NANYANG PRIMARY SCHOOL
END-OF-YEAR EXAMINATION
2025

PRIMARY 4

SCIENCE
(BOOKLET A)

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

Additional materials: Optical Answer Sheet (OAS)

INSTRUCTIONS TO CANDIDATES

1. Write your name and index number in the space 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 2B pencil to shade your answers on the Optical Answer Sheet (OAS).

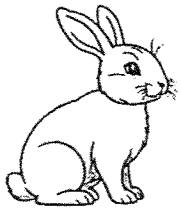
Name: _____ ( )

Class: Primary 4 ( )

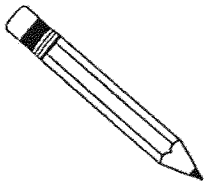
This booklet consists of 24 printed pages.

Section A: Multiple Choice Questions [60 marks]

1. Which one of the following is a non-living thing?


(1)


(2)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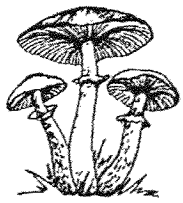
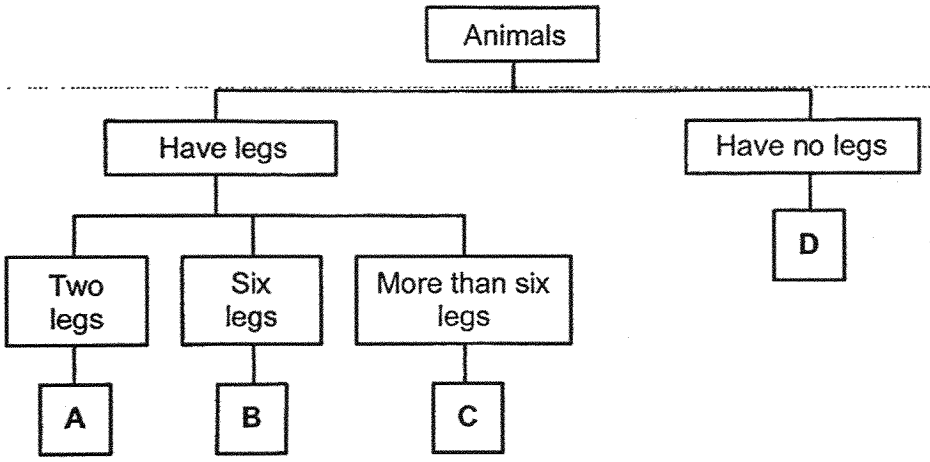
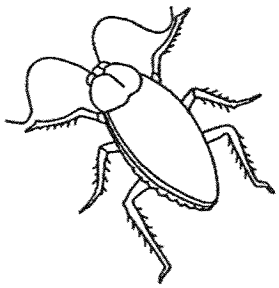

(4)

2. Study the chart below.

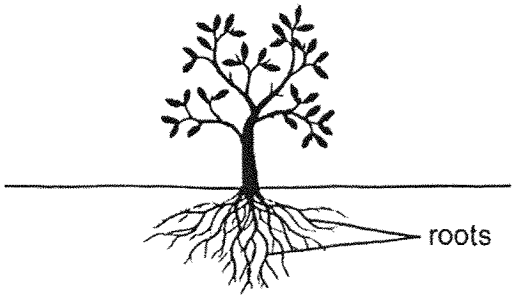


Which group, A, B, C or D, does the animal shown below belong to?



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

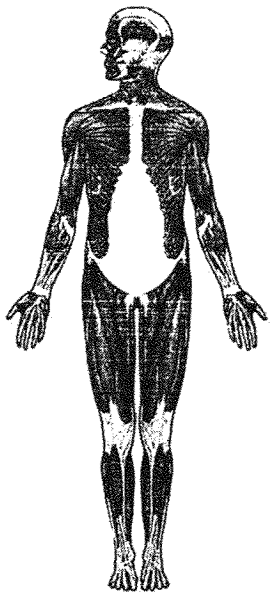
3. The diagram below shows a plant.



The roots help the plant to _____ .

(1) make food
(2) grow upright
(3) absorb water
(4) absorb sunlight

4. Which human system is shown in the diagram below?

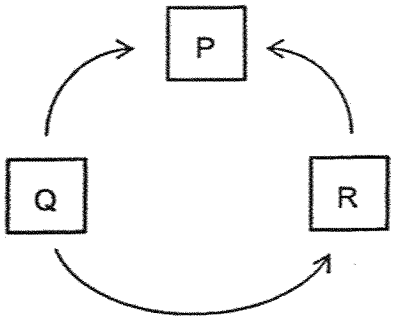


(1) skeletal system
(2) muscular system
(3) circulatory system
(4) respiratory system

5. P, Q and R are stages in the life cycle of a plant.

Which of the following shows the correct life cycle of the plant?

(1)



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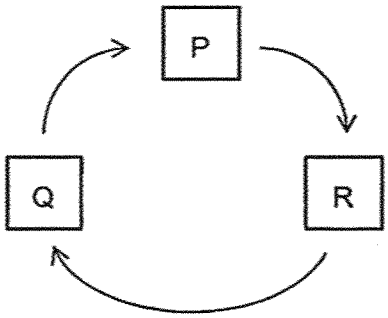

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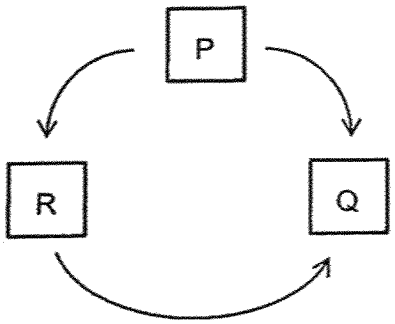

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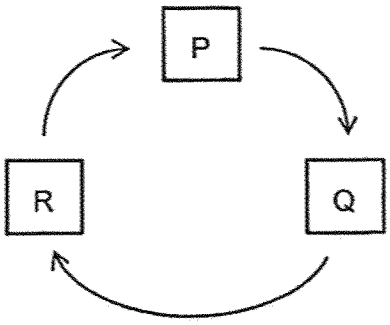
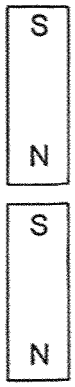


6. In which one of the following will the two magnets push each other away?

(1)



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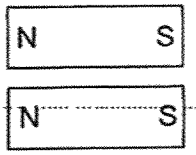
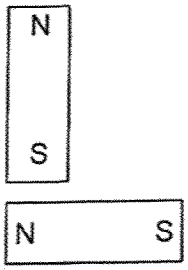


(3)



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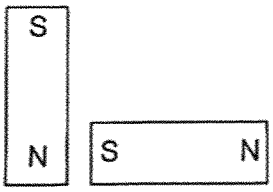
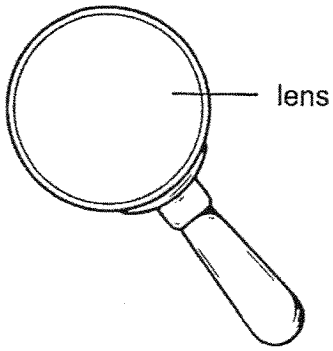


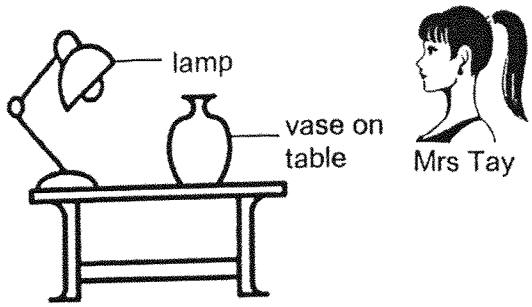
7. The diagram shows a magnifying glass.



Glass is used to make the lens of the magnifying glass because glass _____ .

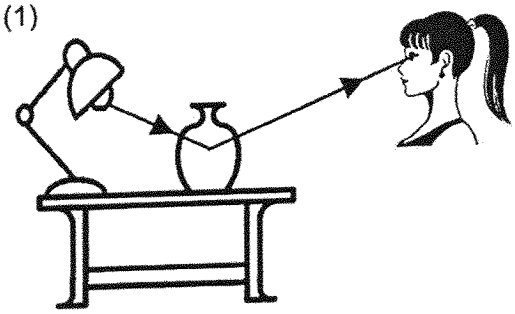
(1) can float
(2) breaks easily
(3) can bend without breaking
(4) allows light to pass through

8. Look at the picture below.

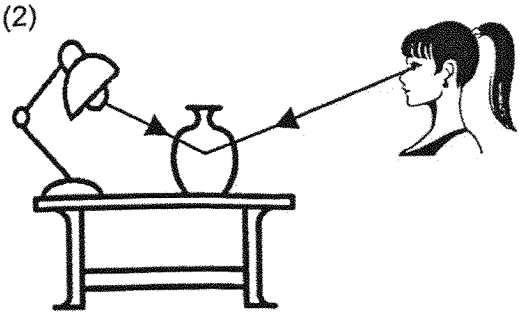


Which one of the following explains why Mrs Tay can see the vase on the table?

(1)



(2)



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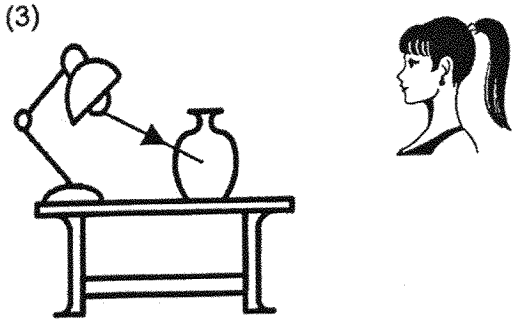

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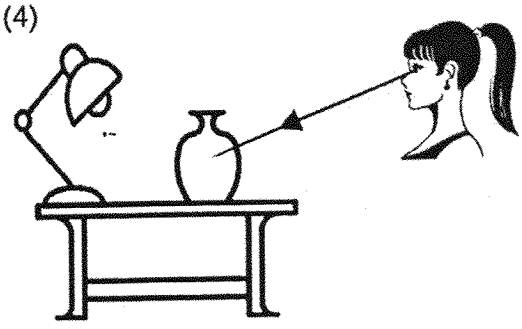


9. Raju pours boiling water into a metal cup as shown below.

He is not able to hold the metal cup with boiling water with his bare hands as it is too hot to touch. This is because metal is a _____ .

(1) heavy material
(2) flexible material
(3) poor conductor of heat
(4) good conductor of heat

10. Matter is anything that has mass and occupies space.
Which one of the following is **not** matter?

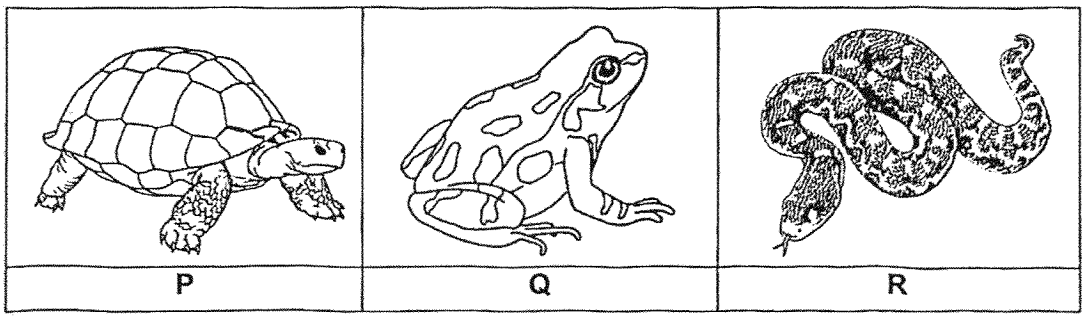
(1) air
(2) juice
(3) stone
(4) sunlight

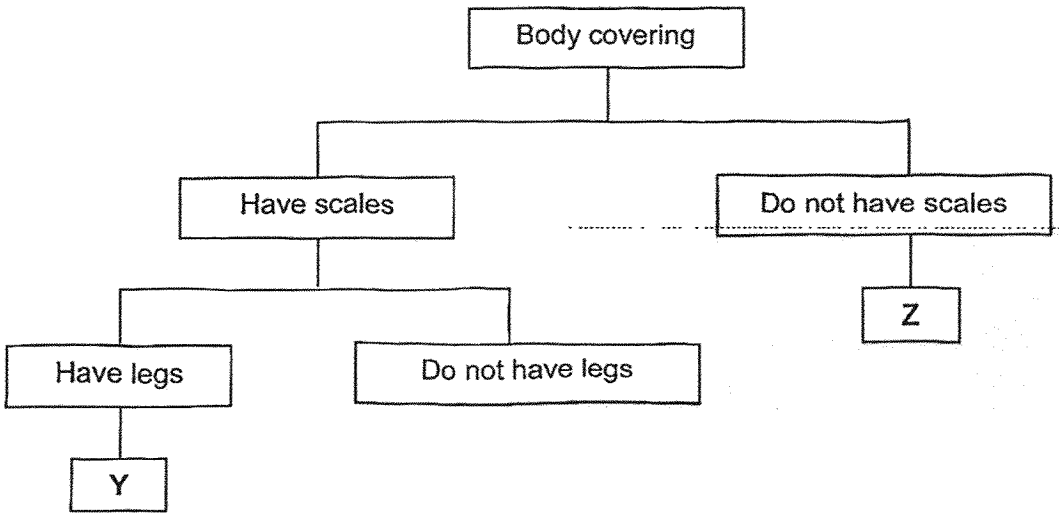
11. Which of the following are characteristics of all living things?

A grow and reproduce
B make their own food
C able to move on their own
D respond to changes around them

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

12. Study the three animals, P, Q and R and the classification chart below.

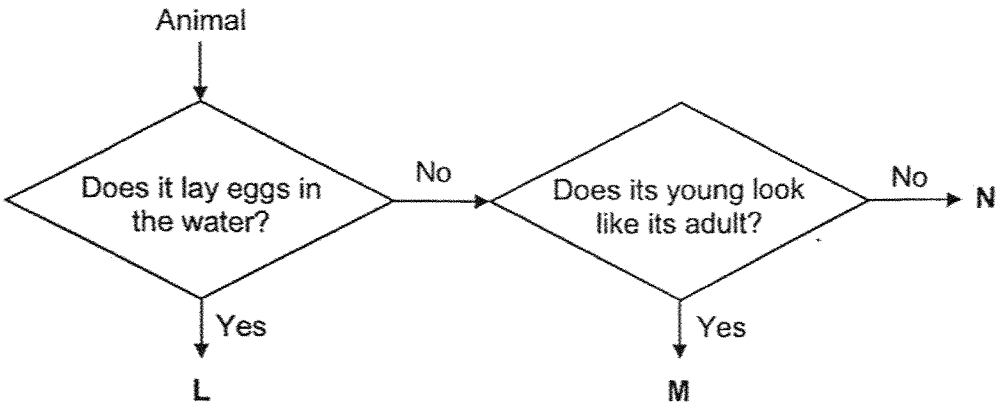




Which animals do Y and Z represent?

	Y	Z
(1)	P	Q
(2)	P	R
(3)	Q	P
(4)	Q	R

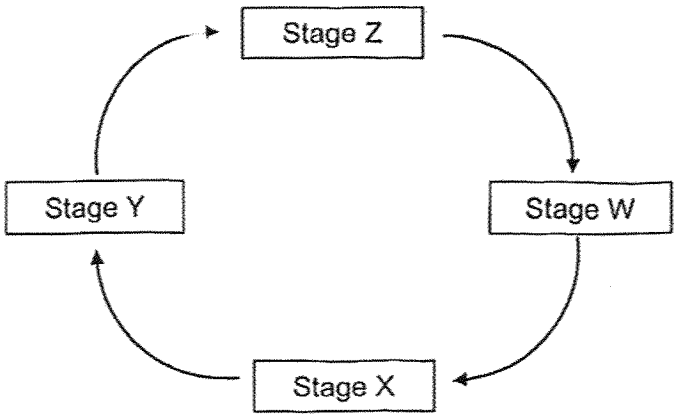
13. Study the flowchart below.



Which of the following correctly represent L, M and N?

	L	M	N
(1)	fish	mealworm beetle	cockroach
(2)	fish	cockroach	mealworm beetle
(3)	cockroach	mealworm beetle	fish
(4)	mealworm beetle	cockroach	fish

Refer to the life cycle of an insect below to answer questions 14 and 15.



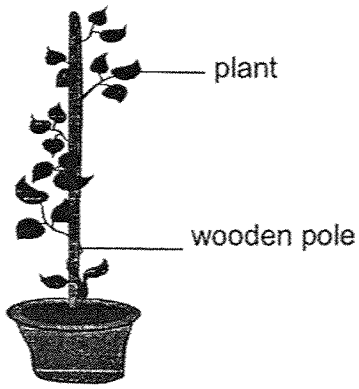
14. If stage W represents the egg, what does stage X represent?

(1) larva
(2) adult
(3) pupa
(4) nymph

15. Which of the following animals **does not** have a life cycle that matches the life cycle shown above?

(1) butterfly
(2) mosquito
(3) grasshopper
(4) mealworm beetle

16. The diagram below shows a green plant.

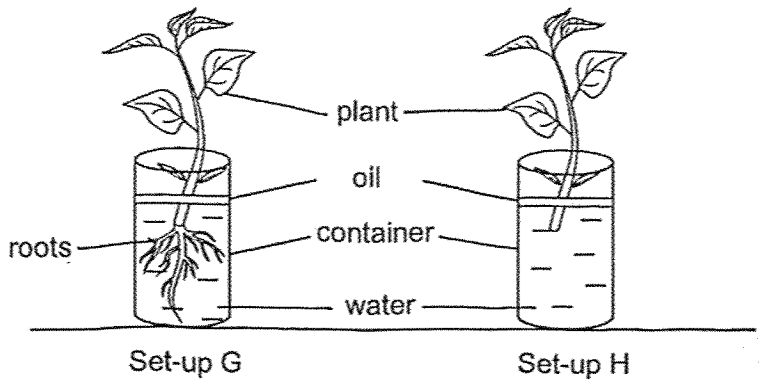


Which statement(s) is/are definitely correct?

A This plant can make food.
B This plant has a weak stem.
C This plant is a non-flowering plant.

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

17. Devi wanted to find out if the presence of roots affects the absorption of water in plants. She prepared two set-ups, G and H, as shown below.

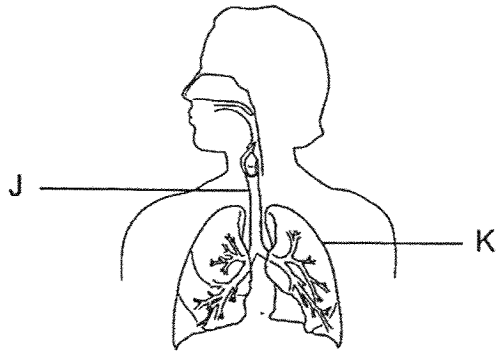


Which of the following variables should Devi keep constant?

A Number of roots on each plant
B Number of leaves on each plant
C Amount of water in each container at the end of the experiment
D Amount of water in each container at the start of the experiment

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

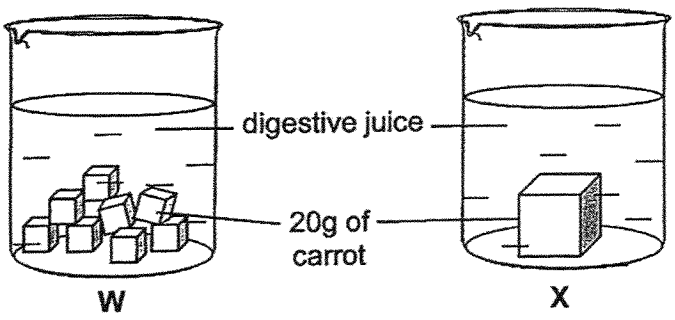
18. The diagram below shows the human respiratory system.



What are parts J and K?

	J	K
(1)	gullet	heart
(2)	gullet	lungs
(3)	windpipe	heart
(4)	windpipe	lungs

19. W and X are similar containers containing the same volume of digestive juices. The total mass of carrots placed in each container is the same. The carrots had been cut into cubes of different sizes.



Why did the carrots in container W take a shorter time to be fully digested as compared to the carrots in X?

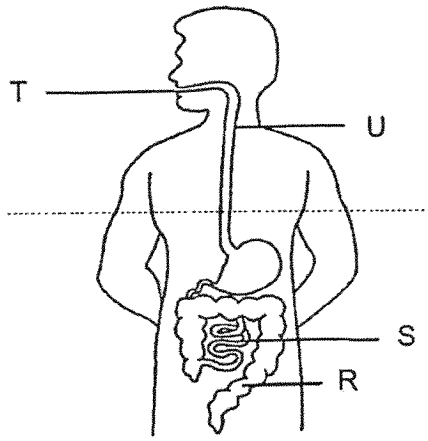
(1) The carrots in W occupy a larger amount of space.
(2) The carrots in W occupy a smaller amount of space.
(3) The carrots in W have a larger surface area exposed to digestive juices.
(4) The carrots in W have a smaller surface area exposed to digestive juices.

20. The table shows the processes taking place in organs R, S, T and U. A tick (✓) indicates that the process takes place in that organ.

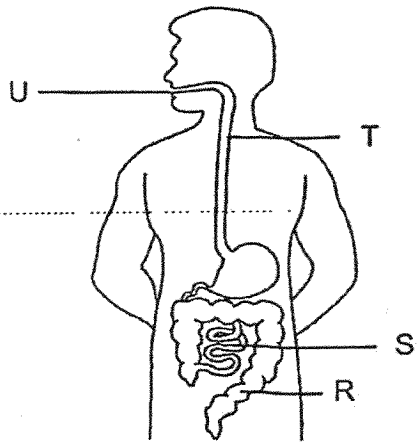
	R	S	T	U
Digestion of food		✓	✓	
Absorption of water	✓			
Absorption of digested food into the blood		✓		

Which of the following correctly shows the parts labelled R, S, T and U?

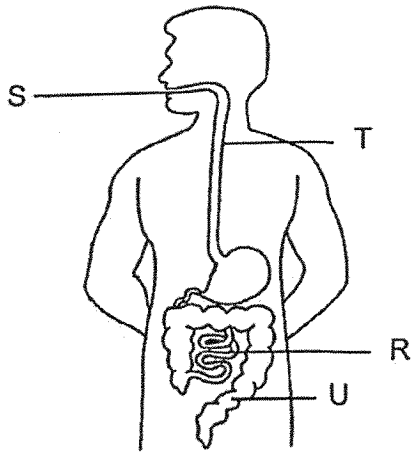
(1)



(2)



(3)



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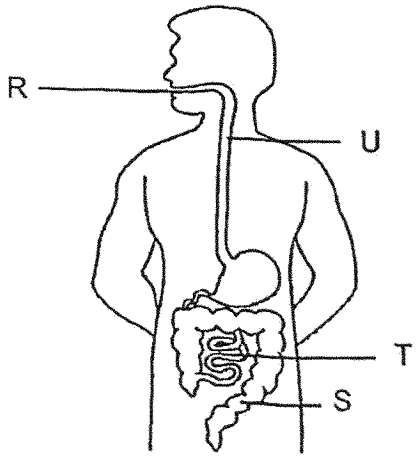
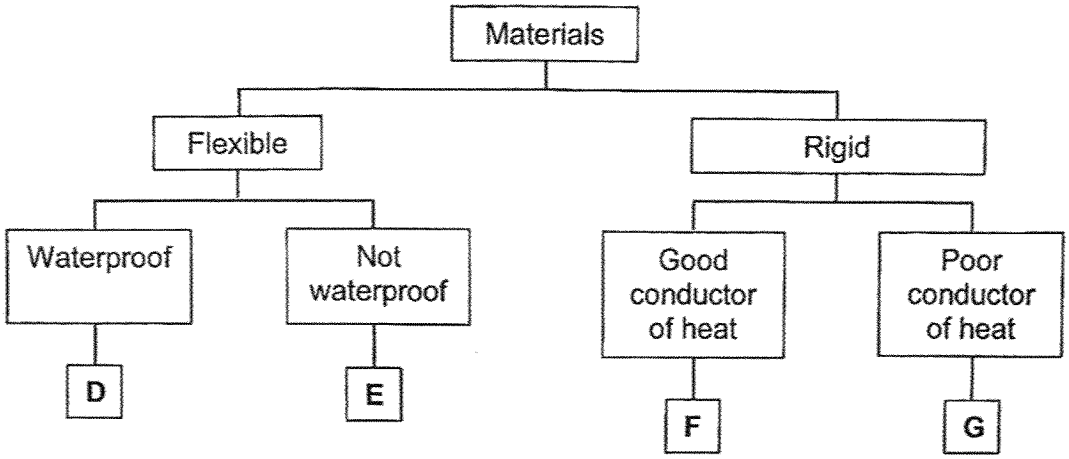


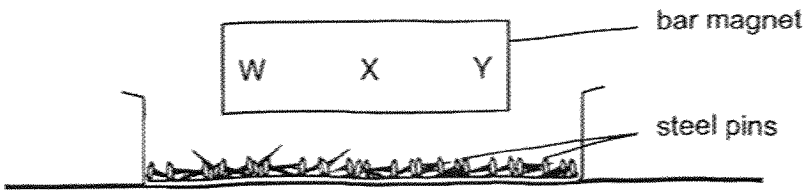
21. Kai Leng has to select the most suitable materials for making a raincoat and the base of a frying pan.



Based on classification chart above, which of the following shows the best materials, D, E, F, G or H to make each item?

	Raincoat	Frying pan
(1)	E	F
(2)	D	F
(3)	E	G
(4)	D	G

22. Sally lowered a bar magnet into a container of steel pins as shown in the diagram below.

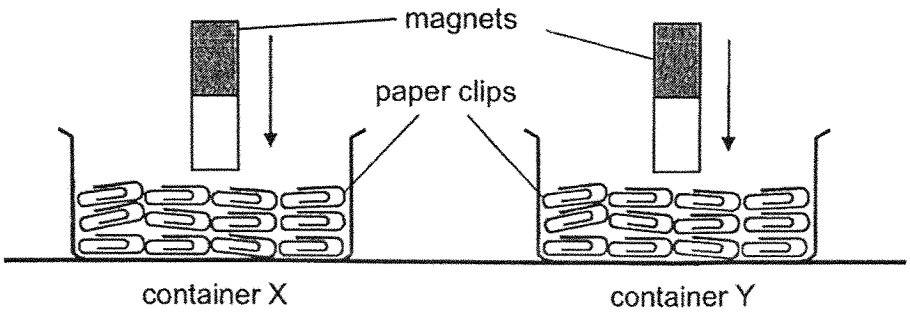


Then, she counted the number of steel pins that were attracted to each of the parts marked W, X and Y.

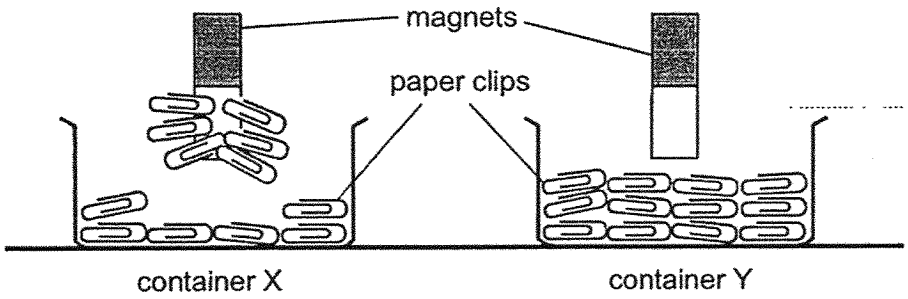
Which of the following correctly shows the most likely number of steel pins attracted to the bar magnet?

	Number of steel pins attracted		
	W	**X**	**Y**
(1)	9	2	8
(2)	5	5	5
(3)	2	10	3
(4)	11	3	0

23. Lucas put an equal number of paper clips into two containers, X and Y. He pushed two identical magnets into the two containers as shown in the diagram below.



When he lifted both the magnets, he observed that the paper clips in container X were attracted to the magnet whereas the paper clips in container Y were not attracted to the magnet as shown in the diagram below.

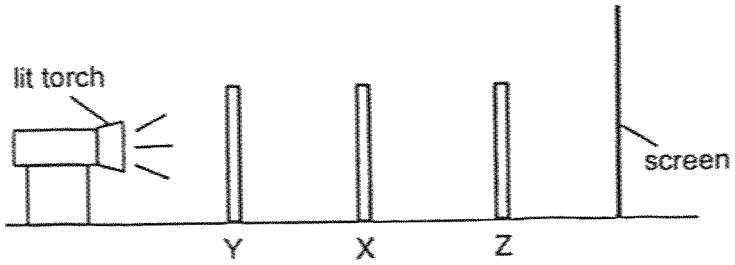
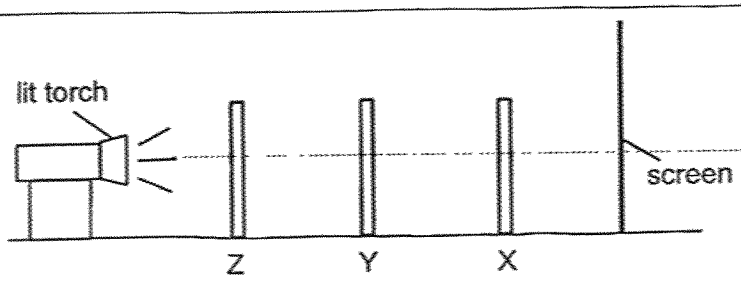
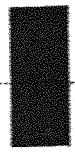
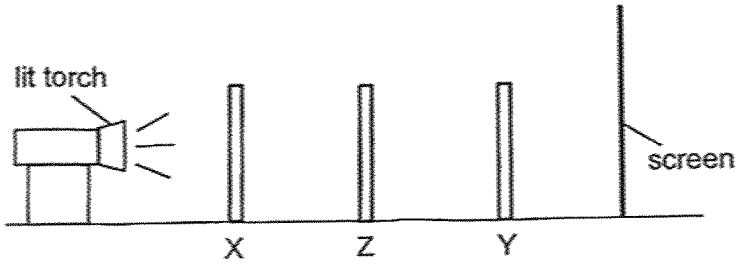


What could the materials of the paper clips in containers X and Y most likely be made of?

	Material of paper clips in container X	Material of paper clips in container Y
(1)	steel	iron
(2)	plastic	steel
(3)	plastic	plastic
(4)	iron	plastic

24. Three objects, X, Y and Z, of the same shape and size are placed at different positions from a torch. X, Y and Z are made from different materials.

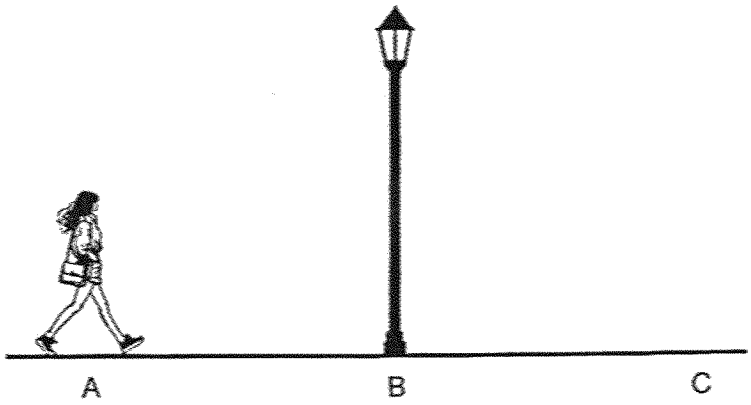
The shadows formed on the screen for the different arrangements are shown below.

Position of X, Y and Z	Shadow formed on the screen
	
	
	

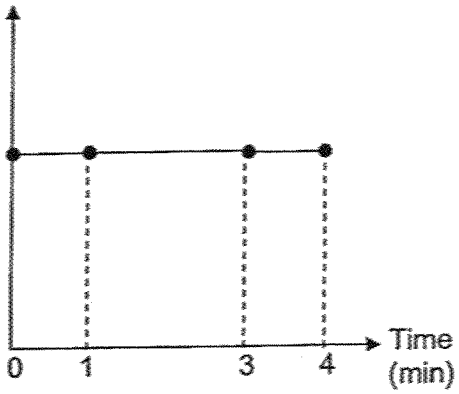
Which of the following is correct?

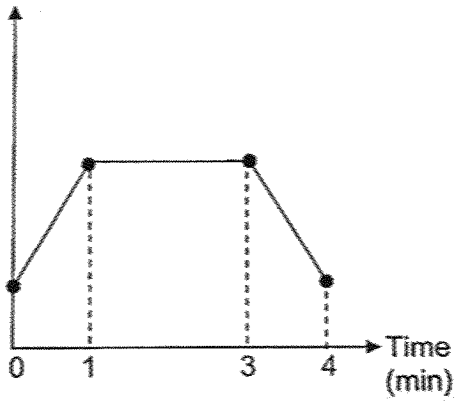
	Allow(s) most light to pass through	Do(es) not allow light to pass through
(1)	Y	X and Z
(2)	X	Y and Z
(3)	X and Z	Y
(4)	X and Y	Z

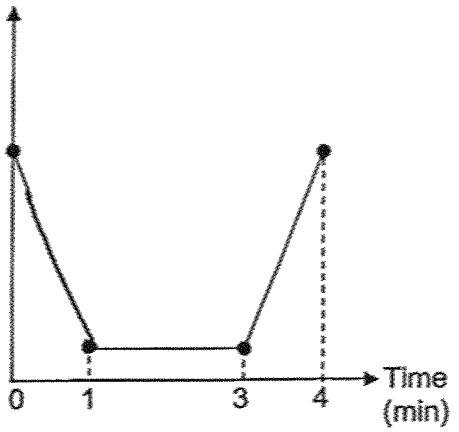
25. Mrs Tan was walking from position A to position C, as shown in the diagram below. She took 1 minute to walk to B and stopped for 2 minutes. She continued walking and reached C after 1 minute.

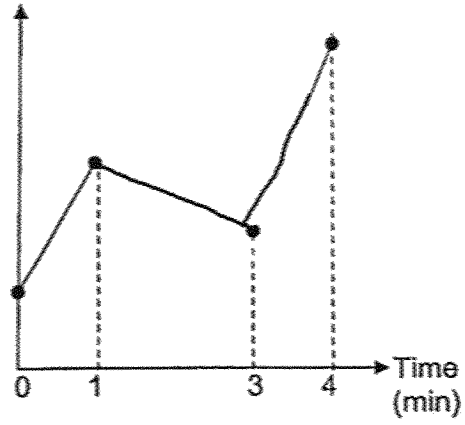


Which graph shows the change in the length of Mrs Tan's shadow during the 4 minutes?

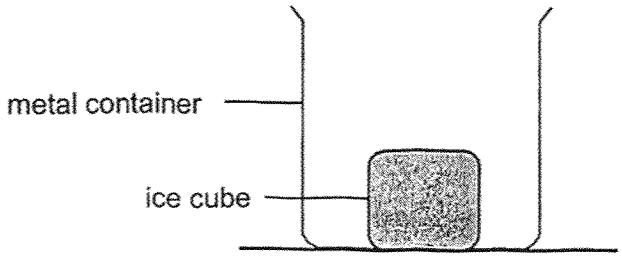
(1)


(2)


(3)


(4)


26. Ming Teck took out an ice cube from the freezer and placed it inside a metal container as shown in the diagram below.



Ten minutes later, he observed that the ice cube had melted and the metal container felt cold.

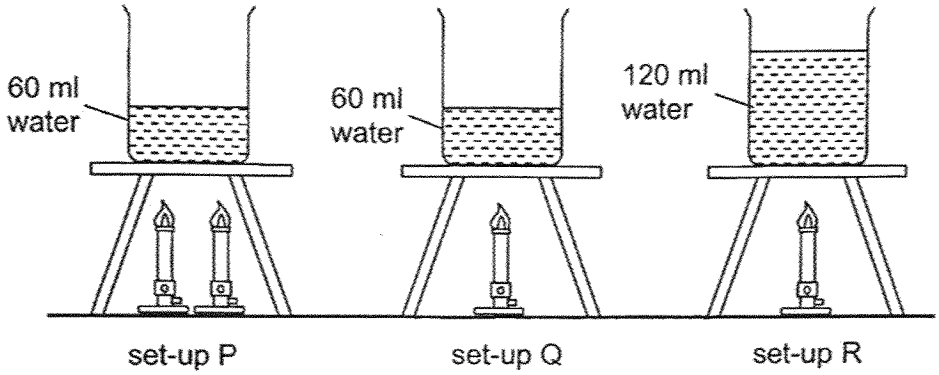
Which statement(s) below correctly explain(s) Ming Teck's observations?

A The ice cube lost heat to the surrounding air.
B The metal container lost heat to the ice cube.
C The metal container gained heat from the ice cube.

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

Refer to the diagram and information below to answer questions 27 and 28.

Three beakers with water of the same starting temperature at 28°C were heated up with identical flames in set-ups P, Q and R as shown below.



27. Which one of the following statements is true?

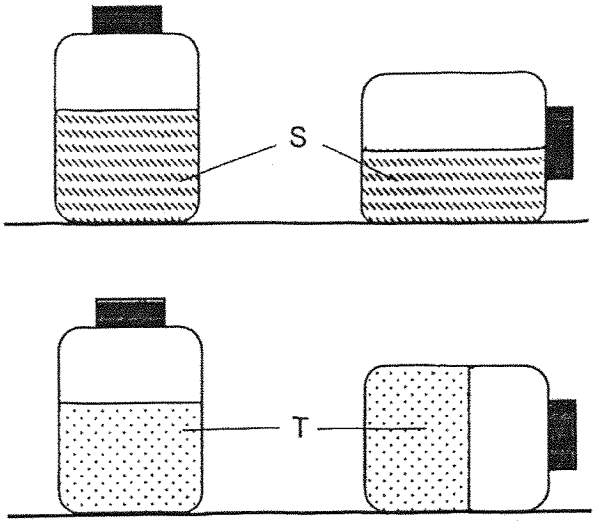
(1) The water in set-up Q will take the shortest time to boil.
(2) The water in set-up P will take a longer time to boil than the water in set-up Q.
(3) The water in set-up R will take a longer time to boil than the water in set-up P.
(4) The water in set-up Q will take the same amount of time as the water in set-up R to boil.

28. Ravi wanted to find out if the amount of water in the beaker at the start of the experiment affects the time taken for the water to boil.

To ensure a fair test, which set-ups should be used for his investigation?

(1) P and Q only
(2) P and R only
(3) Q and R only
(4) P, Q and R

29. Substances S and T are placed in two upright containers. When the containers are tilted to its sides, the observation is shown in the diagram below.

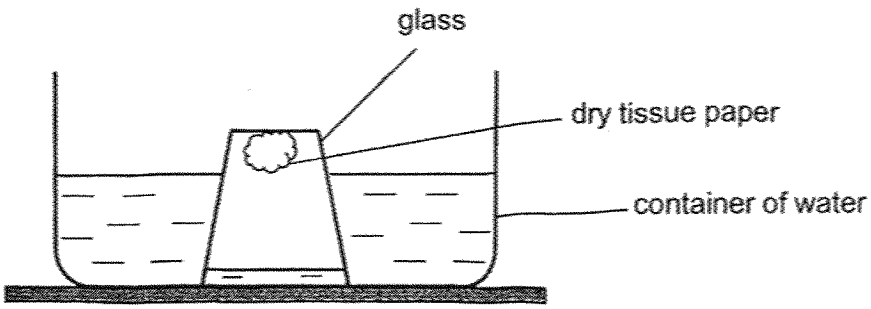


Which of the following statements are definitely correct?

A Substance S is air.
B Substance T could be ice.
C Substance S and T have definite volume.
D Substance S and T have no definite shapes.

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

30. Charissa stuck a piece of tissue paper to an empty glass and lowered it into a container of water until the glass touched the bottom of the container. The tissue paper remained dry as shown in the diagram below.



Which one of the following statements correctly explains why the tissue paper remains dry?

(1) The tissue paper in the glass occupied space.
(2) The tissue paper pushed the water out from the glass.
(3) The air trapped in the glass does not have a fixed shape.
(4) The air in the glass occupied space so no water is able to enter.

~ END OF BOOKLET A ~

NANYANG PRIMARY SCHOOL
END-OF-YEAR EXAMINATION
2025

PRIMARY 4

SCIENCE
(BOOKLET B)

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

INSTRUCTIONS TO CANDIDATES

1. Write your name and index number in the space 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. Write your answers in this booklet.

Name: _____ ( )

Class: Primary 4 ( )

Parent's Signature: _____

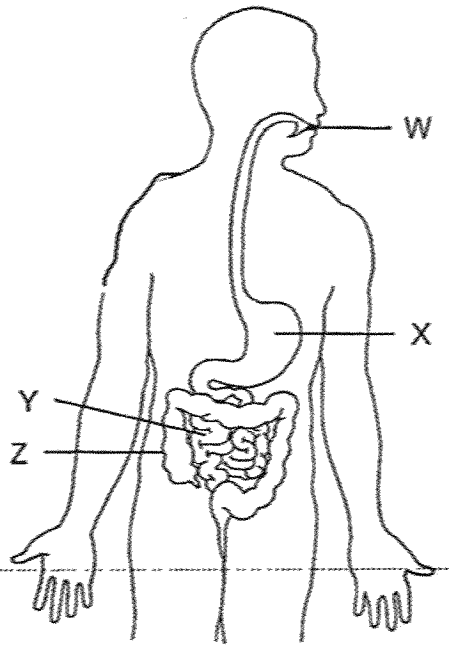
Please sign and return the examination paper the next day. **Any queries should be raised at the time when the paper is returned.**

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

This booklet consists of 19 printed pages and 1 blank page.

Section B: Open-Ended Questions [40 marks]

31. The diagram below shows the human digestive system.

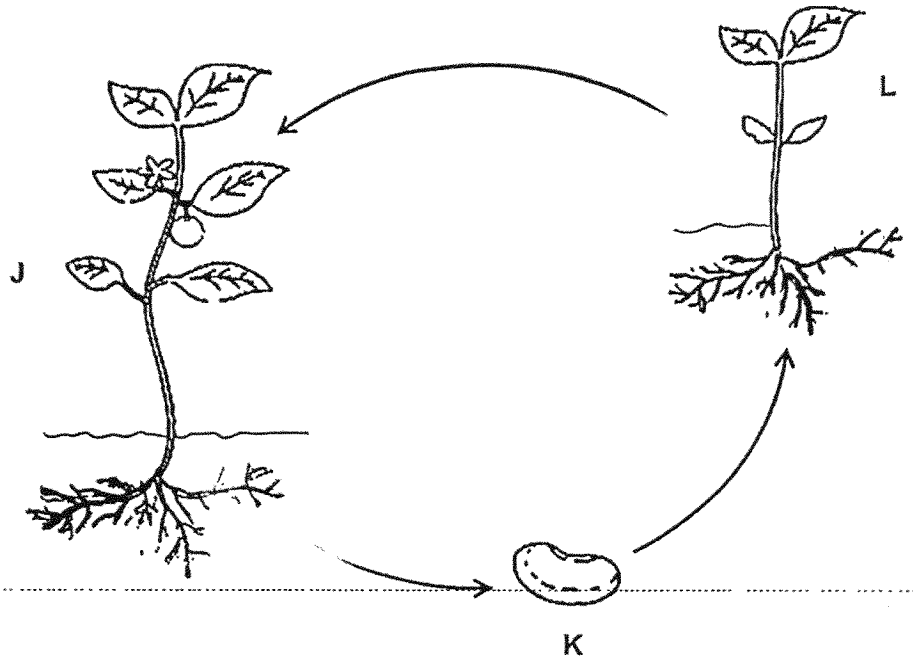


Identify the part (W, X, Y and Z) where

(a) food is first broken down: _____ [1]

(b) digestion ends: _____ [1]

32. The diagram below shows the stages in the life cycle of a plant.



Choose the correct words from the box to answer the question below.

young plant	egg	seed	adult plant

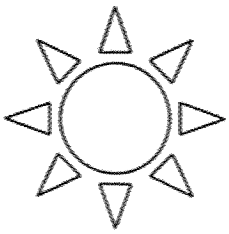
Name stages J and K in the life cycle of the plant. [2]

J: _____

K: _____

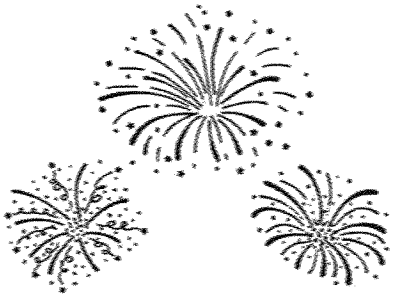
2

33. Look at the pictures. Tick (✓) the sources of light. [2]

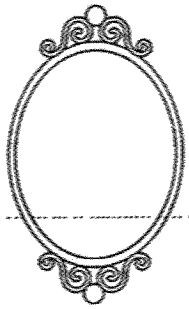


☐ Sun

☐ Eyes



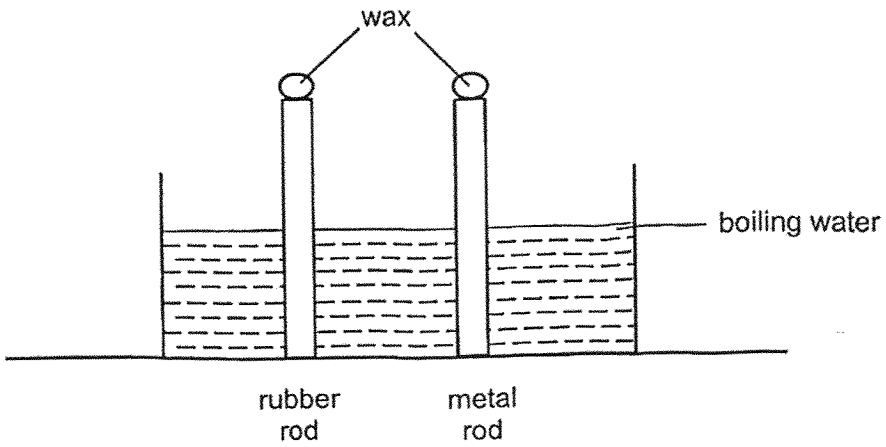
☐ Fireworks



☐ Mirror

2

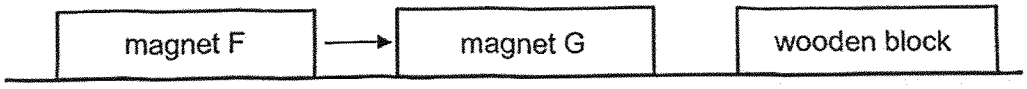
34. Yu Ying placed a rubber rod and a metal rod into a tank of boiling water as shown below. Equal amounts of wax were put on both rods.



What would she observe and why? [2]

The wax on the rubber rod melted _____ than the wax on the metal rod, as rubber is a _____ conductor of heat than metal.

35. Nur placed magnet F, magnet G and a wooden block on the table as shown in the diagram below.



(a) Why did magnet F move towards magnet G? [1]

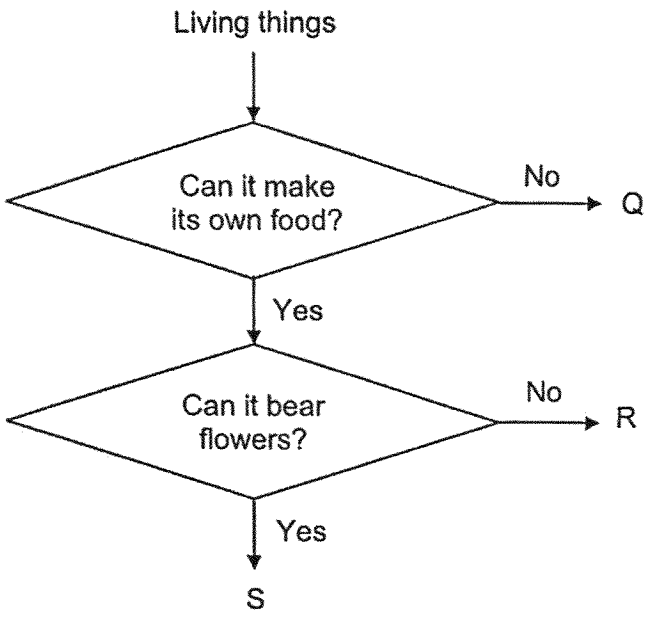
Magnet G was _____ magnet F.

(b) The wooden block did not move towards magnet G. [1]

This is because wood is a _____ material.

4

36. Study the flowchart below.



(a) Based on the flow chart above, state all the characteristics of living thing S. [1]

_____

_____

(b) Based on the flow chart above, state one difference between the characteristics of living things Q and R. [1]

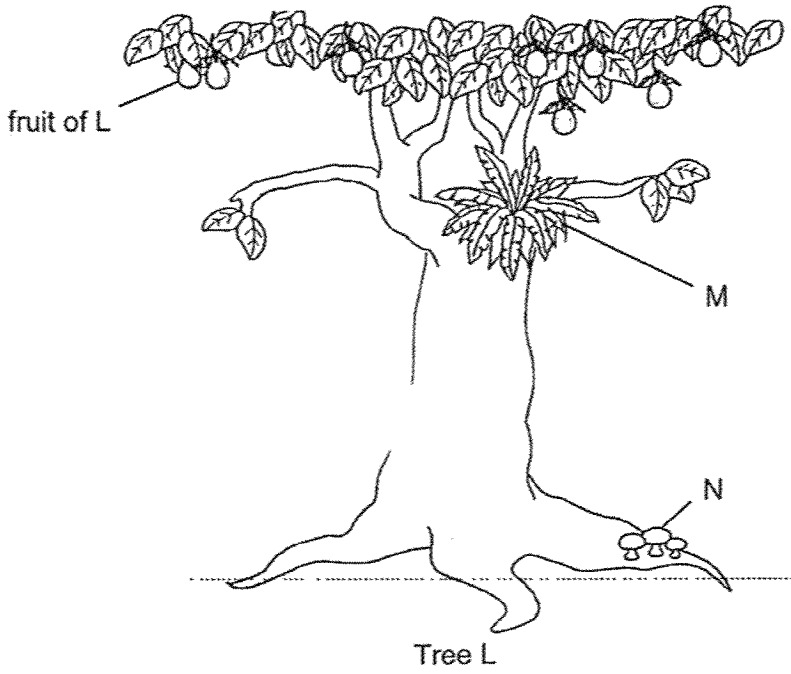
_____

_____

2

(Continue from Q36)

Study the diagram of tree L below.



Ben observed that tree L has no flowers. He classified it as a non-flowering plant.

(c) Ben's teacher said that his answer was wrong. Give a reason why. [1]

_____

_____

Ben also noticed that both M and N were growing on tree L. He found spores on them. However, Ben stated that M and N are different in the way they get their food.

(d) State one difference in how M and N get their food. [1]

_____

_____

2

37. Bacteria S is harmful and can cause humans to fall ill when a lot of it is present. Bruce conducted an experiment to find out how quickly bacteria S can reproduce when it is kept at different temperatures. He recorded his observations in the table below.

Temperature at which bacteria S is kept (°C)	Amount of bacteria S (units)	
	at the start of the experiment	5 hours later
30	1	150
36	1	300
42	1	180
48	1	140
54	1	?
60	1	50

(a) Predict the amount of bacteria S at 54°C. [1]

_____ units

(b) State the characteristic of living things that explains why the amount of bacteria S changed after 5 hours. [1]

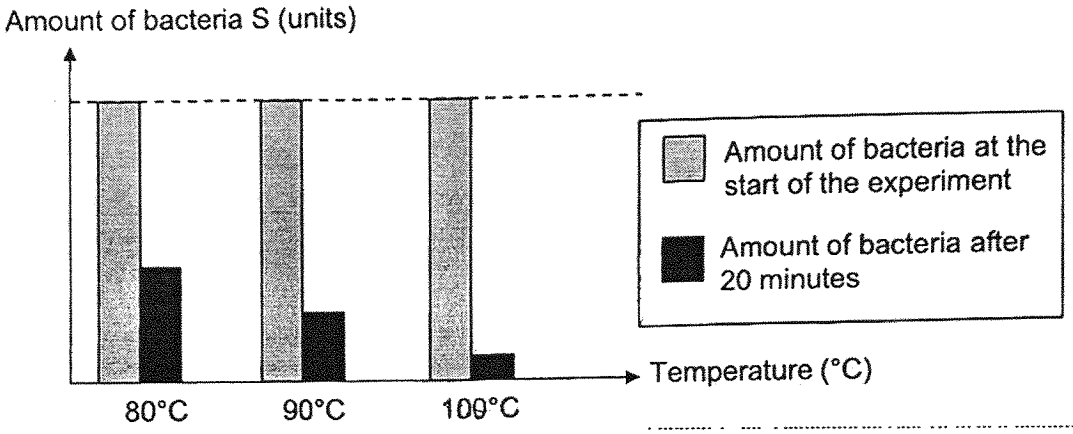
_____

_____

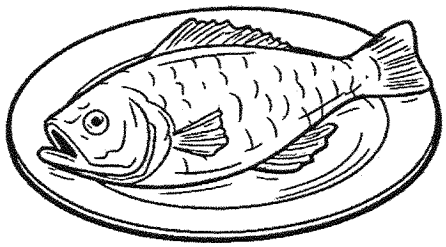
2

(Continue from Q37)

Bacteria S can be found on raw food. Bruce conducted a second experiment to find out if bacteria S can be killed at high temperatures. He heated the same amount of bacteria at different temperatures for 20 minutes. The results are shown in the graph below.



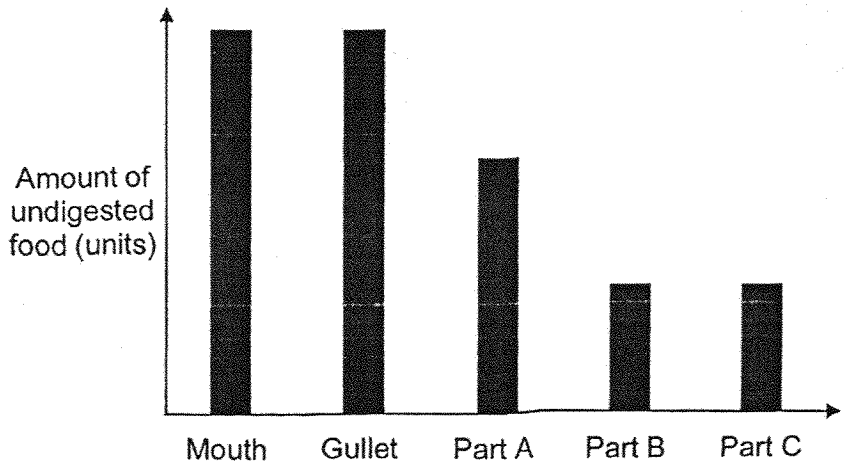
He cooked a raw fish at a temperature of 100°C for 20 minutes. The cooked fish was then left on the table at 30°C for 5 hours.



(c) Based on the two experiments Bruce had conducted, explain why the cooked fish is no longer safe for Bruce to eat after 5 hours at 30°C. [2]

2

38. The graph below shows the amount of undigested food leaving the different parts of the digestive system.



Parts of the human digestive system

(a) Other than the mouth and gullet, identify the 3 other parts of the digestive system. [1]

_____

(b) State the 2 functions of the small intestine. [2]

(i) _____

_____

(ii) _____

_____

(c) Explain why the amount of undigested food that leaves the mouth is the same as the amount of undigested food that leaves the gullet. [1]

_____

_____

4

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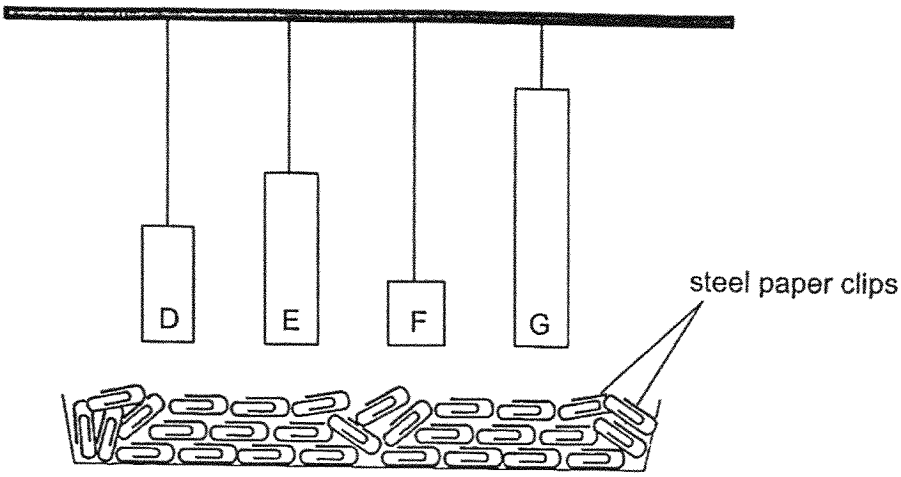
39. Ravi hung 4 magnets, D, E, F and G, at the same height above a tray of steel paper clips as shown in the diagram below.



Then, he recorded the number of steel paper clips attracted by each magnet in the table below.

Magnet	D	E	F	G
Number of steel paper clips attracted	5	2	9	7

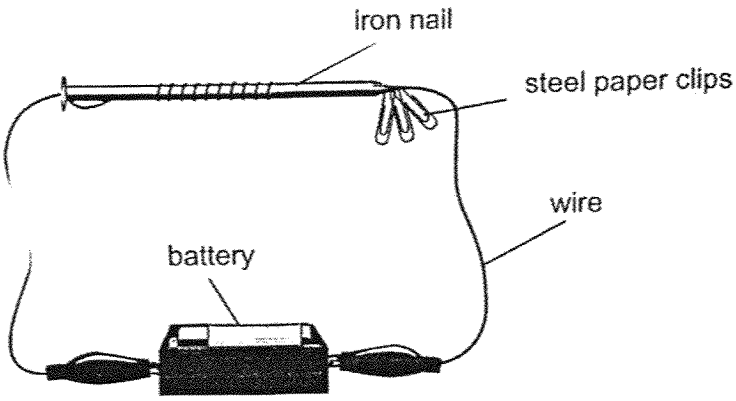
(a) Based only on the information above, put a tick ( ) in the box(es) where the statement is/are correct. [1]

Statements	Tick (✓) the correct statement
i. Magnetism cannot interact from a distance.	
ii. The magnet's magnetic strength does not depend on its size.	
iii. Magnet G has a greater magnetic strength than magnet D.	
iv. As the size of the magnet increases, its magnetic strength decreases.	

1

(Continue from Q39)

Ravi wanted to use the electrical method to magnetise an iron nail. He turned the iron nail into an electromagnet as shown in the set-up below. The iron nail was able to attract some steel paper clips.



(b) Suggest two changes Ravi could make to the set-up above to enable the iron bar to attract more steel paper clips. [2]

(i) _____

_____

(ii) _____

_____

When Ravi placed some other metal pins under his magnetised iron bar, he noticed that the metal pins were not attracted to his magnetised iron bar.

(c) Suggest one reason why the metal pins were not attracted to his magnetised iron bar. [1]

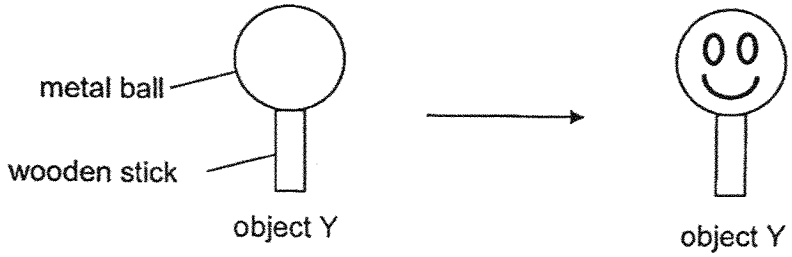
_____

_____

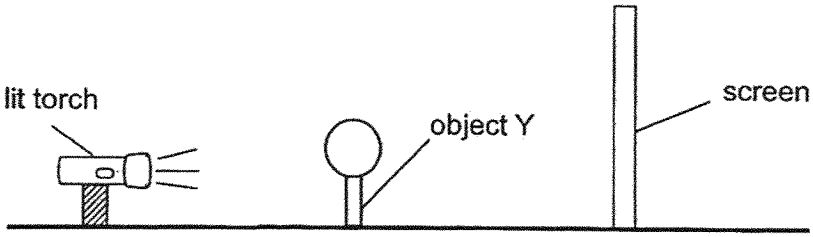
3

40. (a) Describe how shadows are formed. [1]

Kenny made object Y using a metal ball and wooden stick. Using a marker, he drew a smiley face on object Y as shown below.



In a dark room, he placed object Y between a torch and a screen as shown below.



(b) In the box below, draw the shadow formed on the screen when Kenny turned the torch on. [2]

3

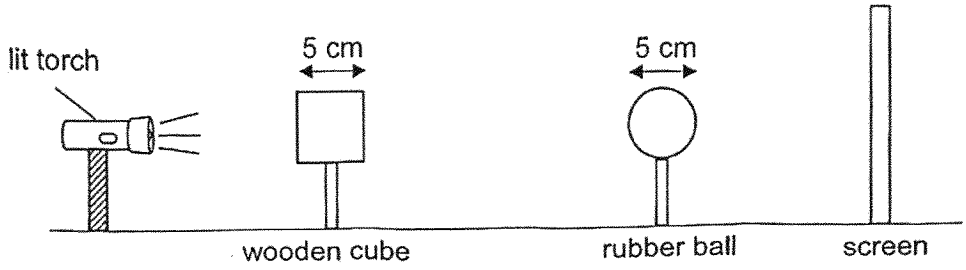
(Continue from Q40)

(c) Using the same set-up as above, state one way Kenny can cast a bigger shadow on the screen. [1]

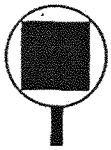
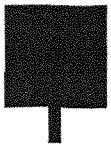
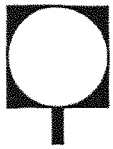
_____

_____

In another experiment, Kenny arranged the torch, a wooden cube and a rubber ball in a straight line as shown below.



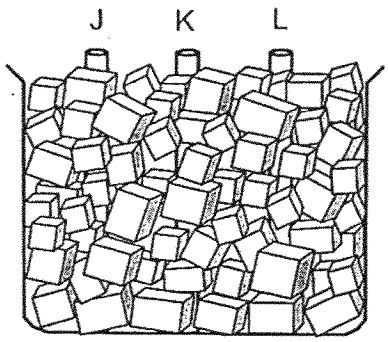
(d) In the table below, place a tick (✓) in the box with the correct shadow that will be cast on the screen when the torch was switched on. [1]

Shadow cast on the screen	Tick (✓) the correct box
	
	
	
	

2

41. (a) What are good conductors of heat? [1]

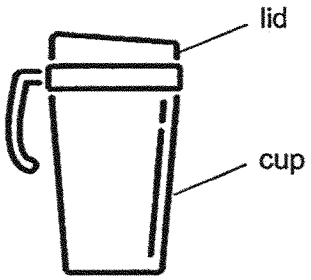
Mdm Tan placed three identical rods of different materials, J, K and L, into a container of ice as shown in the diagram below. All three rods had the same temperature of 26°C when they were placed into the container of ice.



Five minutes later, Mdm Tan took the three rods out of the beaker and recorded their temperatures in the table below.

Materials	Temperature (°C)
J	5
K	13
L	9

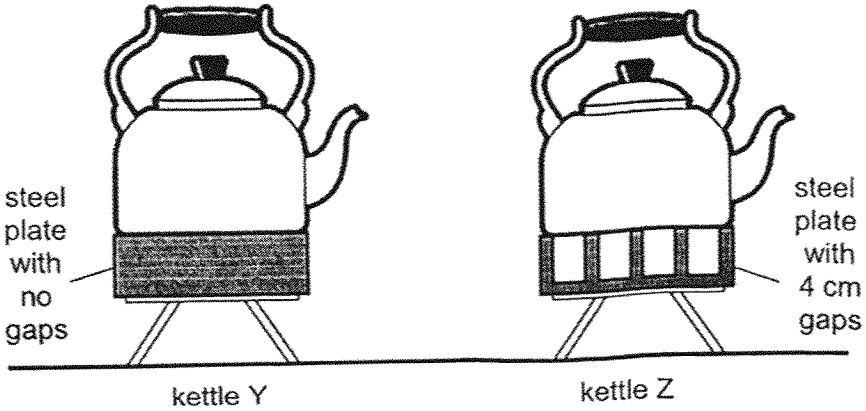
(b) Based on the results of the table above, which material J, K or L, is suitable for making the cup and its lid if Mdm Tan want her cold drinks to be kept cold for the longest period of time? Explain your answer using information from the table above. [2]



3

(Continue from Question 41)

Mdm Tan filled 2 identical kettles, Y and Z, with the same amount of water at 99°C. Then, she placed the two kettles on steel plates as shown in the diagram below.



She recorded the time taken for the water in the kettles to cool down to 50°C, in the table below.

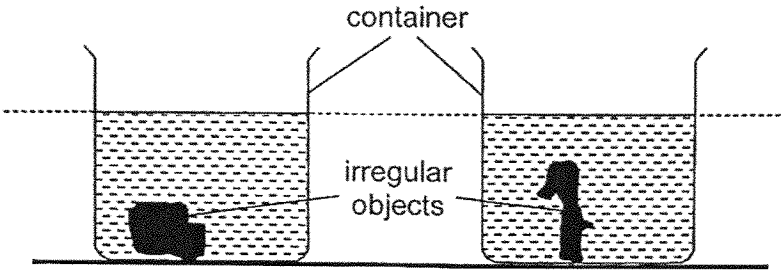
Kettle	Time taken for the water in the kettle to cool down to 50°C (minutes)
Y	20
Z	40

(c) Explain why the water in kettle Z took a longer time to cool down to 50°C. [2]

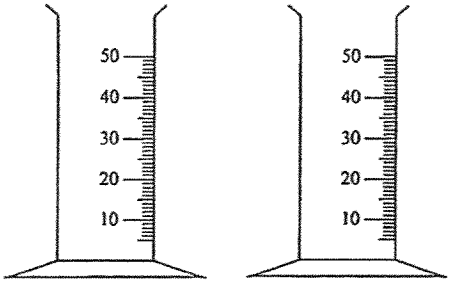
2

42. (a) State one difference between the property of solids and liquids. [1]

Zhen Zhen placed 2 irregular objects with different volumes, into 2 similar containers. She then filled the two containers with water to the same height as shown in the diagram below.



Zhen Zhen's teacher handed her two measuring cylinders as shown in the diagram below.

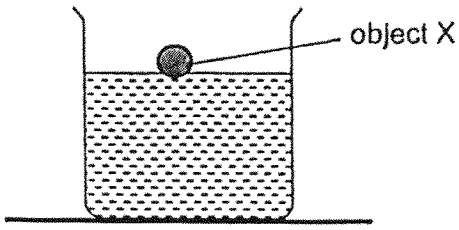


(b) Using the measuring cylinders, explain how Zhen Zhen can conclude which object has a smaller volume. [2]

3

(Continue from Question 42)

(c) Using the same method as above, Zhen Zhen tried to measure the volume of object X. Explain why she could not measure the volume of object X. [1]



~ END OF BOOKLET B ~

SCHOOL : NANYANG PRIMARY SCHOOL
LEVEL : PRIMARY 4
SUBJECT : SCIENCE
TERM : 2025 END OF YEAR EXAMINATION

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

31a	W
31b	Y
32	J: adult plant K: seed
33	Sun Fireworks
34	Slower poorer
35a	pulling / attracting
35b	non-magnetic
36a	It can make its own food and can bear flowers.
36b	Q cannot make its own food, but R can make its own food.
36c	L has / bears fruits.
36d	M can make its own food, but N gets food from living things it grows on.
37a	Any number from 51 to 139
37b	Living things can reproduce.
37c	Data: There are still bacteria on the fish after cooking at 100°C. Explain: Bacteria will reproduce / increase at 30°C.
38a	stomach, small intestine, large intestine
38bi	Digests food / breaks down food into simpler substances.
38bii	Digested food is absorbed into the bloodstream.
38c	No digestion takes place at the gullet.
39a	ii, iii

39bi	Increase the number of batteries used / use battery of higher voltage.
39bii	Increase the number of turns / coils of wire around the iron nail.
39c	The metal pin is made of non-magnetic material.
40a	Shadows are formed when light is blocked by an object.
40b	
40c	Move the object nearer to the torch / Move the torch nearer to the object / Move the screen further from the torch.
40d	
41a	Good conductors of heat are materials or things which allow heat to flow through them quickly (e.g. metals).
41b	Choice: Material K Data: Material K has the highest temperature after 5 minutes. Explain: Material K is the poorest conductor of heat, so it conducts heat from the surroundings to the cold drinks the slowest / least quickly. OR It will conduct the least heat from the surroundings to the cold drinks.
41c	Data: Steel plate that kettle Z was placed on has big gaps filled with air. Explain: Air is a poor conductor of heat, so water in kettle Z lost heat slower to the surroundings. OR Data: There is less surface area of the kettle in contact with the steel. Explain: Steel is a good conductor of heat, so water in kettle Z lost less heat to the surroundings.
42a	A solid has a definite shape but a liquid has no definite shape.
42b	Pour all the water into the measuring cylinder. The object with the smaller volume is the one with more water in the measuring cylinder. OR Pour equal volume of water into each measuring cylinder. Place / Put / Lower each object into the measuring cylinder. Ensure each object is fully submerged in the water The object with smaller volume is in the measuring cylinder with less water / lower water level.
42c	Object X floats on water so it does not occupy space in the water and will not cause the water level to rise.