

PRIMARY 4 END-OF-YEAR EXAMINATION 2016

Name : _____ ()

Date: 25 October 2016

Class : Primary 4 ()

Time: 1 hour 30 minutes

Parent's Signature : _____

Marks: _____ / 44

SCIENCE
BOOKLET A

INSTRUCTIONS TO CANDIDATES

Write your name, class and register number.

Do not turn over this page until you are told to do so.

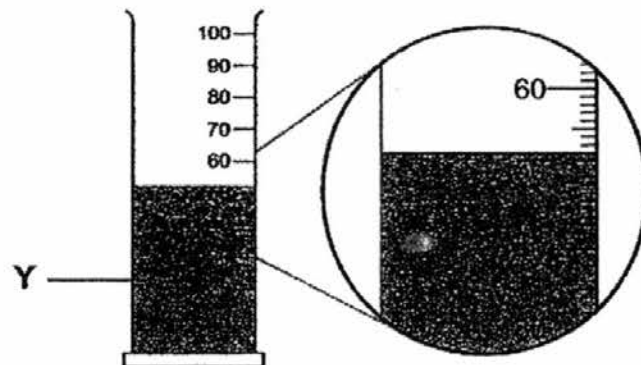
Follow all instructions carefully.

Answer all questions.

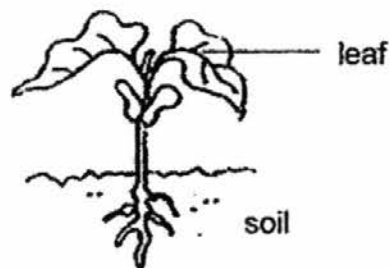
Section A (44 marks)

For each question from 1 to 22, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4) and shade your answer on the Optical Answer Sheet.

1. In the diagram, what is the volume of liquid Y?



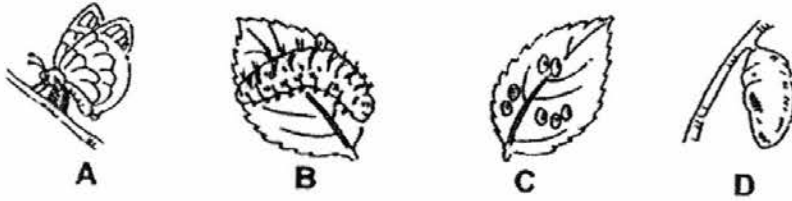
- (1) 50 ml
 - (2) 52 ml
 - (3) 62 ml
 - (4) 68 ml
2. The diagram below shows a young plant.



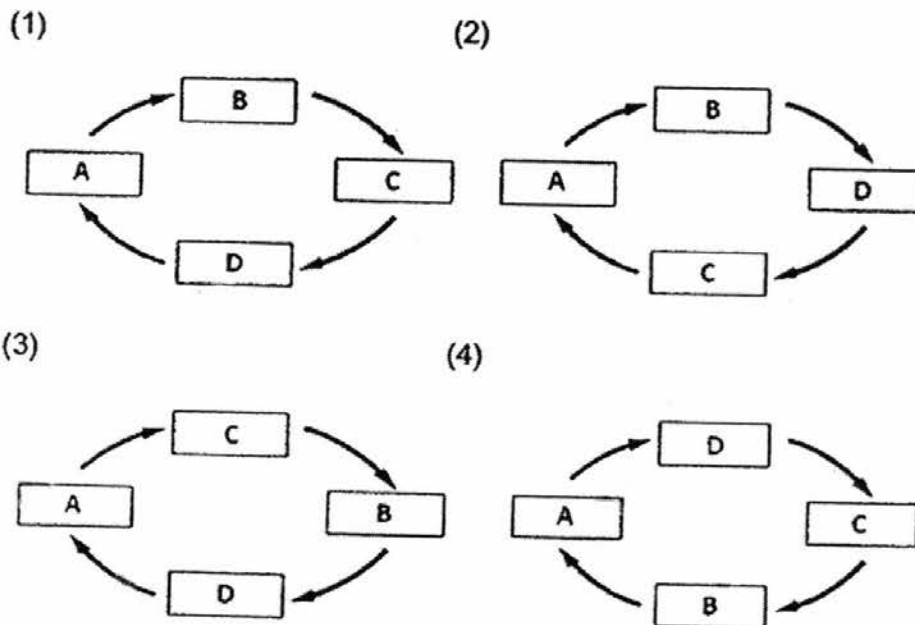
The leaf helps the plant to _____.

- (1) make food
- (2) grow upright
- (3) absorb water
- (4) absorb mineral salts

3. A, B, C and D are the various stages in the life cycle of a butterfly.



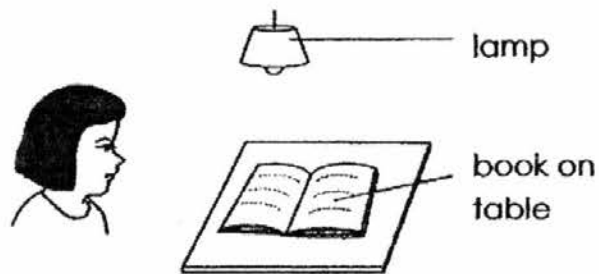
Which one of the following correctly shows the life cycle of a butterfly?



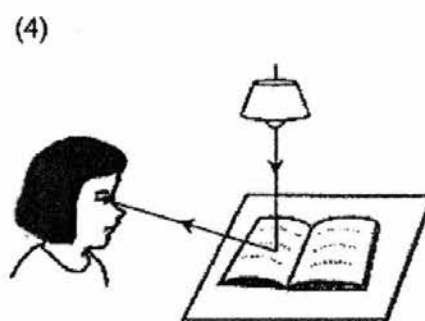
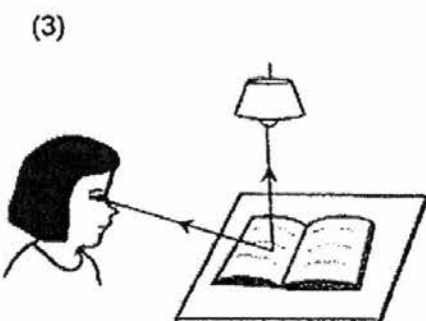
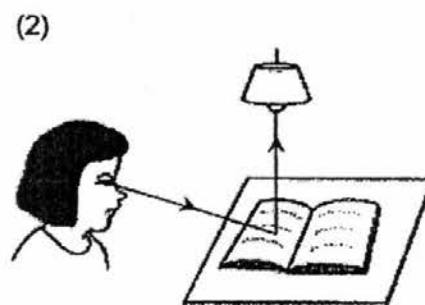
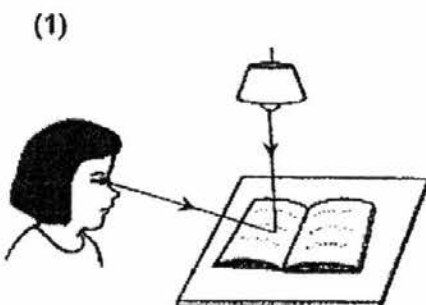
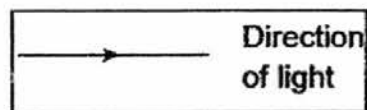
4. In which part of the digestive system is food absorbed into the blood?

- (1) gullet
- (2) stomach
- (3) small intestine
- (4) large intestine

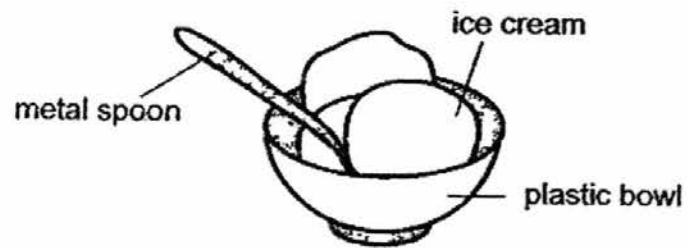
5. Look at the picture below.



Which one of the following explains why Mary can see the book on the table?



6. Ronald places a metal spoon in a bowl of ice cream as shown below.



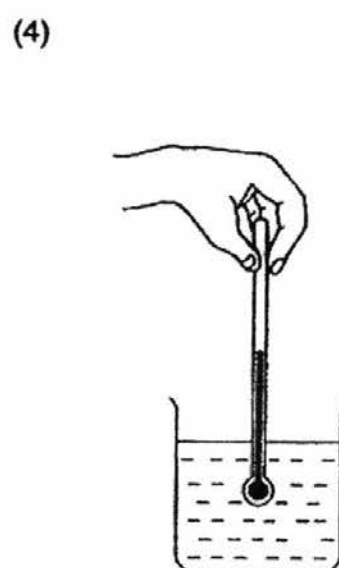
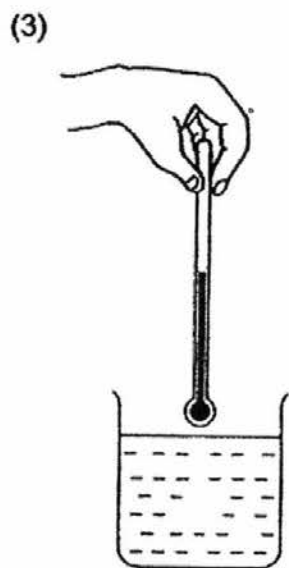
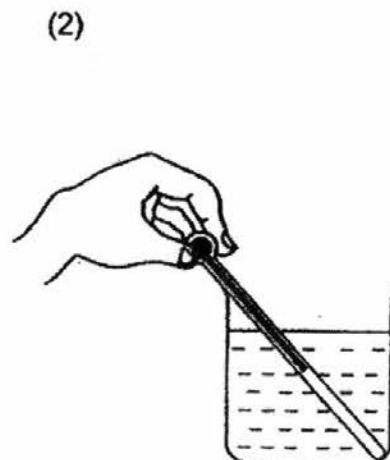
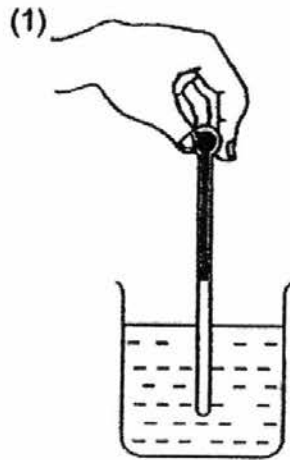
The spoon becomes colder after a while.

Which of the following explains this?

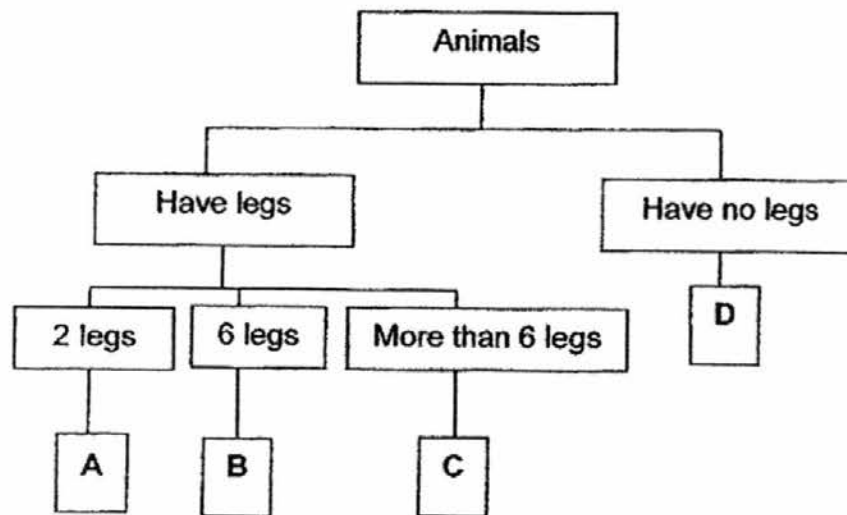
- (1) The spoon loses heat to the ice cream.
- (2) The ice cream loses heat to the spoon.
- (3) The spoon gains heat from the ice cream.
- (4) The ice cream loses heat to the surroundings.

7. Catherine wants to measure the temperature of cold water in a beaker.

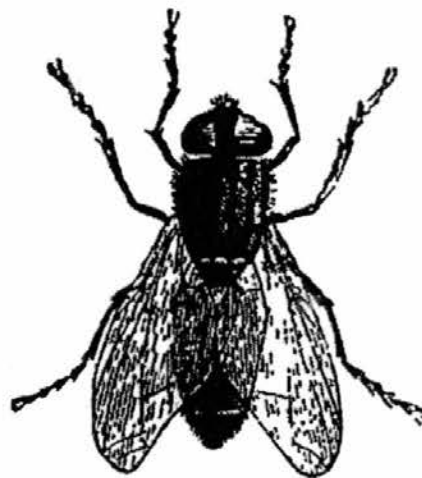
Which one of the following diagrams shows the correct position of the thermometer when taking the temperature reading?



8. Study the chart below.



Where would you put Organism X in the chart above?



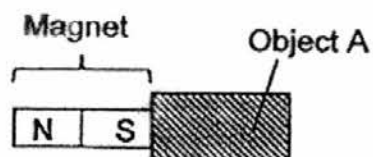
Organism X

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

9. Which one of the following objects is not made of waterproof material?

(1) Plastic rain coat 	(2) Glass cup 
(3) Toilet paper 	(4) Rubber gloves 

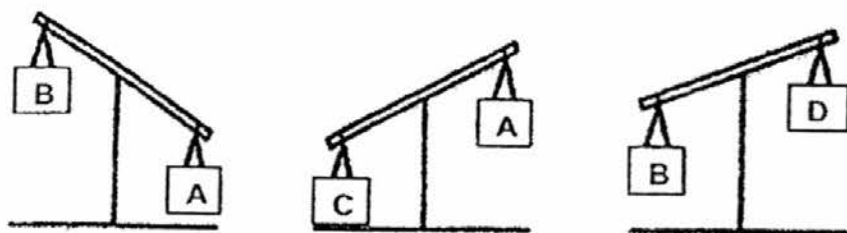
10. An object A was attracted to a magnet, as shown in the figure below.



Object A could be made of _____.

- (1) steel
- (2) wood
- (3) plastic
- (4) rubber

11. Study the diagrams below.



Based on your observation of the above set-ups, the order of the objects from the lightest to the heaviest is _____.

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

12. The table below shows some observations of Organisms X and Y.

Observation	Organism X	Organism Y
Eggs are laid in water	✓	✓
There are 4 stages in the life cycle	X	✓
It has six legs	X	✓

Which of the following could be Organisms X and Y?

	Animal X	Animal Y
(1)	frog	mosquito
(2)	frog	cockroach
(3)	mosquito	frog
(4)	cockroach	mosquito

13. A pupil germinated some seeds and recorded his observations in the table shown below.

Day	Observation
3	Seeds become swollen
6	Seed coats break
8	Roots appear
11	Shoots appear
18	Shrivelled seed leaves drop off

On which day would the seedling make its own food?

- (1) Day 4
- (2) Day 9
- (3) Day 10
- (4) Day 19

14. Mei Mei wanted to find out how the type of soil affects the growth of a plant. She used 3 similar plants X, Y and Z as shown below.



In order to carry out a fair test, which of the following variables should she keep the same?

- A: Type of soil
- B: Amount of soil
- C: Amount of water
- D: Height of the plant

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

15. Mr Wong was eating a meal as shown below.



Which of the following systems(s) is/are working in Mr Wong?

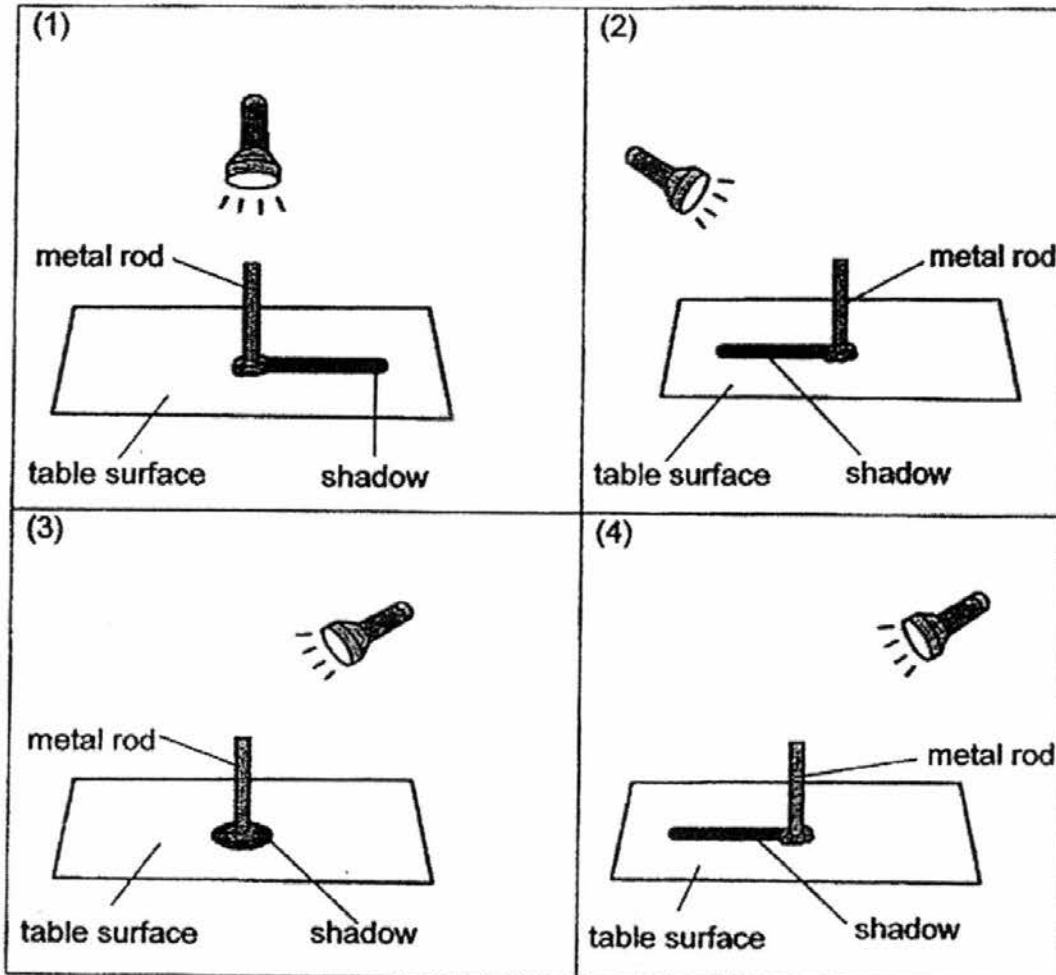
- A: Circulatory System
- B: Digestive System
- C: Muscular System
- D: Respiratory System
- E: Skeletal System

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

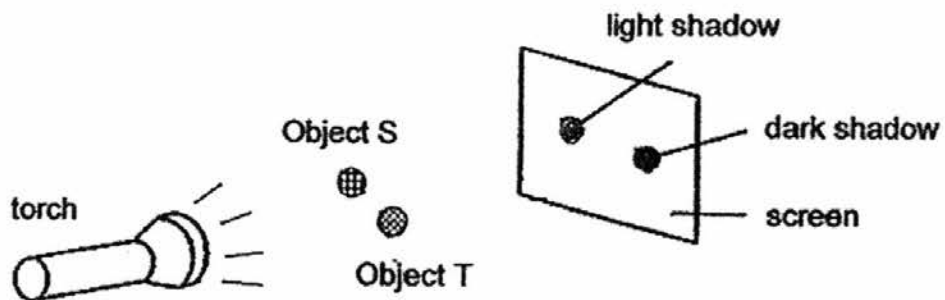
16. Liam saw his reflection on the smooth refrigerator door painted grey.
Which one of the following statements explains why he is able to see his reflection?

- (1) The refrigerator door is a mirror.
- (2) He is in a completely dark kitchen.
- (3) The refrigerator door gives off light.
- (4) The surface of the refrigerator can reflect light.

17. Which one of the following diagrams correctly represents the shadow of a metal rod when a torch light is shone at it in a dark room?



18. A torch was shone onto two round objects, S and T, as shown below.

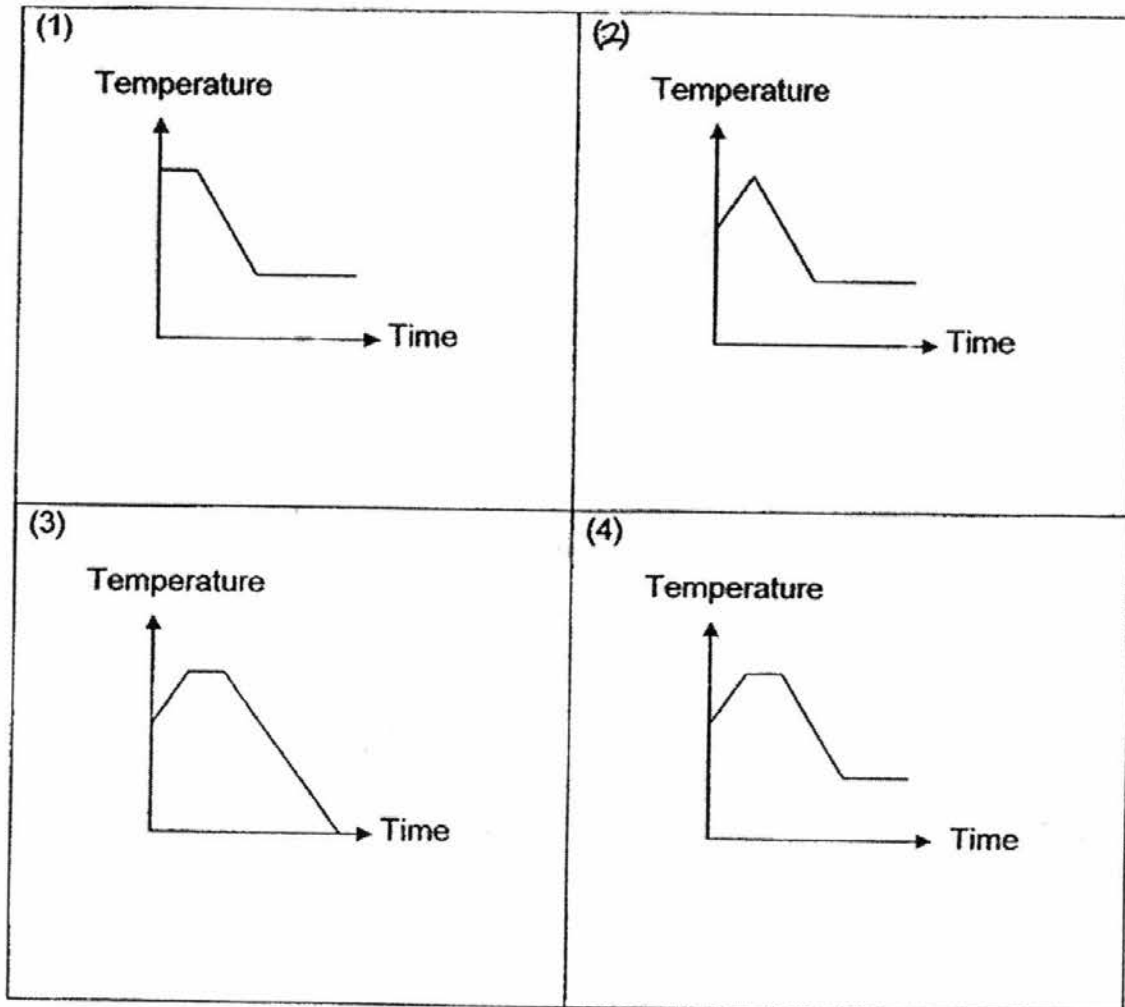


What are Objects S and T likely to be made of?

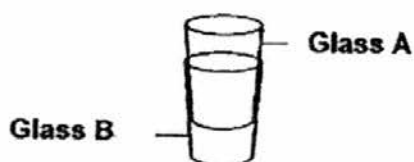
	Object S	Object T
(1)	Cardboard	Iron
(2)	Wood	Frosted glass
(3)	Frosted glass	Steel
(4)	Frosted glass	Clear glass

19. Rachel heated some tap water in a beaker until it boiled. She allowed it to boil for another 5 minutes and then left it to cool to room temperature.

Which one of the following graphs would correctly represent the temperature of the water from the beginning to the end of what Rachel did?

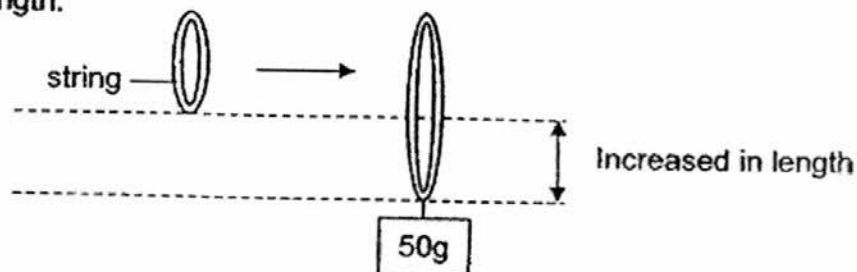


20. Betty found two glasses, A and B, stuck together. A was inside B. Which one of the following is the best possible way for her to separate them?



- (1) Pour hot water into glass A and put glass B in hot water.
- (2) Pour cold water into glass A and put glass B in hot water.
- (3) Pour hot water into glass A and put glass B in cold water.
- (4) Pour cold water into glass A and put glass B in cold water.

21. Vincent learnt that the more elastic a string is, the more it can stretch. He hung a 50g weight onto 4 different types of string and measured their increase in length.



String made of material	Increase in length (cm)
W	0.3
X	0.8
Y	0.9
Z	0.4

From the results in the table above, which material is the least elastic?

- (1) Material W
- (2) Material X
- (3) Material Y
- (4) Material Z

22. Ahmad did an experiment using Magnet A, B, C and D. He brought a paper clip slowly toward each magnet and observed the distance at which the paper clip could be attracted to it.



The table below shows the furthest distance a magnet could attract a paper clip.

Magnet	A	B	C	D
Furthest distance the magnet could attract the paper clip (cm)	6	14	9	11

Which magnet, A, B, C or D has the strongest magnetism?

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

End of Booklet A



PRIMARY 4 END-OF-YEAR EXAMINATION 2016

Name : _____ ()

Date: 25 October 2016

Class : Primary 4 ()

Duration: 1 hour 30 minutes

Parent's Signature : _____

SCIENCE BOOKLET B

INSTRUCTIONS TO CANDIDATES

Write your name, class and register number.

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Follow all instructions carefully.

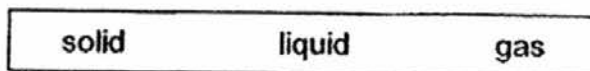
Answer all questions.

Booklet A	44
Booklet B	36
Total	80

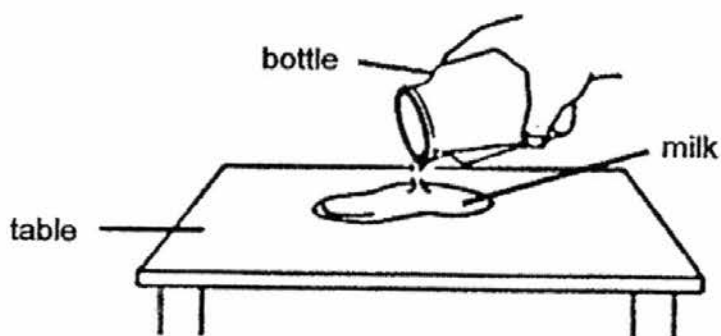
Section B (36 marks)

Write your answers in the spaces provided.

23. Choose the correct words from the box to fill in the blanks below.



(a) Jessica pours milk from a bottle onto a table as shown below.

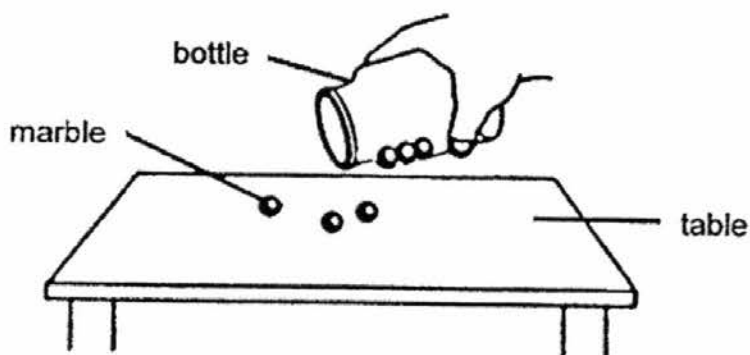


The volume of milk remains the same but the shape changes.

This shows that milk is a _____.

[1]

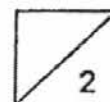
(b) Jessica pours some marbles from a bottle onto a table as shown below.



The shape and volume of the marbles remained the same.

This shows that a marble is a _____.

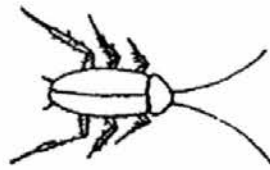
[1]



24. Classify the following animals according to the number of stages in their life cycle. [2]



butterfly



cockroach



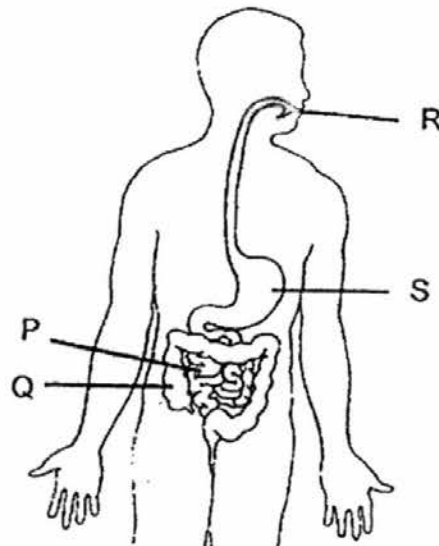
frog



mosquito

Three stages	Four stages

25. The diagram below shows the human digestive system.

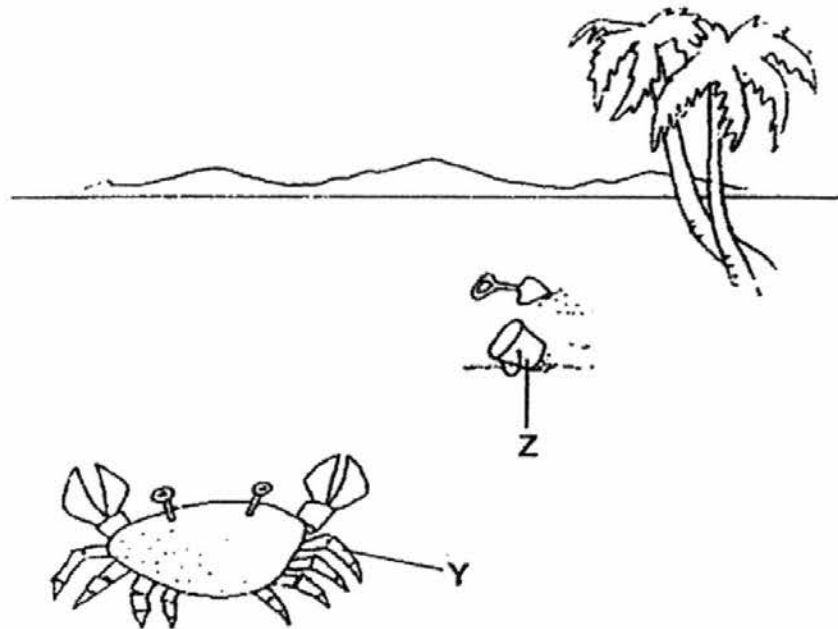


Identify and state the parts, P, Q, R or S, where

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

(b) there is no digestion : _____ [1]

26. Muthu saw some living and non-living things on the beach.

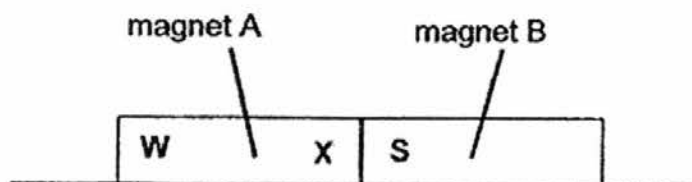


State if Y and Z are living things or non-living things.

(a) Y is a _____ [1]

(b) Z is a _____ [1]

27. Bobby placed two bar magnets together as shown below.

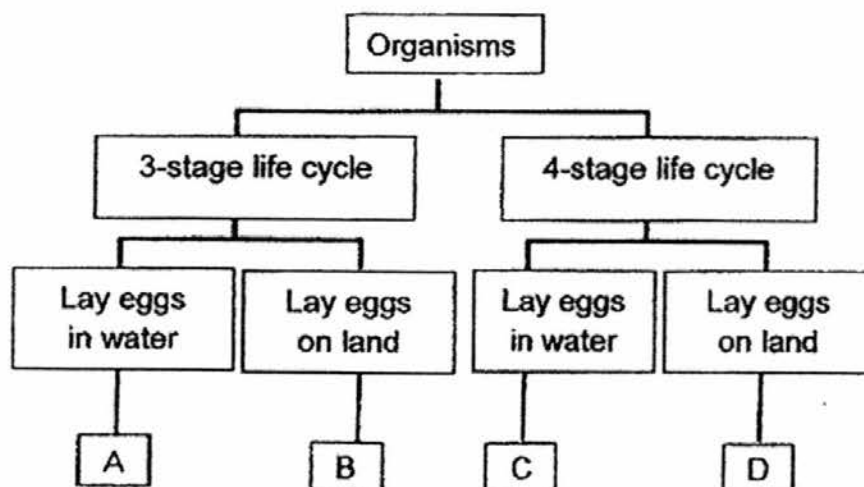


The south-seeking pole of magnet B is labelled S.
Name the poles labelled W and X on magnet A.

(a) W : _____ [1]

(b) X : _____ [1]

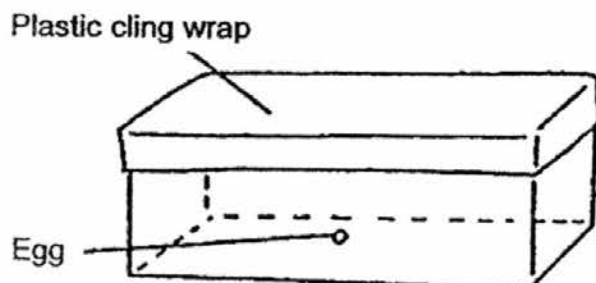
28. Study the classification chart below.



(a) Based on the chart above, state one difference between Organism A and Organism C. [1]

(b) Which of the letters, A, B, C or D, represents a mealworm beetle? [1]

(c) Siti placed a butterfly egg in a box as shown below. She learnt that butterfly larvae feed on leaves.

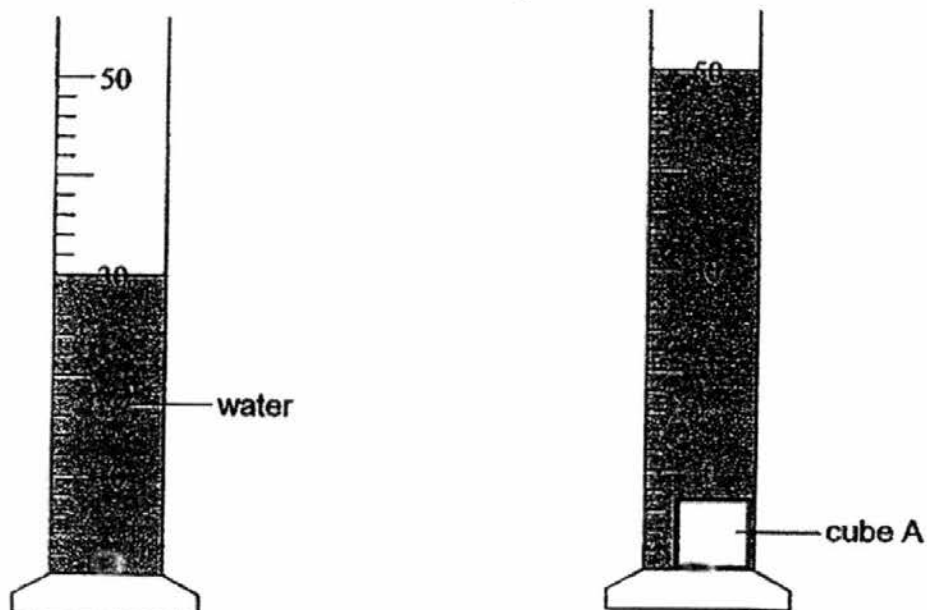


Give two suggestions that Siti can do to the above set-up to ensure the butterfly larva survives in the box once it is hatched? [2]

Suggestion 1: _____

Suggestion 2: _____

29. Ali used two cubes of the same shape and size to carry out an experiment. The mass of cube A was 50 g and the mass of cube B was 80 g. When he lowered cube A gently into a measuring cylinder containing 30 cm³ of water, the water level rose as shown in the diagram below.



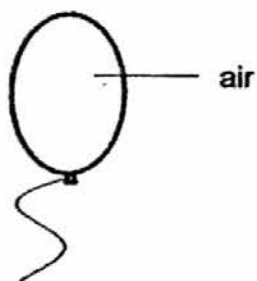
- (a) What was the volume of cube A? [1]

_____ cm³

- (b) Ali then took out cube A and put cube B into the water. Will the water level be the same, higher or lower than when cube A was put into the water? [1]

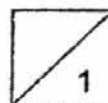
- (c) Explain your answer in (b). [1]

(d) Ali received a balloon shown below in an air-conditioned shopping mall.

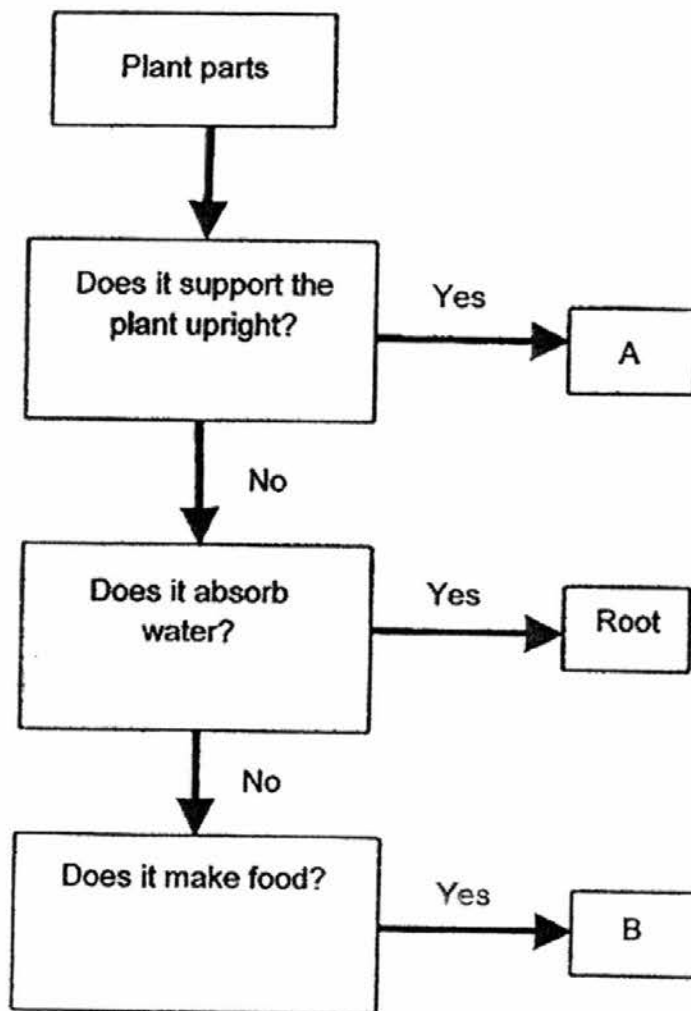


He stepped out of the mall with the balloon and walked home under the blazing sun for 20 minutes. Then, he realised that his balloon has increased slightly in size. Explain why the balloon increased slightly in size.

[1]



30. The flowchart below describes the functions of the different parts of Plant Z.



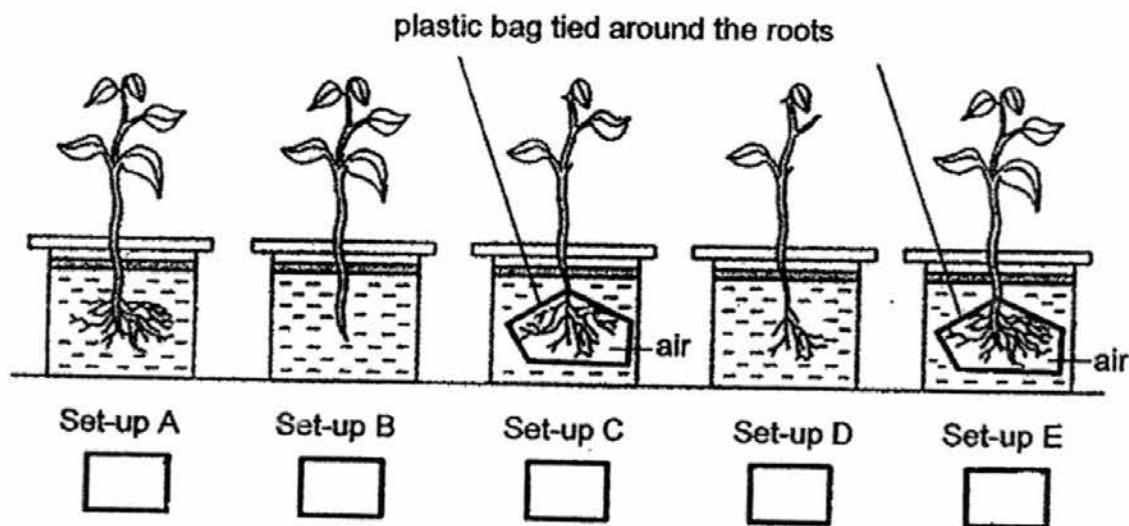
(a) Identify the parts of Plant Z by writing "A" and "B" in the blanks below.

Stem : _____ [$\frac{1}{2}$]

Leaves : _____ [$\frac{1}{2}$]

- (b) Beng Han wants to show that a plant takes in water through its roots. Which two set-ups should he use for his experiment? Tick the correct boxes below.

[1]



- (c) Beng Han has a plant K as shown below which was watered daily.



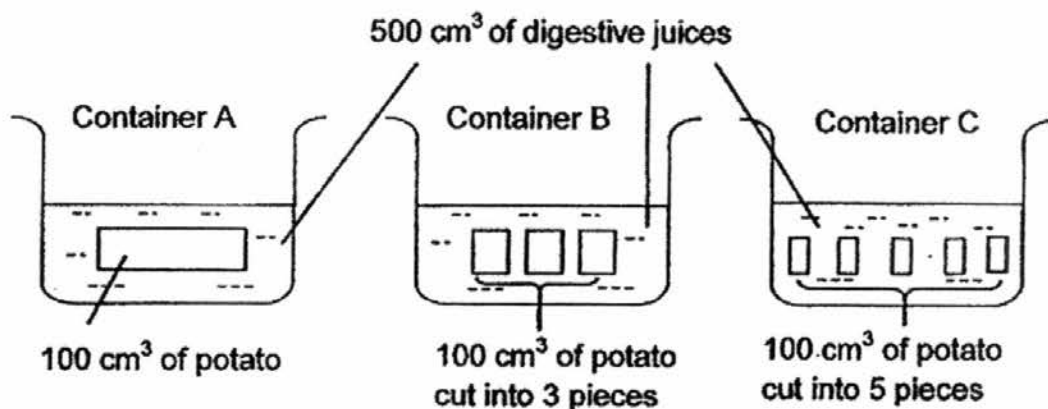
He found many caterpillars on the plant. Due to the caterpillars, the leaves of the plant had all been eaten up and so the plant died. Give 2 reasons why the plant died.

[2]

Reason 1: _____

Reason 2: _____

31. Lisa placed some cooked potatoes in Containers A, B and C as shown below.
She filled the containers with 500 cm^3 of digestive juice.



- a) In which container would the potato take the longest time to completely digest? Explain why this is so. [1]

- b) Lisa cut a baked potato into smaller pieces to cool it faster for her baby to eat. Explain how cutting the potato into smaller pieces help to cool the potato faster. [2]

- c) Name a part in our mouth that helps us cut our food into smaller pieces. [1]

32. (a) In a garden, spades are used by gardeners to dig and scoop stones and soil.



Suggest a property of the material used to make part A.

[1]

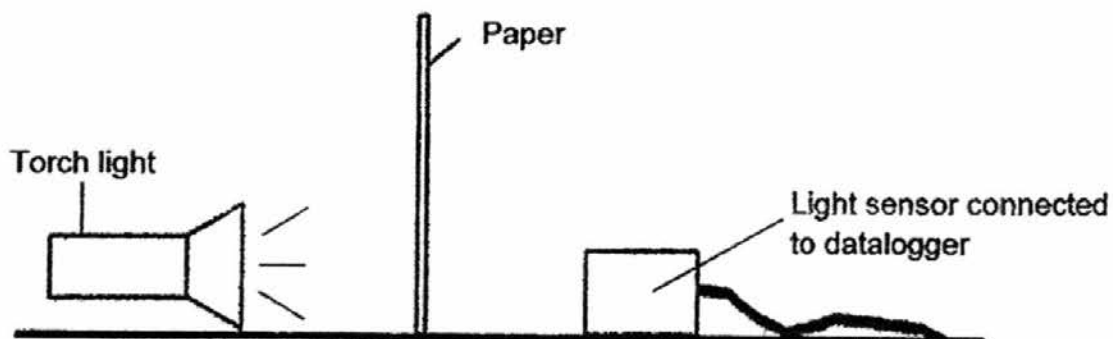
- (b) 4 different types of cloth A, B, C and D of identical mass and size were dipped into a tub of water for 30 seconds and removed from the tub. Their final masses are shown below.

Cloth	Cloth A	Cloth B	Cloth C	Cloth D
Mass (g)	170	280	145	50

- (i) Arrange the cloths from the least waterproof to the most waterproof.[1]

- (ii) Which one of the cloths, A, B, C or D, will be the best choice to make a towel to clean up spills? Explain your answer. [1]

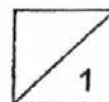
33. Jia Leng set up the following equipment in a dark room to find out how much light passes through different number of sheets of paper.



She repeated the experiment by increasing the number of sheets of the same type of paper. She recorded the results in the table below.

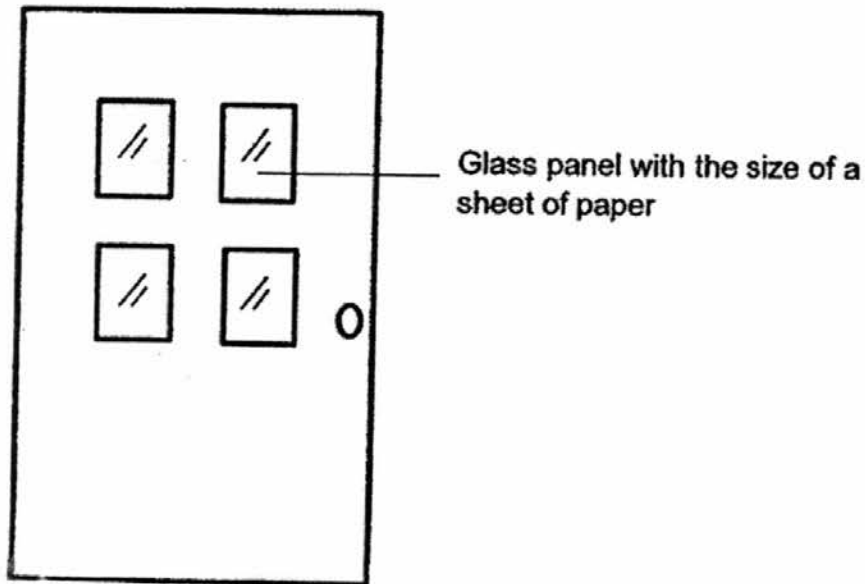
Number of sheets	Amount of light detected (units)
0	160
2	109
4	53
6	4
8	0
10	0
12	0

- (a) What is the relationship between the number of sheets of paper and the amount of light detected? [1]



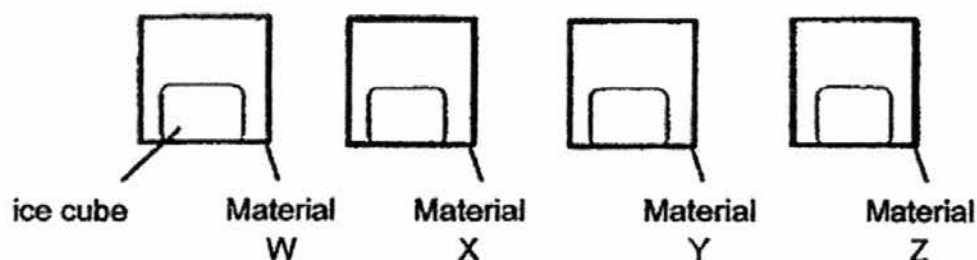
- (b) If at 6 sheets of paper, Jia Leng decides to shift the torch light towards the paper, how will it change the amount of light detected earlier? [1]

- (c) Jia Leng wants to paste the glass panels on her door shown below with the papers to block out all the light coming through.

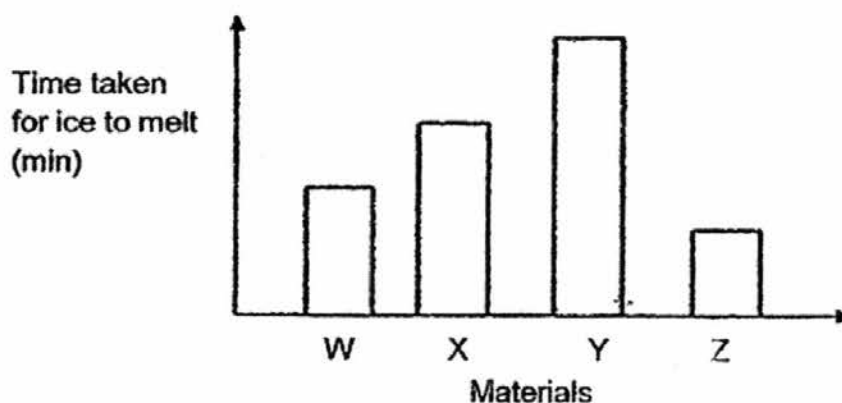


- Based on her results on page 11, what is the least number of sheets of papers she should use for each panel? [1]

34. Calvin placed four similar ice cubes in four sealed containers. The containers W, X, Y and Z are made of different materials which are of equal thickness and identical in size as shown below.

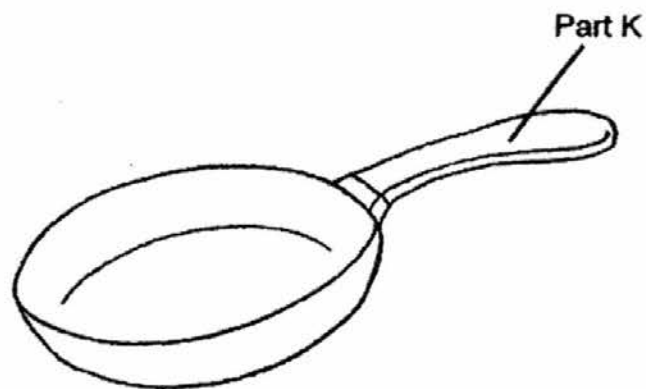


He drew the graph below to show the time taken for the ice in each container to melt completely.



- (a) Which material, W, X, Y or Z, should he use if he wants to make a container to keep his hot coffee warm for the longest period of time? Explain your choice. [2]

- (b) Which material, W, X, Y or Z, is the best for him to make Part K of a frying pan shown below? Explain your choice. [2]



End of Booklet B

EXAM PAPER 2016 (P4)

SCHOOL : TAO NAN

SUBJECT : SCIENCE

TERM : SA2

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

23)a)liquid b)solid

24)Three stages

Cockroach

Frog

Four stages

butterfly

mosquito

25)a)Mouth (R)

b)Large intestine (Q)

26)a)living thing

b)non-living thing

27)a)South-seeking pole

b)North-seeking pole

28)a)Organism A have a 3-stage life cycle but Organism C have a 4-stage life cycle.

b)D.

c)1)Put some leaves in the box.

2)Poke some holes for air to enter.

29)a)20cm³

b)The water level will be the same.

c)Cube A and Cuba B have the same volume.

d)The air inside the balloon gained heat from the sun and expanded slightly heated.

30)a)Stem : A

Leaves: B

b)Set-up A

c)1)The caterpillars ate all the leaves so without the leaves, the plant cannot make food.

2)The plant cannot take in or give out gases.

31)a)Container A. It has lesser surface area so it must take the longest time to digest.

b)Cutting the potato increases the surface area which allows greater heat loss.

c)Our teeth.

32)a)Strong.

b)i)Cloth B, Cloth A, Cloth C, Cloth D.

ii)Cloth B. It absorbs the most water.

33)a)The more the number of sheets of the paper, the lesser light detected.

b)The amount of light decreases.

33)c)Eight sheets of paper.

34)a)It is poorest conductor of heat and the coffee will lose heat the slowest.

b)Y. It is the poorest conductor of heat and heat from the frying cannot pass through easily so we will not get burned.