RAFFLES GIRLS' PRIMARY SCHOOL

SEMESTRAL ASSESSMENT (2) 2017

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

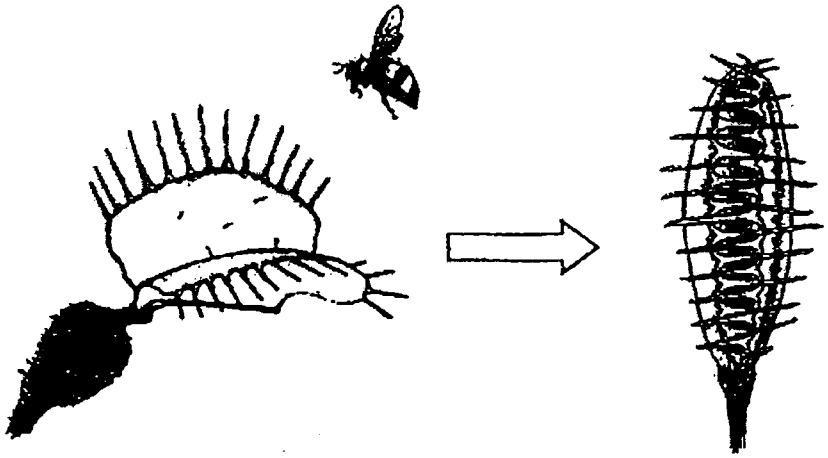
Name : _____ Index No: ___ Class: P4__

30 October 2017 **SCIENCE** **Att: 1 h 30 min**

SECTION A (25 x 2 marks)

For each question from 1 to 25, four options are given.
One of them is the correct answer. Make your choice (1, 2, 3 or 4).
Shade the correct oval (1, 2, 3 or 4) on the Optical Answer Sheet (OAS) provided.

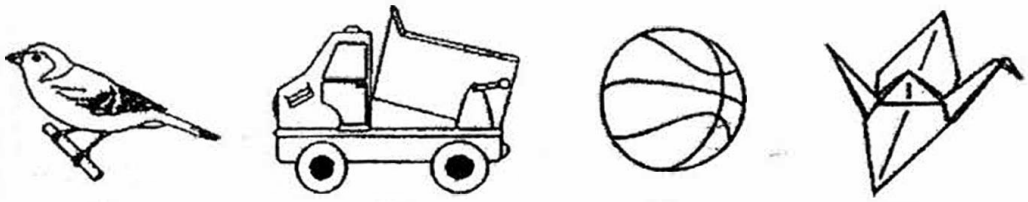
1. The Venus flytrap closes its leaf when an insect lands on it.



This shows that the Venus flytrap is a living thing because it can _____.

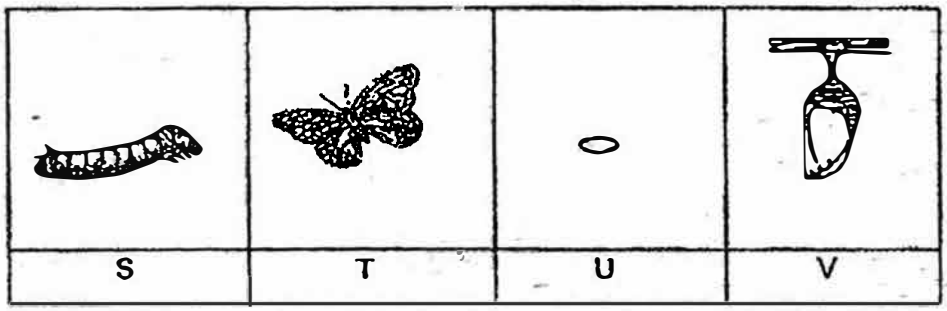
(1) grow
(2) breathe
(3) respond
(4) reproduce

2. Which one of the following is a living thing?

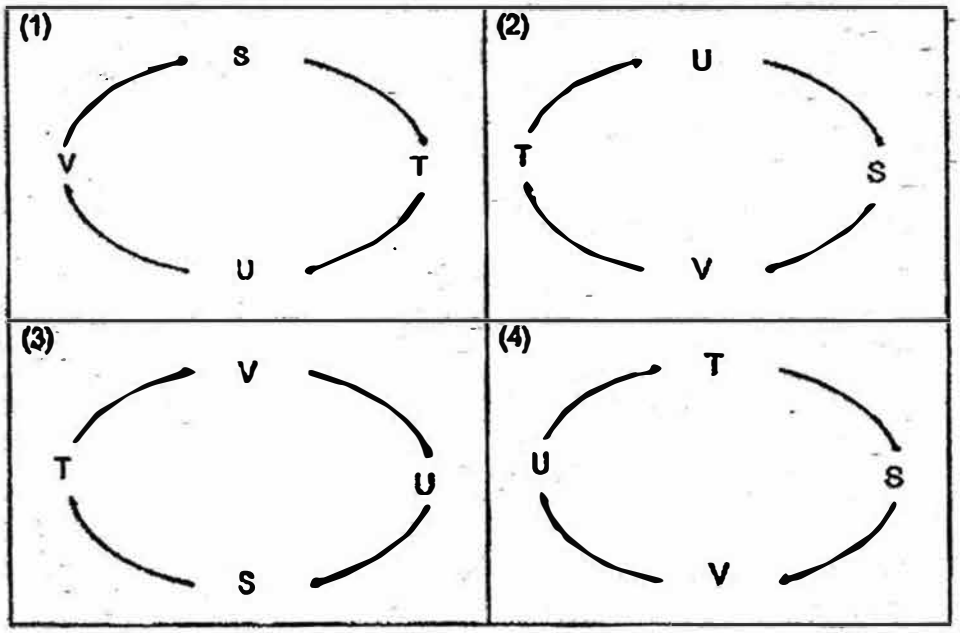


(1) (2) (3) (4)

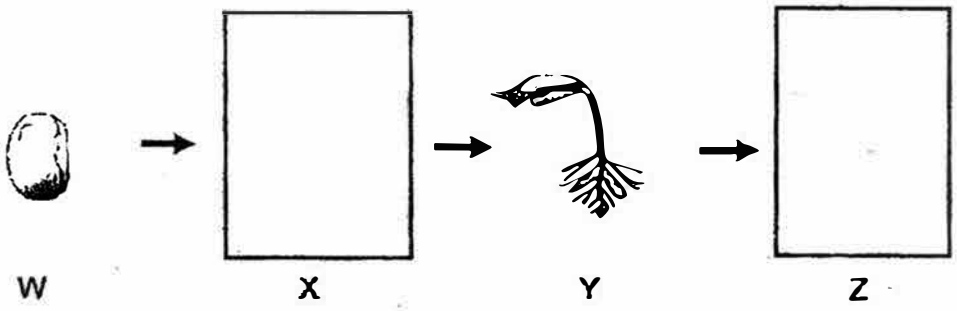
3. S, T, U and V are the various stages in the life cycle of a butterfly.



Which one of the following diagrams correctly shows the life cycle of a butterfly?



4. The diagram below shows the growth of a plant with two missing stages, X and Z.



Which one of the following shows the correct stages for X and Z?

	X	Z
(1)		
(2)		
(3)		
(4)		

5. In which part of the digestive system is water being absorbed?

(1) gullet
(2) mouth
(3) stomach
(4) large intestine

6. Which one of the following objects is made of waterproof materials?

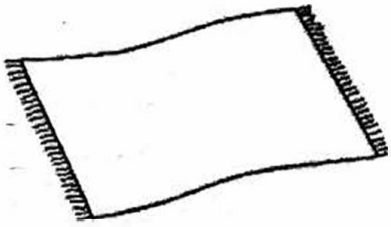
(1)

slippers

(2)

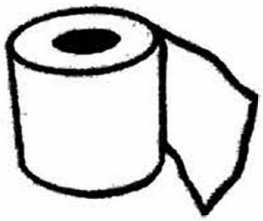
bath robe

(3)



rug

(4)



toilet paper

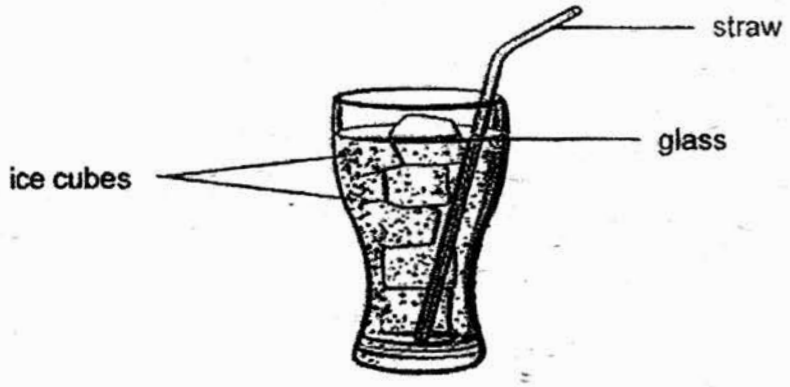
7. Which one of the following properties is true for both air and a flower pot?

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

8. **Which one of the following is a source of light?**

(1)  the moon	(2)  fire
(3)  diamond ring	(4)  mirror

9. Jessica adds some ice cubes to a glass of orange juice.



The orange juice becomes cold after a while.

Which one of the following sentences explains this?

(1) The straw loses heat to the ice cubes.

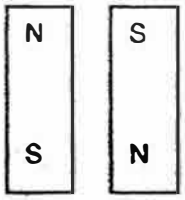
(2) The glass gains heat from the ice cubes.

(3) The ice cubes loses heat to the orange juice.

(4) The ice cubes gains heat from the orange juice.

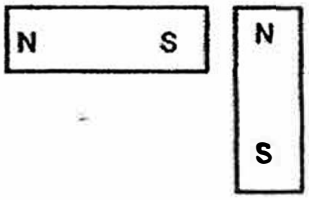
10. In which one of the following will the two magnets push each other away?

(1)

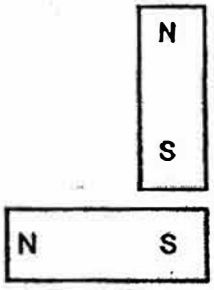


(2)

(3)



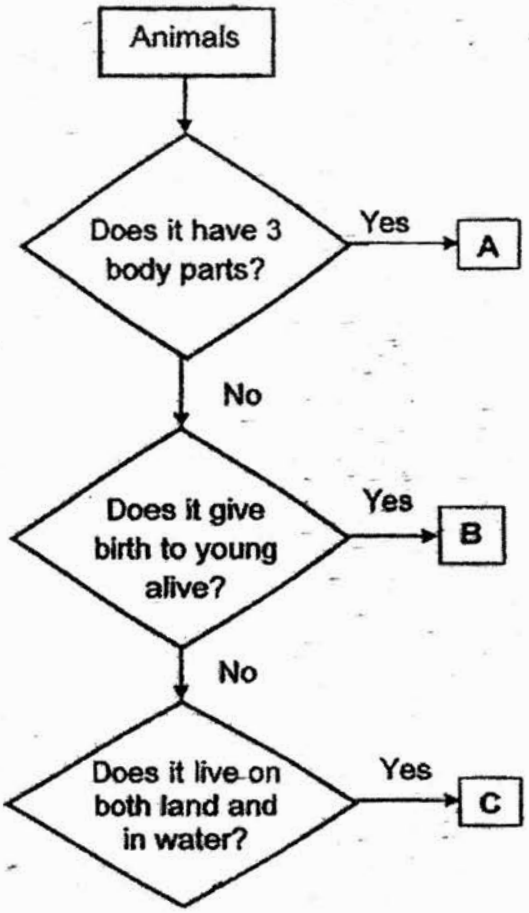
(4)



11. A tick (√) in the table below indicates the condition which a seed is exposed to. Which of the following correctly states the conditions needed for seed germination?

	Air	Food	Sunlight	Water	Warmth
(1)	√	√	√	√	√
(2)	√	√		√	
(3)	√			√	√
(4)	√		√	√	√

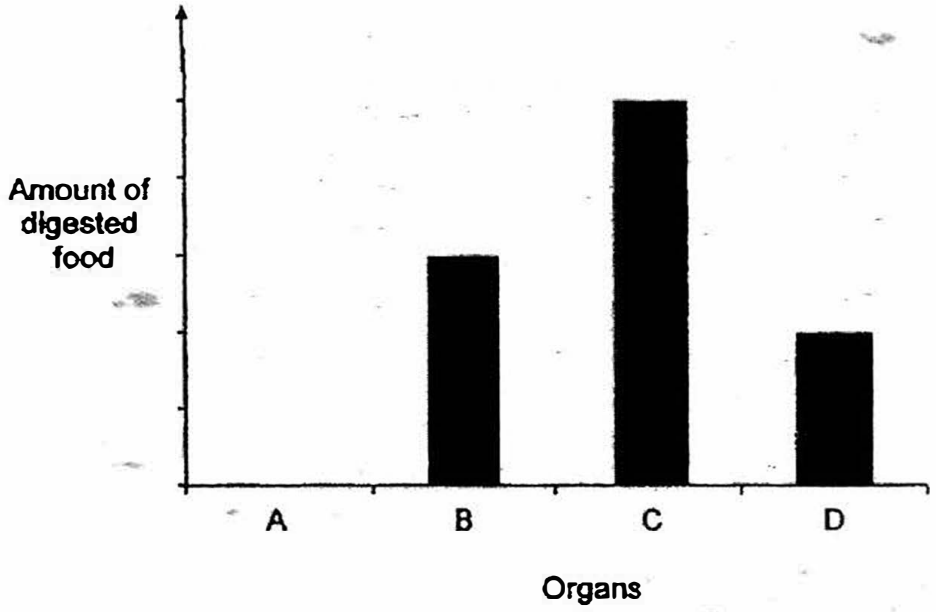
12. Study the flow chart below. A, B and C are animals.



Based on the information given in the flowchart, which one of the following correctly represents animals A, B and C?

	A	B	C
(1)	birds	amphibians	insects
(2)	insects	mammals	amphibians
(3)	insects	birds	amphibians
(4)	reptiles	mammals	insects

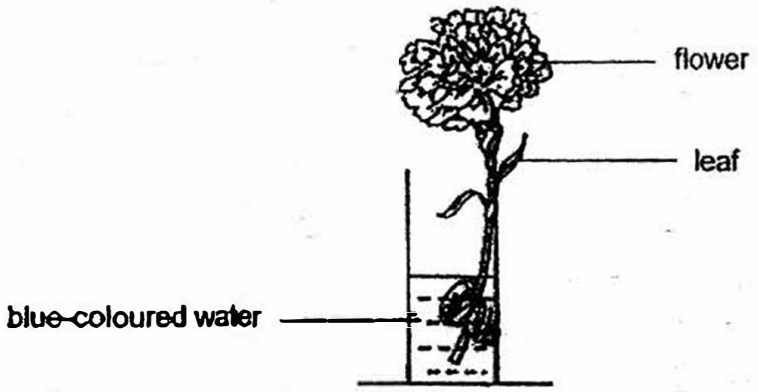
13. The graph below shows the amount of digested food found in four different organs, A, B, C and D, of the human digestive system.



Which organ, A, B, C or D, is the large intestine?

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

14. Jack placed a stalk of white flower into a beaker of blue-coloured water. A few hours later, he observed that the flower and leaves turned blue.



Which one of the following explains Jack's observation correctly?

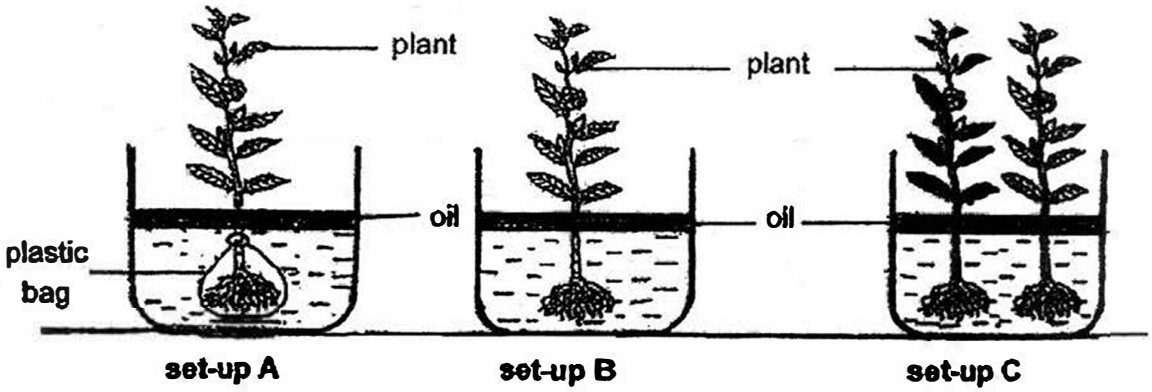
(1) Water was transported by the food-carrying tubes to the leaves only.

(2) Water was transported by the water-carrying tubes to the flowers only.

(3) Water was transported by the food-carrying tubes to the flower and leaves.

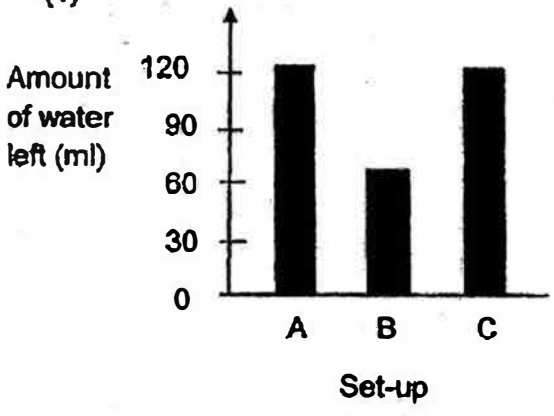
(4) Water was transported by the water-carrying tubes to the flower and leaves.

15. Kelly prepared three set-ups, A, B and C, using identical plants as shown in the diagram below. Each beaker contained 120ml of water and a layer of oil. Kelly placed the three set-ups near a window and observed the amount of water left in the beaker after four days.

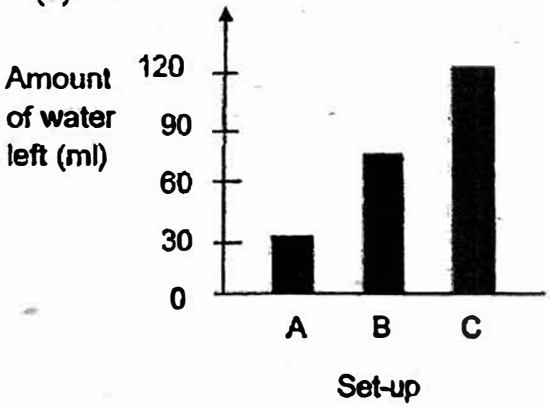


Which one of the following likely shows the amount of water left in each beaker at the end of four days?

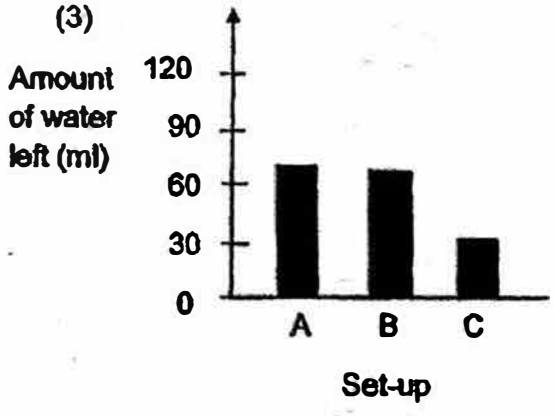
(1)



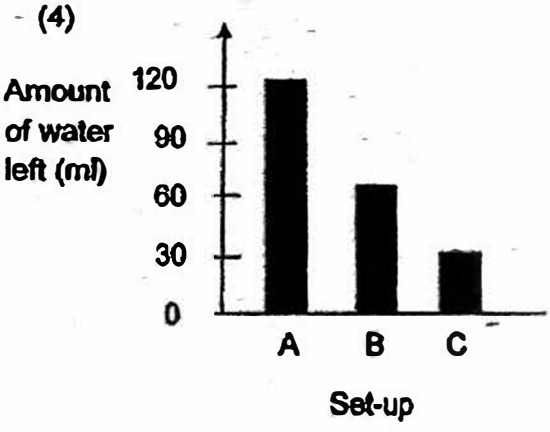
(2)



(3)



(4)



16. The mass of an inflated ball was 450g at first. Next, the air in the ball was released completely and the mass of the deflated ball was shown in the diagram 2 was recorded. Finally, air was pumped into the deflated ball until it was much harder than it was at first, as shown in the diagram 3 below.

Inflated ball at first

Diagram 1

Deflated ball

Diagram 2

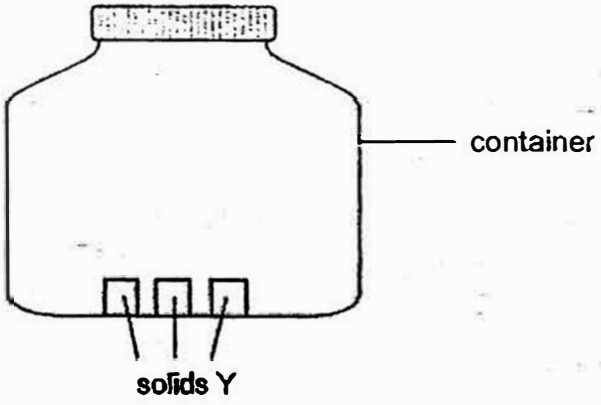
Inflated ball in the end

Diagram 3

Which one of the following is most likely to be the set of results that was recorded?

	Mass of inflated ball at first (g)	Mass of deflated ball (g)	Mass of inflated ball in the end (g)
(1)	450	456	461
(2)	450	446	450
(3)	450	446	454
(4)	450	456	448

17. Kayla conducted an experiment by placing three identical pieces of 50-cm^3 solid Y in a tightly-sealed 1500-cm^3 container. Solids Y turned directly into gas after some time.



Which of the following statements about the gas in the container at the end of the experiment are likely to be correct?

A The final volume of the gases in the container was 1350 cm^3.

B The final volume of the gases in the container was 1650 cm^3.

C The final volume of the gases in the container was 1500 cm^3.

D The gases in the container had a definite volume because gases could be compressed.

(1) A only

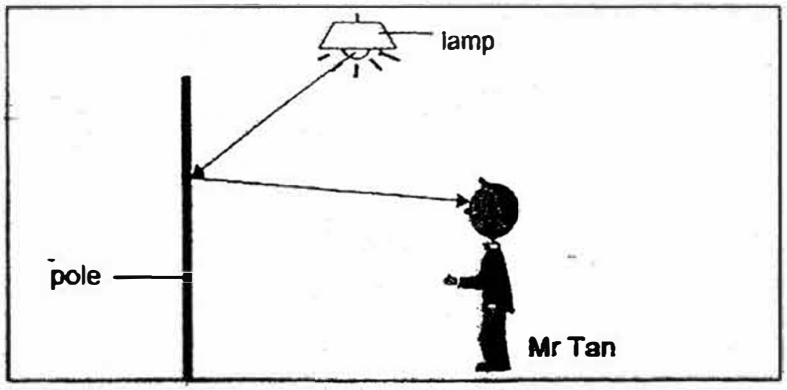
(2) C only

(3) B and C only

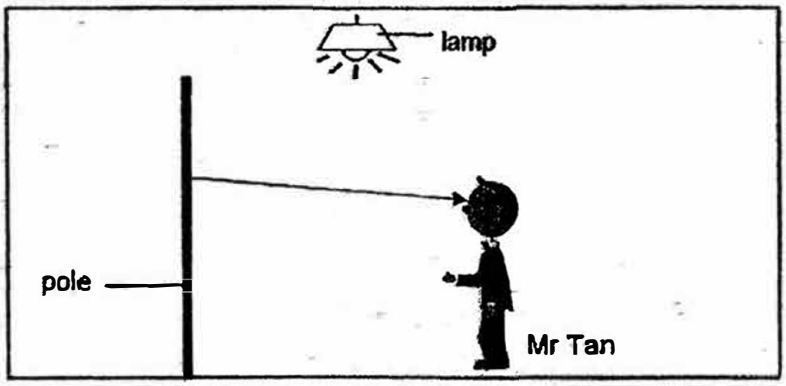
(4) A and D only

18. Which of the following diagram correctly shows the path of light that allows Mr Tan to see the pole when the lamp is switched on?

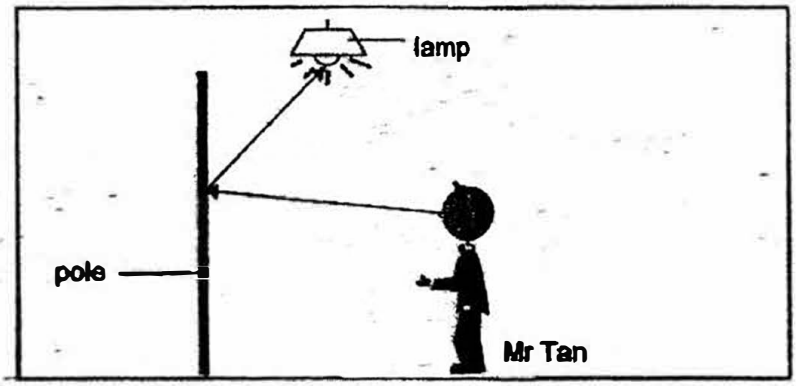
(1)



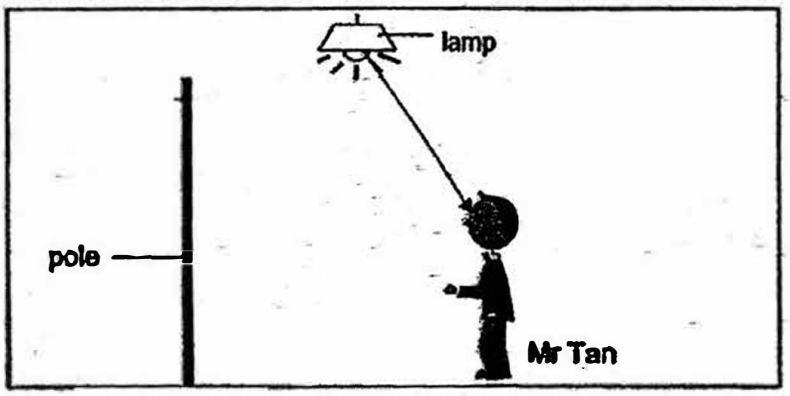
(2)



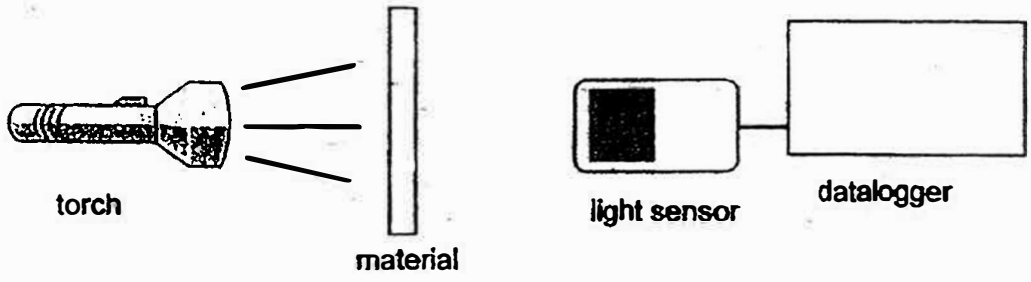
(3)



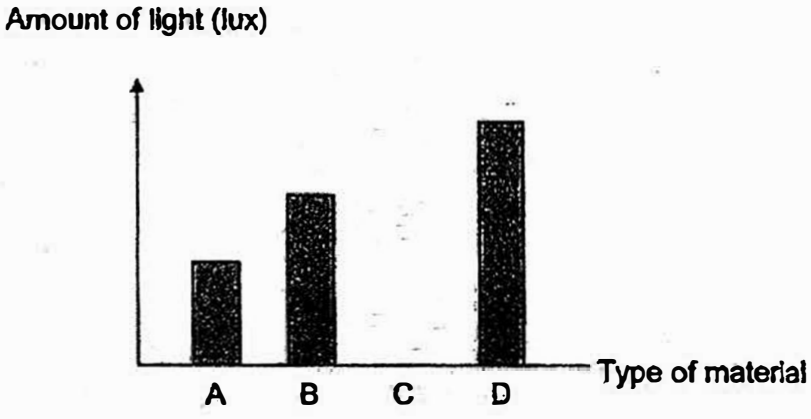
(4)



19. Sarah wanted to make a set of curtains for bedroom windows to block out most of the light from entering her bedroom. She prepared the following set-up to measure the amount of light that passed through four different materials, A, B, C and D, using a light sensor connected to a datalogger.



The graph below shows the amount of light that passed through each type of material.



Based on the above results, which one of the following materials, A, B, C or D, should Sarah choose to make the curtains to block out most of the light?

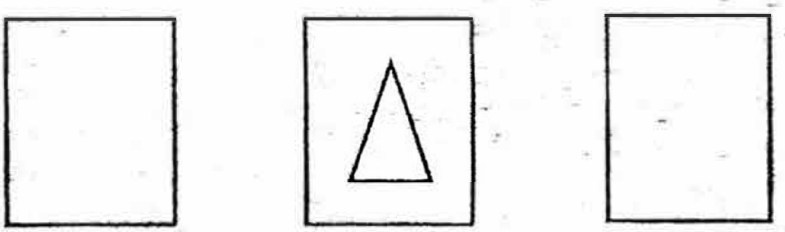
(1) A

(2) B

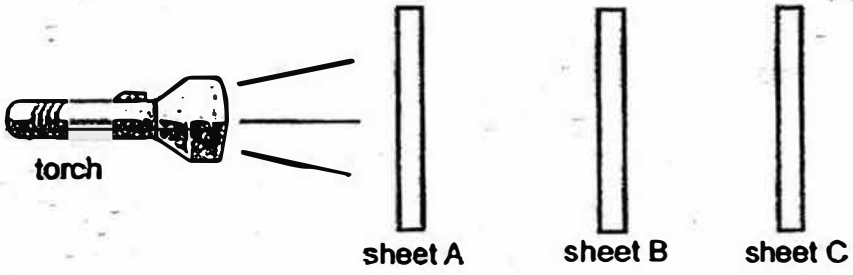
(3) C

(4) D

20. Ahmad carried out an experiment in a dark room as shown below. Three sheets of equal size and thickness made of different materials were used. Ahmad made a hole in sheet B as shown in the diagram below.



He arranged the three sheets in the order and shone a torch as shown below.



When the torch was switched on, a bright and clear triangular patch of light was seen on sheet C as shown below.

Which one of the following most likely shows the materials of sheets A, B and C?

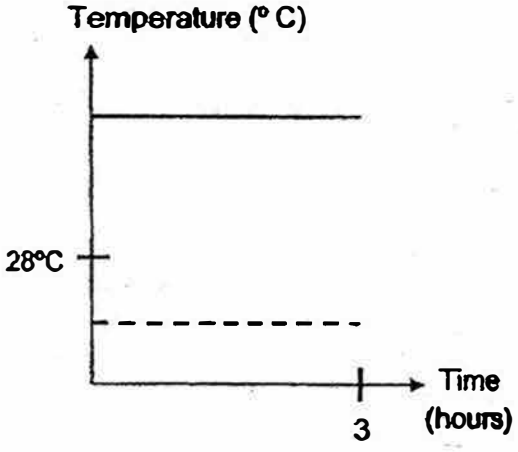
	A	B	C
(1)	styrofoam	aluminum	clear plastic
(2)	wood	styrofoam	cloth
(3)	clear glass	wood	cloth
(4)	clear plastic	clear glass	aluminium

21. Sulin placed a glass of hot tea in a basin of cold water in a room with a constant temperature of 28°C.

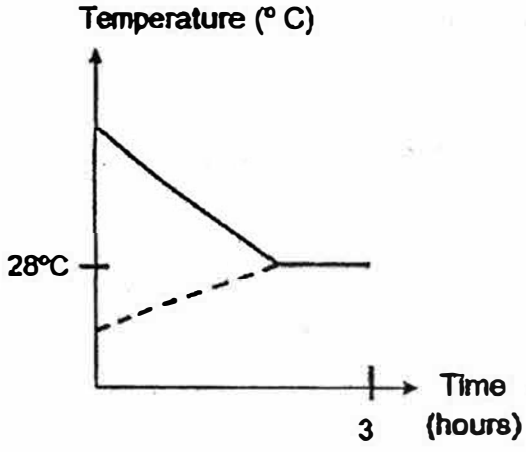
Key:	
hot tea	———
cold water	- - - - -

Which one of the graphs below shows the temperature of the hot tea and the cold water over a period of three hours?

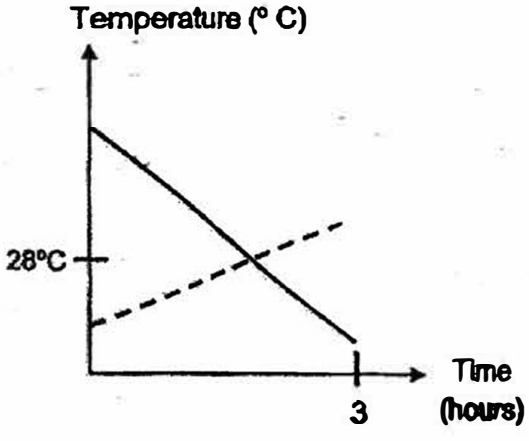
(1)



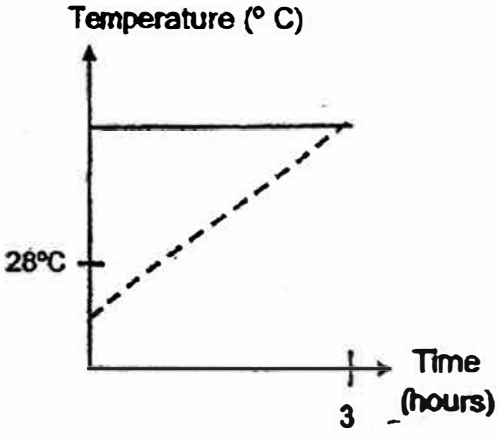
(2)



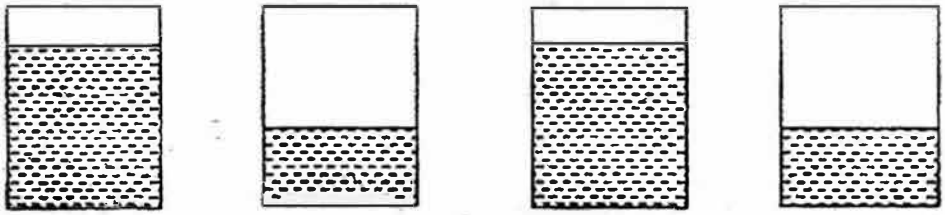
3)



4)



22. Evelyn wanted to find out if the amount of water would affect the time taken for it to boil. She prepared four beakers, A, B, C and D, filled with water of different temperatures as shown in the diagrams below.



Beaker A	Beaker B	Beaker C	Beaker D
750ml of water at 50°C	400ml of water at 15°C	750ml of water at 75°C	400ml of water at 50°C

Which two beakers should Evelyn choose for her experiment?

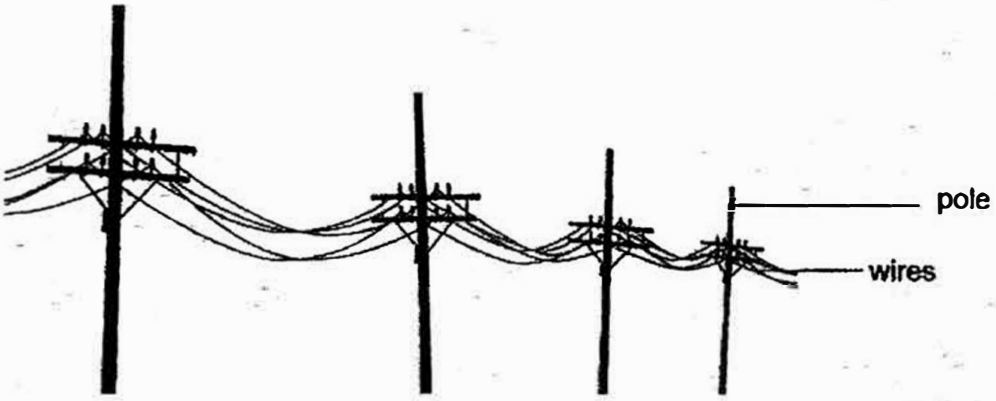
(1) A and C

(2) B and C

(3) B and D

(4) A and D

23. In some countries, telephone wires are hung on poles above the ground as shown below.



The telephone wires are hung loosely between the poles to allow for _____.

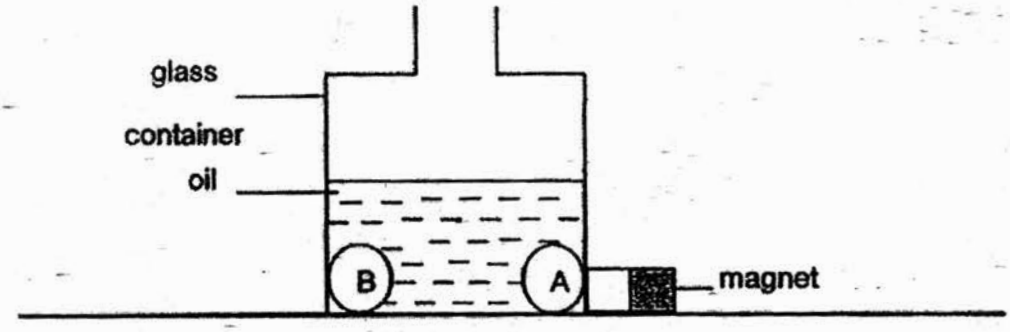
(1) expansion of the poles on hot days

(2) contraction of wires on cold days

(3) expansion of wires on cold days

(4) contraction of poles on hot days

24. George tried to remove two metal balls, A and B, a container of oil using a magnet. He placed the magnet at the outer side of the container next to metal ball A and managed to slide it out of the container. He repeated the steps with metal ball B but he did not manage to remove it from the container.



Which of the following could possibly be the reason(s) for both observations made by George above?

A Metal ball B was non-magnetic.

B Metal ball A was able to attract the magnet.

C Magnetic force could pass through glass and oil and attracted metal ball A.

D Magnetic force could not pass through glass and oil to attract metal ball B.

(1) A only

(2) C only

(3) A and C only

(4) B and D only

25. Karine placed both the N-pole and S-pole of a bar magnet near four objects, A, B, C and D, and observed the interactions between them. She recorded her observations in the table below:

	objects			
	A	B	C	D
North-seeking pole of bar magnet	Repelled	No interaction	Attracted	Attracted
South-seeking pole of bar magnet	Attracted	No interaction	Attracted	Repelled

From the observations above, which one of the following is the correct grouping of the four objects, A, B, C and D?

	Magnets	Magnetic objects	Non-magnetic objects
(1)	A	B	C and D
(2)	A and B	C	D
(3)	C and D	A	B
(4)	A and D	C	B

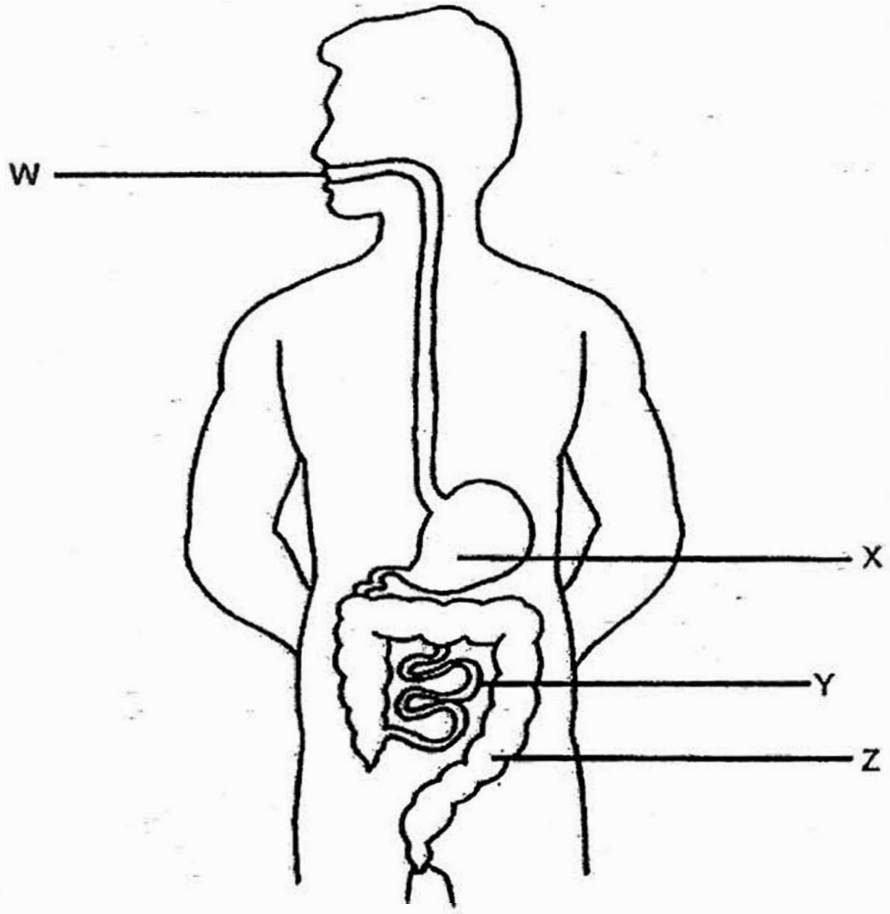
Name : _____ Index No: ____ Class: P4_____

40

SECTION B (40 marks)

For questions 26 to 37, write your answers clearly in the spaces provided. The number of marks available is shown in brackets [ ] at the end of each question or part question.

26. The diagram below shows the human digestive system.



Based on the diagram above, identify the part where

(a) **digestion first takes place:** _____ [1]

(b) **digestion ends:** _____ [1]

Score 2

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

Functions of plant parts	Plant parts
It holds the plant upright.	
It makes food for the plant.	

Judy and Annie want to find out if the type of soil will affect the growth of a plant.

(b) Fill in the blanks in boxes (i) and (ii) to ensure that the test is fair. [1]

Variables	Judy	Annie
Type of plant	Chilli plant	Chilli plant
Type of soil	Garden soil	Sandy soil
Amount of water	200ml	(i) _____ ml
Location	Garden	(ii) _____

Score	
	3

Continued on next page

Continued from previous page

(c) The pictures below show the roots of three different plants.

Plant A Plant B Plant C

(i) Which one of the three plants, A, B or C, has roots that will absorb the most water from the ground? [1]

Plant: _____

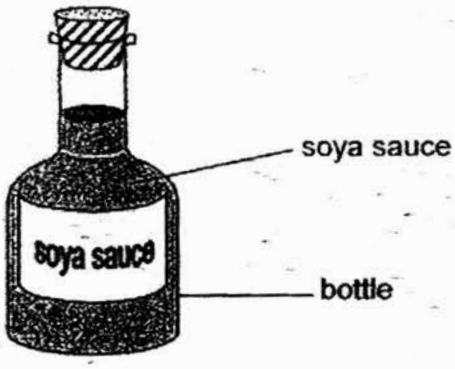
(ii) Give a reason for your answer in part (c)(i). [1]

_____

_____

Score 2

28. The diagram below shows a bottle containing some soya sauce.

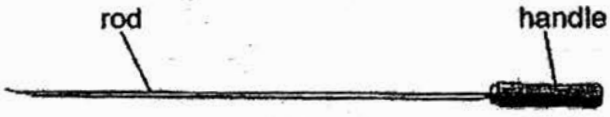


Complete the sentences to state if the parts are solid, liquid or gas.

(a) The bottle is a _____. [1]

(b) Soya sauce is a _____. [1]

29. The diagram below shows a barbeque skewer.

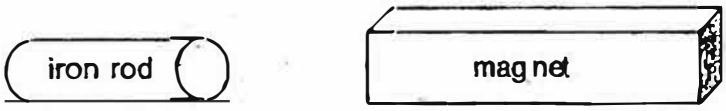


(a) The handle is made of wood because it is _____ conductor of heat. [1]

(b) The rod is made of metal because it is a _____ conductor of heat. [1]

Score	/4

30. Sharon places a magnet near an iron rod. The iron rod moves towards the magnet.



(a) The magnet exerts a _____ _____ on the iron rod. [1]

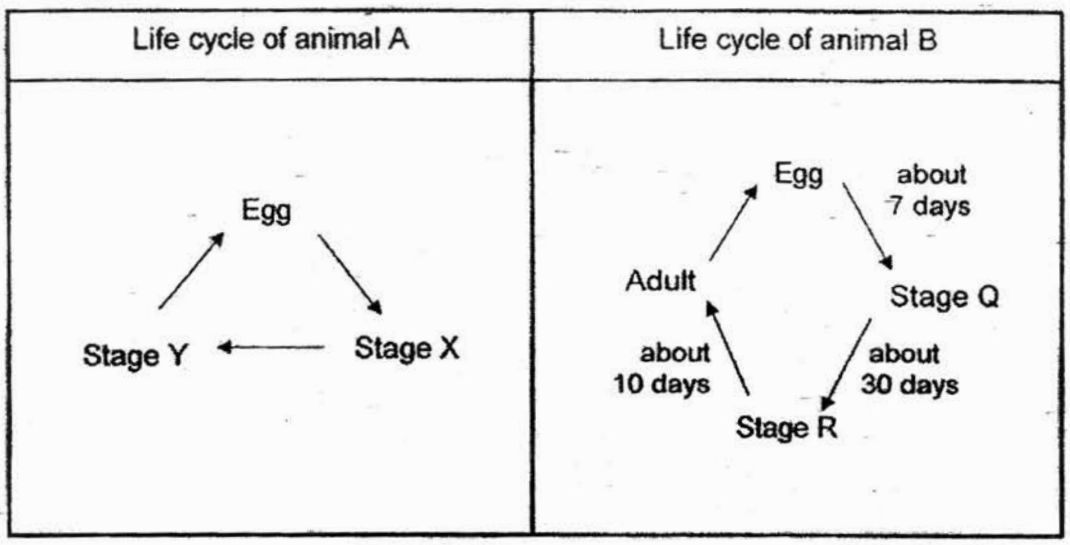
Choose the correct word from the box to answer the question below.

flexible	magnetic	strong

(b) Sharon's observation shows that iron is a _____ material. [1]

Score	/2

31. The diagram below shows the stages in the life cycles of animal A and animal B.



Based on the information provided above, answer the following questions.

(a) (i) What is the least possible number of days animal B takes in order to develop from stage Q to an adult? [1]

_____

(ii) What is the difference between the life cycles of animal A and animal B? [1]

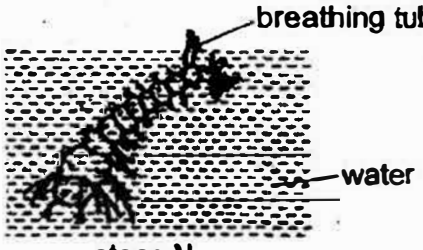
_____

_____

Score	/2

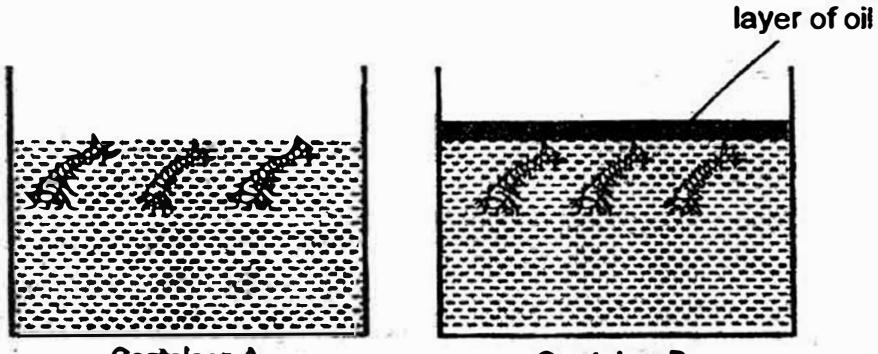
Continued on next page

31. (b) Ryan managed to catch some young of the mosquito when they are in Stage N. The young of the mosquito breathes through its breathing tube as shown below.



stage N

He placed several young of the mosquito into Container A and Container B as shown below. Three days later, all the young of the mosquito in one of the containers died.



Container A Container B

(i) Name the young of the mosquito at stage N.

_____

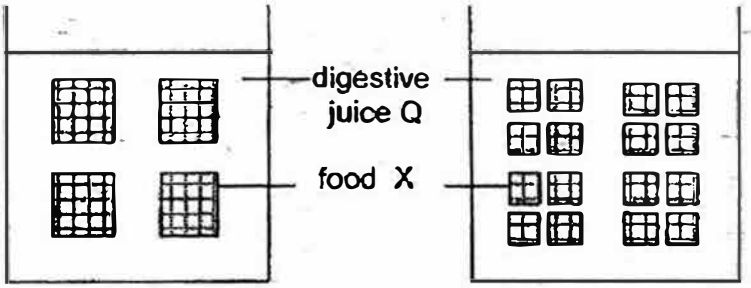
(ii) In which container did Ryan find all the young of the mosquito dead? Explain your answer. [1]

_____

_____

Score 2

32. Jane carried out an experiment as shown in the diagram below. She set up two beakers, A and B, containing the same amount of food X. Each piece of food was cut into smaller pieces. She then poured the same amount of digestive juice Q into each beaker.

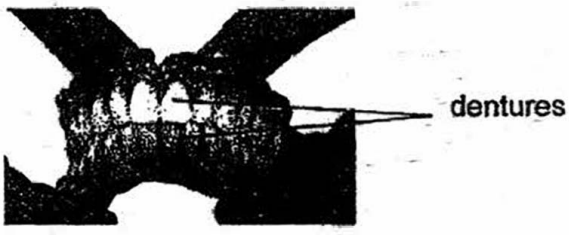


She recorded the time taken for the food X in each beaker to be digested as shown below.

Food X in	Time taken for the food X to be digested (min)
Beaker A	38
Beaker B	16

(a) Based on the results above, what is the relationship between the size of food and the time taken for the food to be digested? [1]

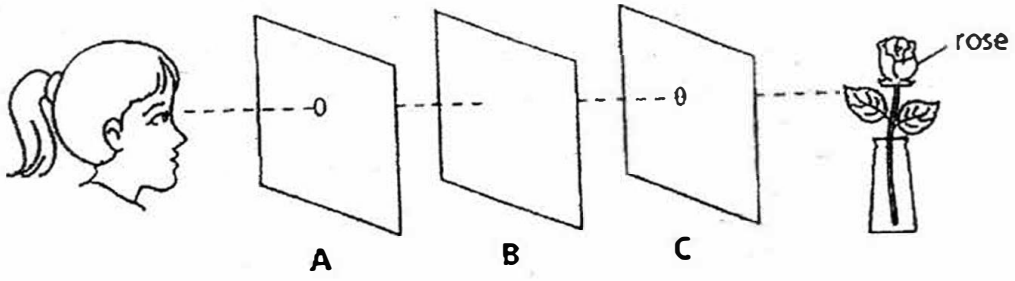
Jane's grandfather, Mr Tan, needs to put on his dentures (false teeth) before he eats. The diagram below shows how the dentures look like.



(b) Explain clearly how the use of dentures help Mr Tan in the process of digestion. [2]

Score 3

33. Jenny set up the following experiment using three sheets of different materials, A, B and C, in a brightly-lit room. Sheets A and C had a hole in them but not sheet B. Jenny could see the rose in the set-up below.



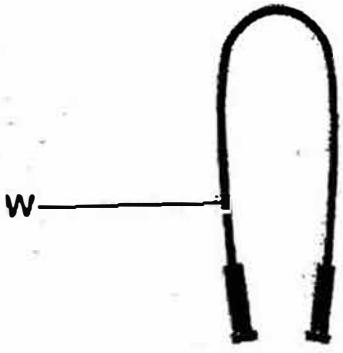
(a) (i) Name a suitable material for Sheet B. **[1]**

_____

(ii) State the property of the suitable material stated in (i) that enables Jenny to see the rose very clearly. **[1]**

_____

The diagram below shows a skipping rope. The material used to make part W does not break easily.



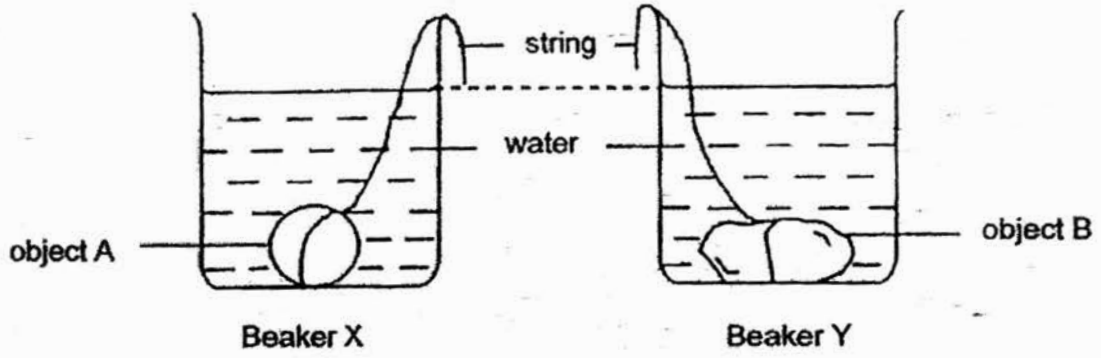
(b) Suggest ANOTHER property of the material used to make part W. Give a reason for your answer. **[2]**

_____

_____

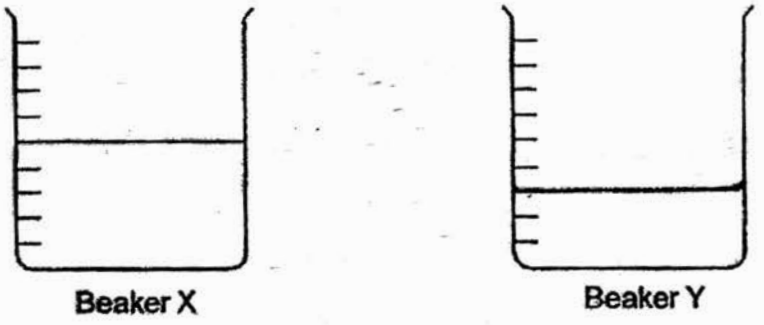
Score	/ 4

34. Lauren wanted to find out if object A or object B has a greater volume. First, she placed the two objects in identical beakers, X and Y. Then she poured water into the beakers until the water levels in both beakers were the same.



(a) Lauren removed objects A and B from the beakers and she found out that object B had a greater volume. The water level in beaker X after object A had been removed had been drawn for you.

Draw the water level in beaker Y after object B had been removed from it in the diagram below. [1]



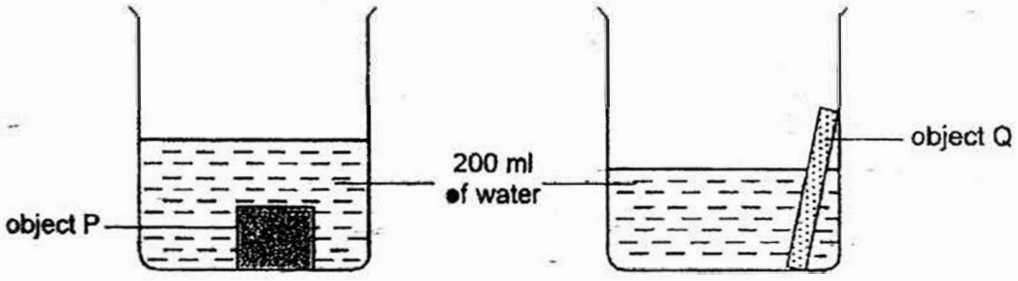
(b) State the property of solids that is shown in the experiment above. [1]

_____

Continued on next page

Score	
	2

Lauren conducted another experiment. This time, she filled two identical beakers each with 200 ml of water before lowering objects P and Q into the beakers as shown below.



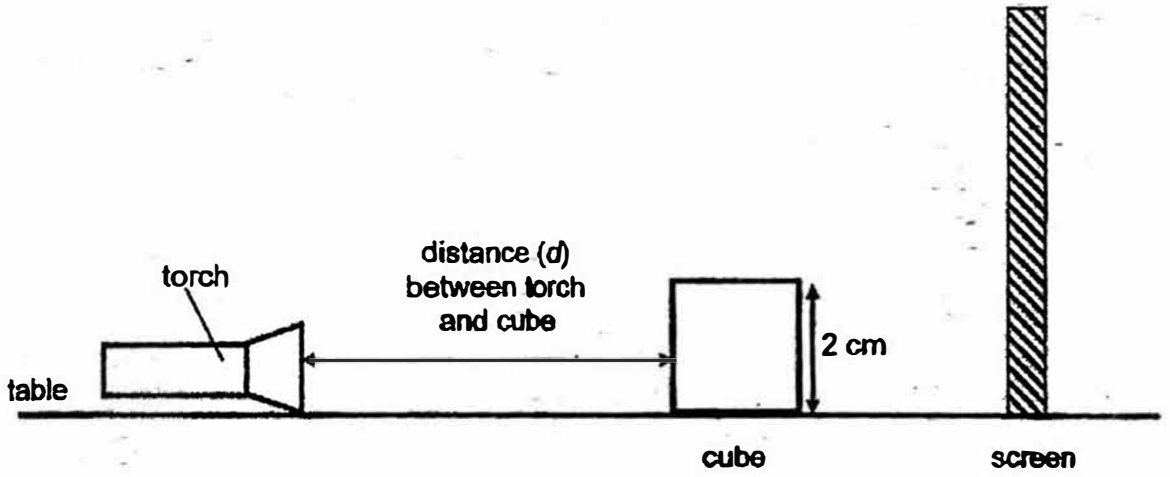
Lauren concluded that object P had a greater volume than object Q but her teacher told her that her conclusion was wrong because her experiment was not conducted correctly.

(C) (i) Explain why Lauren's conclusion was wrong. [1]

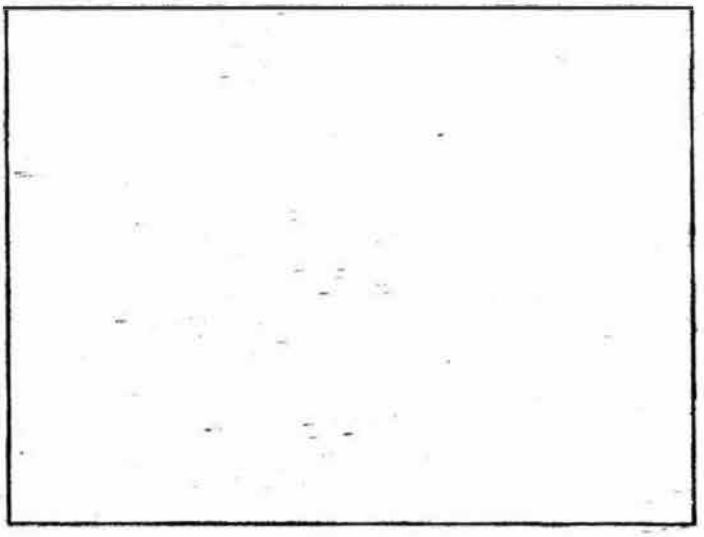
(ii) Suggest what Lauren could have done to find out if object P or Q had a greater volume using the set-up above **without removing** any of the apparatus. [1]

Score	2

35. James used a torch to shine on a wooden cube as shown below. A shadow of the cube was formed on the screen.



(a) Draw the shadow that was formed on the screen in the box below. [1]



Score	/ 1

Continued on next page

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James measured the height of the shadow formed on the screen as he moved the torch towards the wooden cube. He recorded the results in the table as shown below.

Distance (*d*) between torch and cube (cm)	Height of the shadow formed on the screen (cm)
10	2.5
8	4
6	5.5

(b) **Without moving the screen or torch,** suggest one way that James could do to make the height of the shadow formed on the screen less than 2.5 cm. [1]

_____

_____

(c) How does the distance (*d*) between the torch and wooden cube affect the height of the shadow formed on the screen? [1]

_____

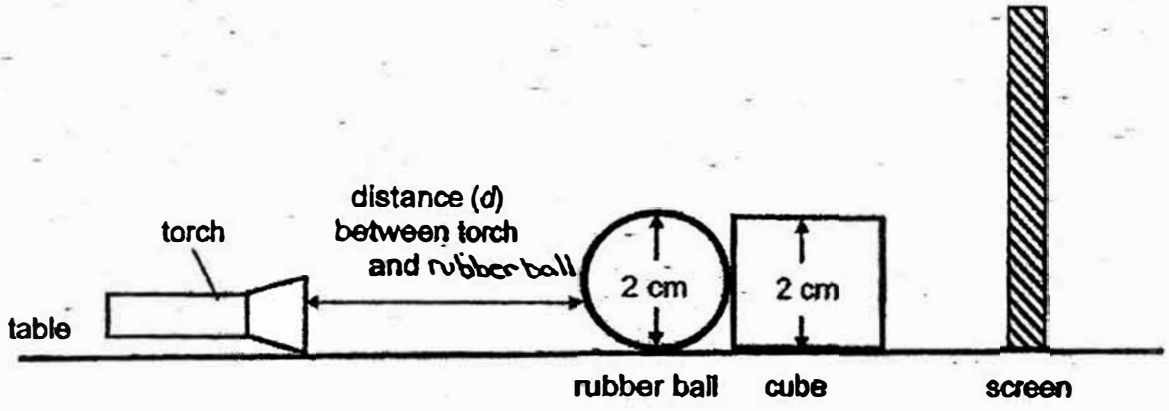
_____

Score	/ 2

Continued on next page

Continued from previous page

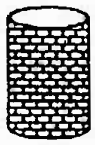
James placed a rubber ball in front of the wooden cube as shown in the diagram below.



(d) Draw the shadow that would form on the screen in the box below. [1]

Score 1

36. Sally poured an equal amount of coffee into four cups made of different materials P, Q, R and S, as shown below.


material P


material Q


material R


material S

She recorded the change in the temperature of coffee in the four cups after thirty minutes in the table below.

Material	Temperature of coffee (°C)	
	At first	After 30 minutes
P	95	40
Q	95	25
R	95	75
S	95	50

(a) Based on the results above, which one of the materials, P, Q, R or S, is most suitable for making a container that can keep food warm for the longest time? Give a reason for your answer. [2]

_____

_____

(b) Name 2 other variables that Sally must keep the same to ensure a fair experiment. [2]

Variable 1	
Variable 2	

Score	/ 4

37. Kaylene stroked a steel bar many times as shown in diagram Diagram 2 shows the poles of the magnetised steel bar.

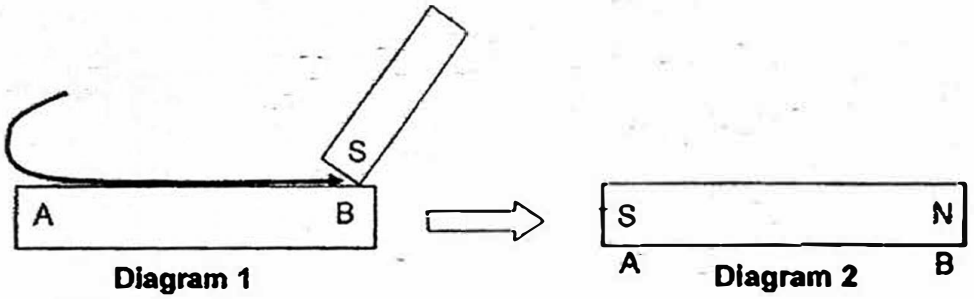


Diagram 1 Diagram 2

Kaylene then used two magnets to stroke another steel bar as shown in diagram 3 below.

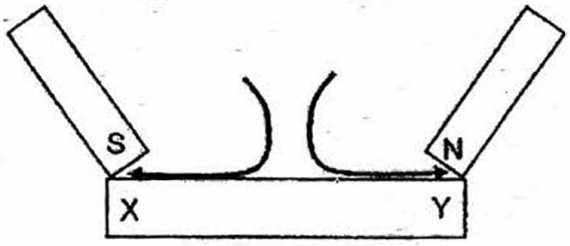


Diagram 3

(a) Name the poles of the magnetised steel bar at X and Y. [2]

(i) At X : _____ - pole

(ii) At Y : _____ - pole

Score	2

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Continued from previous page

Kaylene prepared a set-up using the magnetised steel bar as shown below.

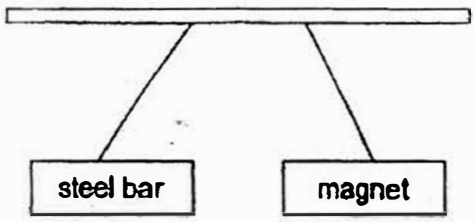

Diagram A

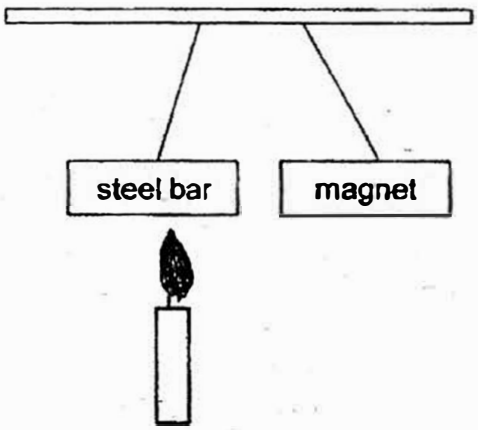

Diagram B

(b) **When she placed a magnet near the magnetised steel bar, she observed that the magnetised steel bar and the magnet moved away from each other as shown in Diagram A. Explain her observation.** **[1]**

(c) **When a flame is placed near the magnetised steel bar as shown in Diagram B, the magnetised steel bar moved closer to the magnet after some time. Explain why this happened.** **[1]**

End of paper

Score 2

EXAM PAPER 2017 (P4)

SCHOOL : RAFFLES GIRLS'

SUBJECT : SCIENCE

TERM : SA2

ORDER CALL :

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

26)a)W b)Y

27)a)stem

Leaves

b)i)200 ml

ii)Garden

c)i)B

ii)B has the most number of roots compared to A and C.

28)a)solid

b)liquid

29)a)poor

b)good

30)a)magnetic force

b)magnetic

31)a)i)40 days.

ii)A has three stages but B has four stages in the life cycle.

b)i)Larvae.

ii)The larvae cannot get air from the surrounding because the layer of oil blocked the breathing to be.

32)a)The smaller the size of the food the shorter the time needed for the food to be digested.

b)It helps to chew the food down into smaller pieces and the saliva softens the food.

33)a)i)clear. (plastic)

ii)Transparent

b)It must be flexible so it can be swing over the person who skips.

34)a)

b)Solids have a definite volume.

c)i)Part of object Q is not covered by the water so the increase in water level only showed part of the volume of object Q.

ii)She should make sure object Q is fully covered in water.

35)a) 

b)Move the cube closer to the screen.

c)The greater the distance between the torch and the cube, the shorter the height of the shadow formed on the screen.

d) 

36)a)The temperature of the water in it was the highest after 30 minutes shows that R is the poorest conductor of heat. A container made of R will reduce the most heat loss from the food the surrounding.

b)1) The size of the cups.

2)Thickness of cups.

37)a)i)N ii)S

b)The like pols of the steel bar and magnet were facing each other causing then to repel.

c)Heating the steel bar caused the steel bar to lose some of its magnetism, so the steel bar moved closer to the magnet the distance between them decreased.