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

SCIENCE
(BOOKLET A)

Name: _____ ( ) **Date : 24 October 2024**

Class: P4____

INSTRUCTIONS TO CANDIDATES

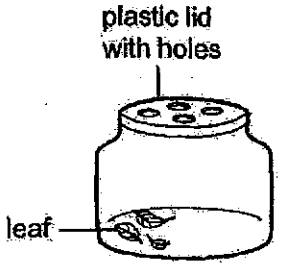
1. Write your name, class and index number in the spaces provided above.
2. Do not turn over this page until you are told to do so.
3. Follow all instructions carefully.
4. Answer all questions.
5. For Question 1- 25, use 2B pencil to shade your answers on the Optical Answer Sheet (OAS).

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

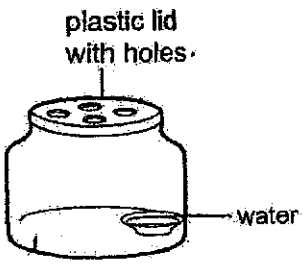
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1. Lingyi learns that all living things need air, water and food to stay alive. Which set-up can she use to keep organism X alive?

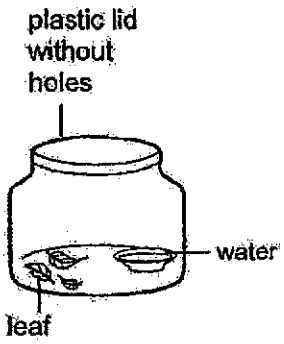
(1)



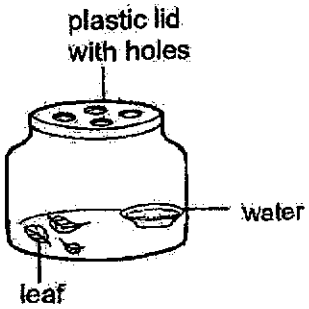
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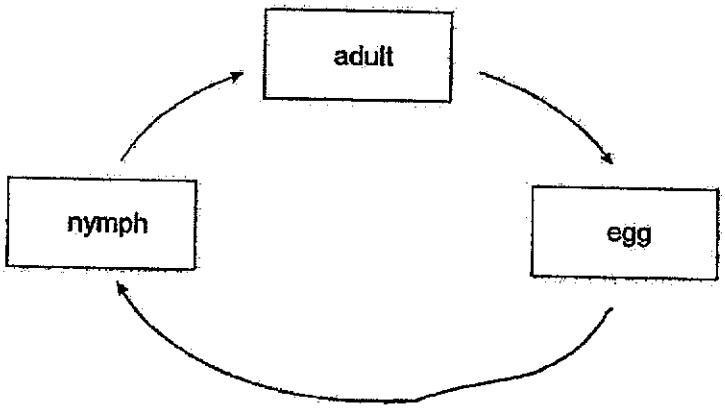


2. Which statement is true about most reptiles?

(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.

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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

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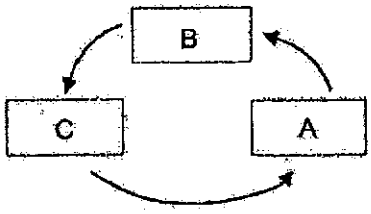
4. A, B and C are stages in the life cycle of a plant.



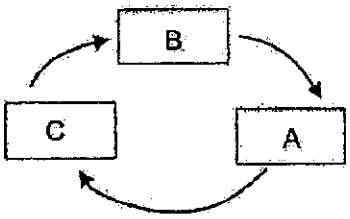
A B C

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

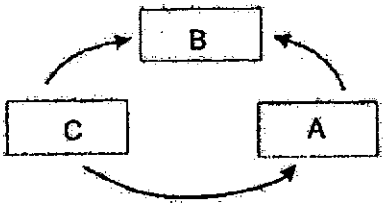
(1)



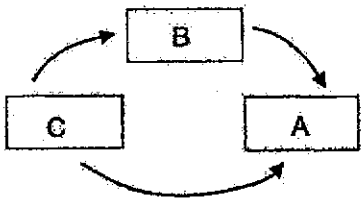
(2)



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

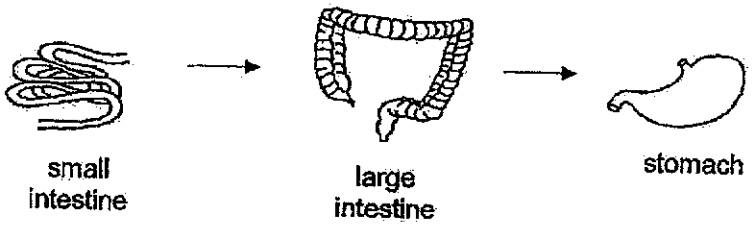
(1)



(2)



(3)

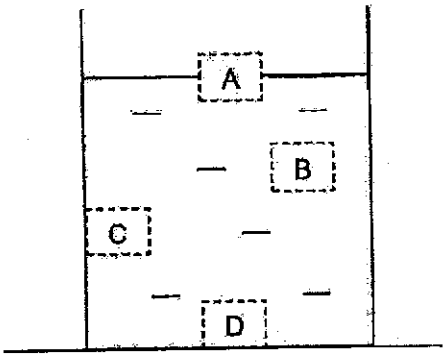


(4)



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Ben put a wooden solid block into a container of water.



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

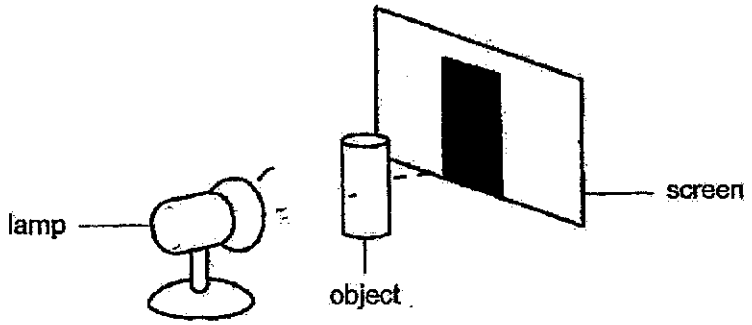
(1) A
(2) B
(3) C
(4) D

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.

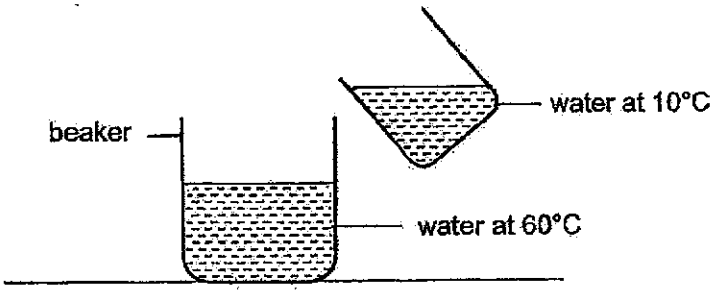
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8. The shadow of the object is formed on the screen because _____.



(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.

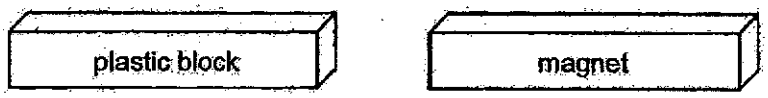


What is a possible final temperature of water in the beaker?

(1) 70°C
(2) 60°C
(3) 40°C
(4) 10°C

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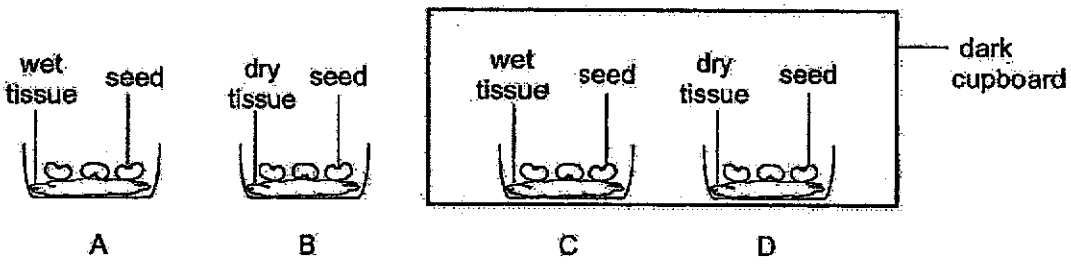
10. The diagram shows a magnet brought near a plastic block.



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.

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.

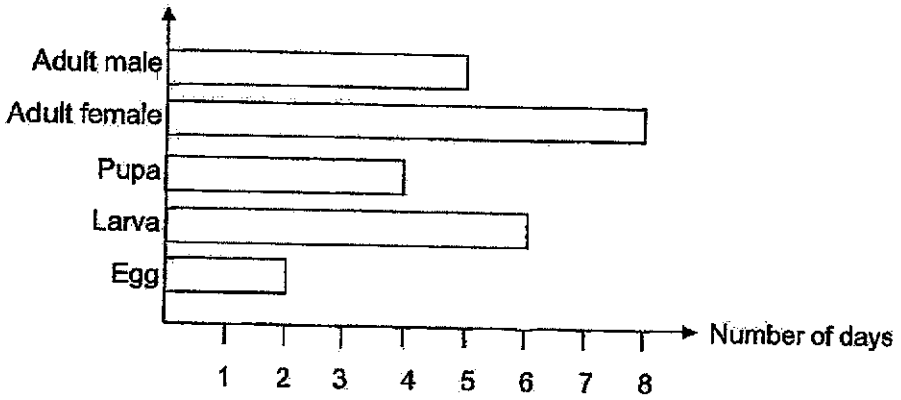


In which set-up(s) would the seeds germinate?

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

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

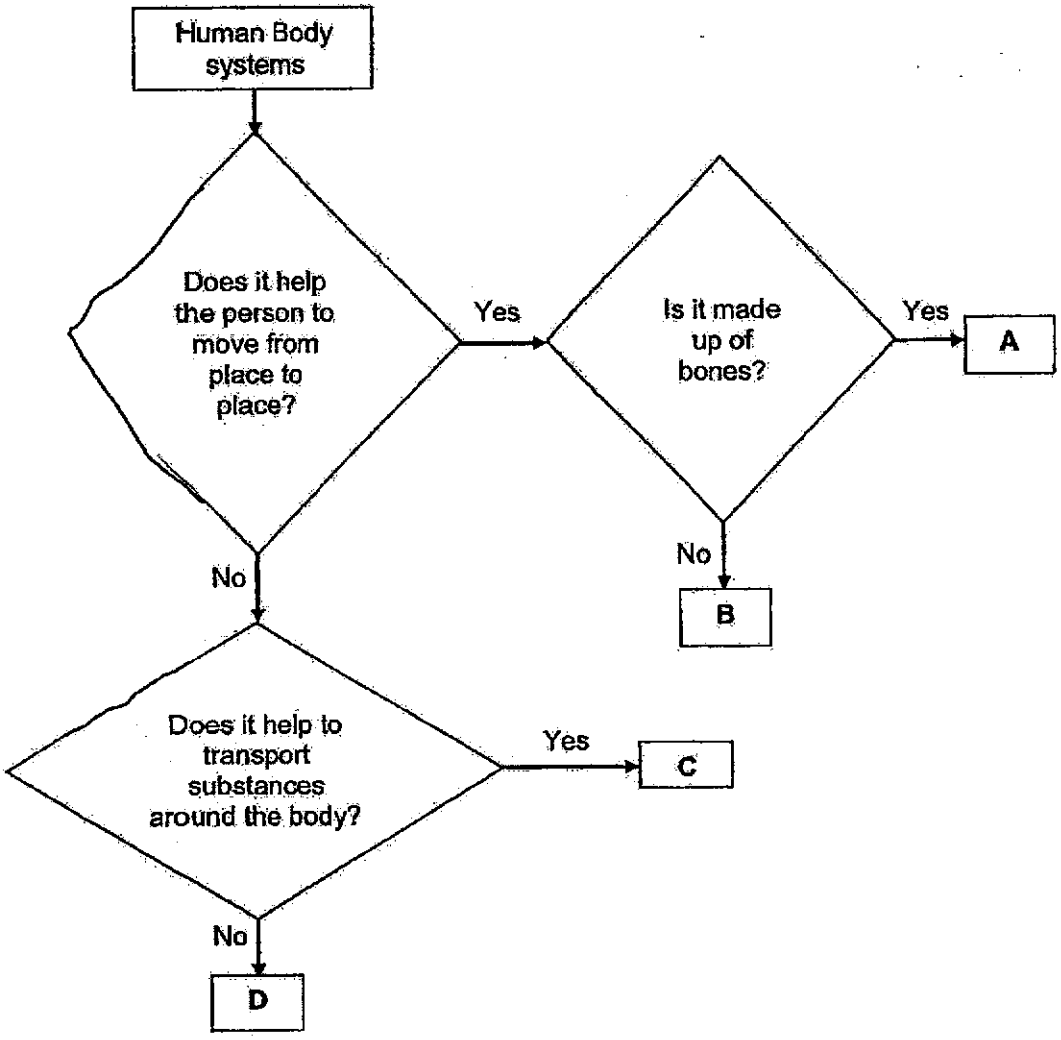


How many days did Insect X take to become an adult male after hatching?

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

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13. Study the flowchart below.

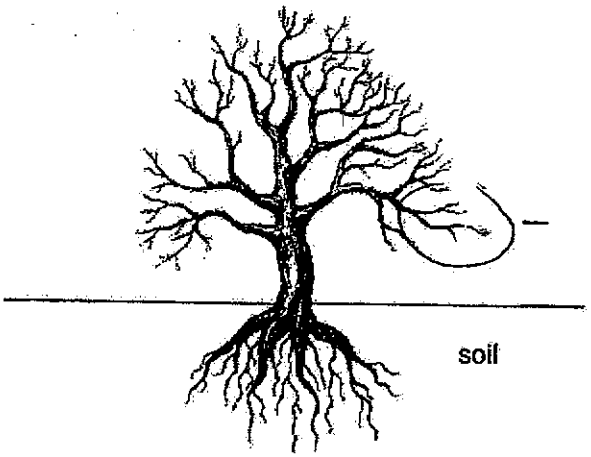


Based on the flowchart, which of the following correctly identifies human body systems A, B, C and D?

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

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

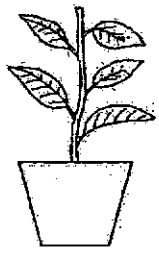


Which of the following is the tree **not** able to do?

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

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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.

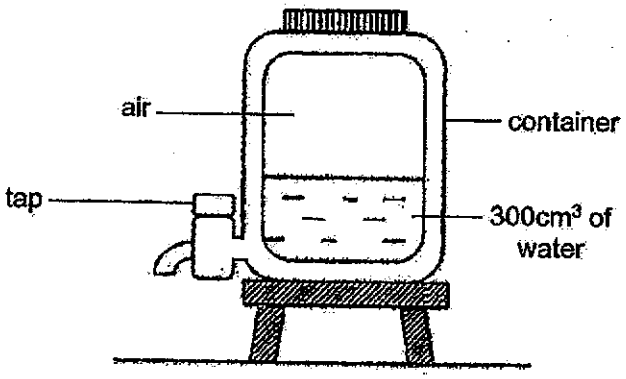
			
Plant S (in the garden)	**Plant T** (in the cupboard)	**Plant U** (in the cupboard)	**Plant V** (in the garden)

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

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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

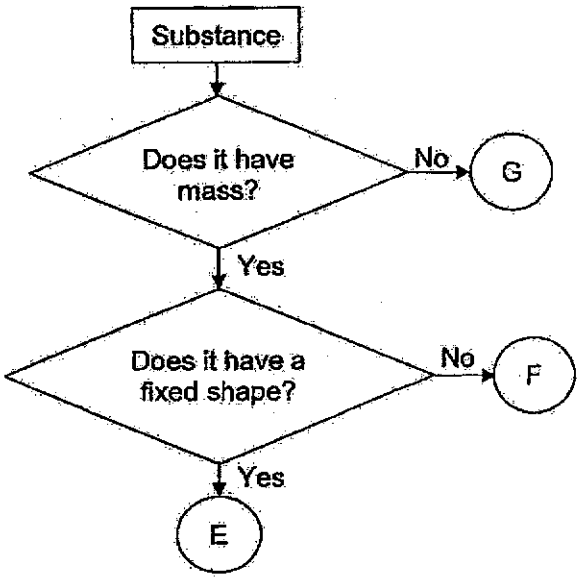
(2) 600cm^3

(3) 700cm^3

(4) 800cm^3

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17. Henry studied the chart below.

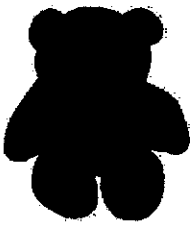


Based on the information, which of the following statement is correct?

(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.

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



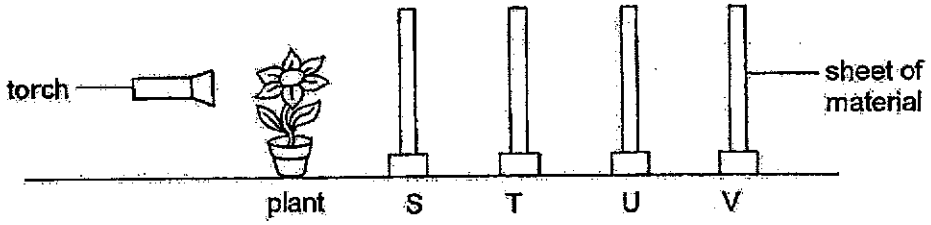
shadow

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.

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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.



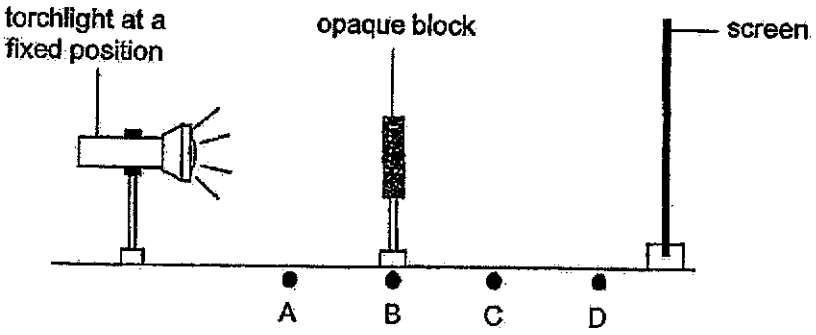
Based on the information above, which of the following conclusion(s) is/are definitely correct?

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

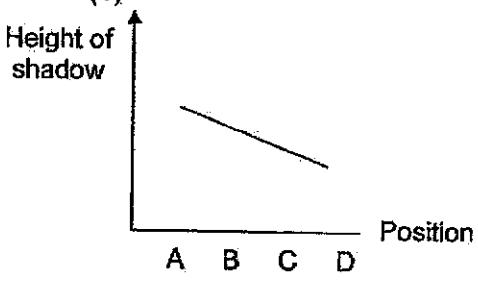
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20. Linda set up the following experiment. She placed an opaque block at different positions, A, B, C and D. She measured and recorded the height of the shadow formed by the opaque block at different positions.

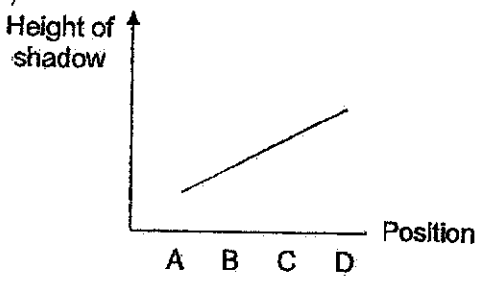


Which graph correctly shows how the height of the shadow of the opaque block changes when it is placed at the positions A, B, C and D?

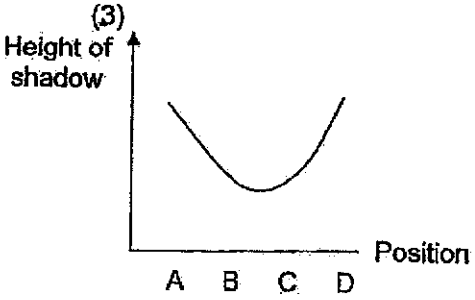
(1)



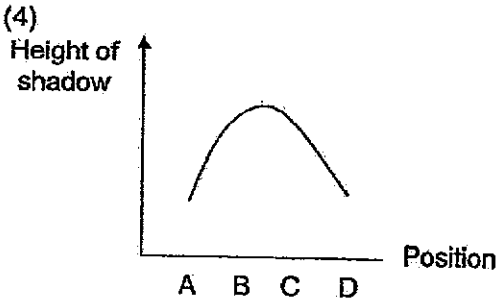
(2)



(3)



(4)



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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.

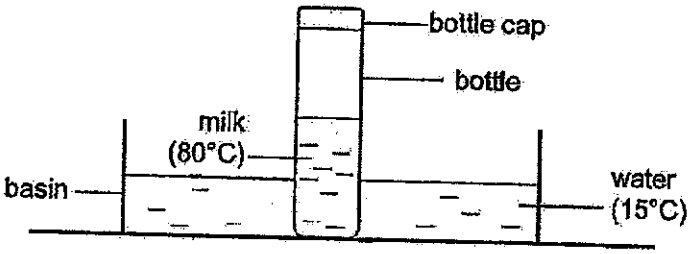
A The tea in glass E contains most amount of heat.
B There is more heat in the tea in glass G than glass F.
C The tea in the three glasses has the same amount of heat.

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

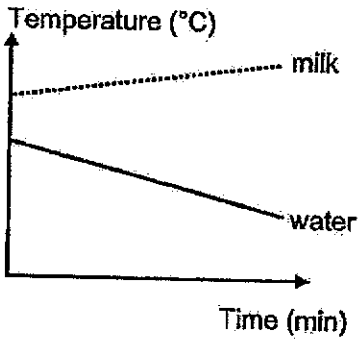
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22. A bottle of milk is placed in a basin of water as shown.

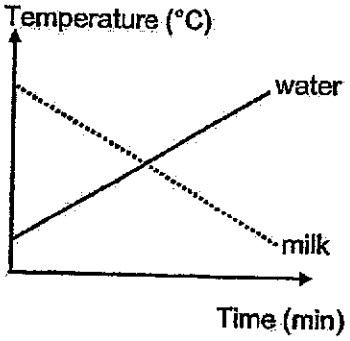


Which of the following graphs shows the change in the temperature of the milk and water correctly?

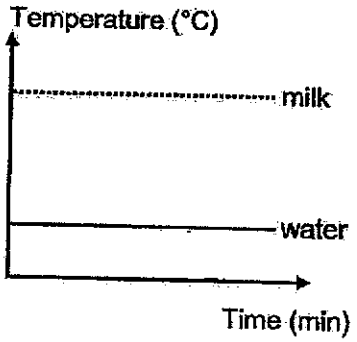
(1)



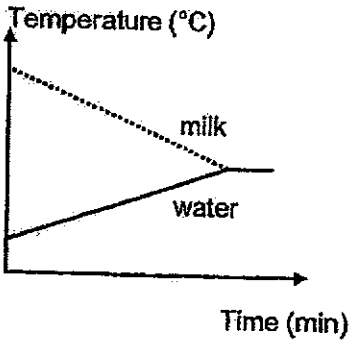
(2)



(3)

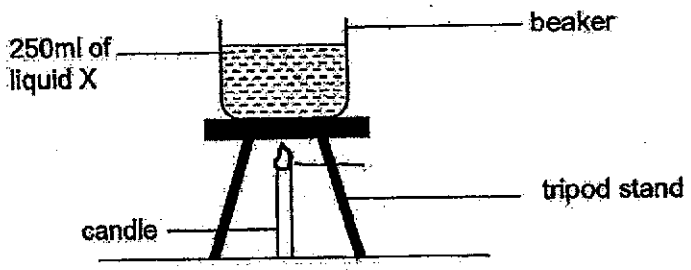


(4)



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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.

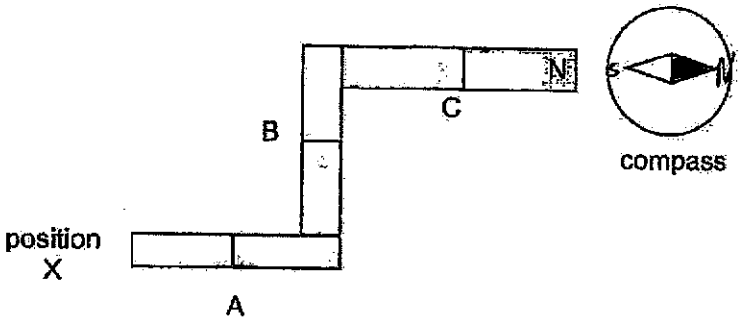
Liquid	Ability to gain heat	Time taken for it to boil (min)
X	Poor	15
Y	Good	15
Z	Very good	15

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

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

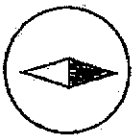


The north pole of magnet C is shown in the diagram. If another compass is placed at position X, which of the following correctly shows what this second compass would display?

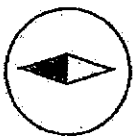
(1)



(2)



(3)

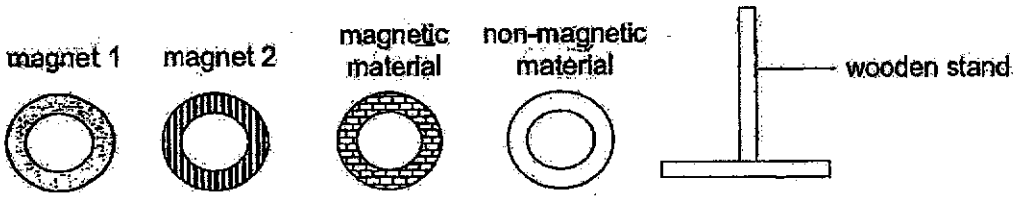


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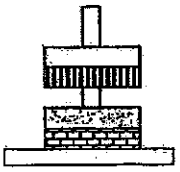
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25. The diagram below shows four rings made of different materials.



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?

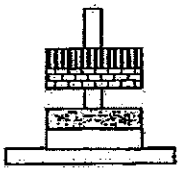
(1)



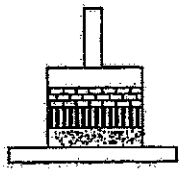
(2)



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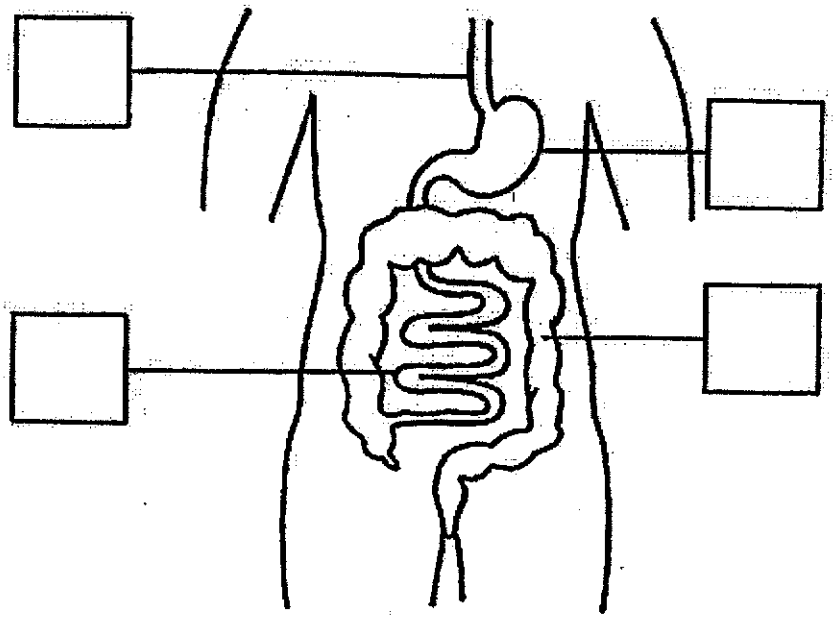


(4)



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26. (a) The diagram shows part of the human digestive system. Tick one box to show where the gullet is. [1]



(b) Fill in the blank using the following helping words. [1]

large intestine	stomach	small intestine	mouth

Food from the gullet is next passed on to the _____.

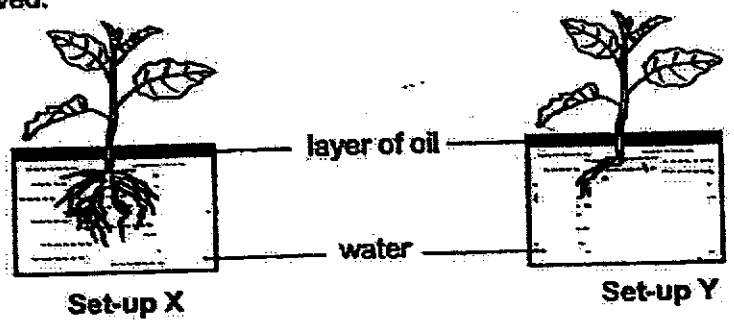
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27. (a) Fill in the correct parts of a plant in the table. [2]

Function of plant part	Plant part
It helps the plant to make food.	(i)
It holds the plant upright.	(ii)

(b) Jason conducted an experiment with two set-ups, X and Y, using identical plants, as shown in the diagram. Most of the roots in set-up Y have been removed.



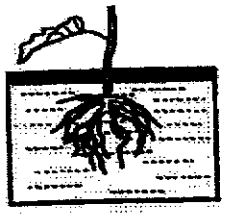
Both set-ups were left near an open window for two days.

(i) In which set-up would the water level be lower after two days? Explain your answer. [2]

_____

_____

The plant in set-up X was accidentally broken as shown in the diagram.



(ii) Would the plant shown above still survive? Explain your answer. [1]

_____

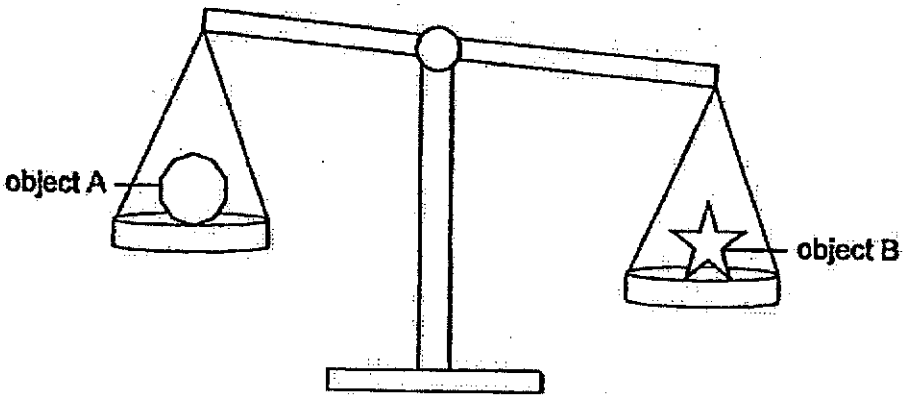
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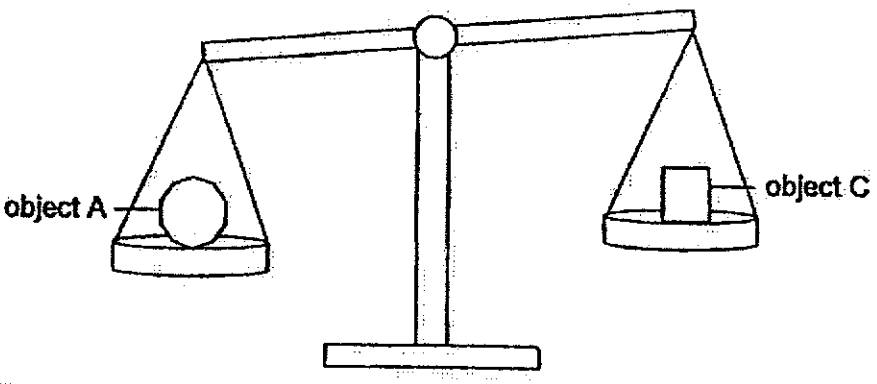
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28. Bala compared the mass of three objects.

Study the diagrams below and circle the correct comparisons.



(a) Object A is lighter than / has the same mass as / is heavier than object B. [1]

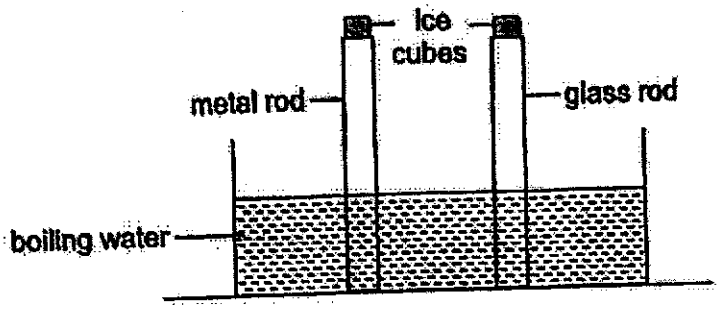


(b) Object A is lighter than / has the same mass as / is heavier than object C. [1]

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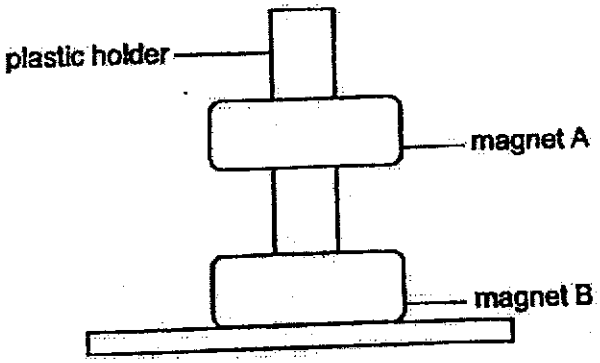
29. Jann placed a metal and a glass rod into a tank of boiling water. Identical pieces of ice cubes were placed on both rods as shown.



What would Jann observe and why? [2]

The ice cube on the glass rod melts _____ than the ice cube on the metal rod as glass is a _____ conductor of heat than metal.

30. Two magnets were placed together through a plastic holder as shown.



(a) The holder was made of plastic and did not attract the magnet. [1]

Plastic is a _____ material.

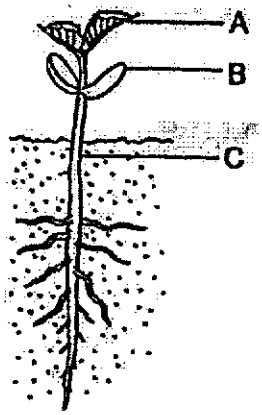
(b) Why was magnet A floating on top of magnet B? [1]

Magnet B was _____ magnet A.

Score	. / 4

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31. The diagram shows a young seedling.



The mass of one part of the plant (A, B or C) was measured over eight days. The results were recorded in the table.

Day	Mass (g)
1	8
4	5
6	(b) _____
8	2

(a) Using the data from the table above, which part of the plant, A, B or C, was the mass being measured? Explain your answer. [2]

_____

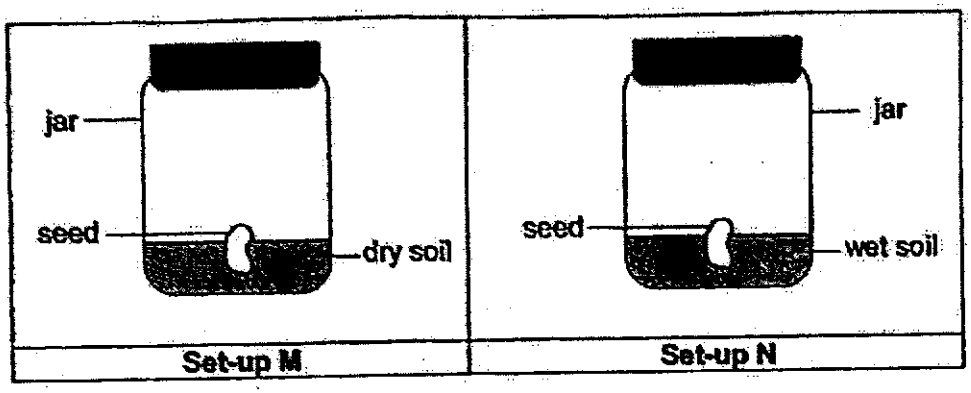
_____

(b) What would be the mass of the plant part identified in your answer in (a) on day 6? Write your answer in the table above. [1]

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Joshua prepared two set-ups as shown in the diagram. He left them in a dark room for a week.

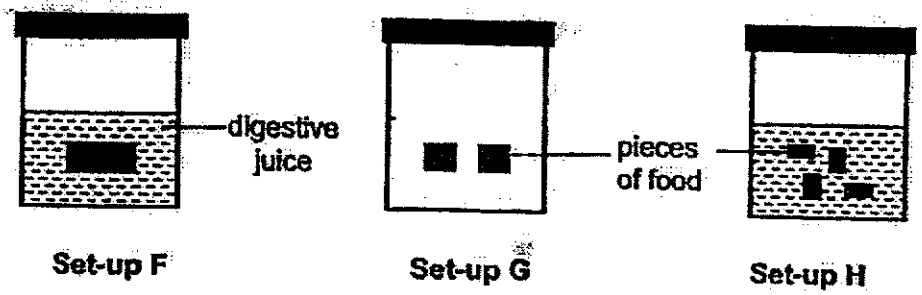


(c) In which set-up would the seed germinate?
Explain your answer. [1]

Score	/ 1

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32. Shawn wanted to find out if the size of the food affects the rate of digestion. He placed identical amount of food into three beakers as shown in the diagrams. He then placed digestive juice into the three beakers.



(a) In the diagram above, draw a line in the beaker to show the correct amount of digestive juice Shawn had put in set-up G, in order to conduct a fair test. [1]

Shawn recorded the time taken for the food to be digested completely in the table.

Set-up	Time taken for digestion to complete (s)
F	150
G	(b) _____
H	100

(b) What is likely to be the time taken to complete the digestion in set-up G? Write your answer in the table above. [1]

(c) Explain your answer in (b) in comparison with set-up F. [1]

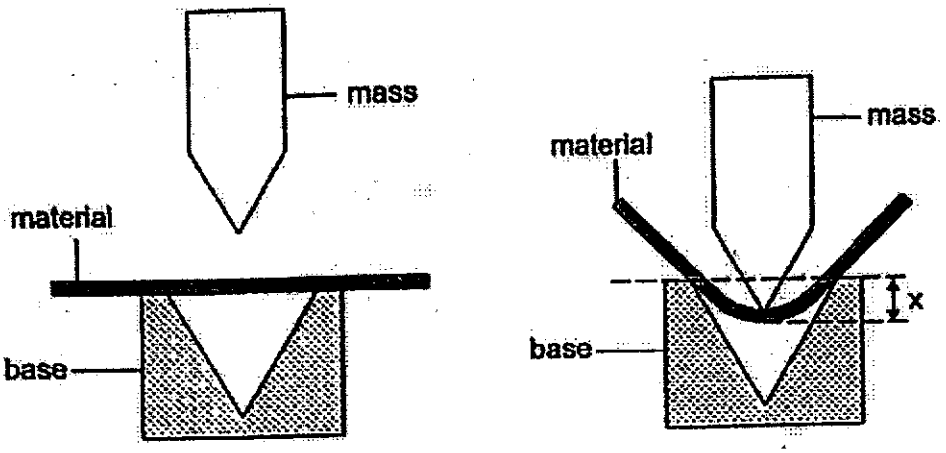
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	3

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33. Tony set up an experiment as shown in the diagrams to compare the property of four strips, A, B, C and D, which were made of different materials but of the same thickness.



Before After

He attached the strip on a base and placed a mass on it as shown in the diagram above. He recorded the distance, x, in the table below.

Material	Distance x (cm)
A	0
B	9
C	30
D	10

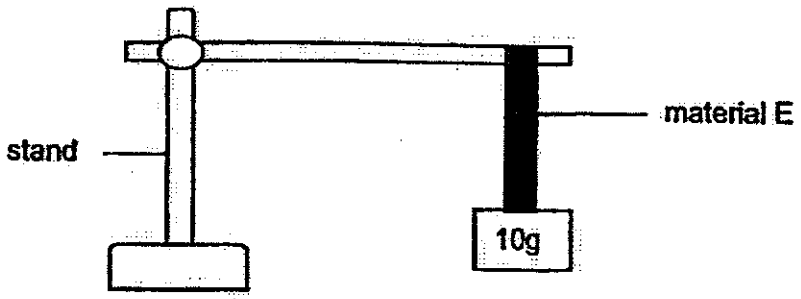
(a) Based on the results, which strip, A, B, C or D, is most suitable for making a belt? Explain your answer. [2]

Score 2

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Continued from page 23

Tony then wanted to make a hook strong enough to hang a calendar on the wall. The calendar has a mass of 110g. He hung a strip of material E as shown in the diagram.



A 10g-mass was added one at a time to the end of the material E until the material started to break. Material E started to break when a 100g-mass was hung on it.

(b) Tony said that material E is suitable to use to make the hook.
Do you agree with him? Explain your answer. [2]

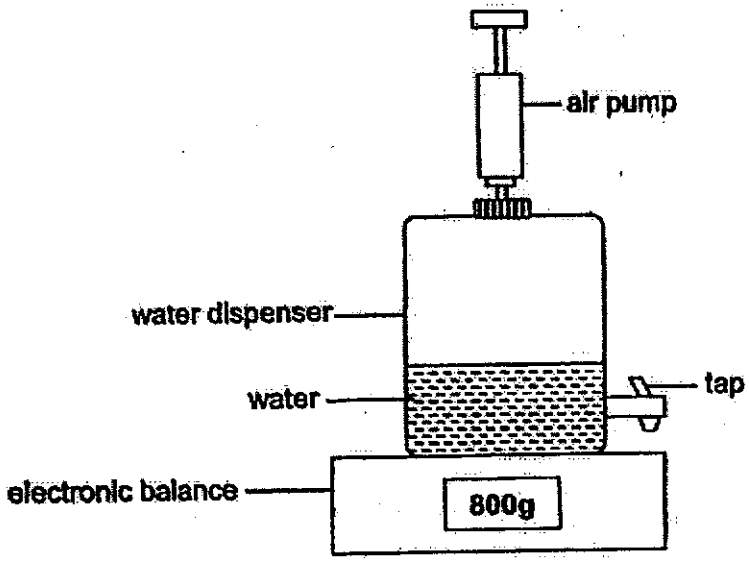
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Score	/ 2

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34. Calvin prepared an experiment set-up by placing a water dispenser which had an attached air pump on an electronic balance as shown in the diagram. He filled the water dispenser with some water and recorded the mass of the water dispenser.



Then he pumped more air into the same water dispenser and recorded its mass again.

(a) State what happened to the reading on the electronic balance after some air was pumped into the water dispenser. [1]

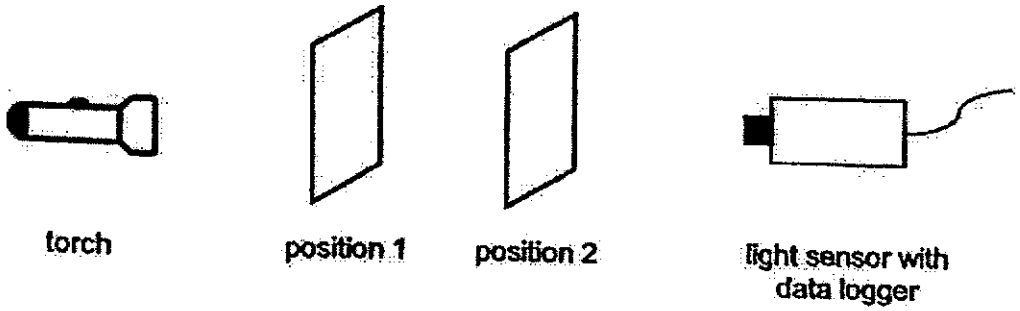
(b) Give a reason for your answer in (a). [1]

(c) Using the same set-up and without pumping in more air, suggest one way to increase the volume of air in the water dispenser filled with some water. Explain your answer. [2]

Score	/4

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35. Jeremy conducted an experiment in a dark room to investigate the properties of materials P, Q, R and S. He placed different materials at positions 1 and 2 respectively each time.



The amount of light detected by the light sensor was recorded as shown in the table.

Material at position 1	Material at position 2	Amount of light detected (lux)
P	Q	2000
Q	R	0
R	S	0
S	P	300

(a) Using the information from the table, which one of the materials, P, Q, R or S, would be most suitable to make a bedroom curtain that keeps the room totally dark during the day? Explain your answer. [2]

_____

_____

(b) Give a reason why Jeremy conducted the experiment in a dark room. [1]

_____

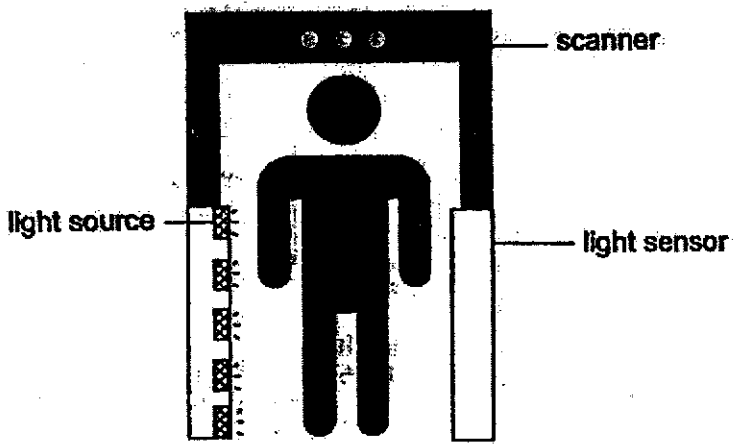
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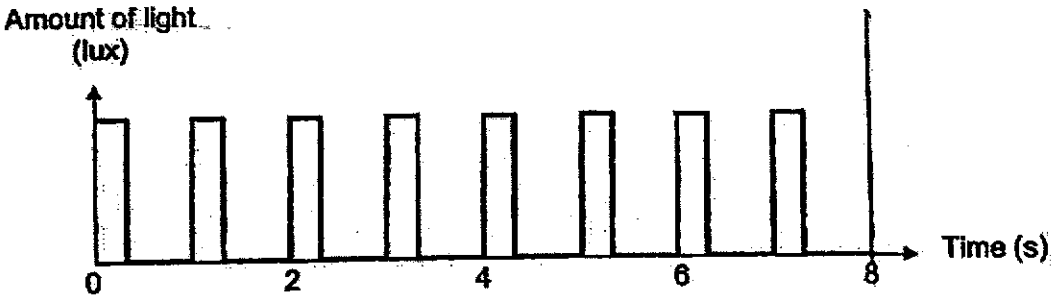
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Continued from page 26

The diagram shows a scanner that counts the number of people entering a concert hall. A light sensor and light source were placed on the scanner as shown. The light sensor detects the light coming from the light source.



The scanner is only wide enough for one person to pass through at a time. The graph shows the readings from the light sensor.



(c) Based on the graph, how many people passed through the scanner within eight seconds? [1]

_____

Score	/ 1

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36. David filled two identical mugs with equal amounts of chocolate drink and milk with a temperature 50°C and 27°C respectively. Then he placed the mugs of drink in the refrigerator overnight.

Next morning, David took the mugs out of the refrigerator and he immediately measured the temperature of the chocolate drink and milk at the same time.

The temperatures of the chocolate drink and milk are shown in the table.

Drink	Temperature (°C)
Chocolate drink	(a) _____
Milk	3

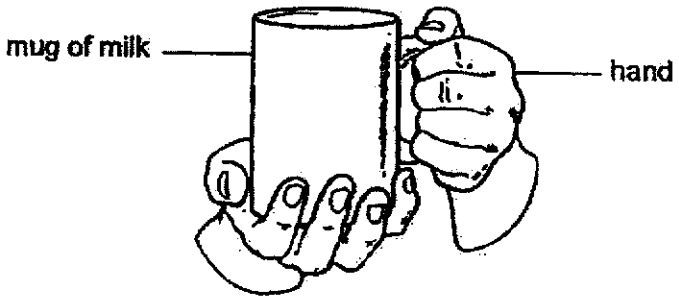
(a) Complete the table with the correct temperature of the Chocolate drink after it was taken out from the refrigerator. [1]

(b) Explain your answer in (a). [2]

_____

_____

David touched the mug of milk which was taken out of the refrigerator as shown in the diagram.



(c) He commented that his hand felt cold. Explain why his hand felt cold. [1]

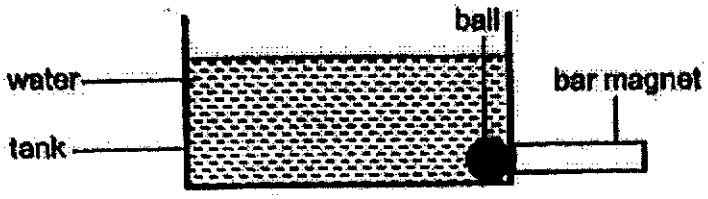
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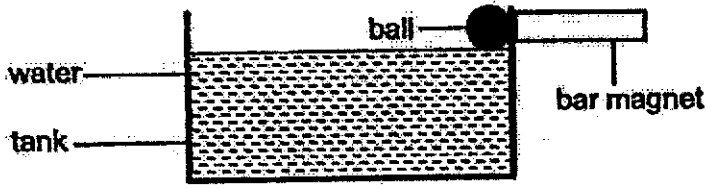
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37. Helen used a magnet to remove a ball that had dropped inside a tank. She placed the bar magnet against the tank, near the ball as shown in the diagram.



Then, Helen moved the bar magnet and ball upwards as shown below.



(a) State the property of the tank that enabled the ball to move up together with the magnet? [1]

_____

(b) Suggest an example of a material that the tank can be made of. [1]

_____

(c) Explain how Helen was able to remove the ball from the tank. [2]

_____

_____

End of Paper

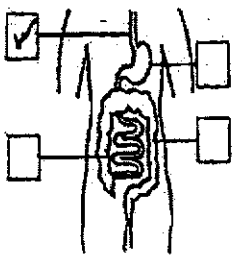
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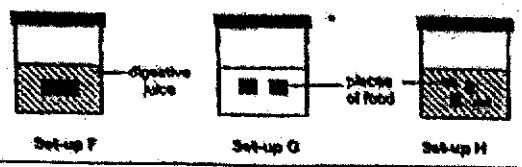
SCHOOL : RAFFLES GIRLS' PRIMARY SCHOOL
LEVEL : PRIMARY 4
SUBJECT : SCIENCE
TERM : 2024 SA2

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

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Q26	a)	
	b)	Food from the gullet is next passed on to the stomach
Q27	a)	(i) leaf (ii) stem
	b)	(i) Set-up X. The plant for Set-up X had more roots than the plant for Y. Thus, Set-up X's plant was able to absorb more water through its root for the plant. (ii) Yes. It has leaf to make food and roots to absorb water.
Q28	a)	*Is lighter than*
	b)	*Is heavier than*
Q29	The ice cube on the glass rod melts slower than the ice cube on the metal rod as glass is a poorer conductor of heat than metal.	
Q30	a)	Plastic is a non-magnetic material.
	b)	Magnet B was repelling magnet A.
Q31	a)	Part B, The mass of Part B decreases as the plant grows. The baby plant uses, absorbs nutrients from Part B at the plant grows.
	b)	3
	c)	The seed in Set-up N. The seed has air, water, warmth. These factors are required for the seed to germinate.

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Q32	a)	
	b)	140
	c)	The pieces of food in Set-up G is smaller than Set-up F, so it has a larger surface are in contact with the digestive juices, resulting in a faster rate of digestion.
Q33	a)	Strip C. It could bend the greatest distance. Hence, it is the most flexible to make it into a belt as I can wrap, bend around the waist of a person.
	b)	No. Material E started to break when a mass of 100g was hung on it. Hence it is not strong enough to with stand the weight of the calendar which is heavier than 100g.
Q34	a)	The reading on the electronic balance would increase after some air was pumped into the water dispenser.
	b)	There is more air in the water dispenser which has mass
	c)	Remove some water from the water dispenser The air will occupy the space previously occupied by the water. As air does not have a definite volume.
Q35	a)	Material R. No light was detected by the light sensor when R was placed on either position 1 or 2. Thus, no light can pass through Material R so it can be used to make a curtain that blocks all light from entering.
	b)	Jeremy conducted the experiment in a dark room to ensure that the light detected by the light sensor is only from the light source, which is the torch, and not from some other light source in the room.
	c)	8
Q36	a)	3
	b)	The chocolate drink lost heat to the cold air in the fridge until it reached the same temperature as the cold air in the fridge.
	c)	His hand lost heat to the cold mug of milk.
Q37	a)	Non-magnetic material
	b)	Plastic
	c)	The magnet's magnetic force passes through the tank which is non-magnetic. The magnet attracted the ball and moved it up.

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