RAFFLES GIRLS' PRIMARY SCHOOL
END-OF-YEAR EXAMINATION
PRIMARY FOUR
2024

SCIENCE
(BOOKLET A)

Name: _____ ( ) Date : 24 October 2024

Class: P4 _____

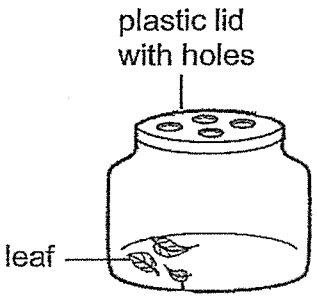
INSTRUCTIONS TO CANDIDATES

1. Write your name, class and index number in the spaces provided above.
2. Do not turn over this page until you are told to do so.
3. Follow all instructions carefully.
4. Answer all questions.
5. For Question 1- 25, use 2B pencil to shade your answers on the Optical Answer Sheet (OAS).

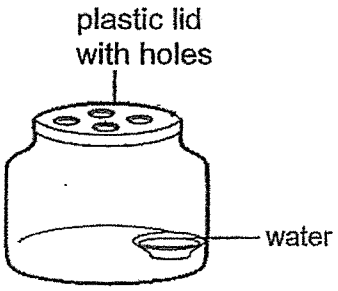
Booklet A	50
Booklet B	40
Your score **out of 90**	
Parent's signature	

1. Lingyi learns that all living things need air, water and food to stay alive.
Which set-up can she use to keep organism X alive?

(1)



(2)



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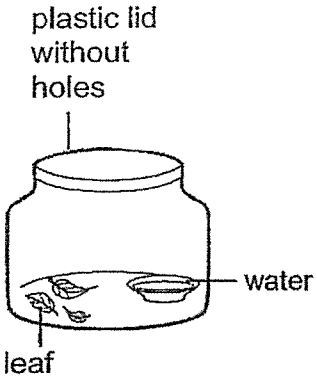

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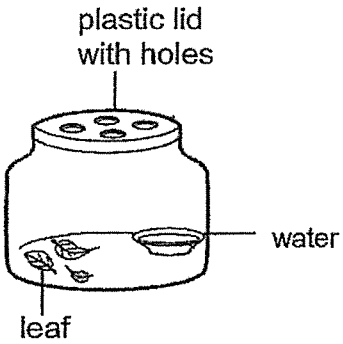
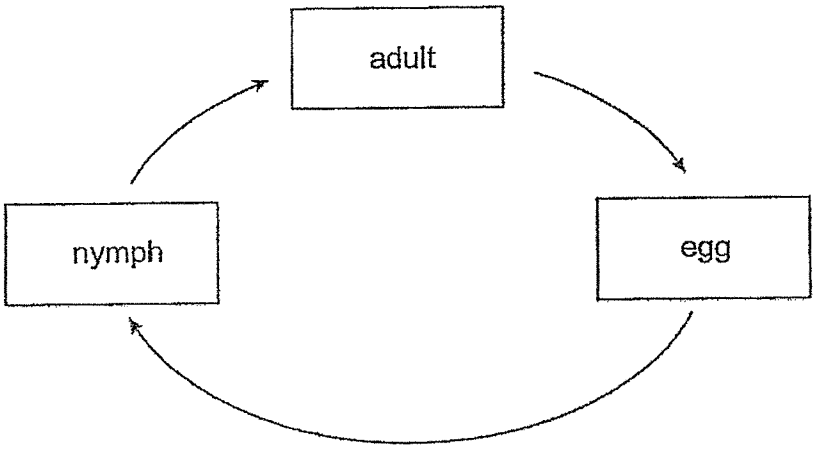


2. Which statement is true about most reptiles?

(1) They have fur.
(2) They give birth to their young.
(3) They can breathe through gills.
(4) They have dry skin covered with scales.

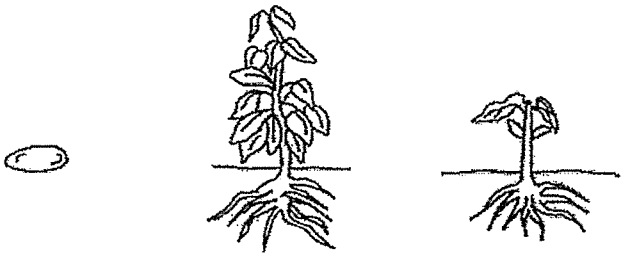
3. The diagram below shows the life cycle of an animal.



Which animal is likely to have the life cycle as shown above?

(1) frog
(2) chicken
(3) mosquito
(4) grasshopper

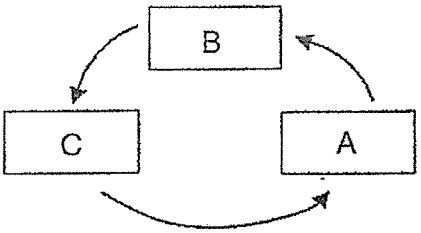
4. A, B and C are stages in the life cycle of a plant.



A B C

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

(1)



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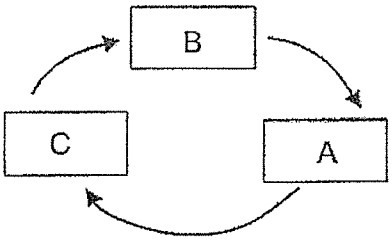

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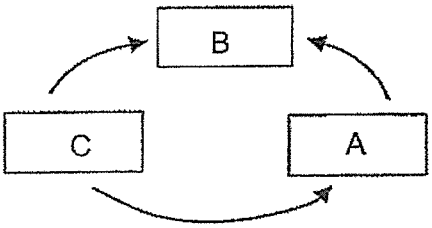

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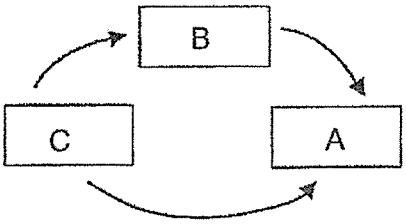
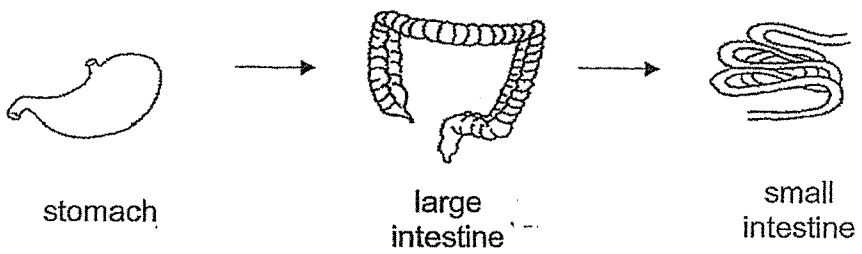
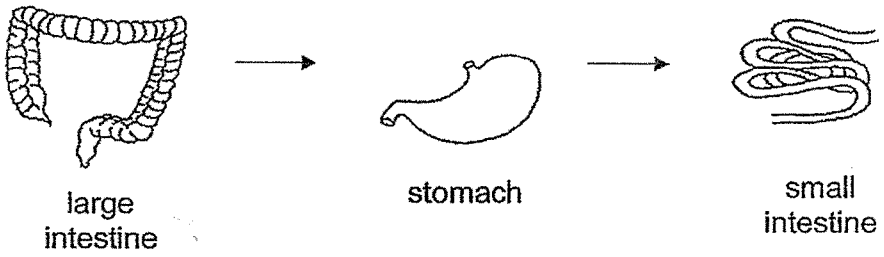


5. Which one of the following shows the correct order when food moves through some parts of the digestive system?

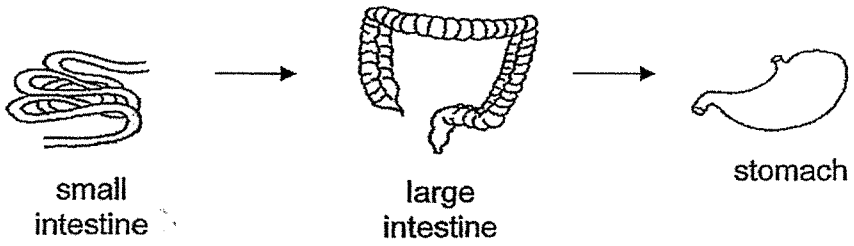
(1)



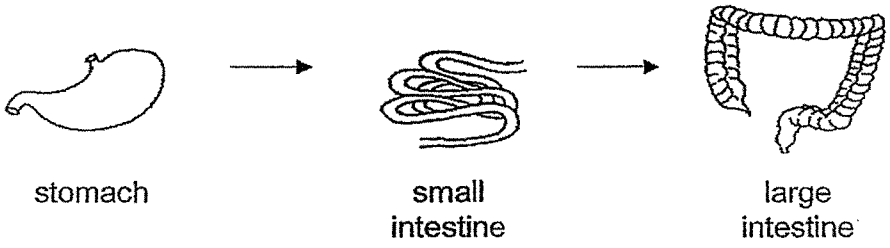
(2)



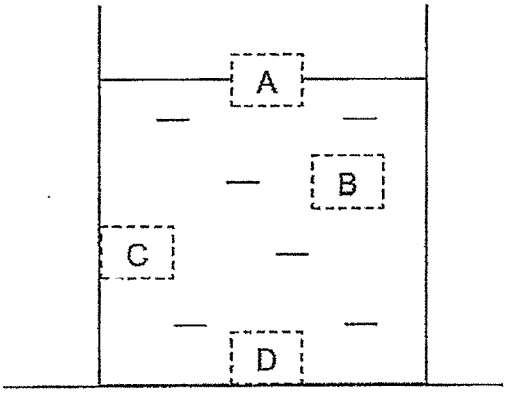
(3)



(4)



6. Ben put an iron solid block into a container of water.



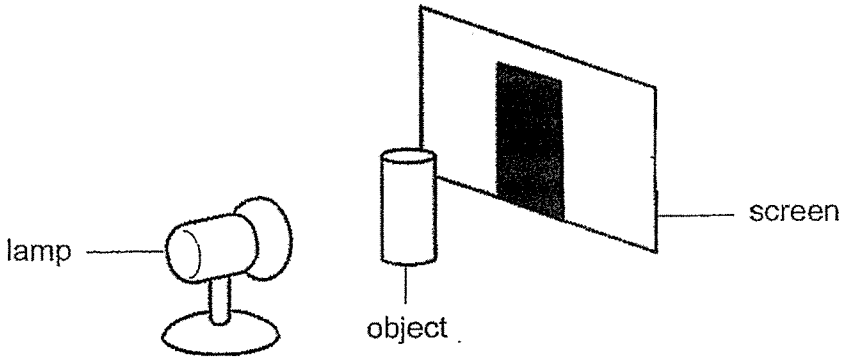
At which position, A, B, C or D, would the block most likely be found?

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

7. Which of the following properties is true for both air and orange juice?

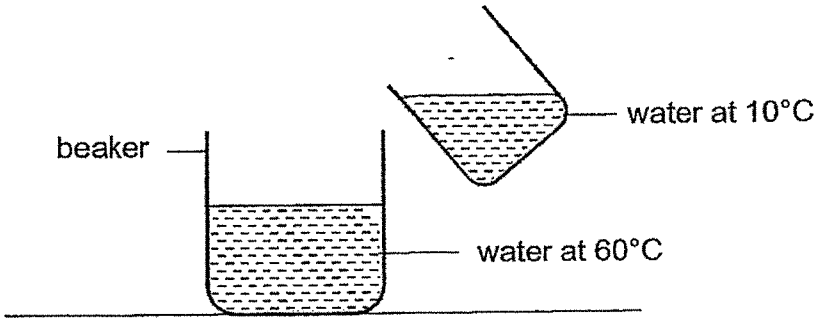
(1) They can be seen.
(2) They take up space.
(3) They have fixed shapes.
(4) They have fixed volumes.

8. The shadow of the object is formed on the screen because _____.



(1) the object blocks light
(2) the screen blocks light
(3) the object reflects light
(4) the object absorbs light

9. Warm water at 60°C is mixed with cold water at 10°C.



What is a possible final temperature of water in the beaker?

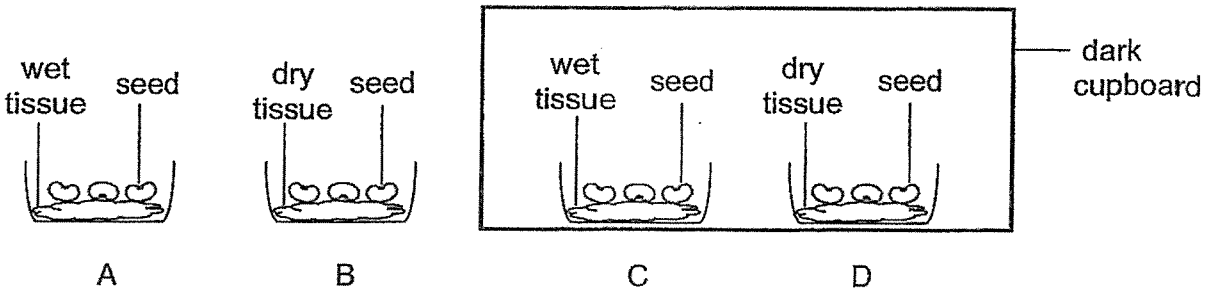
(1) 70°C
(2) 60°C
(3) 40°C
(4) 10°C

10. The diagram shows a magnet brought near a plastic block.

What will happen to the plastic block?

(1) It will not move.
(2) It will move down.
(3) It will move to the left.
(4) It will move to the right.

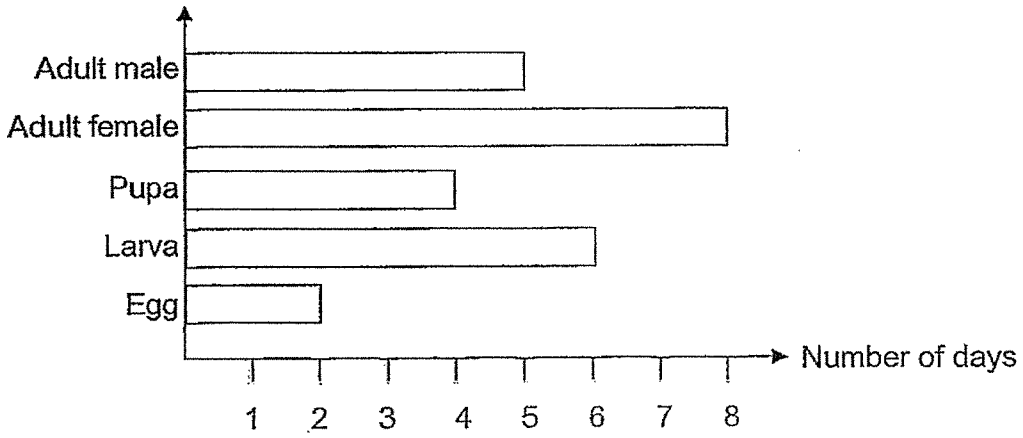
11. Siti prepared four set-ups, A, B, C and D, as shown in the diagram. She placed the set-ups C and D into a dark cupboard and placed all the set-ups near the window.



In which set-up(s) would the seeds germinate?

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

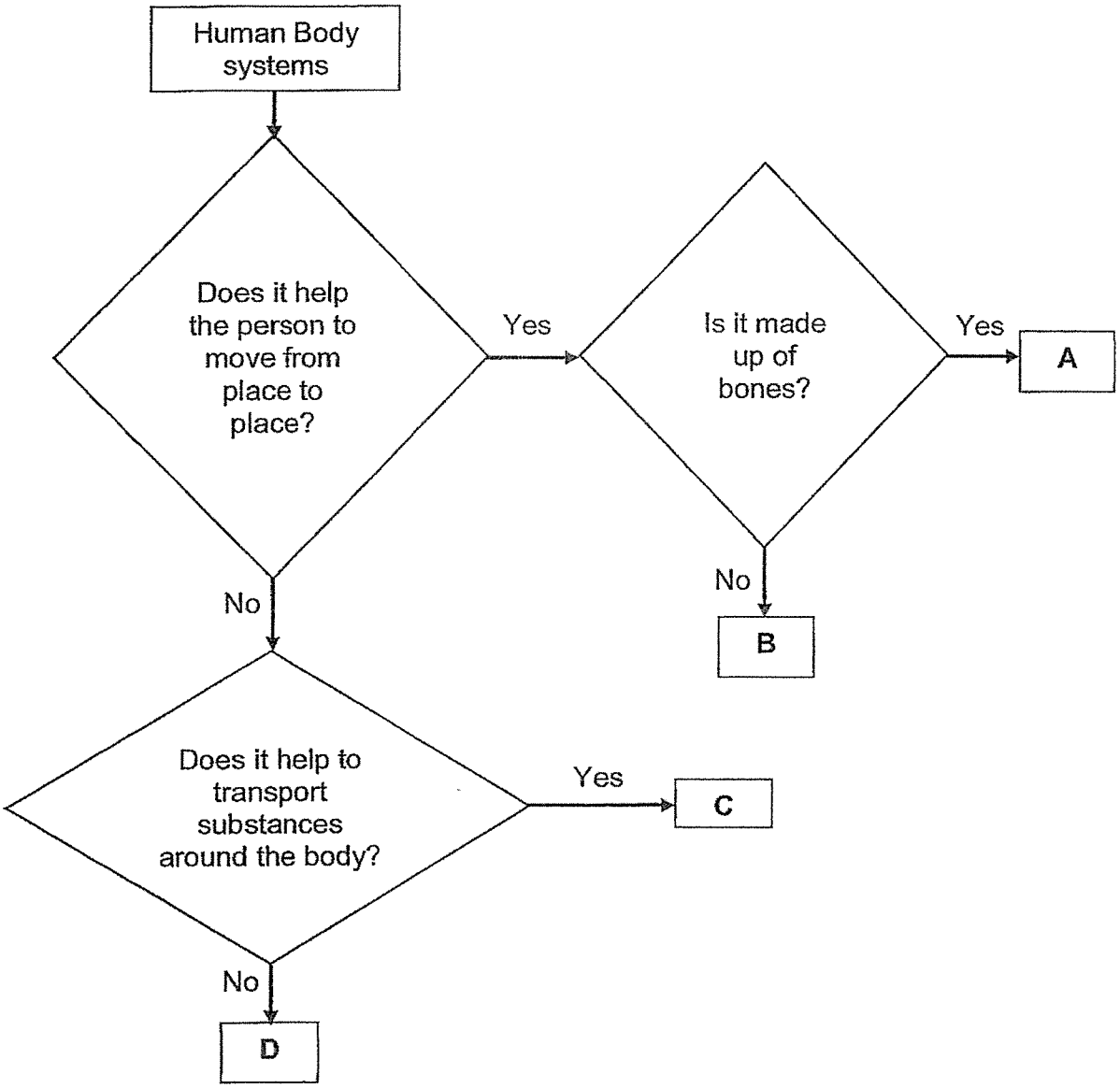
12. The graph below shows the duration of each stage in the life cycle of Insect X.



How many days did Insect X take to become an adult male after hatching?

(1) 10
(2) 12
(3) 15
(4) 17

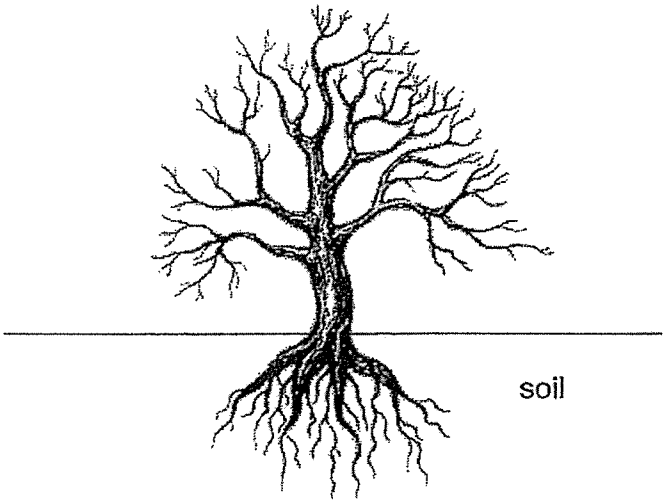
13. Study the flowchart below.



Based on the flowchart, which of the following correctly identifies human body systems A, B, C and D?

	A	B	C	D
(1)	Skeletal	Muscular	Digestive	Respiratory
(2)	Skeletal	Muscular	Circulatory	Digestive
(3)	Muscular	Respiratory	Circulatory	Digestive
(4)	Muscular	Circulatory	Digestive	Respiratory

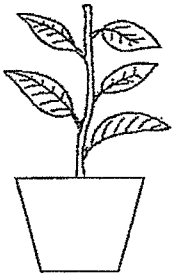
14. The diagram shows a tree with its leaves all eaten up by pests.



Which of the following is the tree **not** able to do?

(1) Make food
(2) Stay firmly in the soil
(3) Take in water and mineral salts
(4) Transport water and mineral salts

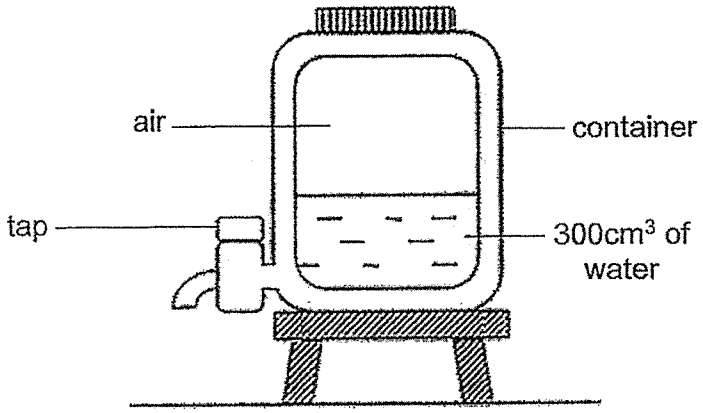
15. Jerry wanted to find out if the amount of light the plant receives affects the growth of the plant. He put four similar plants into four identical pots and gave each plant an equal amount of water every day.

			
Plant S (in the garden)	**Plant T** (in the cupboard)	**Plant U** (in the cupboard)	**Plant V** (in the garden)

Which pair of set-ups should Jerry use for his experiment?

(1) S and U only
(2) T and U only
(3) S and V only
(4) T and V only

16. The diagram shows a water container filled with 300cm^3 of water. The capacity of the container is 800cm^3.



The tap of the container was turned on to remove 100cm^3 of water from the container. What is the final volume of the air in the container?

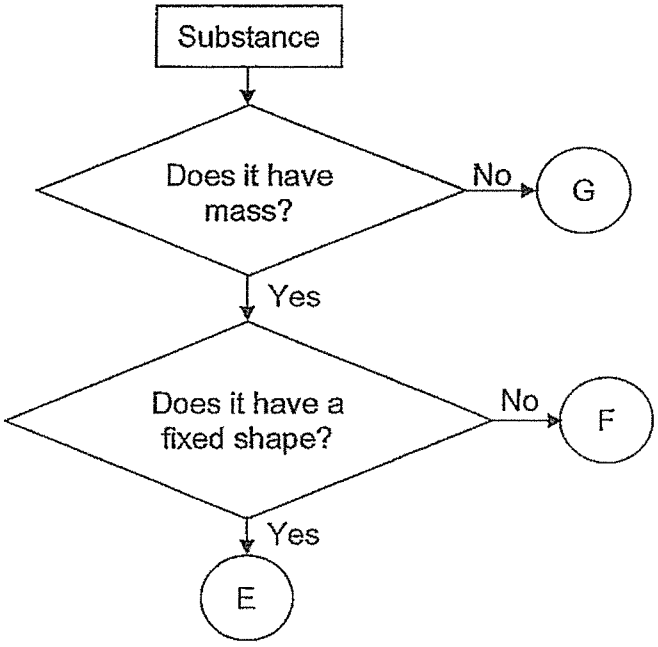
(1) 400cm^3

(2) 600cm^3

(3) 700cm^3

(4) 800cm^3

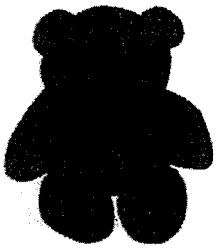
17. Henry studied the chart below.



Based on the information, which of the following statement is correct?

(1) F is a solid.
(2) G is a non-matter.
(3) E does not have fixed volume.
(4) G can be compressed but E cannot.

18. The diagram below shows the shadow cast by an object.



shadow

Which of the following statements is **incorrect**?

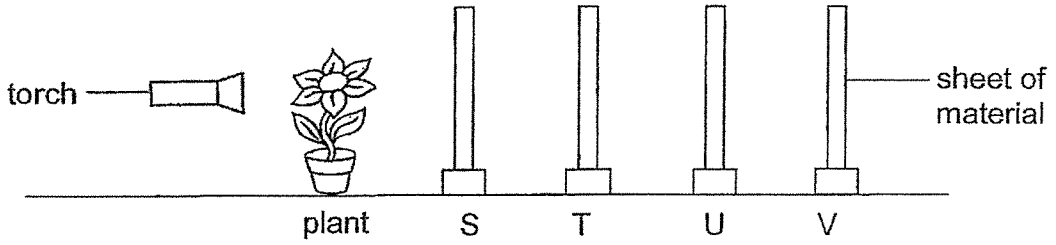
(1) Light is required to form the shadow.

(2) The shadow above is formed by an opaque object.

(3) The shape of the shadow depends on the position of the light source.

(4) The shadow cast by an object is always of the same size as the object.

19. Mike carried out an experiment in a dark room. He placed four different sheets of materials as shown. When he switched on the torch, a dark shadow of the plant was seen on sheet U only.

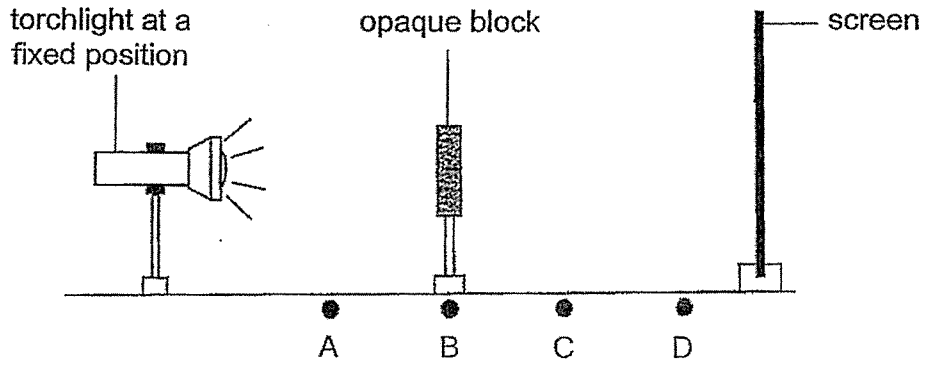


Based on the information above, which of the following conclusion(s) is/are definitely correct?

A Sheet U blocks light completely.
B Sheet V allows some light to pass through.
C Sheets S and T allow most light to pass through.
D Sheets S, T and U allow light to pass through but sheet V blocks light completely.

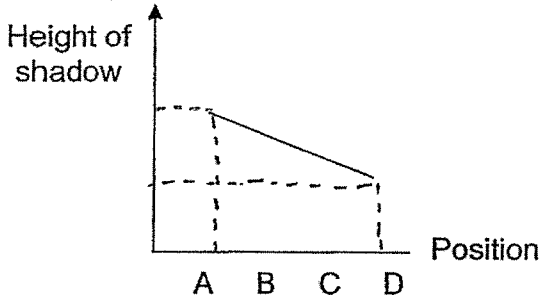
(1) D only
(2) A and C only
(3) C and D only
(4) A, B and C only

20. Linda set up the following experiment. She placed an opaque block at different positions, A, B, C and D. She measured and recorded the height of the shadow formed by the opaque block at different positions.

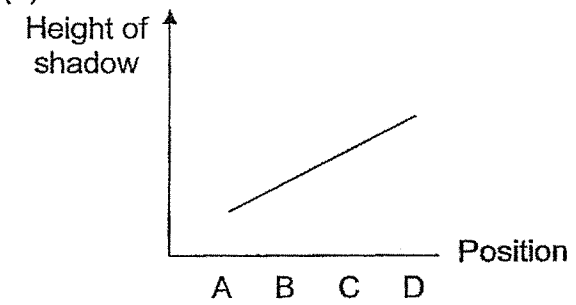


Which graph correctly shows how the height of the shadow of the opaque block changes when it is placed at the positions A, B, C and D?

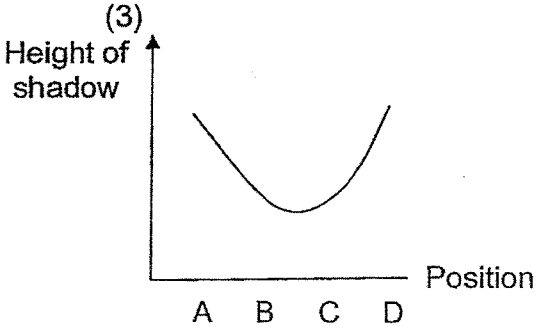
(1)



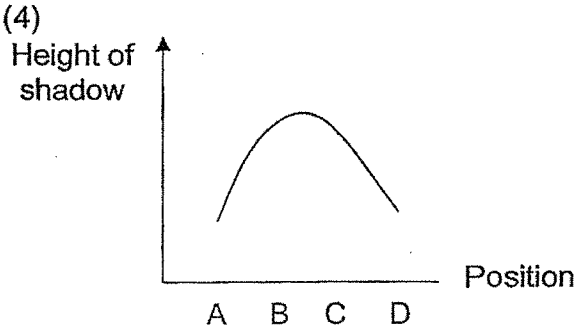
(2)



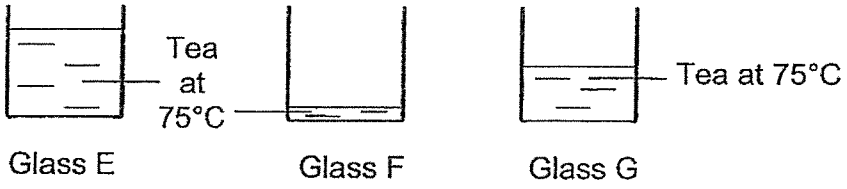
(3)



(4)



21. Vani placed three glasses, E, F and G, on the table each containing tea at 75°C



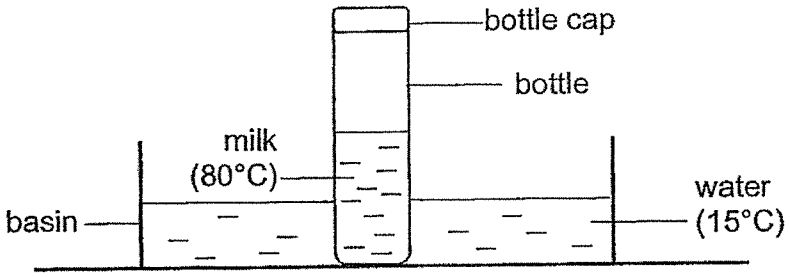
Based on the information above, he made the following statements.

A The tea in glass E contains most amount of heat.
B There is more heat in the tea in glass G than glass F.
C The tea in the three glasses has the same amount of heat.

Which of the above statement(s) is/are correct?

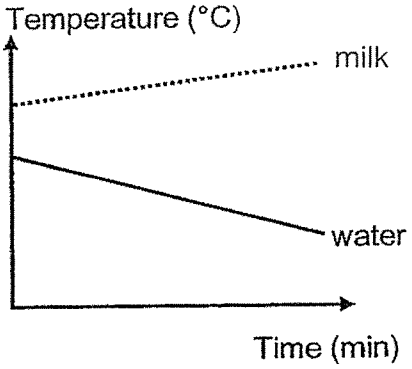
(1) B only
(2) C only
(3) A and B only
(4) B and C only

22. A bottle of milk is placed in a basin of water as shown.

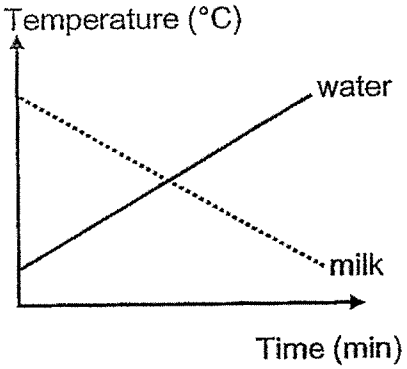


Which of the following graphs shows the change in the temperature of the milk and water correctly?

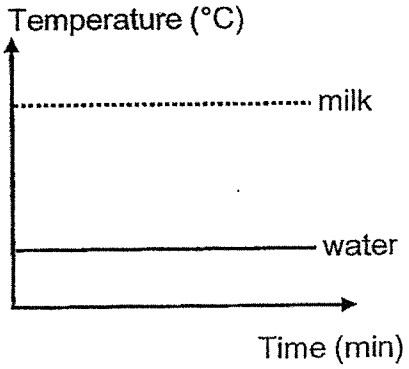
(1)



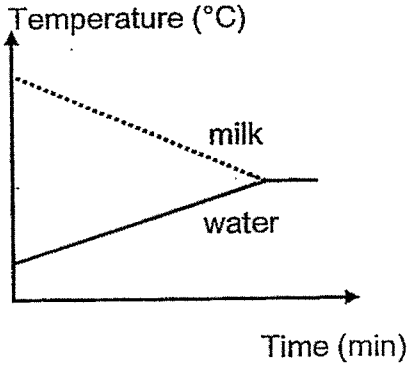
(2)



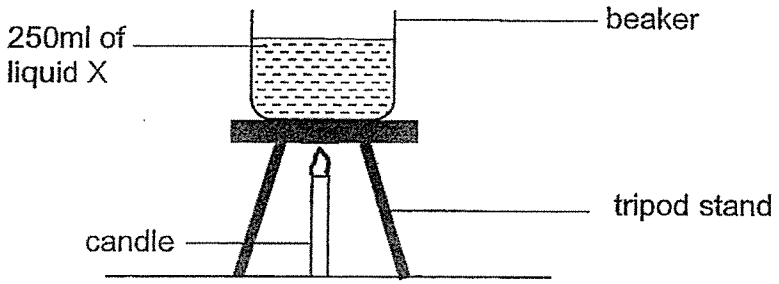
(3)



(4)



23. Ravi prepared a set-up as shown. He poured 250ml of liquid X into the beaker and recorded the time taken for it to boil.



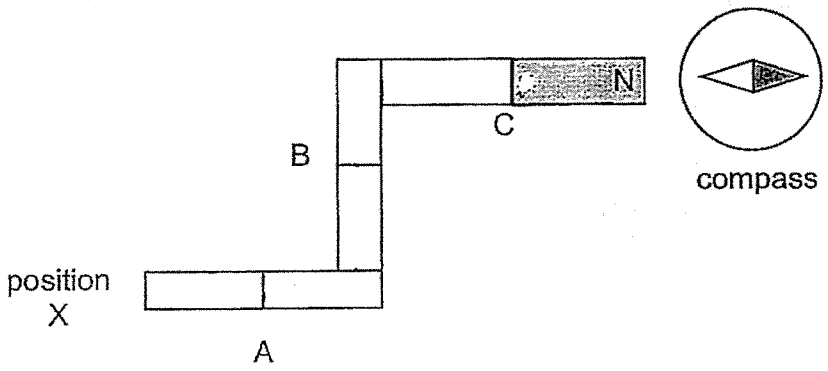
He repeated the experiment using the same amount of liquids Y and Z. He used different number of candles for each experiment. The table shows the time taken for the different liquids to boil.

Liquid	Ability to gain heat	Time taken for it to boil (min)
X	Poor	15
Y	Good	15
Z	Very good	15

Which of the following shows the number of candles he had used to boil liquids X, Y and Z?

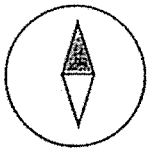
	Number of candle(s)		
	X	Y	Z
(1)	1	2	3
(2)	1	3	2
(3)	3	1	2
(4)	3	2	1

24. The diagram below shows 3 magnets, A, B and C, and a compass.

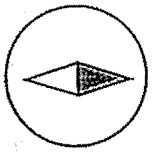


The north pole of magnet C is shown in the diagram. If another compass is placed at position X, which of the following correctly shows what this second compass would display?

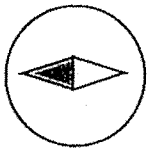
(1)



(2)

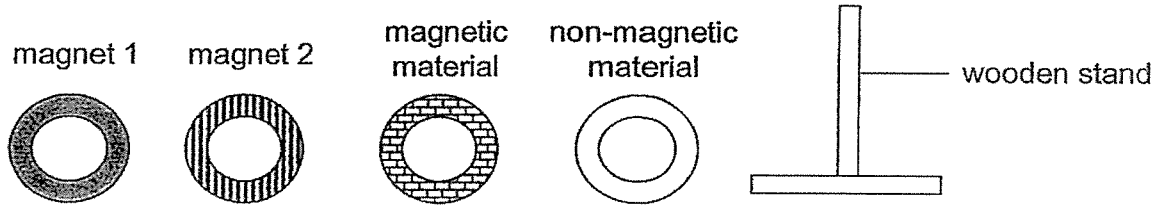


(3)



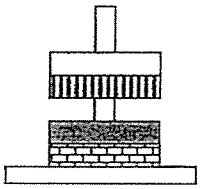
(4)

25. The diagram below shows four rings made of different materials.

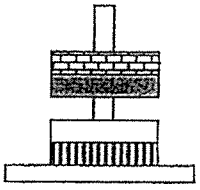


Which one of the following is **not** a possible observation when the rings are placed through the wooden stand one on top of the other?

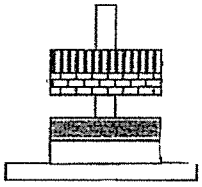
(1)



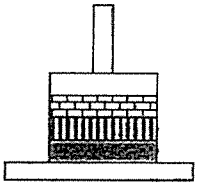
(2)



(3)



(4)



RAFFLES GIRLS' PRIMARY SCHOOL
END-OF-YEAR EXAMINATION
PRIMARY FOUR
2024

SCIENCE
(BOOKLET B)

Name: _____ ( ) Date : 24 October 2024

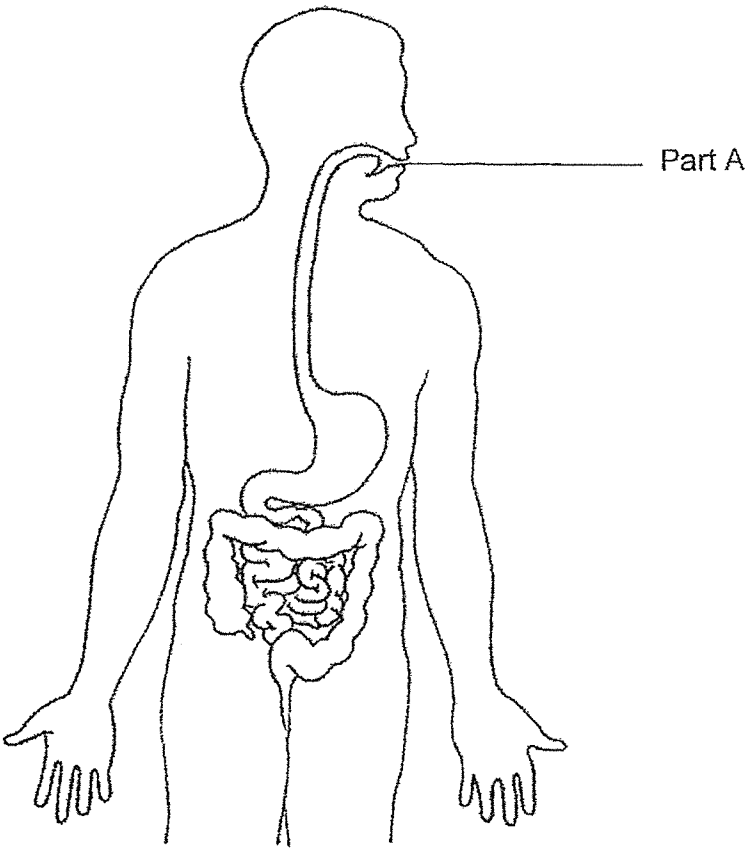
Class: P4 _____ Total Time : 1h 30min

INSTRUCTIONS TO CANDIDATES

1. Write your name, class and index number in the spaces provided above.
2. Do not turn over this page until you are told to do so.
3. Follow all instructions carefully.
4. Answer all questions.
5. For questions 26 – 37, write your answers clearly in the spaces provided.
6. The number of marks is shown in brackets[ ] at the end of each question or part question.

Score	/ 40

26. The diagram shows the human digestive system.



Fill in the blanks using the words in the box.

mouth	smaller	stomach	bigger

(a) Part A is known as _____ . [1]

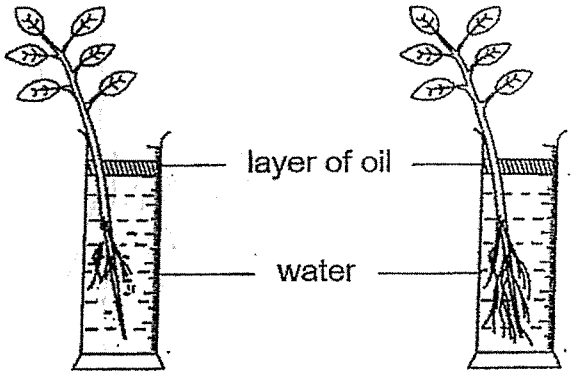
(b) Part A helps to break food into _____ pieces. [1]

Score	/ 2

27. (a) Fill in the correct parts of a plant in the table. [2]

Function of plant part	Plant part
It helps to hold the plant upright.	(i) _____
It helps to trap sunlight and make food for the plant.	(ii) _____

(b) Rani conducted an experiment using two set-ups, W and X, as shown in the diagram. She wanted to find out if the amount of roots affected the amount of water taken in by the plant.



Identify the variable(s) that should be kept constant, by putting a tick (✓) in the correct box(es), in order to conduct a fair test. [1]

Variables	Tick (✓)
Type of plant	
Amount of roots	
Location where the set-ups were placed	
Amount of water left in the container at the end of the experiment	

(c) Which set-up, W or X, would have a greater decrease in water level after a week? Give a reason for your answer. [1]

_____

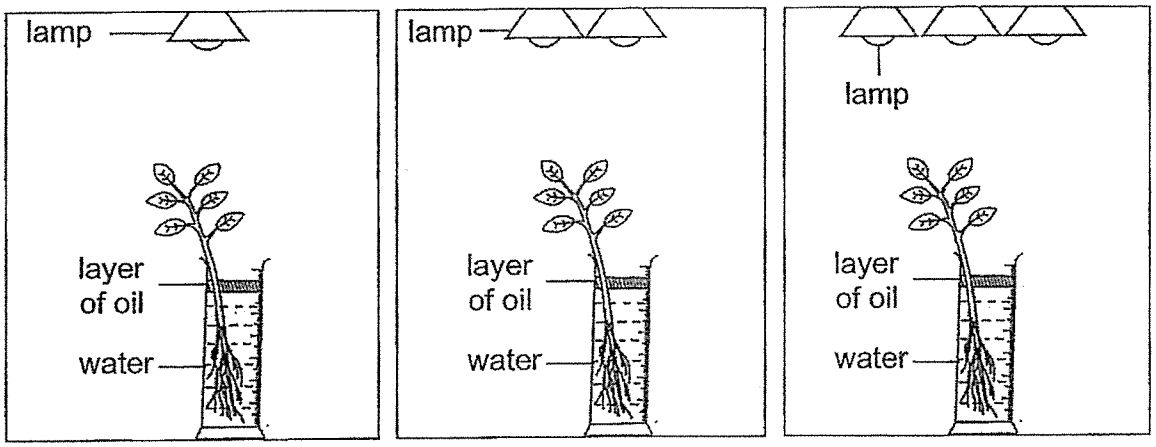
_____

Score	
	4

Continue on page 24

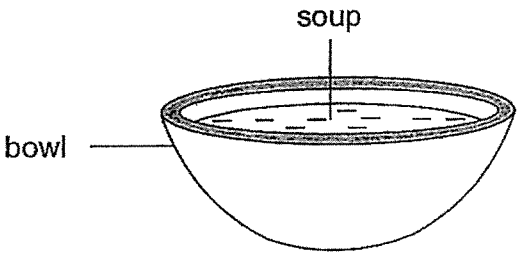
Continued from page 23

Rani prepared three set-ups with identical plants as shown in the diagram. She placed each of them in enclosed cardboard boxes containing one, two and three lamps respectively.



(d) What is the independent (changed) variable in the experiment? [1]

28. The diagram shows a bowl of hot soup.



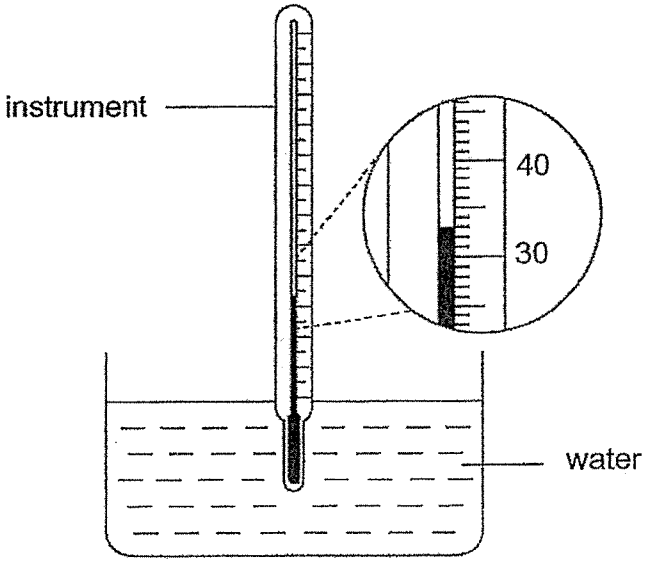
Circle the correct state for the following things.

(a) Bowl: solid / liquid / gas [1]

(b) Soup: solid / liquid / gas [1]

Score	3

29. Ms Soo used an instrument to measure the temperature of water in a glass.



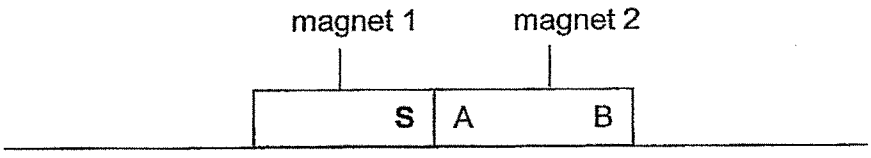
(a) Name the instrument. [1]

_____

(b) What is the temperature of the water in the glass? [1]

_____ °C

30. Two magnets are placed together as shown in the diagram.



The south pole of magnet 1 is labelled **S**.

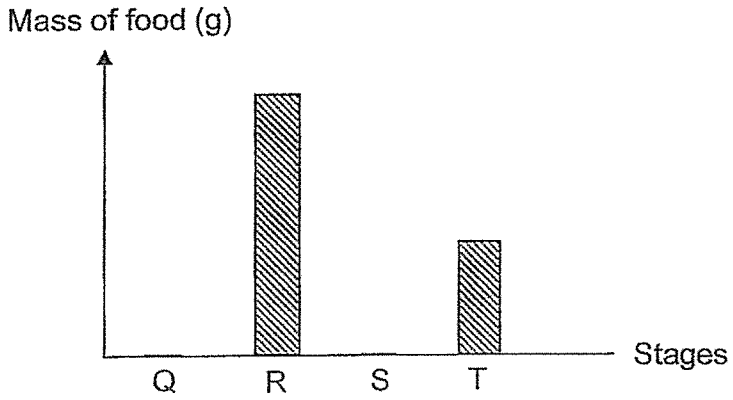
Name the poles labelled A and B of magnet 2. [2]

A: _____

B: _____

Score	4

31. The graph shows the changes in the mass of food eaten by organism P throughout the stages of its life cycle.



(a) Name an example of an organism that has a 4-stage life cycle. [1]

_____

The organism P is a pest at one stage of its life cycle as it destroys the vegetable in a farm as shown.

(b) At which stage of its life cycle, Q, R, S or T, is organism P a pest? Name the stage that you have identified. [1]

_____

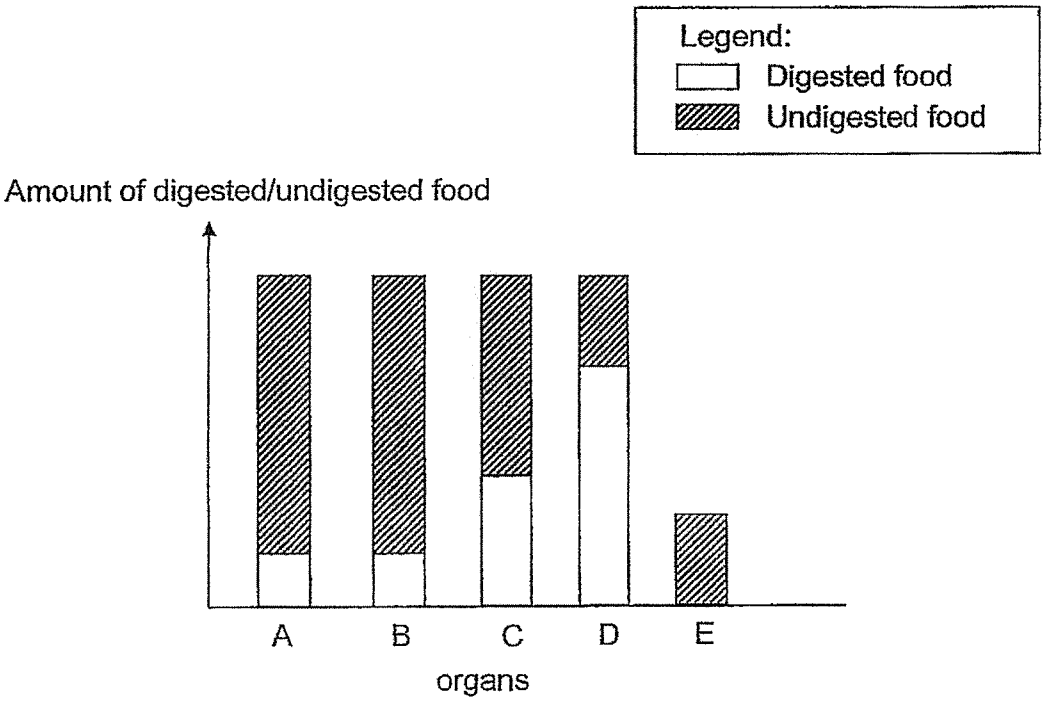
(c) Explain why the organism P is a pest at the stage that you identified in (b). [2]

_____

_____

Score	/4

32. The graph below shows the amount of digested and undigested food at different organs in the human digestive system.



(a) Based on the graph, the amount of digested and undigested food in organs A and B are the same. Name organs A and B. [1]

A: _____

B: _____

(b) Which organ, A, B, C, D or E, represents the large intestine? Explain your answer. [2]

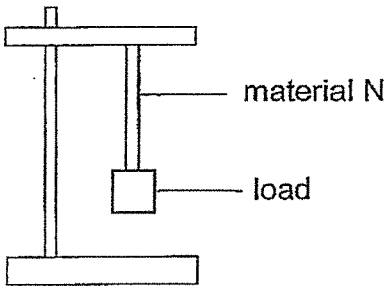
_____

_____

_____

Score	/3

33. Bryan prepared a set-up to investigate a property of materials N, O and P as shown in the diagram.



Bryan attached the load, with increasing mass, to the end of the material N until it started to break.

He repeated the experiment using materials O and P and recorded his observations in the table.

Material	Mass of load the material can hold before it started to break (kg)
N	5.5
O	3
P	7

(a) State the property of the material that Bryan was investigating. [1]

_____

Bryan wanted to make a foldable reusable bag to carry his groceries.

(b) Which material, N, O or P is most suitable to make into a bag to carry 6kg of groceries? Explain your answer. [2]

_____

_____

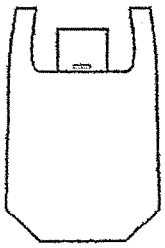
_____

Score	
	3

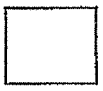
Continue on page 29

Continued from page 28

The diagram shows a reusable bag before and after folding.



Before folding



After folding

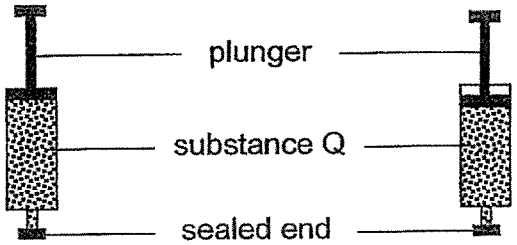
(c) Based on the information above, state ANOTHER property of the material that is used to make the reusable bag. Give a reason for your answer. [1]

_____

_____

Score	
	1

34. Wei Ming filled a syringe with substance Q. Then he sealed the end of the syringe to stop the substance from escaping. The diagram shows what happened before and after the plunger was pushed in.



Before plunger was pushed in After plunger was pushed in

(a) What is substance Q? Put a tick (✓) in the correct box. [1]

☐ Orange juice

☐ Olive oil

☐ Coffee powder

(b) Explain your answer in part (a). [1]

_____

_____

Wei Ming pumped more air into a basketball. He observed that the size of the basketball remained unchanged.

Before

pumped in 250cm^3 of air

After

(c) Would the mass of the basketball increase, decrease or remain the same? Give a reason for your answer. [2]

_____

_____

Score	/ 4

35. Mr Haziq set up a puppet show as shown in diagram 1. The cut-out cast a shadow on the screen.

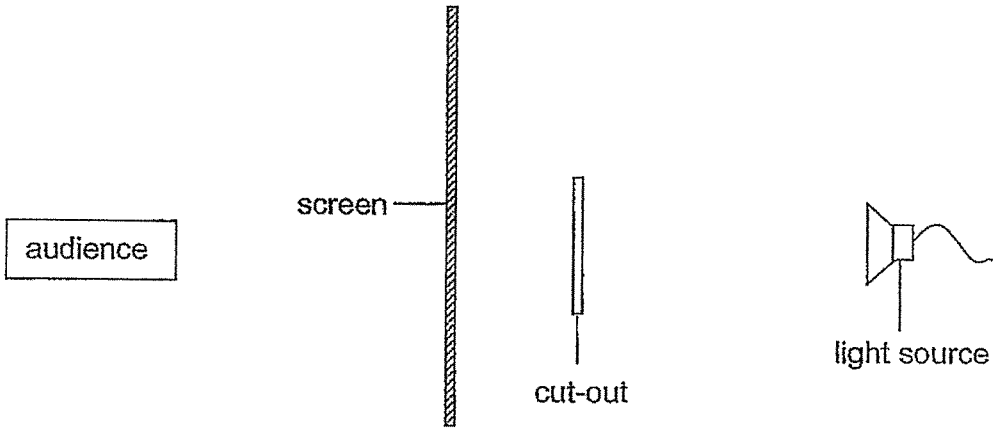


diagram 1

(a) State one property of the screen that allowed the audience to view the shadow. [1]

Continue on page 32

Score 1

Continued from page 31

Mr Haziq used a butterfly cut-out and a flower cut-out of identical sizes to cast the dark shadows shown in diagram 2.

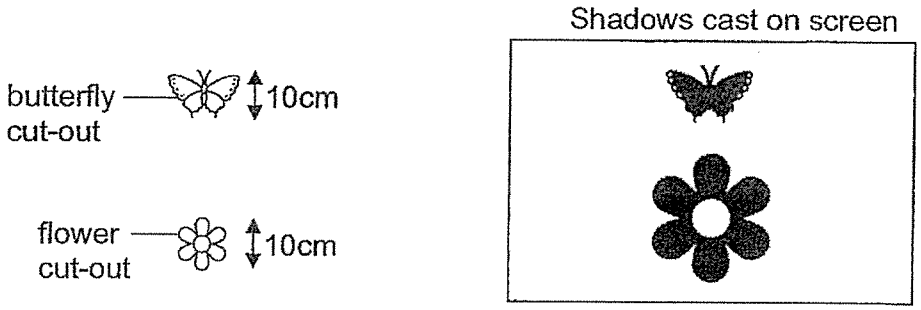
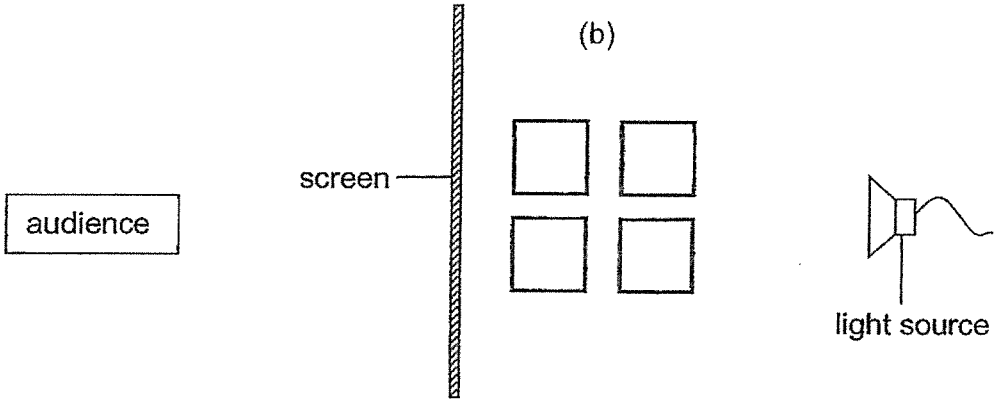


Diagram 2

The boxes below show the possible positions where the butterfly and flower cut-outs were placed.

(b) Based on the observation of the shadows cast above, write letter **B** for butterfly and letter **F** for flower, in the correct boxes below, to show their correct positions. [1]

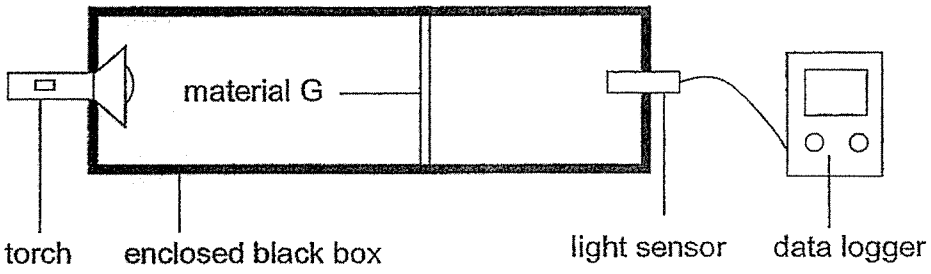


Score	/ 1

Continue on page 33

Continued from page 32

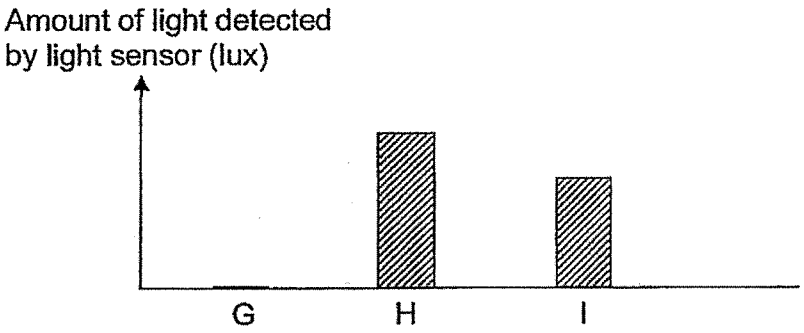
Mr Haziq prepared an experimental set-up to find out the amount of light that could pass through materials G, H and I as shown in the diagram.



He turned on the torch and recorded the amount of light detected by the light sensor that passed through material G.

He repeated the experiment using materials H and I.

The bar graph shows the results.

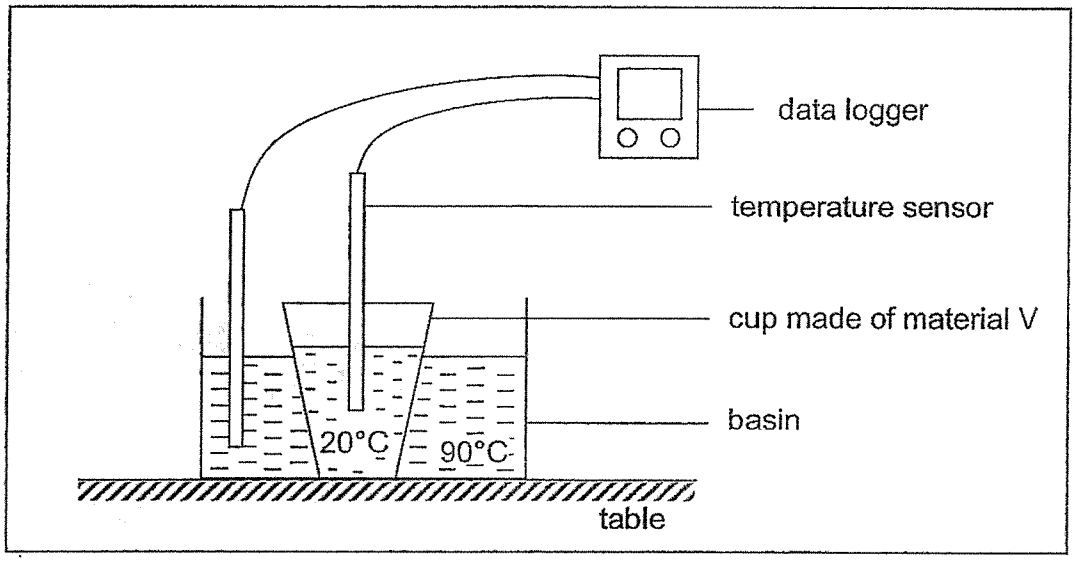


(c) Based on the results of his experiment, which material was best used to make the cut-outs shown in diagram 2? Explain your answer. [2]

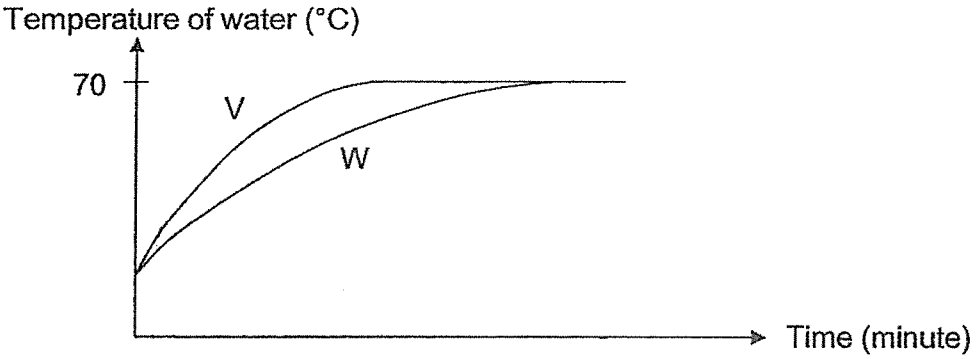
Score 2

36. Mary prepared the set up as shown to find out the heat conductivity of 2 cups made of materials V and W respectively.

She conducted the experiment in a room with a constant temperature of 30°C.



She measured the change in temperature of water in the cups made of materials V and W over a period of time and recorded the results in the graph as shown.



(a) Which material, V or W, is more suitable to be used to make a frying pan? Explain why. [2]

_____

_____

_____

Score	/ 2

Continue on page 35

Continued from page 34

Mary observed that a pita bread rose when put in a hot oven as shown in diagram 1.

It became flat again when it was placed on the kitchen table after some time as shown in diagram 2.

Diagram 1

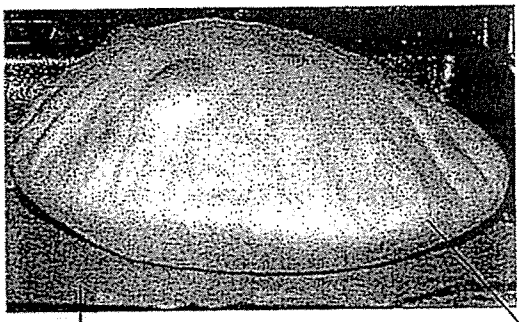
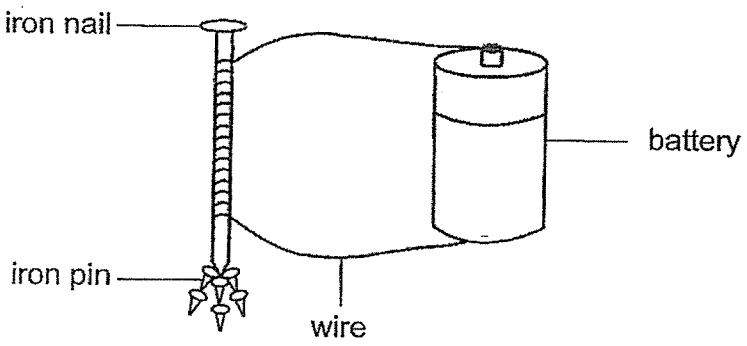


Diagram 2

(b) Explain why the pita bread rose when it was first put in the hot oven. [2]

Score 2

37. Mei Li made an electromagnet using an iron nail, a battery and a piece of wire as shown.



She placed the electromagnet near some iron pins and recorded her observations in the table.

Number of coils around the iron nail	Number of iron pins attracted by the iron nail
5	2
10	4
15	6
20	8

(a) Based on the table, how did the number of coils around the nail affect the number of pins attracted? [1]

_____

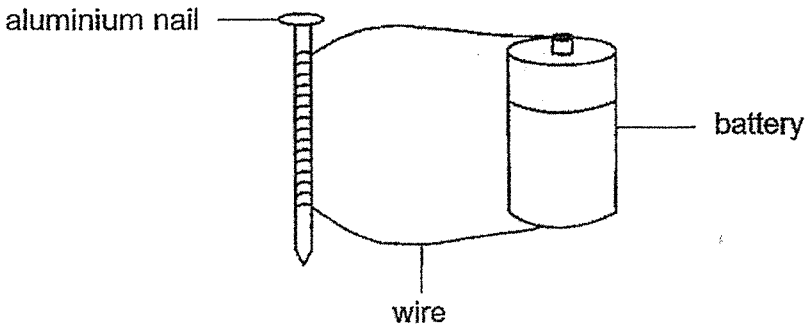
_____

Continue on page 37

Score	/ 1

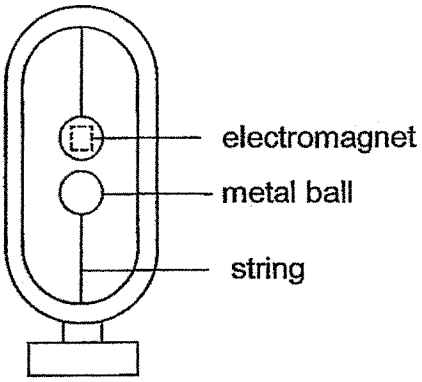
Continued from page 36

Mei Li repeats the experiment by replacing the iron nail with an aluminium nail as shown.



(b) What would be the number of pins attracted to the aluminium nail if the number of coils round the nail is fifteen? Explain your answer. [2]

Mei Li made a toy using a different electromagnet as shown in the diagram. A metal ball was placed near to the electromagnet and it was observed to be suspended in the air.



(c) Explain why the metal ball was suspended in the air. [1]

End of paper

Score	3

ANSWER KEY

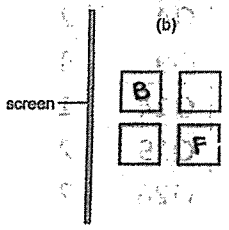
YEAR : 2024
LEVEL : PRIMARY 4
SCHOOL : RGPS
SUBJECT : SCIENCE
TERM : END OF YEAR

BOOKLET A

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

BOOKLET B

Q26	a) Mouth smaller
Q27	a) i. stem ii. leaf b) type of plant location where the set-ups were placed c) set-up X. The plant in set-up X has more roots than the plant in set-up Y and since there are more roots the plant in set-up X, it will absorb more water than the plant in set-up Y. d) the number of lamps in each cardboard box.
Q28	a) solid b) liquid
Q29	a) thermometer b) 33°c
Q30	a) A : North pole B : South pole
Q31	a) Mosquito b) Stage R is the larva stage c) The organism eats the greatest amount of food (leaves) so that it will not need to eat at stage S, the pupa stage , hence, destroying the farmer's crops.
Q32	a) A : Mouth B : Gullet b) Organ E. Organ E only has the undigested food left inside it, as organ D , which is the small intestine, its walls would already have absorbed the digested food into the blood stream , leaving only the undigested food left.
Q33	a) Strength

	b) Material P. P held the most amount of mass before breaking , and is the strongest material out of the other two, so it is suitable to hold Bryan's groceries without breaking. c) Flexibility. The bag needs to be flexible in order for the bag to fold into a small piece.
Q34	a) Coffee powder b) There is air in the air spaces between the coffee powder grains, as air is a gas and it has no definite volume, hence, it can be compressed slightly. c) The mass in the basketball increased as more amount of air was pumped into the basketball.
Q35	a) Allows some light to pass through it. b)  c) Material G. The light sensor did not detect any light to pass through material G, hence, it is opaque so using it to make the cut-out will cast the darkest. shadow.
Q36	a) Material V. The temperature of the water in cup V increased faster than the temperature of water in cup W shows that V is a better conductor of heat so using it to make a frying pan will allow it to conduct heat from the stove to the food faster to cook the food more quickly. b) The air in the space in the pita bread gained heat from air in the hot oven and expanded.
Q37	a) As the number of coils of wire around the iron nail increases, the number of iron pins attracted by the iron nail also increases. b) O. Aluminium is not a magnetic material , and only magnetic materials can be made into a temporary magnet. c) The metal ball is made out of a magnetic material, allowing the electromagnet to attract it, making it to be suspended in the air.

END