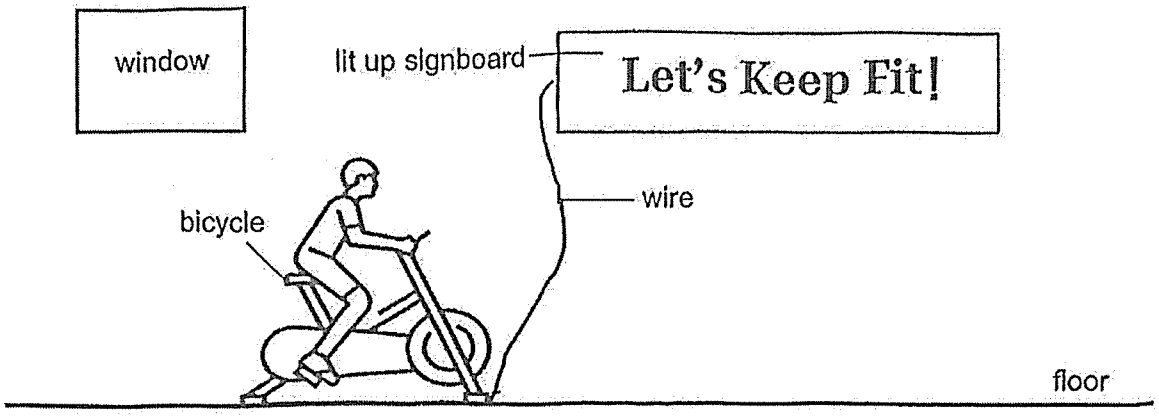
During the night, the ropes snapped. There was no wind and the structure was not disturbed by any person and animal.

(c) Explain why the ropes snapped at night. [2]

Score	4

(Go on to the next page)

40 Nathan pedalled on a stationary bicycle in a room at night which lit up a signboard. There is no other source of light in the room.



(a) Explain how Nathan can see the words clearly when the signboard is lit. [1]

(b) The next morning, when Nathan entered the room, he could see the words on the signboard without pedalling on the bicycle. Explain how he could see the words. [1]

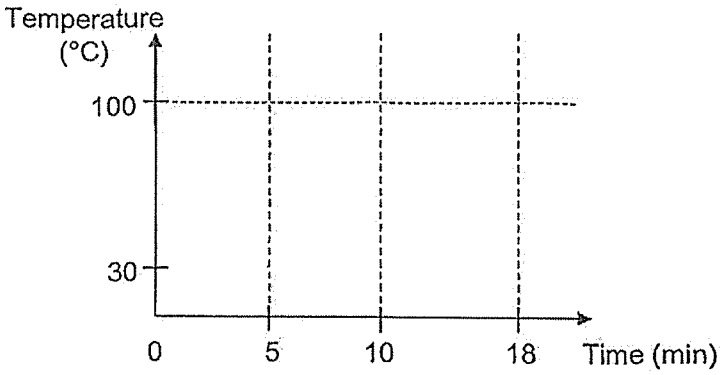
(c) When Nathan started to pedal on the bicycle, the signboard lit up and he noticed his shadow formed on the floor. In the diagram above, mark the letter 'X' on the floor to indicate the correct position of his shadow. [1]

Score	3

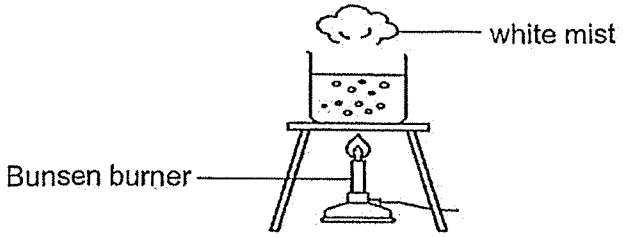
41 (a) State what melting means. [1]

Siti placed some ice cubes in a beaker and heated them. After 5 minutes, the ice cubes melted completely. She continued to heat the water until it started to boil 5 minutes later. It took 8 minutes for the water to boil completely.

(b) Complete the graph below to show how the temperature of the ice cubes and water changed with time. [2]



Siti observed white mist forming at the opening of the beaker during boiling.



(c) Explain how the white mist is formed. [2]

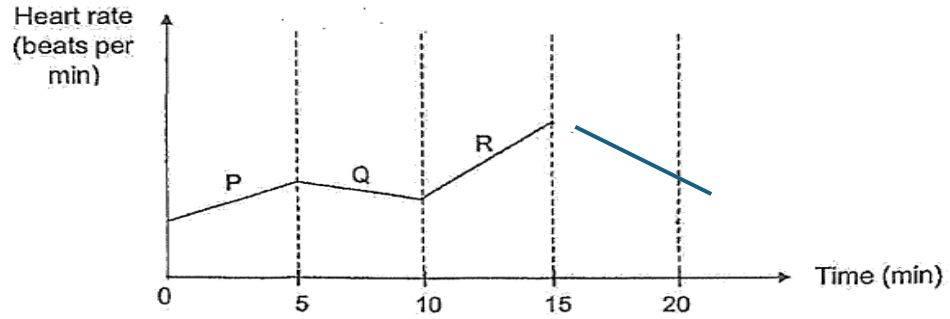
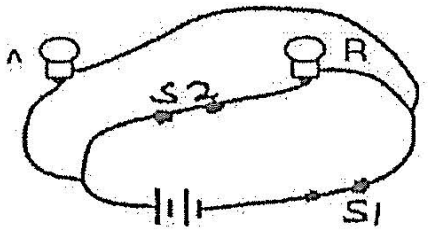
End of Paper

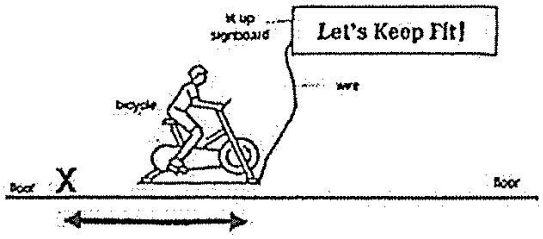
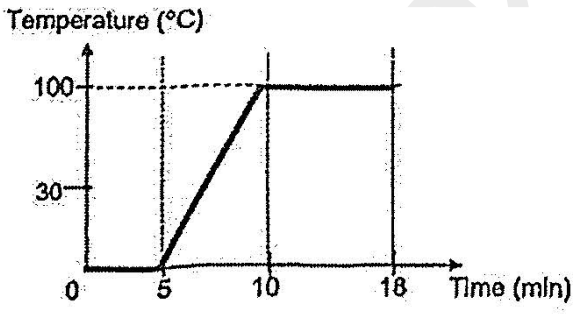
Score	
	5

SCHOOL : NAN HUA PRIMARY SCHOOL
LEVEL : PRIMARY 5
SUBJECT : SCIENCE
TERM : 2025 END OF YEAR EXAMINATION

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

31a	Roots of plant B are more / longer / grow deeper into the ground.
31b	The roots of plant B can anchor the plant more firmly to the ground.
32a	Testes: **B** Ovary: **E**
32b (i)	Plant P provide Q with food / nectar.
32b (ii)	Insect Q pollinates the flower of plant P.
32c	The number of fruit P will decrease.
33a	The seeds have hooks / stiff hair to cling onto the fur of animals. The seeds are scattered when the animals move further away from parent.
33b	As the duration of soaking increases, the number of seeds germinated increases.
33c	As temperature of water increases to **35°C**, the number of seeds germinated increases. Beyond **35°C**, the number of seeds germinated decreases.
34a	200 ml
34b	Set-up A is a control setup to compare and confirm the results that the number of leaves affect how much water the plant takes in. **OR** Set-up A allows the amount of water lost through evaporation to be calculated.
34c	Container G is narrower so the decrease in the water level can be observed more clearly.

34d	Replace a similar plant with roots and the same number of leaves as set-up B.
35a	
35b	Oxygen: decrease Carbon dioxide: increase Water vapour: increase Nitrogen: remain the same
35c	R. The heart rate increased the most from 10 to 15 minutes. This shows that the heart pumped blood the fastest to transport most oxygen and digested food / more blood rich in oxygen and digested food to all parts of the body. This allows Ali to release the most energy to run.
36a	
36b	Parallel circuits enable electrical appliances to be operated independently of one another. **OR** When one electrical appliance breaks down / fuses, the other appliances can still operate.
37a	North
37b	Place a bar magnet with its North pole facing Q. If Q and the bar magnet repel, Q is the North pole. **OR** Place a bar magnet with its South pole facing Q. If Q and the bar magnet attract, Q is the North pole.
37c	Magnet B. It attracted the pin from the nearest distance. **OR** The magnet was brought nearest to the pin in order to attract it.

38a	Volume of 1 marble is too small / less than 1 ml / does not reach a marking but volume of 10 marbles can reach a marking.
38b	Prevent / reduce water from splashing out. **OR** Prevent / reduce water from splashing and sticking to the side of cylinder.
39a	Rope X gained heat from the sun and expanded more than Y.
39b	Thickness of the rope / Size of rope / Colour of rope
39c	The ropes lost heat to the surrounding and contracted and snapped as the ropes were pulled too tightly.
40a	The signboard gives off light which entered his eyes. **OR** Light from the signboard entered his eyes.
40b	The words / signboard reflect light from the surroundings into his eyes. **OR** Surrounding light is reflected by the signboard into his eyes.
40c	
41a	Melting is a process where a solid gains heat and changes into liquid at a fixed temperature.
41b	
41c	Steam from the boiling water comes into contact with the cooler surrounding air above the beaker, loses heat and condenses to form water droplets which is observed as mist.