



MAHA BODHI SCHOOL  
2015 SEMESTRAL ASSESSMENT 2  
PRIMARY 4  
SCIENCE  
( BOOKLET A )

Name : \_\_\_\_\_ (      )

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

Date : 3 November 2015

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

---

**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.

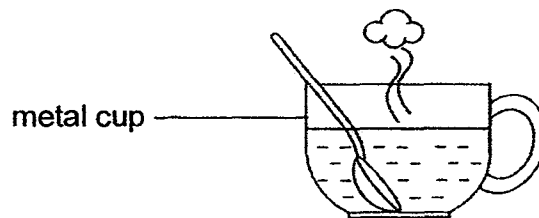
This booklet consists of 14 printed pages.

**BLANK PAGE**

**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 and shade the oval ( 1, 2, 3 and 4 ) on the Optical Mark Sheet (OMS).

1. Oliver pours some hot water into a metal cup. The metal cup becomes hotter after ten minutes.



Which one of the following explains why the metal cup became hot?

- (1) The metal cup loses heat to the hot water.
- (2) The hot water loses heat to the surrounding.
- (3) The metal cup gains heat from the hot water.
- (4) The hot water gains heat from the surrounding.

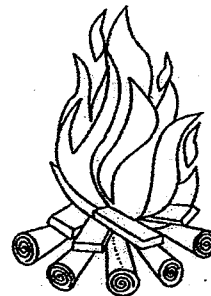
2. Which one of the following is a source of light?

(1)



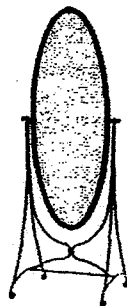
The moon

(2)



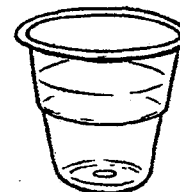
A campfire

(3)



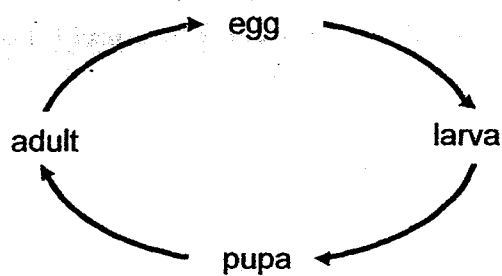
A mirror

(4)



A cup

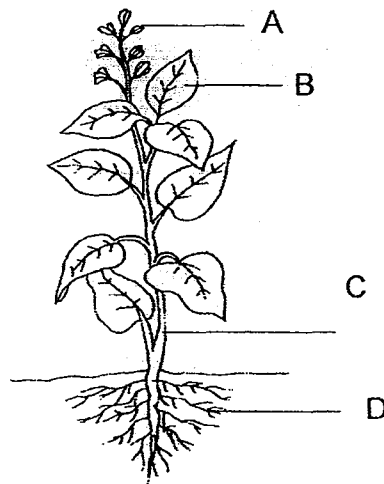
3. The diagram below shows the life cycle of an animal.



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

- (1) Frog
  - (2) Chicken
  - (3) Butterfly
  - (4) Cockroach
4. Which of the following has a definite volume but no definite shape?
- (1) Ice
  - (2) Air
  - (3) Ruler
  - (4) Water
5. Which of the following is a matter?
- (1) Air
  - (2) Heat
  - (3) Light
  - (4) Shadows

6. Study the diagram below.



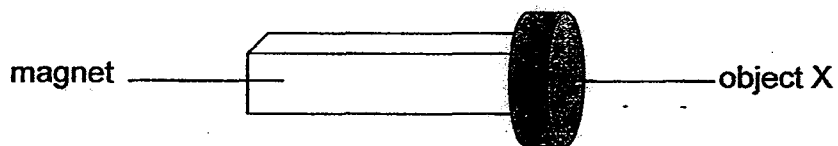
Which part, A, B, C or D, helps the plant to take in and give out gases?

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

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

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

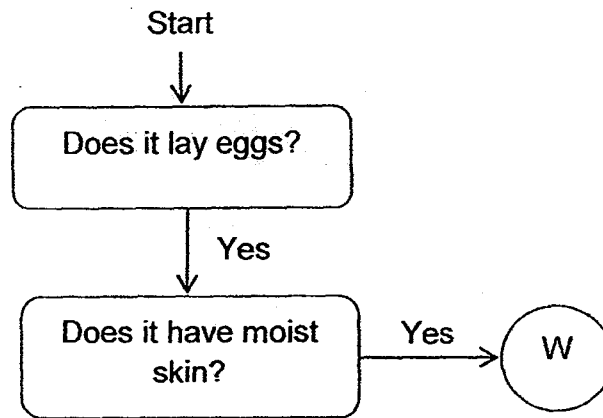
8. Object X was attracted to a magnet, as shown in the diagram below.



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

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

9. Study the flowchart below.



Which animal group could W belong to?

- (1) Insect
- (2) Reptile
- (3) Mammal
- (4) Amphibian

10. Which of the following is not made of material that is waterproof?

(1)



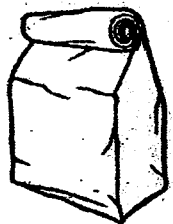
a metal fork

(2)



a raincoat

(3)



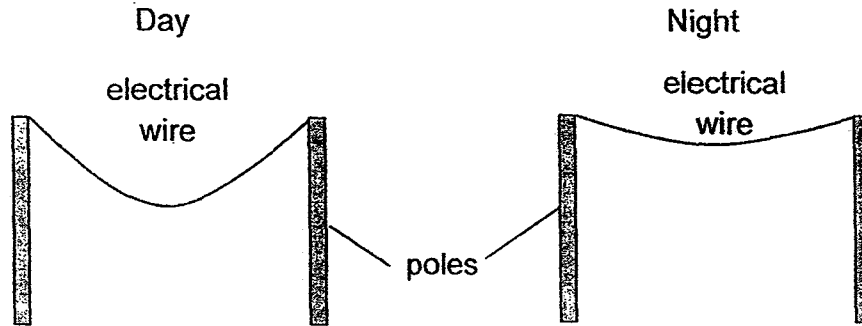
a paper bag

(4)



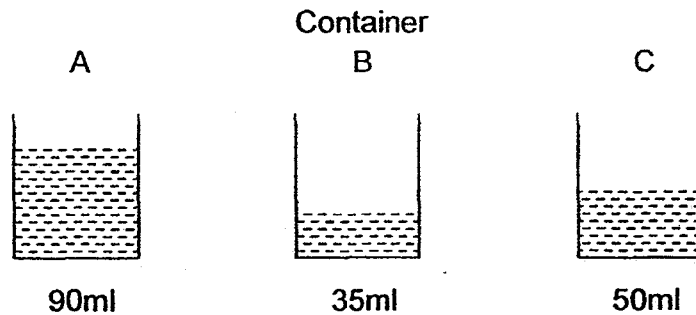
a sheet of glass

11. Hassan observes the electrical wire hanging on poles along the street in the day and night as shown in the diagram below.



Which of the following statement is correct?

- (1) In the day, the electrical wire loses heat and contracts.
  - (2) In the day, the electrical wire gains heat and expands.
  - (3) In the night, the electrical wire gains heat and contracts.
  - (4) In the night, the electrical wire loses heat and expands.
12. Ahmad filled three similar containers A, B and C with different amounts of water and heated them up until they reached a temperature of  $80^{\circ}\text{C}$ .



Arrange the containers according to the amount of heat it contains.

	most amount of heat	→	least amount of heat
(1)	A		B
(2)	B		A
(3)	C		A
(4)	B		C

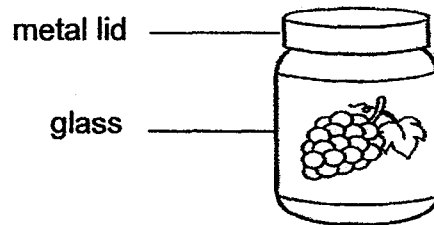
13. Study the diagram below.



Which of the following best represents A, B and C?

	A	B	C
(1)	solid	lose heat	gain heat
(2)	solid	gain heat	lose heat
(3)	liquid	gain heat	lose heat
(4)	liquid	lose heat	gain heat

14. Sally placed a bottle of jam into the refrigerator after using it. The next day, she tried to open it again but was unable to do so.



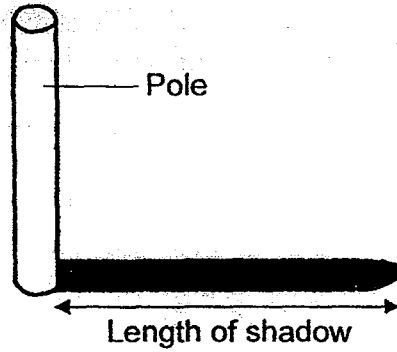
What should Sally do so that she is able to open the bottle of jam?

- A. Heat up the metal lid over a small flame.
- B. Place some ice cubes over the metal lid.
- C. Immerse the metal lid in a container of hot water.
- D. Immerse half of the glass bottle in a container of hot water.

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

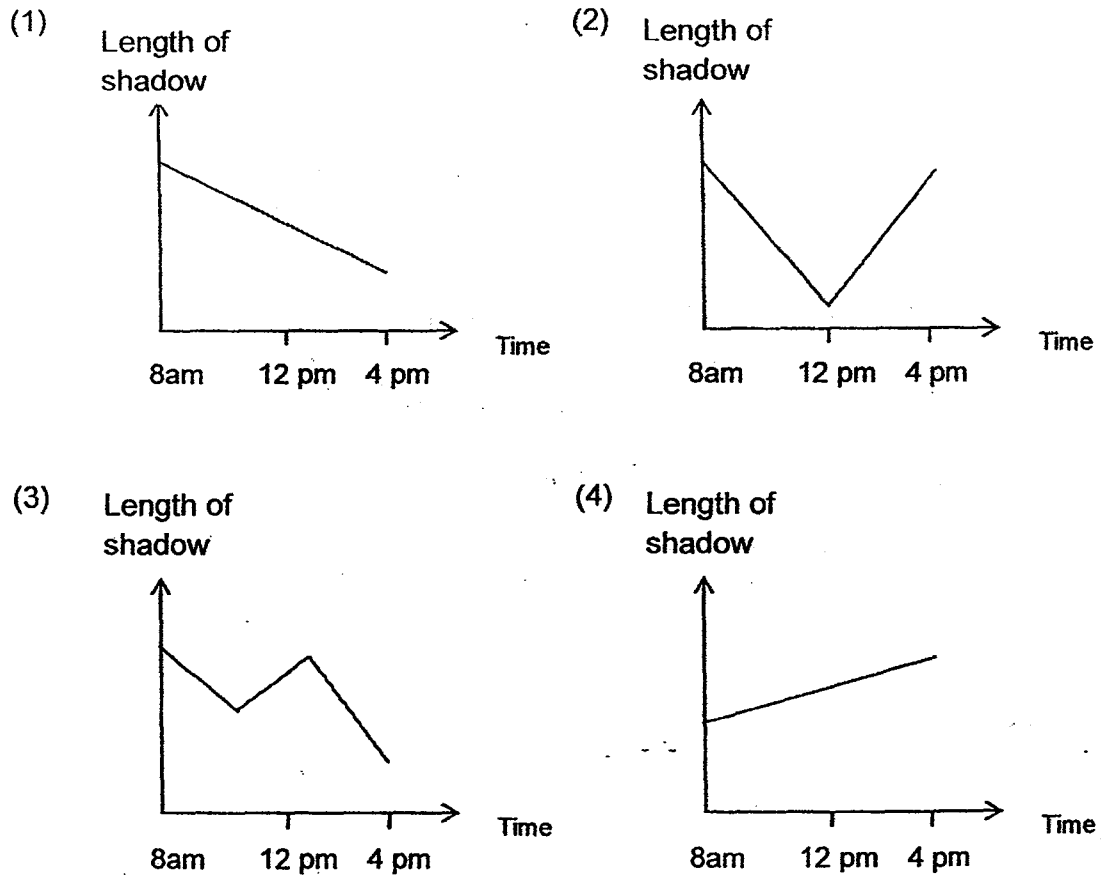


15. Jia En measured the length of the shadow of a pole as shown in the diagram below.

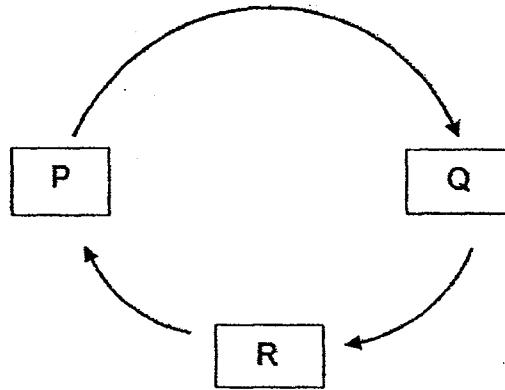


She recorded the length of the shadow at different times of the day and plotted a graph of her results.

Which one of the following shows the graph that Jia En has plotted?



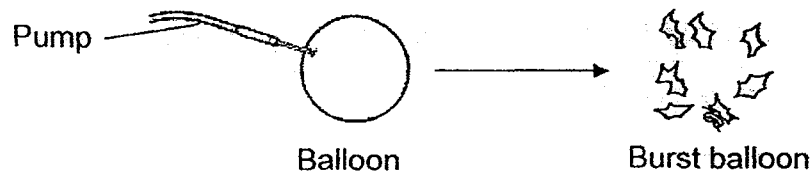
16. Which of the following statement is true about the bean plant?
- (1) It has a four-stage life cycle.
  - (2) Flowers appear when it is a young plant.
  - (3) The young plant is able to make its own food when leaves develop.
  - (4) As the seed grows, the shoot grows first. The root grows after some time.
17. The diagram below shows the life cycle of a chicken.



Which of the following statement(s) is/are true if the chicken is able to reproduce at stage R?

- A. The chicken looks the similar at stages Q and R.
  - B. The chicken is also able to reproduce at stage Q.
  - C. At stage P, chicken is able to move from place to place.
- (1) A only
  - (2) B only
  - (3) A and C only
  - (4) B and C only

18. Water is pumped into a balloon until it bursts as shown in the diagram below.



What does this experiment show about water?

- A. Water takes up space.
- B. Water has a definite volume.
- C. Water cannot be compressed.
- D. Water takes the shape of the balloon.

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

19. Objects K and L were each placed into an empty beaker. The beakers were then filled with water to the same level as shown in Figure 1 below. More water was required for the beaker with Object K. The objects were then taken out, dried and then placed onto the weighing scales as shown in Figure 2 below.

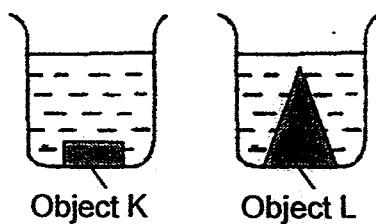


Figure 1

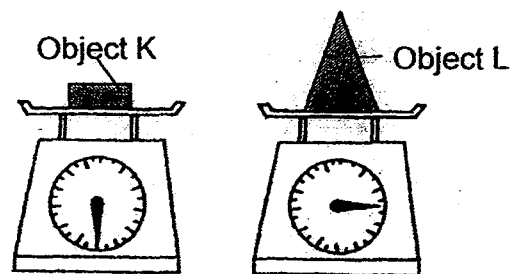


Figure 2

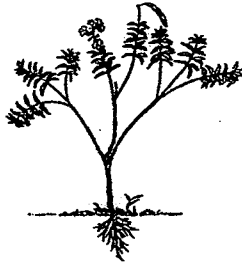
From your observations, what can you conclude about the volume and mass of an object?

- (1) If the mass of an object is big, it will have a big volume.
- (2) If the mass of an object is small, it will have a small volume.
- (3) If the volume of an object is small, it will have a small mass.
- (4) If the volume of an object is big, it does not mean it has a big mass.

20. Which of the following is a function of the stem of a plant?

- (1) Make food for the plant.
- (2) Help to support the plant.
- (3) Hold the plant firmly in the soil.
- (4) Exchange gases with the surroundings.

21. Josh, Tyler, Alan and Tim were asked to describe any part of the plant they wanted as shown in the diagram below.



Josh : It helps the plant get enough sunlight.

Tyler : It prevents the plant from getting uprooted easily.

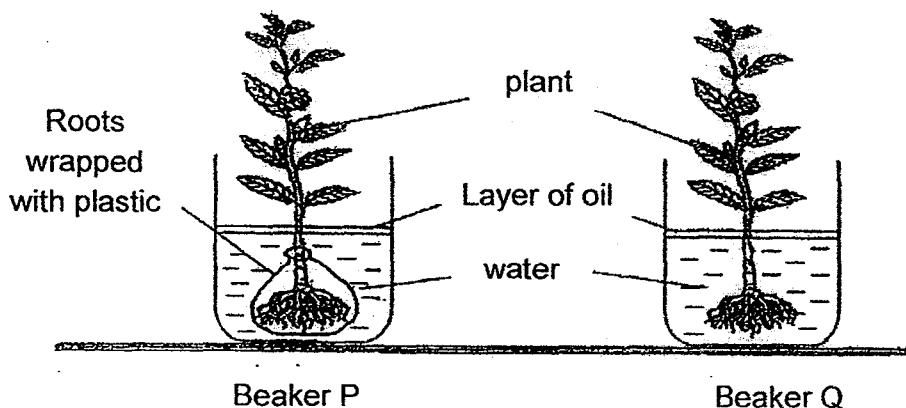
Alan : It allows the plant to trap light energy from the Sun.

Tim : It allows the plant to exchange gases with the surroundings.

Which two persons were describing the same part of the plant?

- (1) Tim and Alan
- (2) Tim and Josh
- (3) Josh and Alan
- (4) Alan and Tyler

22. Xavier carried out an experiment to investigate the function of the roots. He set up his experiment as shown in the diagram below.

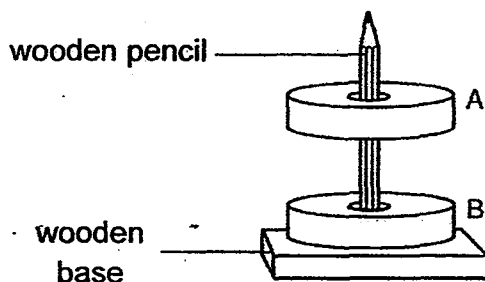


He recorded the amount of water left in each beaker in the table below.

Beaker	Volume of water / ml	
	Day 1	Day 4
P	80	80
Q	80	60

What can Xavier conclude from his experiment?

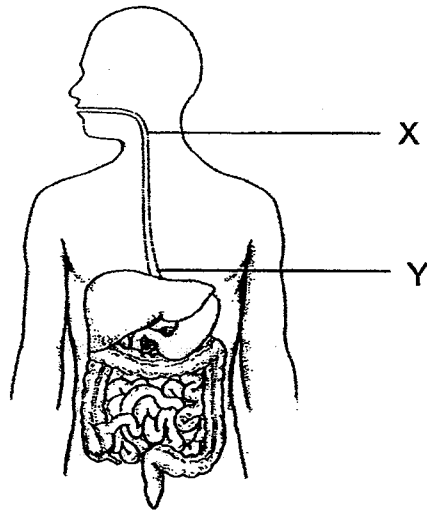
- (1) Roots need air to absorb water.
  - (2) Roots help plant to stay upright.
  - (3) Roots help plant to absorb water.
  - (4) Roots cannot absorb water because of the layer of oil.
23. Two ring magnets, A and B, are put through a wooden pencil with a wooden base as shown below.



Why did magnet A float above magnet B?

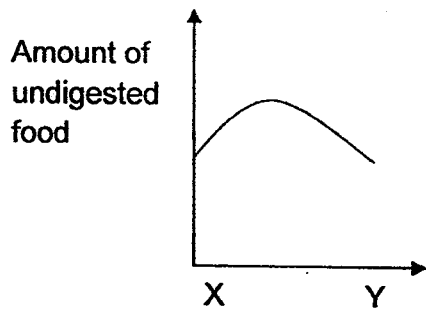
- (1) Magnet A is stronger than magnet B.
- (2) Magnet B is stronger than magnet A.
- (3) The like poles of both magnets are facing each other.
- (4) The unlike poles of both magnets are facing each other.

24. The diagram below shows the human digestive system.

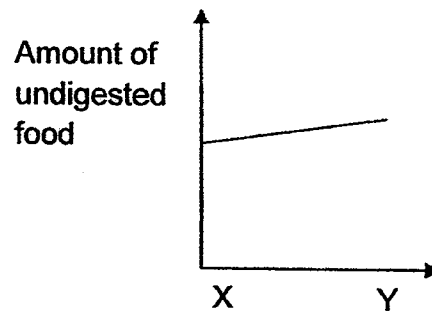


Which of the following graph correctly shows the amount of undigested food from X and Y?

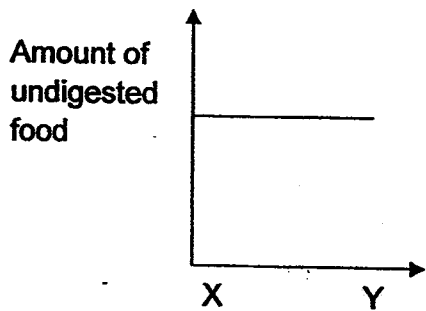
(1)



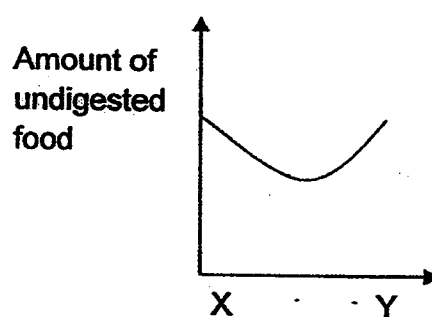
(2)



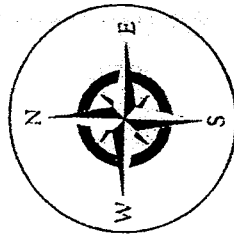
(3)



(4)



25. Mary found a magnet and wants to find out the poles of the magnet. She placed a compass near one pole of the magnet and observed the following:



compass



magnet

What could A and B possibly be?

	A	B
(1)	north-pole	south-pole
(2)	south-pole	north-pole
(3)	north-pole	north-pole
(4)	south-pole	south-pole

26. Ali, Benjamin, Nina and Gwen were having a discussion about non-flowering plants and fungi. They made the following statements.

Ali: Fungi reproduce by spores while non-flowering plants reproduce by seeds.

Nina: Both fungi and non-flowering plants reproduce by spores.

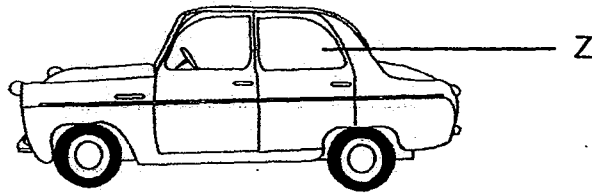
Gwen: Both fungi and non-flowering plants feed on other organisms.

Benjamin: Fungi do not make their own food while non-flowering plants make their own food.

Which two pupils made the correct statements?

- (1) Ali and Nina
- (2) Ali and Gwen
- (3) Nina and Benjamin
- (4) Gwen and Benjamin

27. The diagram below shows a car.



Which are the possible reasons why part Z is made of glass?

- A. It is brittle.
  - B. It is waterproof.
  - C. It allows,, light to pass through it.
  - D. It sinks in water.
- 
- (1) A and D only
  - (2) A and C only
  - (3) B and C only
  - (4) B and D only

**END OF BOOKLET A**

**GO ON TO BOOKLET B**





MAHA BODHI SCHOOL  
2015 SEMESTRAL ASSESSMENT 2  
PRIMARY 4  
SCIENCE  
( BOOKLET B )

Name : \_\_\_\_\_ ( )

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

Date : 3 November 2015

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

---

**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. Write all your answer in this booklet.

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

This booklet consists of 12 printed pages.

**BLANK PAGE**

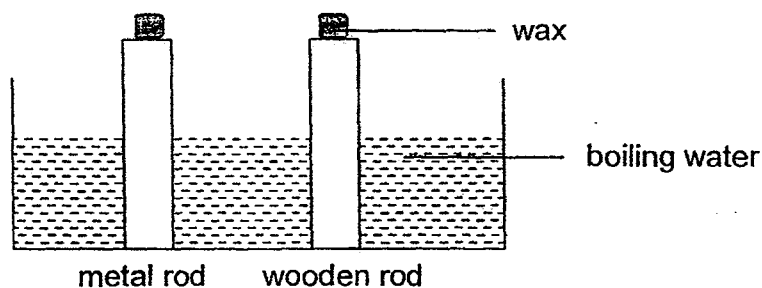
**BOOKLET B : [36 marks]**

For questions 28 to 41, 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. Kelvin placed a metal rod and a wooden rod into a tank of boiling water as shown below. Equal amounts of wax were placed at the end of both rods.



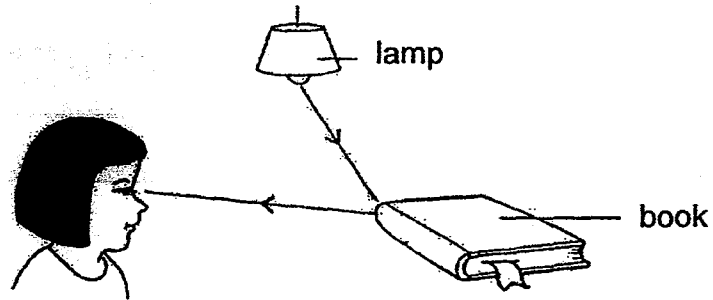
Fill in the blanks below with suitable words to explain what Kelvin will observe. [2]

The wax on the metal rod will melt \_\_\_\_\_ than the wax on the wooden rod, as metal is a \_\_\_\_\_ conductor of heat than wood.

Marks : 

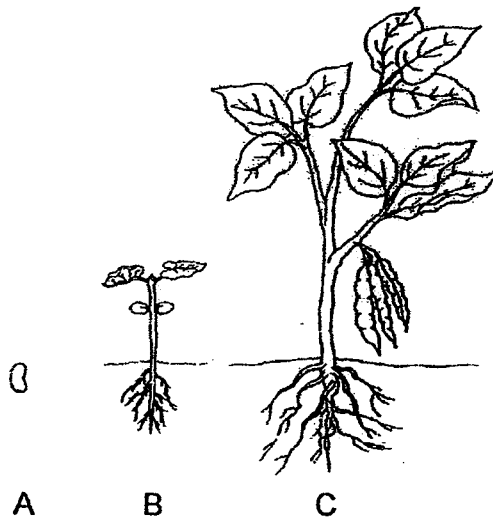
/ 2
-----

29. The diagram below shows how Shu Min sees the book.



The \_\_\_\_\_ from the lamp is \_\_\_\_\_ by the book and enters Shu Min's eyes. [2]

30. The diagram below shows the stages of the life cycle of a plant.



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

egg	seed	young plant	adult plant
-----	------	-------------	-------------

Name the stages A and C in the life cycle of the plant. [2]

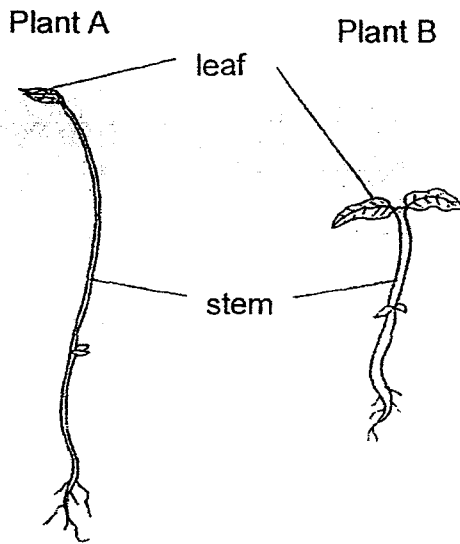
A: \_\_\_\_\_

C: \_\_\_\_\_

Marks : 

/ 4
-----

31. The diagram below shows two plants.

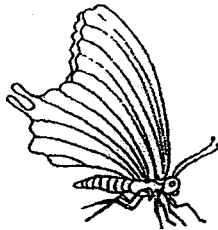


(a) What is one difference between the stem of plant A and the stem of plant B? [1]

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

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

32. Observe the animal in the diagram below.



It is an insect because \_\_\_\_\_ [2]

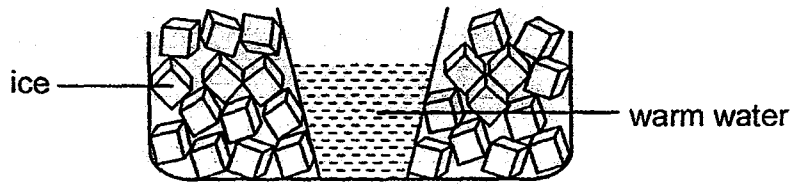
(tick  2 boxes)

- it can fly
- it has wings
- it has six legs
- it has a pair of feelers

Marks : 

/ 4
-----

33. Jane places a cup of warm water into a basin of ice.



(a) What can Jane use to measure the temperature of the warm water? [1]

---

(b) (i) What will Jane observe about the temperature of the cup of warm water after five minutes? [1]

---

(ii) What will Jane observe about the ice in the basin? Explain your answer. [2]

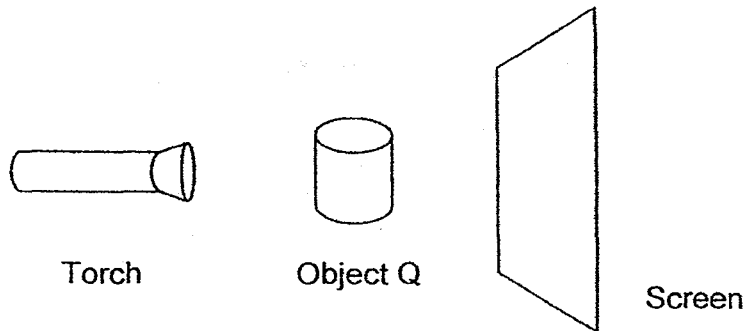
---

---

Marks :

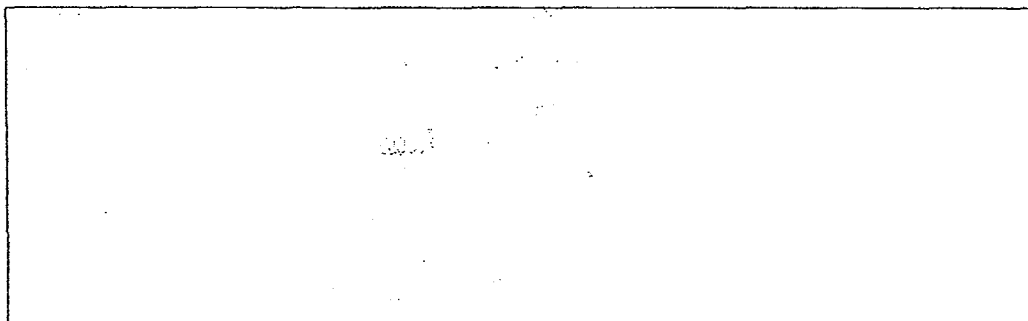
/ 4

34. Frankie set up a torch to form a shadow of Object Q on a screen as shown on the diagram below.



(a) In the space below, draw the shadow of object Q seen on the screen.

[1]



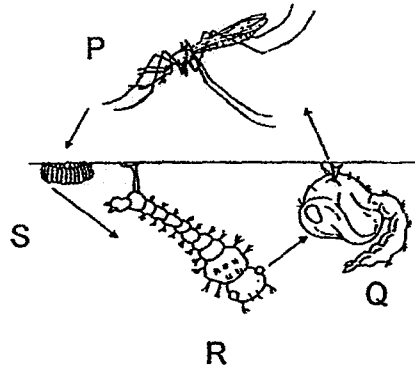
(b) (i) What must Frankie do to make the shadow on the screen appear bigger without moving the screen and torch? [1]

(ii) When Frankie replaced Object Q with Object R that allows some light to pass through it, a shadow still appears on the screen. Explain why. [1]

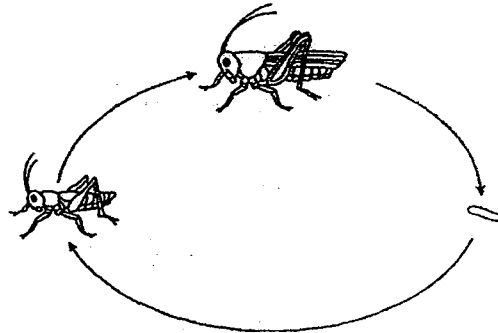
Marks :

13

35. The diagrams below show life-cycles A and B.



Life-cycle A



Life-cycle B

(a) State one difference between life-cycles A and B. [1]

---

---

(b) At which stage of life cycle A is the animal most difficult to kill? Explain your answer. [1]

---

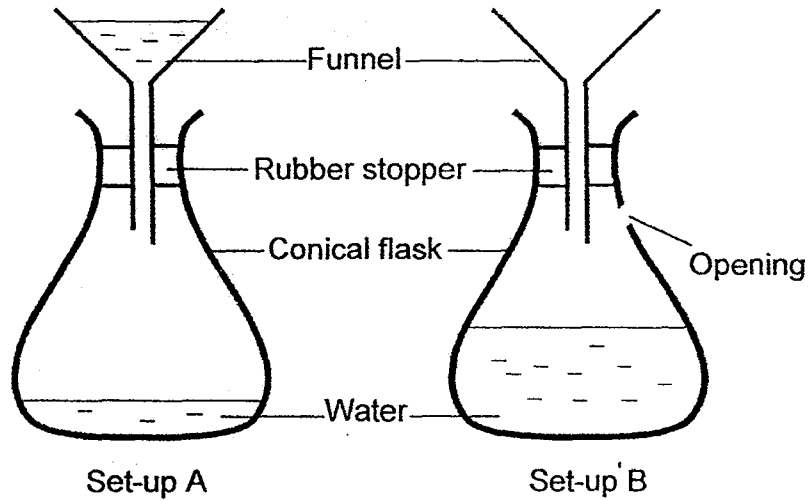
---

Marks : 

/2
----



36. Tim poured the same amount of water into the funnels in set-up A and B as shown below.



He observed that water flows into the conical flask in Set-up B much quicker than water in Set-up A. He repeated the experiment many times and had the same observation.

- (a) Why did Tim repeat the experiment many times? [1]

---

---

- (b) Explain why water flowed into the conical flask much quicker in Set-up B as compared to that of Set-up A. [2]

---

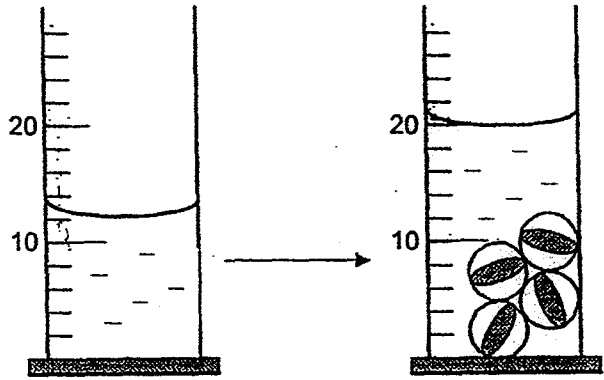
---

---

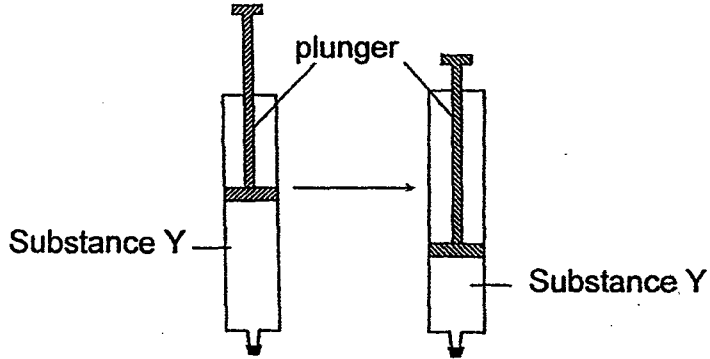
Marks : 

/ 3
-----

37. James poured some water into an apparatus. The apparatus measures volume in cubic centimetres. He placed some marbles into the apparatus and observed that the water level rose.



- (a) The volume of each marble is \_\_\_\_\_ cm<sup>3</sup> [1]
- (b) A syringe is filled with substance Y and is sealed at the end to stop Substance Y from coming out. The diagram below shows what happens to Substance Y when the plunger of the syringe is pressed down.



- (i) Based on the observation above, what state of matter is Substance Y? [1]

---

- (ii) The experiment is repeated after Substance Y is replaced with substance Z and the plunger cannot be pushed down. Explain why. [2]

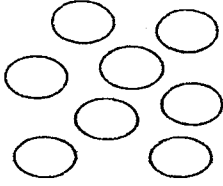
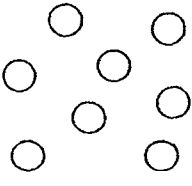
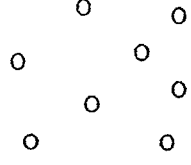
---



---

Marks :  / 4

38. The diagram below shows some samples of undigested food collected from different parts of the digestive system.

Sample	1	2	3
size of undigested food			
part of digestive system	X	Y	small intestine

- (a) Based on the diagram, which parts of the digestive system do X and Y represent? [1]

Part X: \_\_\_\_\_

Part Y: \_\_\_\_\_

- (b) Explain why the size of undigested food taken from the small intestine is smaller as compared to sample 1 and 2. [1]

---

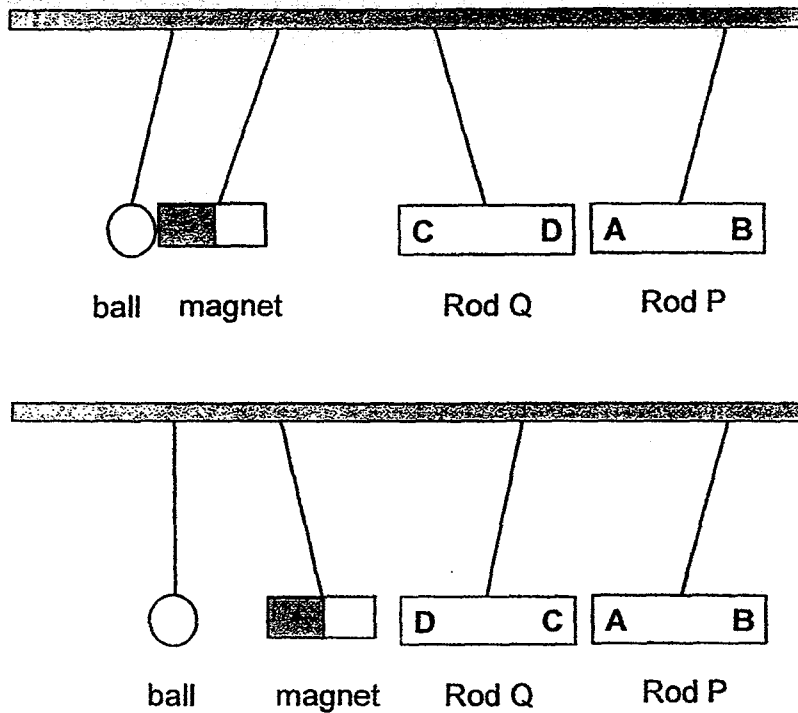


---

Marks :

12

39. Jerome wants to find out which rod, P or Q is a magnet. He hangs a ball, a magnet and two different rods P and Q on a bar. The diagram below shows his observations.



- (a) Jerome thinks that ball is made of iron. Do you agree? Explain why. [1]

---



---

- (b) (i) Which Rod, P or Q is definitely a magnet? [1]

---

- (ii) Explain your answer (i). [2]

---

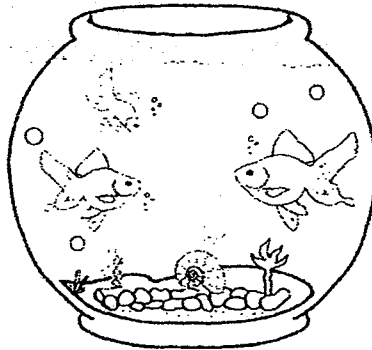


---

Marks :

/ 4
-----

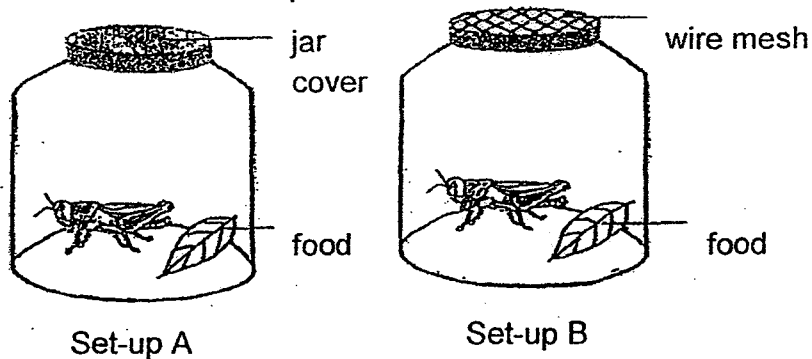
40. Justin placed some fishes in a tank as shown below. He provided it with the same amount of food daily.



After a few weeks, he realised that even though he did not add any fishes, the number of fishes in the tank increased.

- (a) What did Justin's observation shows about the characteristics of living things? [1]

- (b) Justin caught two grasshoppers and prepared two set-ups A and B as shown below. He observed the grasshoppers for two days. [1]

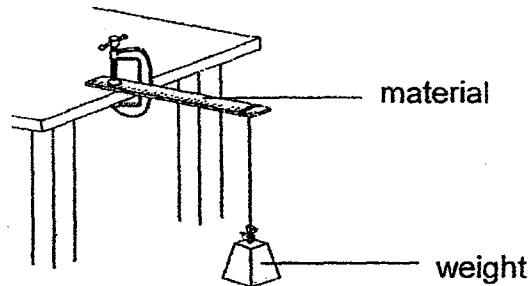


Based on the set-ups, what was he trying to find out about the grasshoppers? Explain why. [1]

Marks :

12

41. Peter wants to make a ladder. He uses three different material, W, X and Y, and carries out an experiment as shown below. He places a weight at the end of the material and records how many weights the material can hold before breaking.



The table below shows his results.

Material	Number of weights
W	3
X	8
Y	5

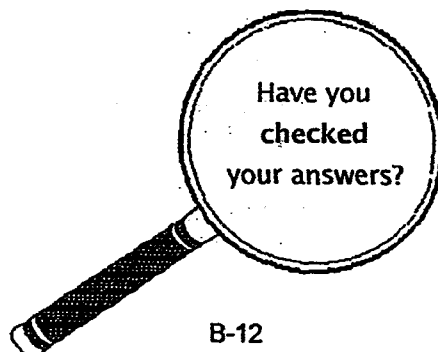
- (a) What property of material is Peter testing? [1]

- (b) Based on his results, which material should Peter use to make a ladder. Explain your answer. [1]

Marks :

12

~ END OF PAPER ~



**EXAM PAPER 2015**

**LEVEL : PRIMARY 4**

**SCHOOL : MAHA BODHI SCHOOL**

**SUBJECT : SCIENCE**

**TERM : SA2**

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

Q28 faster / better      Q29 light / reflected

Q30. A: SEED    C: adult plant

Q31a. taller    Q31b. food

Q32. It has six legs / it has a pair of feelers

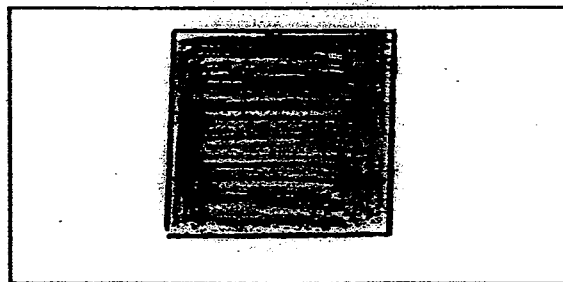
Q33a. Jane can use a thermometer.

Q33b (i) The temperature of the cup of warm water will drop.

Q33b (ii) The ice will melt. The ice gains heat from the warm water causing it to melt.

Q34a. SEE PICTRUE    Q34b (i) Frankie should move object Q nearer to the torch.

Q34b (ii) Light from the torch is partially blocked by object R.



Q35a. Life cycle a is a four staged life cycle but life cycle B is a three staged life cycle.

Q35b. Stage P is the most difficult to kill. Stage P has wings and can get away easily.

Q36a. Tim wanted to be sure that his observation will be the same.

Q36b. Water needs to take up the space previously occupied by the air in the conical flask. There is no opening in the conical flask in set – up B.

Q37a.  $2\text{cm}^3$     Q37b (i) Substance Y is in the gas state.

Q37b(ii) Substance Z could be a solid or liquid. Both solid and liquid have a definite volume and cannot be compressed.

Q38a. Part X: Mouth                      Q38a. Party Y: Stomach

Q38b. The digestive juices in the small intestine have digested most of the digested food.

Q39a. I do not agree. Iron is a magnetic material. But the ball is not made out of the magnet beside it.

Q39b. (i) Rod Q is a magnet.

Q39b (ii) Rod Q repels the magnet and the other pole attracts. Like poles repels, unlike poles attract.

Q40a. Living things reproduce.

Q40b. Justin is trying to find out whether living things need air to survive. He changed one variable which is set up A, it allows air to enter but set – up B allows air to enter.

Q41a. Peter is testing the strength of the material.

Q41b. Peter should use material X. Based on the chart above, material X holds the most number of weights and it is the strongest.

**THE END**