

MAHA BODHI SCHOOL  
2018 SEMESTRAL ASSESSMENT 2  
PRIMARY FOUR SCIENCE  
(BOOKLET A)

Name : \_\_\_\_\_ (      )

Class : Primary 4 \_\_\_\_\_

Date : 26 October 2018

Total Duration for Booklets A and B: 1 h 30 min

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**INSTRUCTIONS TO CANDIDATES:**

1. Do not turn over this page until you are told to do so.
2. Follow all instructions carefully.
3. Answer all questions.
4. Shade your answers in the Optical Mark Sheet (OMS) provided.

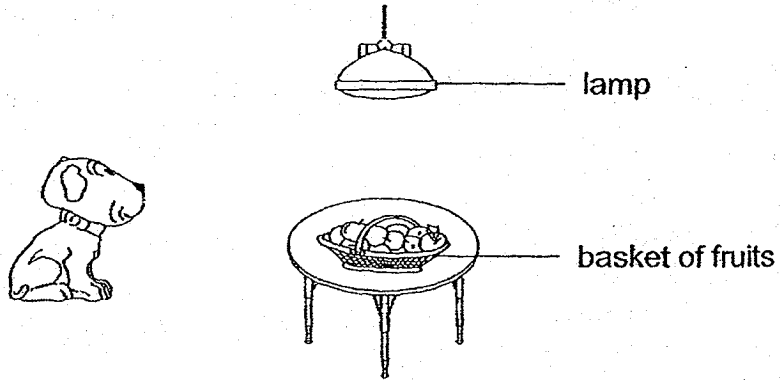
This booklet consists of 15 printed pages.

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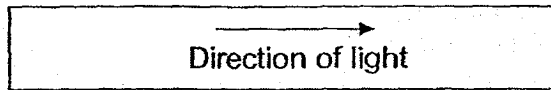
**BOOKLET A : [27 x 2 marks = 54 marks]**

For each question from 1 to 27, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). Shade your answer on the Optical Answer Sheet.

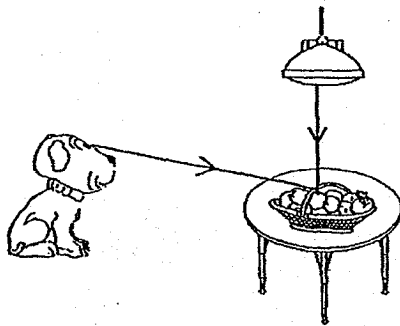
1. Observe the picture below.



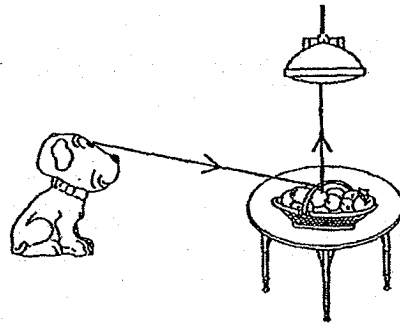
Which one of the following explains why the dog is able to see the basket of fruits on the table?



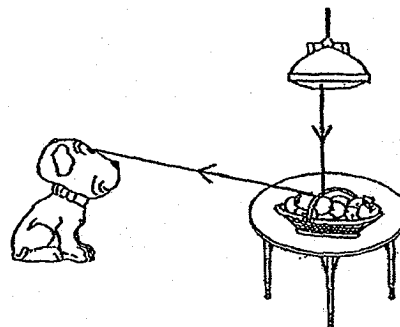
(1)



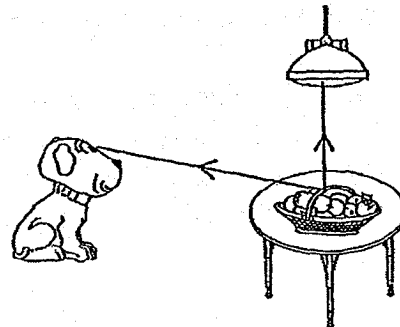
(2)



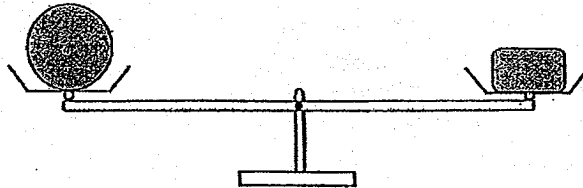
(3)



(4)



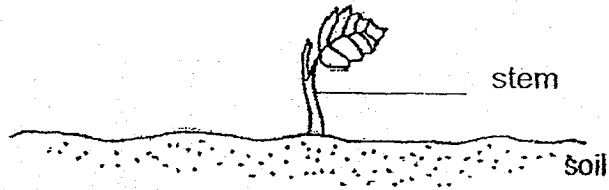
2. Which one of the following is the best conductor of heat?
- (1) A metal plate
  - (2) A paper plate
  - (3) A plastic plate
  - (4) A ceramic plate
3. Which animal has a larva as a stage in its life cycle?
- (1) frog
  - (2) chicken
  - (3) mosquito
  - (4) cockroach
4. Which one of the following properties is true for both air and eraser?
- (1) They can be seen.
  - (2) They take up space.
  - (3) They have fixed shapes.
  - (4) They have fixed volumes.
5. Study the diagram below.



Which of the following statement is true?

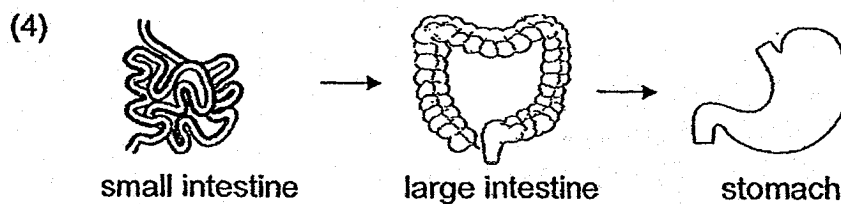
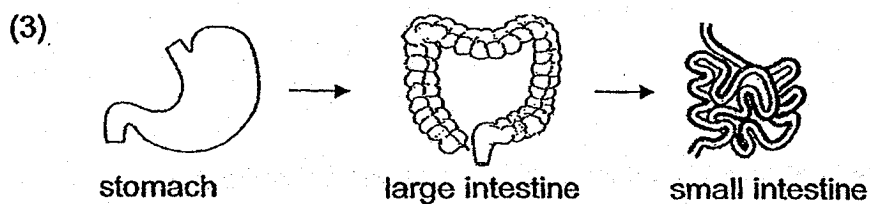
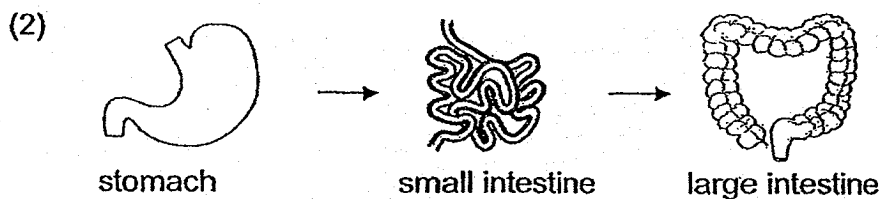
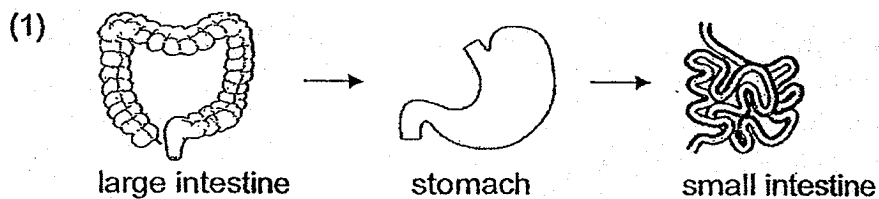
- (1) Both objects have the same size.
- (2) Both objects have the same mass.
- (3) Both objects have the same shape.
- (4) Both objects have the same volume.

6. The diagram below shows a young plant.

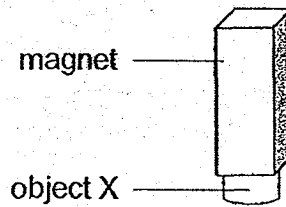


The stem helps the plant to \_\_\_\_\_.

- (1) make food
  - (2) grow upright
  - (3) absorb water
  - (4) absorb nutrient
7. Which one of the following shows the correct order when food moves through the following parts of the digestive system?

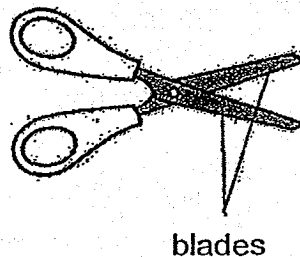


8. An object X was attracted to a magnet as shown in the diagram below.



Object X is made of \_\_\_\_\_.

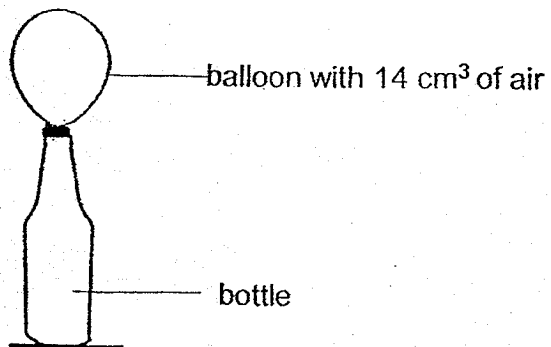
- (1) steel
  - (2) glass
  - (3) wood
  - (4) plastic
9. Which one of the following statements is true for ALL insects?
- (1) They have wings.
  - (2) They live on land.
  - (3) They have six legs.
  - (4) They have two body parts.
10. The diagram below shows a pair of scissors.



Metal is used to make the blades of the scissors because metal

- \_\_\_\_\_.
- (1) is a source of light
  - (2) does not break easily
  - (3) can bend without breaking
  - (4) does not allow light to pass through

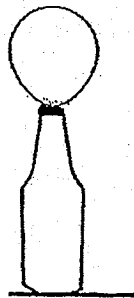
11. Mabel blew up a balloon and fitted it over the top of an empty bottle as shown.



She then put the bottle in a basin of cold water for a few minutes.

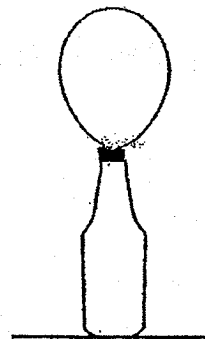
Which of the following shows how the balloon would look like immediately after Mabel removed the bottle from the cold water?

(1)



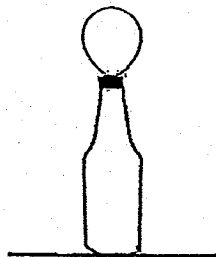
balloon with 14 cm<sup>3</sup> of air

(2)



balloon with 16 cm<sup>3</sup> of air

(3)



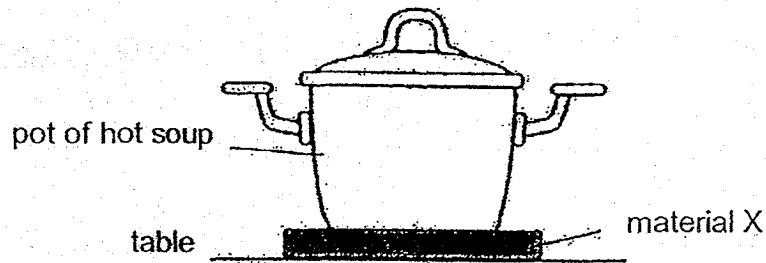
balloon with 10 cm<sup>3</sup> of air

(4)



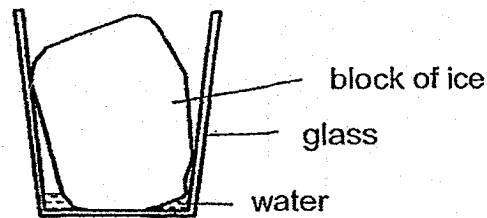
balloon bursts

12. Karen placed a pot of hot soup on material X on a table as shown below.



Which one of the following explains why the table did not feel hot when touched?

- (1) Material X becomes hot.
  - (2) Material X is a poor conductor of heat.
  - (3) Material X takes in heat from the table.
  - (4) Material X and the pot are good conductors of heat.
13. A block of ice was placed in an empty glass and left in the kitchen.



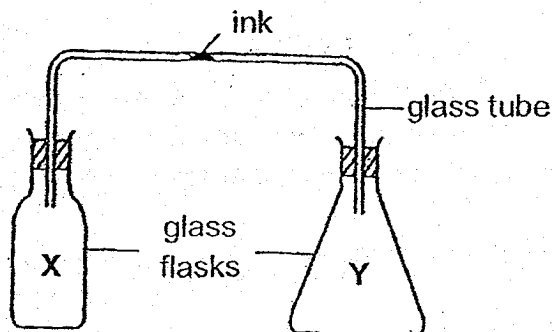
The glass became cold after some time.

Which of the following is a possible explanation for that?

- (1) The ice lost heat to the glass.
- (2) The glass lost heat to the ice.
- (3) The ice gain heat from the water.
- (4) The glass gain heat from the ice.

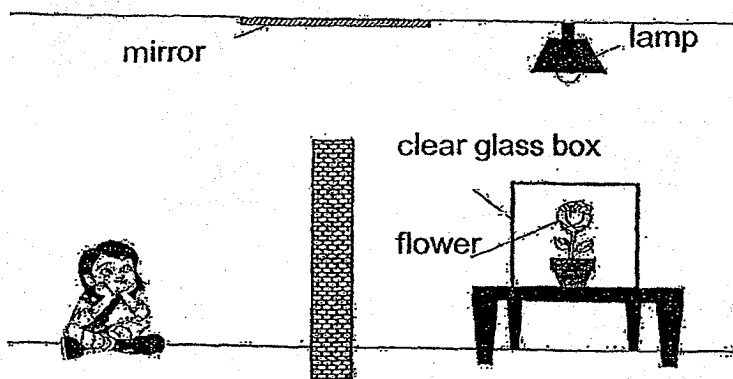


14. The diagram shows two empty flasks connected by a glass tube. There is a drop of ink in the tube.



Which of the following actions would cause the ink-drop to move into flask Y?

- (1) Put both flasks in ice-cold water.
  - (2) Put both flasks in very hot water.
  - (3) Put flask X in hot water and flask Y in cold water.
  - (4) Put flask X in cold water and flask Y in hot water.
15. A girl is seated on one side of a wall. On the other side of the wall, there is a glass box. Inside the glass box is a pot of flower as shown in the diagram below.



Which of the following statements explain why she is able to see the flower?

- A: Light is reflected by the mirror.
  - B: Light is reflected by the flower.
  - C: Light cannot pass through opaque materials.
  - D: Light can pass through transparent materials.
- (1) A and D only
  - (2) B and C only
  - (3) A, B and D only
  - (4) A, B, C and D

16. Four pupils made some statements about the life cycle of a flowering plant as shown below.

Alex : The seed makes its own food.

Ben : When a seed grows, the root appears first.

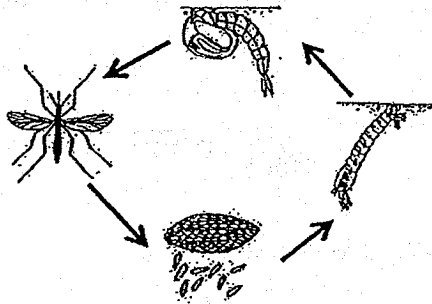
Carl : All fruits can be eaten when they appear.

Dennis : Flowers appear after the young plant grows into an adult plant.

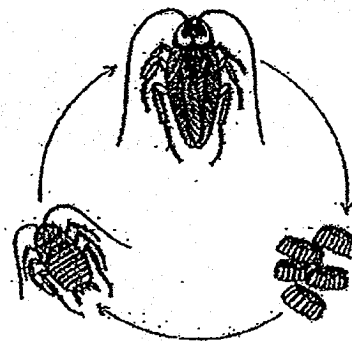
Which two of the pupils made the correct statement?

- (1) Alex and Carl
  - (2) Ben and Carl
  - (3) Alex and Dennis
  - (4) Ben and Dennis
17. Compare the life cycles of a mosquito and a cockroach as shown in the diagram below.

Life cycle of a mosquito



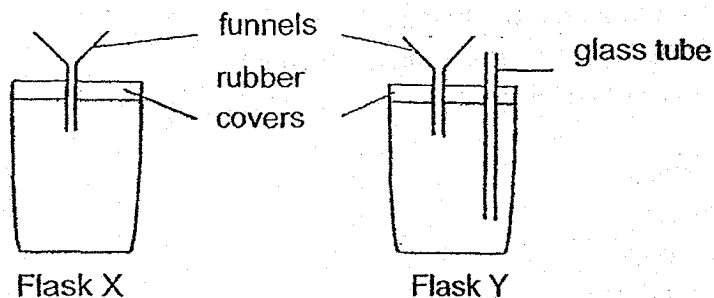
Life cycle of a cockroach



In what way(s) is/are the life cycles similar?

- A. Their young resemble the adult.
  - B. The adults of both animals lay eggs.
  - C. The young of both animals do not feed.
  - D. Their life cycles have the same number of stages.
- (1) B only
  - (2) A and C only
  - (3) A, B and D only
  - (4) B, C and D only

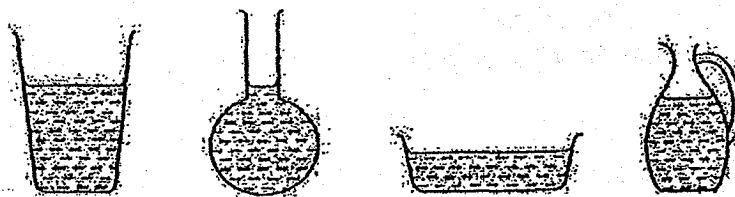
18. Two flasks, X and Y were set up as shown in the diagram below. Ginny poured water into the funnel of each flask.



What would Ginny observe when the water was poured into the funnels?

- A. Water flowed easily into both flasks.
  - B. Water flowed easily into flask X but not flask Y.
  - C. Water flowed easily into flask Y but not flask X.
  - D. The air in flask Y could escape easily but not the air in flask X.
- (1) A only  
(2) B only  
(3) B and D only  
(4) C and D only

19. Jim wants to find out the properties of liquids. He pours 150 ml of water into each of the four different containers as shown in the diagram below.



Based on the diagram, what can he conclude about the properties of liquids?

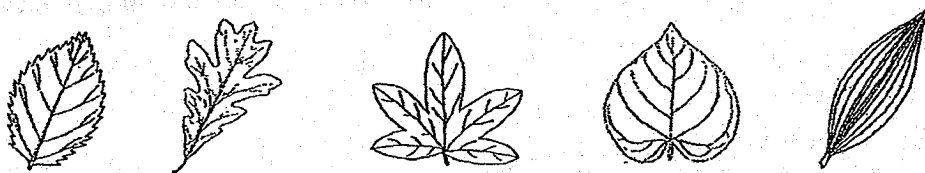
- A. Water takes up space.
  - B. Water has a fixed mass.
  - C. Water has no fixed shape.
  - D. Water has no fixed volume.
- (1) A and B only  
(2) A and C only  
(3) B and D only  
(4) A, B, C and D

20. Which of the following are the functions of the roots of a plant?

- A. The roots make food.
- B. The roots develop into fruit.
- C. The roots take in water and minerals.
- D. The roots hold the plant firmly in the soil.

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

21. Mrs Han gave some leaves to her pupils as shown in the diagram below. She wanted her pupils to classify them.

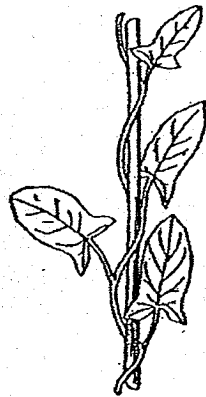


Which of the following correctly shows how the leaves were classified?

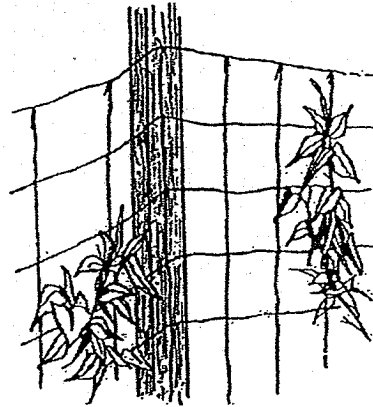
- A. By size of leaf
- B. By edge of leaf
- C. By shape of leaf
- D. By pattern of leaf vein

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

22. The diagram below shows plant C and plant D.



Plant C



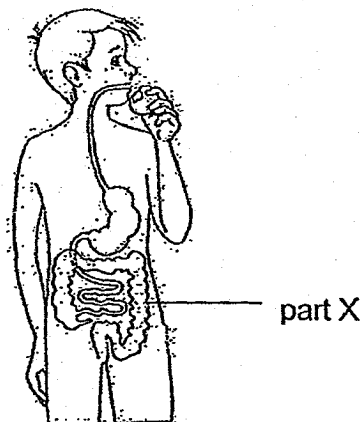
Plant D

Which one of the statement(s) below is/are true about both plants C and D?

- A. Both plants have flowers.
- B. Both plants have weak stems.
- C. Both plants need to cling onto support structures to grow higher.

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

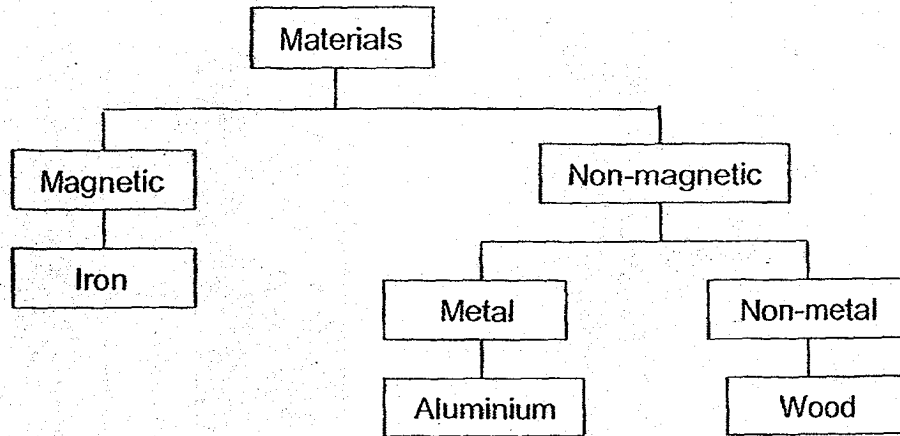
23. The diagram below shows the digestive system in Jonathan's body.



When he passes out watery stools, what happens in part X?

- (1) The food continues to be digested there.
- (2) Water is removed from the digested food.
- (3) The undigested food becomes solid waste.
- (4) Not much water is being removed from the undigested food.

24. Study the following flowchart.



Which of the materials in the diagram cannot be used to test if an object is a magnet?

- (1) Iron only
- (2) Wood only
- (3) Iron and aluminium only
- (4) Aluminium and wood only

25. The diagrams below show four needles suspended freely from a thread.

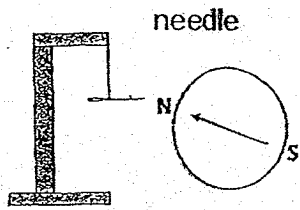


Diagram A

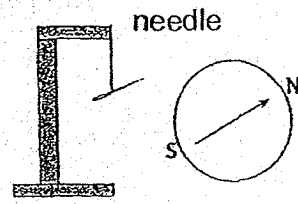


Diagram B

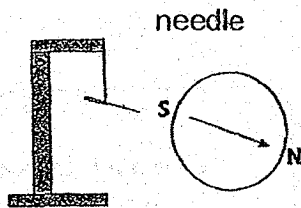


Diagram C

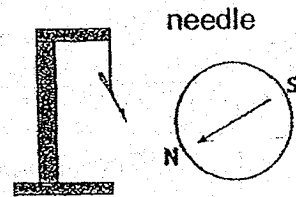
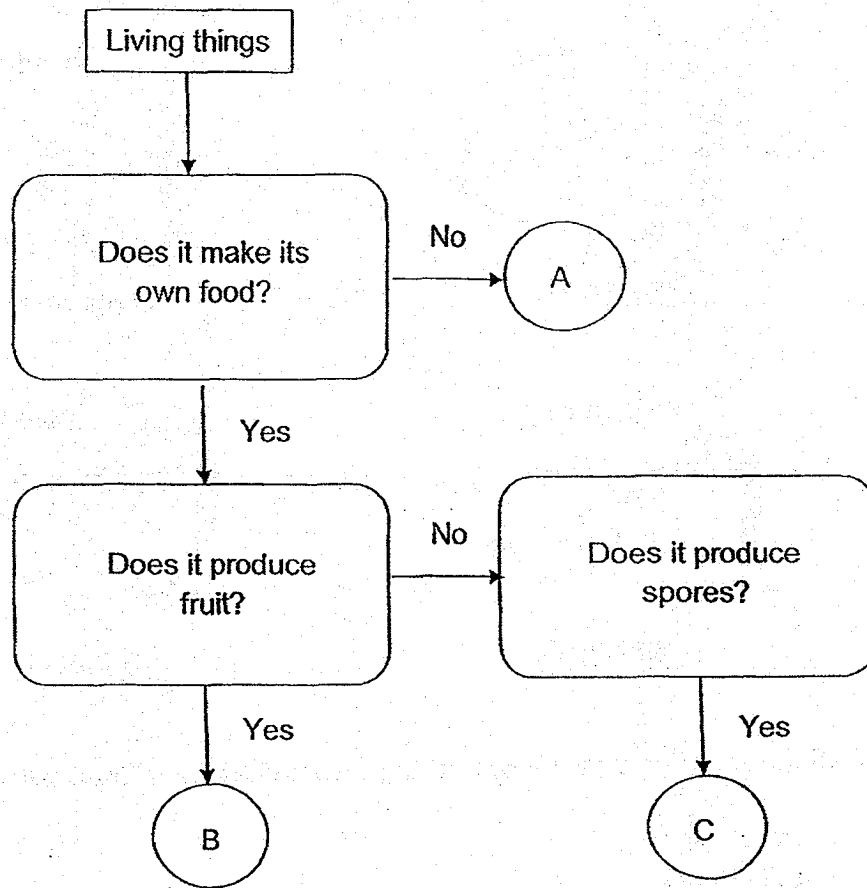


Diagram D

Which of the two diagrams show that the needle has been magnetized?

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

26. Study the flowchart below.



Based on the flowchart above, which of the following represents A, B and C?

	A	B	C
(1)	bacteria	fern	mushroom
(2)	mushroom	flowering plant	bacteria
(3)	fern	mould	flowering plant
(4)	mushroom	flowering plant	fern



27. Cyclists are advised to wear the protective head gear for safety reasons as shown in the diagram below.

protective  
head gear

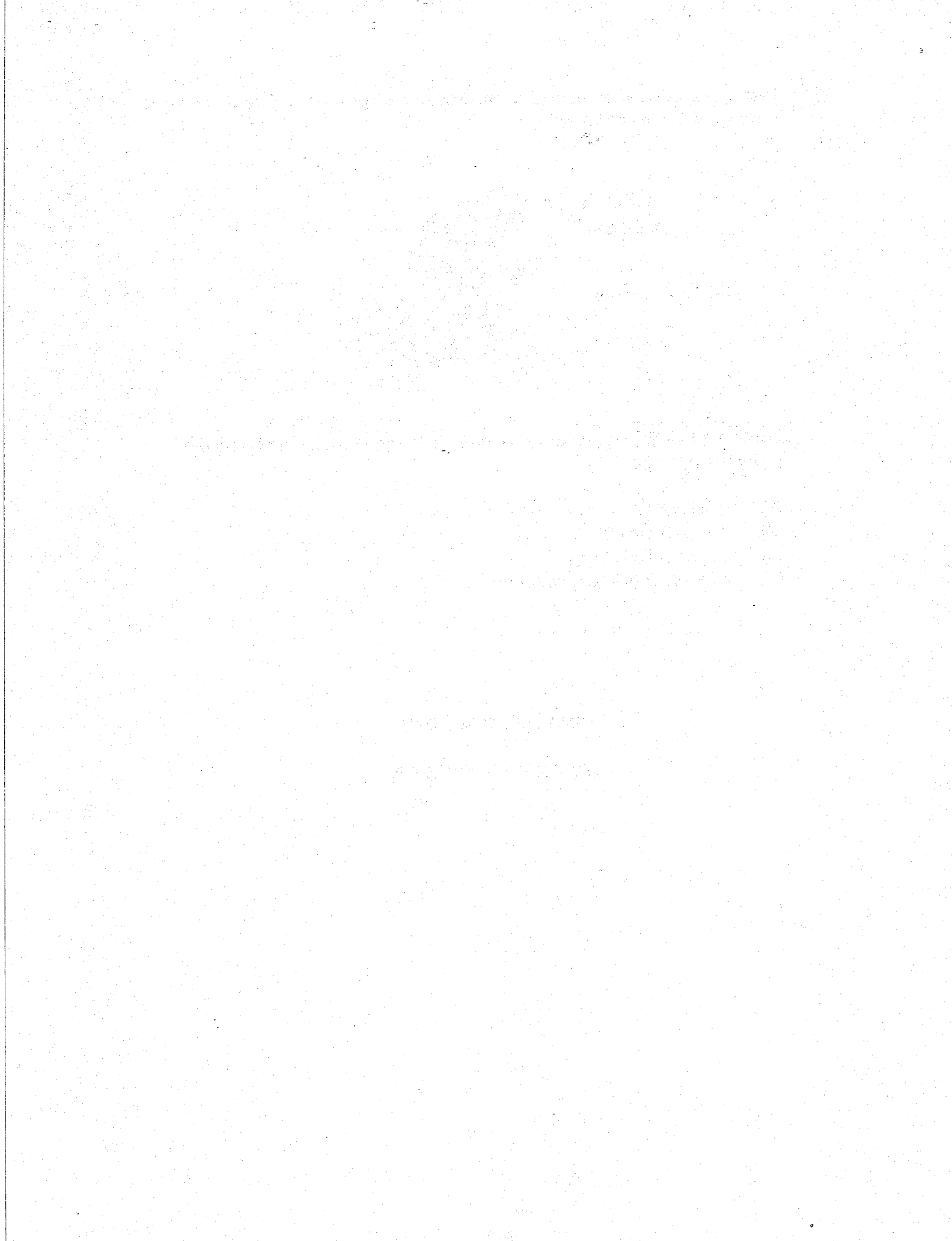


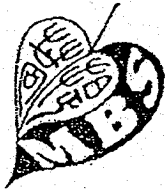
Which of the following properties of material is important when making the protective head gear?

- (1) It is flexible.
- (2) It is waterproof.
- (3) It is hard and strong.
- (4) It allows light to pass through.

**END OF BOOKLET A**

**GO ON TO BOOKLET B**





MAHA BODHI SCHOOL  
2018 SEMESTRAL ASSESSMENT 2  
PRIMARY FOUR SCIENCE  
(BOOKLET B)

Name: \_\_\_\_\_ (      )

Class: Primary 4 \_\_\_\_\_

Date : 26 October 2018

Total Duration for Booklets A and B: 1 h 30 min

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4. Write all your answer in this booklet.

Booklet	Marks Obtained	Max Marks
A		54
B		36
Written paper		90
Practical test		10
Total		100

Parent's signature: \_\_\_\_\_

This booklet consists of 14 printed pages.

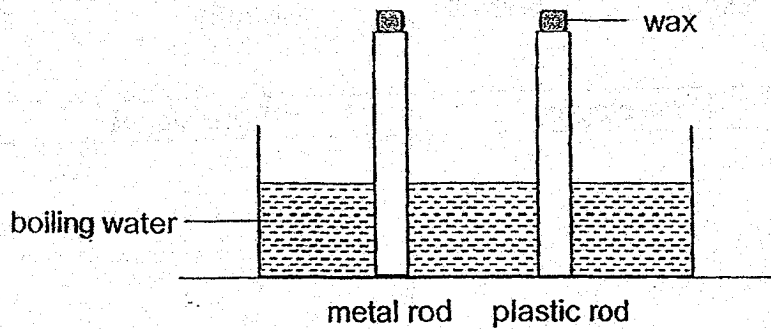
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**BOOKLET B : [36 marks]**

For questions 28 to 40, write your answers in this booklet.

The number of marks available is shown in the brackets [ ] at the end of each question or part-question.

28. Wilson placed a metal rod and a plastic rod into a tank of boiling water as shown below. Equal amounts of wax were put on both rods.



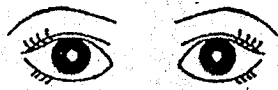
What would he observe and why?

The wax on the metal rod melted \_\_\_\_\_ than the wax on the plastic rod,  
as metal is a \_\_\_\_\_ conductor of heat than plastic. [2]

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



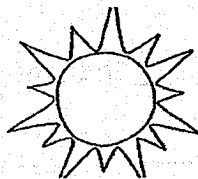
eyes



candle



sun



mirror



Marks :

/ 4

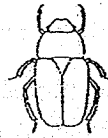
30. Classify the following animals according to the number of stages in their life cycle. [2]



chicken



butterfly



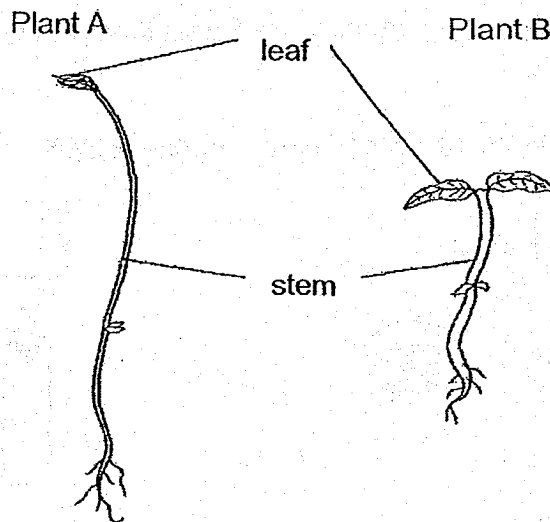
beetle



frog

Three stages	Four stages

31. The diagram below shows two plants.



(a) What is one difference between the stem of plant A and the stem of plant B? [1]

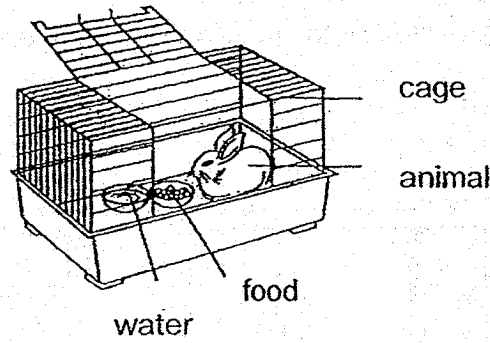
The stem of plant A is \_\_\_\_\_ than the stem of plant B.

(b) The leaves help both plants make \_\_\_\_\_ in the light. [1]

Marks :

/ 4

32. Study the diagram below.



(a) After a few days, will the amount of water in the bowl *increase, decrease* or *remain the same*? [1]

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(b) Based on the diagram above, name one substance this animal needs so that it remains alive. [1]

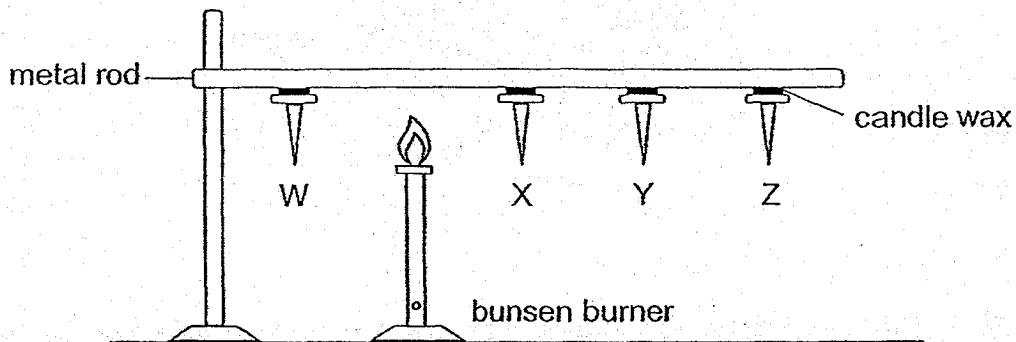
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Marks :

12

33. Joleen attached nails W, X, Y and Z at regular intervals on the rod using candle wax as shown in the diagram below. When the rod was heated at the position shown, the nails started dropping one by one.



- (a) State one property of the rod that enables the nails to drop. [1]

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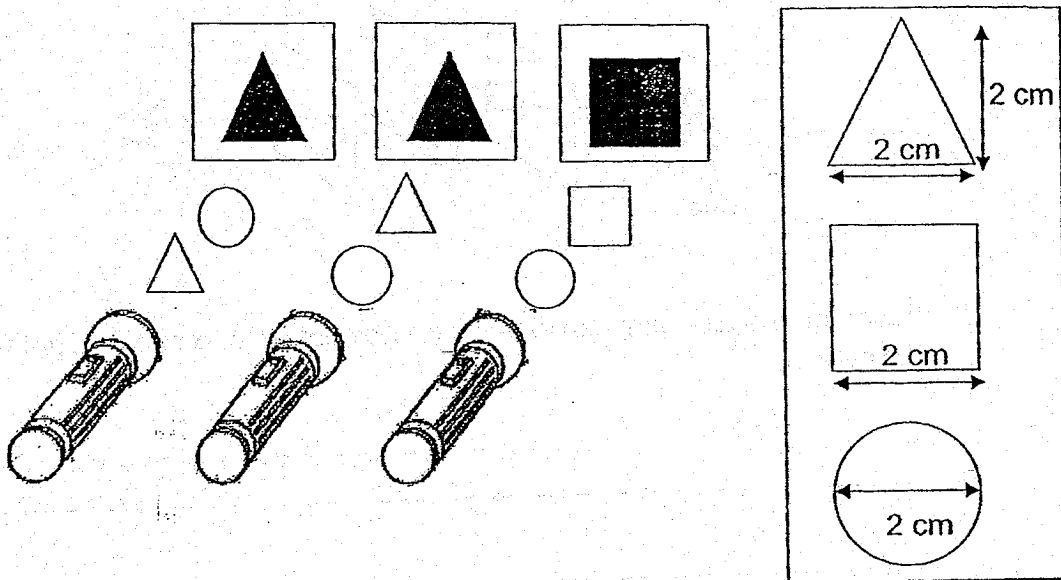
- (b) Complete the table below by correctly ticking (✓) the time taken for nails W, X, Y and Z to drop. Nail X has been done for you. [3]

Time taken for the nail to drop (mins)	Nails			
	W	X	Y	Z
5		✓		
8				
10				

Marks : / 4

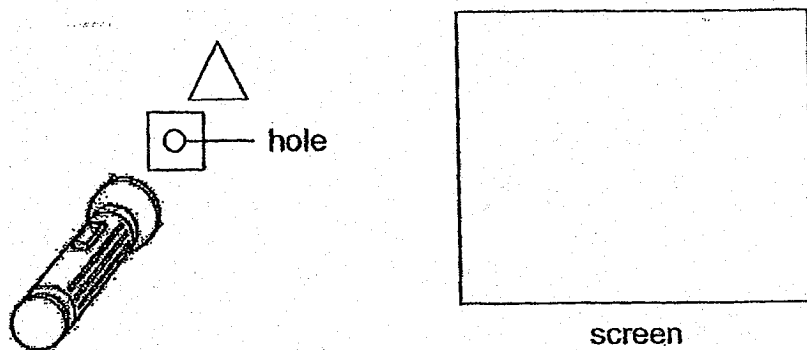


34. Two different objects are placed in front of a torchlight as shown in the diagram below. The sizes of the circular, square and triangular objects are shown on the right.



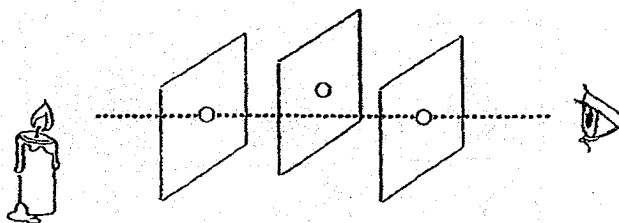
- (a) Based on the shadows formed on the screens above, what can you conclude about the property of the circular object? [1]

- (b) A hole was made in the centre of the square object. It was then placed in front of the triangular object as shown in the diagram. In the space below, draw and shade the shadow that would be formed on the screen. [1]



Marks :

34. (c) Sam used three similar black coloured square cards with a small round cut-out and arranged them as shown in the diagram below.



Based on the diagram, explain why he was not able to see the light from the candle. [1]

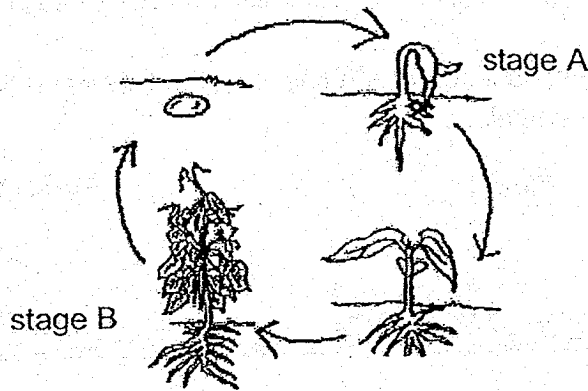
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Marks :

1/1

35. The diagram below shows the stages in the life cycle of plant Z.

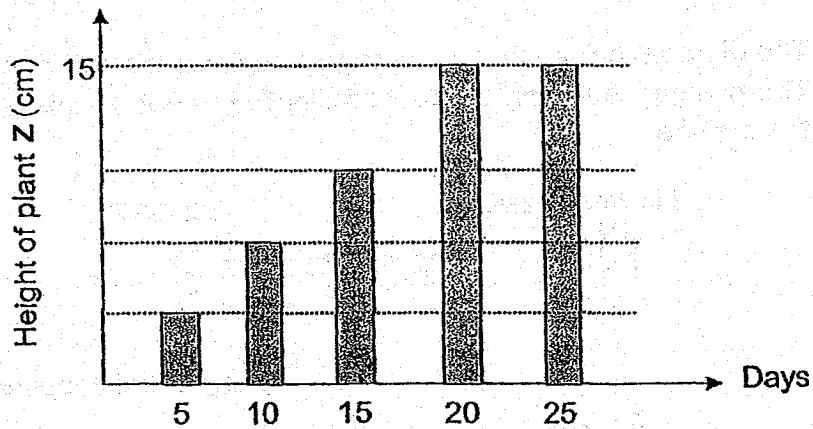


(a) Name the stages A and B in the life cycle of the plant Z. [1]

A: \_\_\_\_\_

B: \_\_\_\_\_

(b) The graph below shows the growth of plant Z after planting its seed in moist soil.



On which day did Plant Z reach its maximum height? Explain your answer. [1]

\_\_\_\_\_

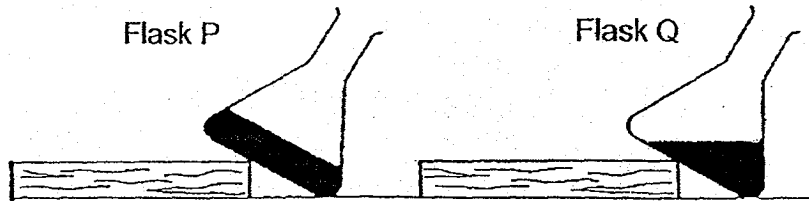
\_\_\_\_\_

Marks :

12

36. (a) John filled two flasks P and Q with  $50 \text{ cm}^3$  of liquid. He placed one of the flasks in the freezer and the other flask on the table in a room.

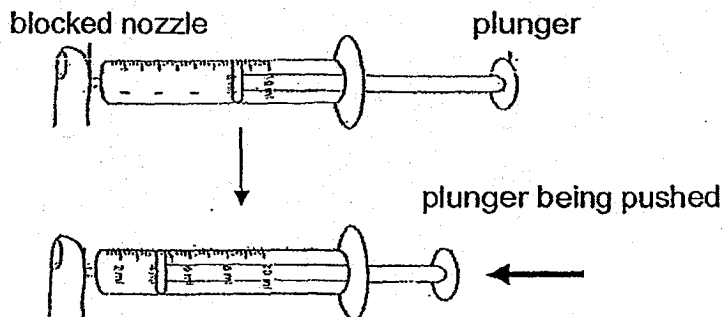
After 5 hours, he placed both flasks on the table and tilted them as shown in the diagram below.



- (i) Which flask has been placed in the freezer? Explain your answer. [1]

- (ii) What is the change in state in Flask P after leaving it on the table for a few hours? [1]

- (b) The diagram below shows a syringe containing air with a blocked nozzle. The plunger could only be pushed slightly but not completely pushed into the syringe.

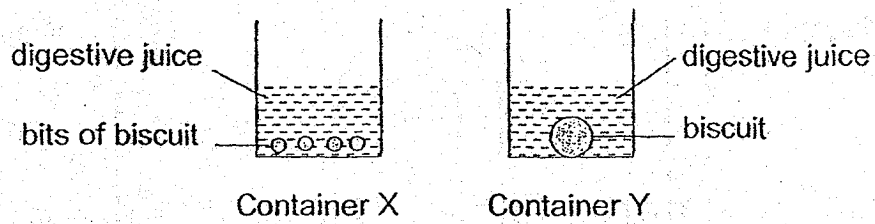


Based on the above observation, explain why the plunger could only be pushed slightly but not completely. [2]

Marks :

/ 4

37. A piece of biscuit in container X is broken into many small pieces but the piece of biscuit in container Y is not broken up. The same amount of digestive juices is added into each container.



- (a) In which container X or Y, do you think the biscuit can be digested more easily? Explain your answer. [1]

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- (b) How do the teeth and saliva in our mouth help in the digestion process? [1]

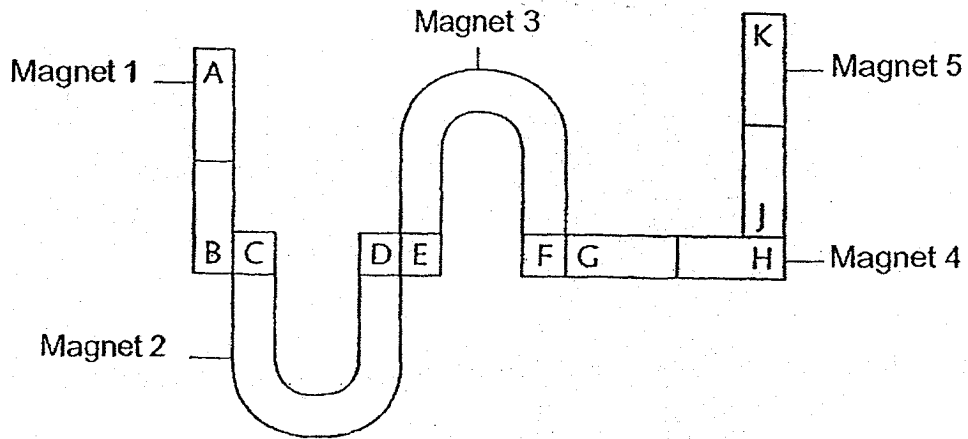
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Marks :

12

38. Five magnets, 1, 2, 3, 4 and 5 are attracted to each other as shown in the diagram below.



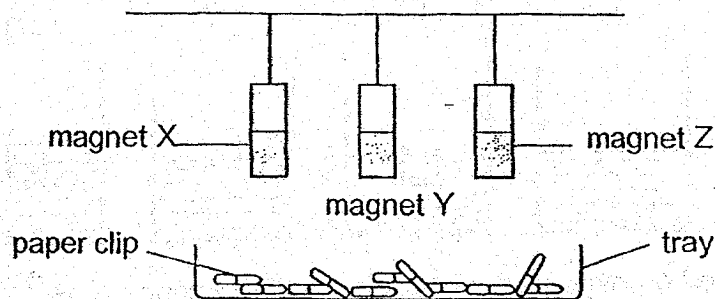
- (a) Based on the diagram, tick ( $\checkmark$ ) in the boxes below the correct pole labelled C and J. [1]

Letters labelled on the end poles of the magnet	North pole	South pole
C		
J		

Marks :

/ 1

38. (b) Megan carried out an experiment to compare the strength of Magnet X, Y and Z. She hung the three magnets above a tray of paper clips as shown in the diagram below.



She recorded her results in the table below.

Magnet	Number of paper clips attracted
X	3
Y	6
Z	1

- (i) Based on her results, arrange the magnets X, Y and Z from the strongest to the weakest. [1]

Strongest	→	Weakest

- (ii) State one important variable Megan must keep the same for her experiment to be a fair test. [1]

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- (iii) Give a reason why the paper clip can be attracted to the magnet. [1]

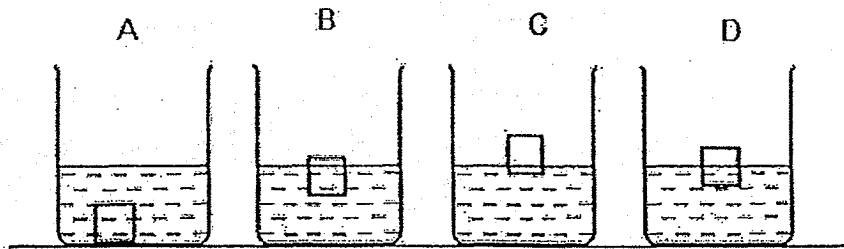
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Marks :  / 3

39. (a) Zachary carried out an experiment to find out which cube can float with 4 cubes made of different materials A, B, C and D. He placed the cubes in a beaker of water and recorded his observations as shown below.



Based on his observations, classify the 4 cubes A, B, C and D into two groups. Give a suitable heading for each group. [2]

_____	_____

Marks :

12



39 (b) The diagram below shows a water bottle used by young children.



(i) Put a tick (✓) in the boxes below to indicate the required properties of the material used to make the water bottle. [1]

Properties of material	Put a tick (✓) if the property is required
Strength	
Waterproof	
Transparency	

(ii) Explain why glass is not a suitable material to make the water bottle. [1]

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Marks : 

/ 2
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40. Jason wanted to find out if bread mould needs warmth to grow. Below are the steps that Jason carried out in her experiment.

(a) Arrange the steps in the correct order by writing 1-5 in the boxes provided below. [2]

- Put each piece of bread into a plastic bag.
- Observe the two pieces of bread daily for 10 days.
- Take two pieces of bread from the same loaf.
- Seal each plastic bag.
- Leave one sealed bag in the freezer and the other sealed bag in a box near the window.

(b) After 10 days, Jason observed that only the slice of bread left near the window had mould growing on it.

Based on his observation, what can he conclude from his experiment?

[1]

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Marks :  / 3

~ END OF PAPER ~

**EXAM PAPER 2018 (P4)**

**SCHOOL : MAHA BODHI**

**SUBJECT : SCIENCE**

**TERM : SA2**

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

**Q28) The wax on the metal rod melted faster than the wax on the plastic rod, as metal is a better conductor of heat than plastic.**

**Q29) candle , sun**

**Q30) Three stages – chicken , frog**

**Four stages – beetle , butterfly**

**Q31) a) The stem of plant A is thinner than the stem of plant B.**

**b) The leaves help both plants make food in the light.**

**Q32) a) It will decrease**

**b) Water**

**Q33) a) The metal rod is a good conductor of heat.**

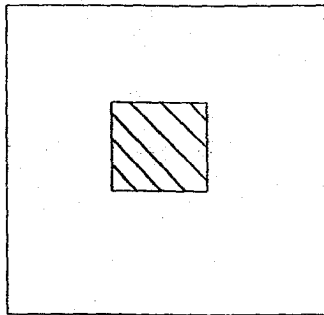
b) 5 – W

8 – Y

10 – Z

Q34) a) It is transparent.

b)



c) Light travels in straight lines so light was blocked.

Q35) a) A : seedling

B : Adult plant

b) Day 20. The height remained the same when it was day 25.

Q36) a) i) Flask P. The shape remained the same when it was tilted as it turned solid.

ii) It turned from a solid to a liquid.

b) Air can be compressed but there is a limit of how much it can be compressed.

Q37) a) Container X. As the biscuit in Container X was broken up, the surface area was more exposed to the digestive juices.

b) The teeth will break the food into smaller pieces and the saliva will digest some of the food as the saliva contains digestive juices.

Q38) a) C – North pole

J – North pole

b) i) Y , X , Z

ii) The height from the paper clips.

iii) The magnet attracts on the paper clip.

Q39) a) Sinks in water – A

Floats in water – B , C , D

b) i) Strength , Waterproof

ii) Glass breaks easily.

Q40) a) 2 , 5 , 1 , 3 , 4

b) Mould needs warmth to grow.

