MARIS STELLA HIGH SCHOOL (PRIMARY)

SEMESTRAL ASSESSMENT 2

SCIENCE

29 OCTOBER 2015

BOOKLET A

NAME: _____

CLASS: Primary 4 ( )

30 questions

60 marks

Total Time for Booklets A & B: 1 h 45 min

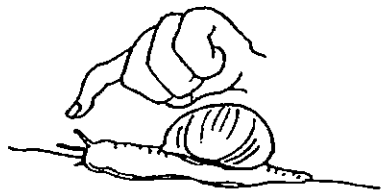
DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.

FOLLOW ALL INSTRUCTIONS CAREFULLY.

For each question from 1 to 30, 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). **(60 marks)**

---

1 A snail hides itself in its shell when touched.



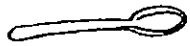
This shows that the snail is a living thing because it can _____.

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

2 Which one of the following objects can be bent easily without breaking?

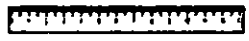
(1) A sheet of glass

(2) A plastic spoon



(3) A towel

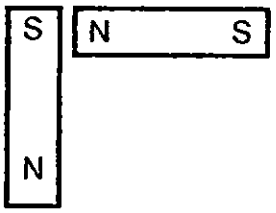
(4) A wooden ruler



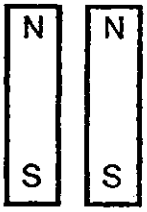
3 In which one of the following will the two magnets push each other away?

(1)

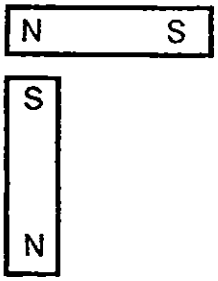
(2)



(3)

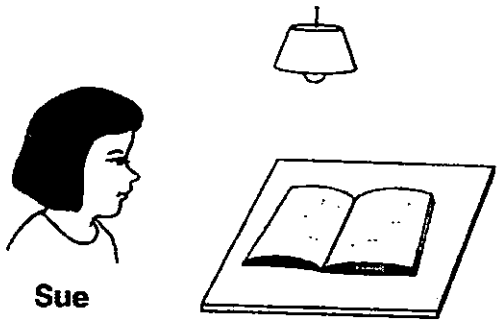


(4)

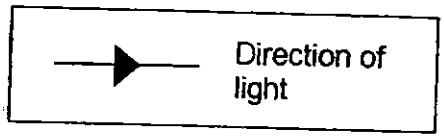


(Go on to the next page)

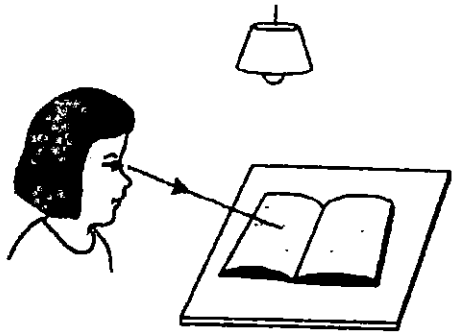
4 Look at the picture below.



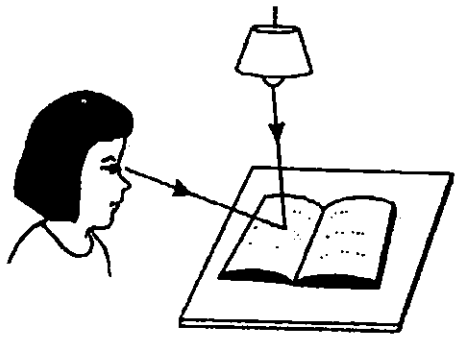
Which one of the following explains why Sue can see the book on the table?



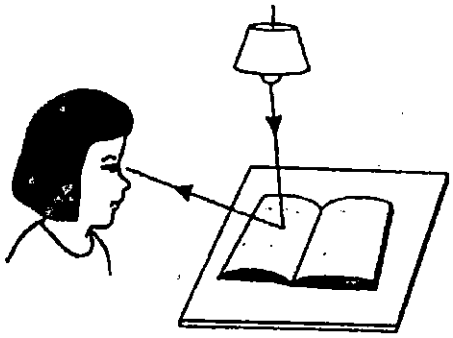
(1)



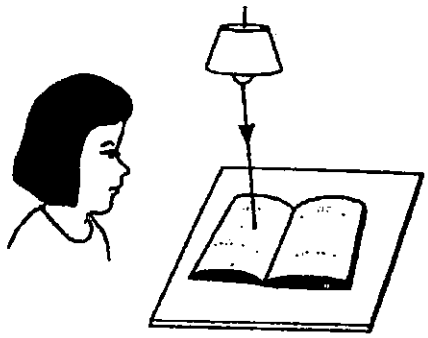
(2)



(3)



(4)



(Go on to the next page)

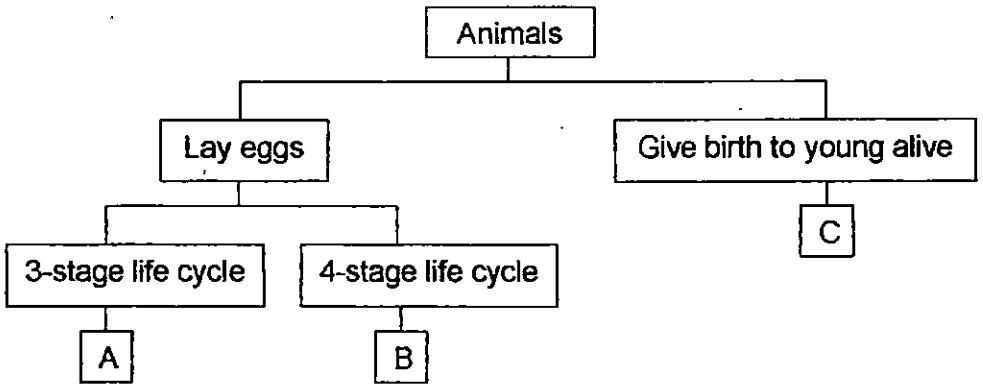
5 In which part of the digestive system is food absorbed into the blood?

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

6 Matter is anything that has mass and occupies space.
Which of the following is **NOT** a matter?

(1) Air
(2) Soil
(3) Water
(4) Shadow

7 Study the classification table below.



What could A, B and C represent?

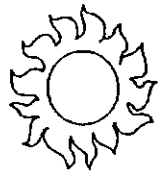
	A	B	C
(1)	Chicken	Mosquito	Cockroach
(2)	Mosquito	Cockroach	Dog
(3)	Butterfly	Fish	Cat
(4)	Fish	Mosquito	Horse

(Go on to the next page)

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

(1) 

an orange

(2) 

the sun

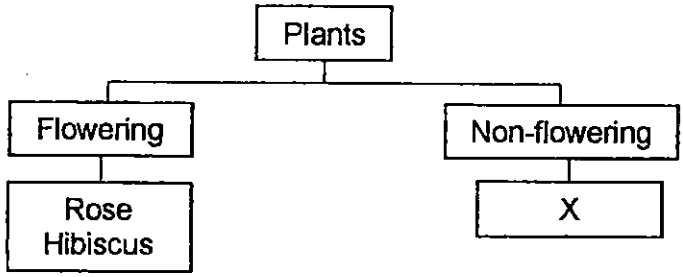
(3) 

a match stick

(4) 

a leaf

9 Study the chart below.

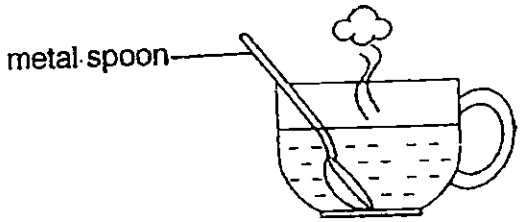


Which plant could be placed in the box marked "X"?

(1) Mushroom
(2) Orchid plant
(3) Mango plant
(4) Bird's nest fern

(Go on to the next page)

10 Ronald places a metal spoon in a cup of hot tea.

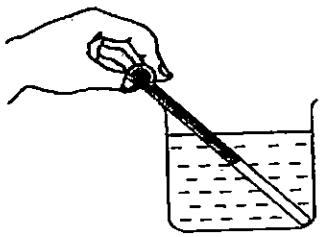


The spoon becomes hotter after a while. Which one of the following explains this?

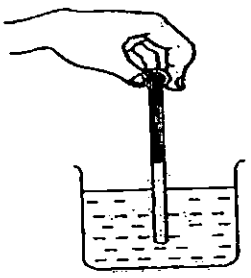
(1) The cup loses heat to the hot tea.
(2) The spoon loses heat to the hot tea.
(3) The spoon gains heat from the hot tea.
(4) The hot tea gains heat from the spoon.

11 Catherine wants to measure the temperature of hot water in beaker. Which one of the following diagrams shows the correct position of the thermometer when taking the temperature reading?

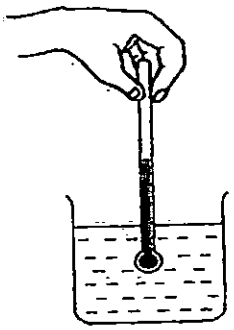
(1)



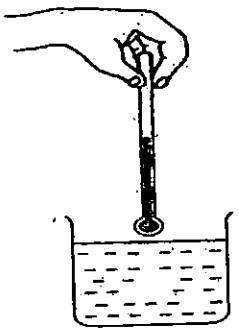
(2)



(3)

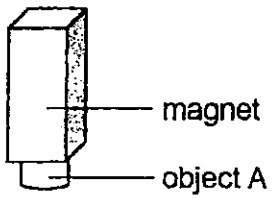


(4)



(Go on to the next page)

12 An object was attracted to a magnet, as shown in the diagram below.



Object A is made of _____.

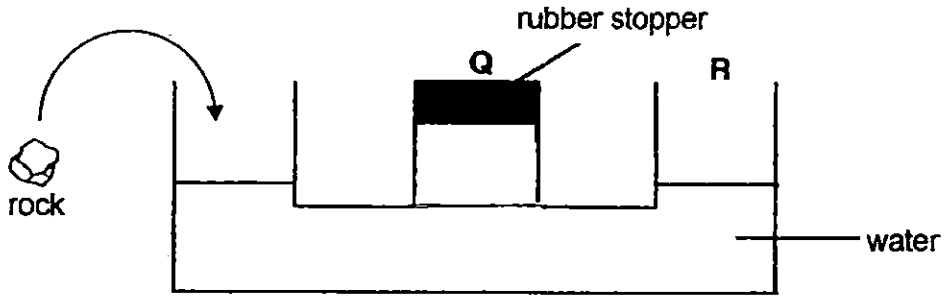
(1) iron

(2) wood

(3) rubber

(4) plastic

13 The diagram below shows a container with some water in it. Part Q of the container is sealed with a rubber stopper.



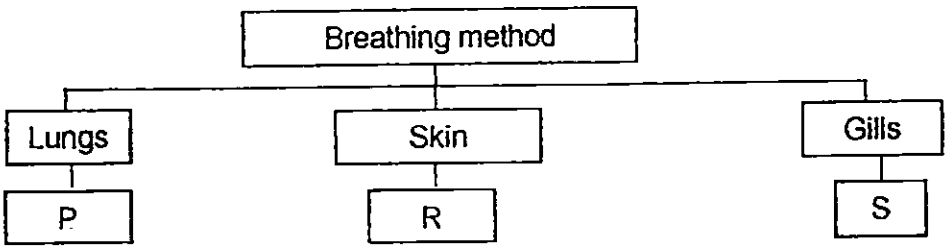
A piece of rock is then slowly dropped into the container as shown above.

What will happen to the water level at Q and R?

	Q	R
(1)	Decrease	Increase
(2)	Decrease	Decrease
(3)	Remain the same	Decrease
(4)	Remain the same	Increase

(Go on to the next page)

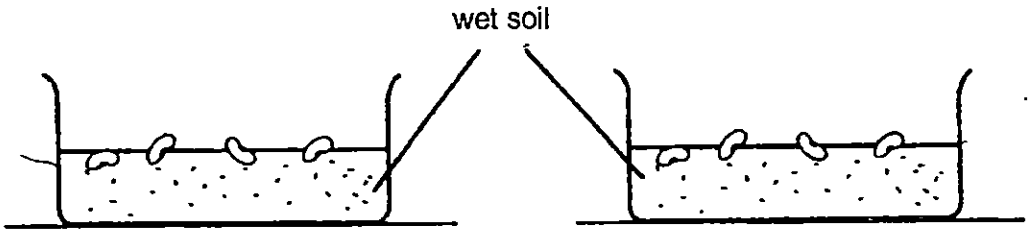
14 The chart below shows the breathing methods of some animals.



Which of the following groups of animals below can be correctly placed in the chart above?

	Animal P	**Animal R**	**Animal S**
(1)	Fish	Reptile	Mammal
(2)	Amphibian	Reptile	Fish
(3)	Mammal	Fish	Reptile
(4)	Mammal	Amphibian	Fish

15 Peter set up 2 dishes to with equal number of green bean seeds to compare the growth of green beans.



Set-up A
Placed in a dark cupboard

Set-up B
Placed near open window

What will happen to the green beans in set-ups A and B after 3 days?

(1) Only the green beans in set-up A will germinate.

(2) Only the green beans in set-up B will germinate.

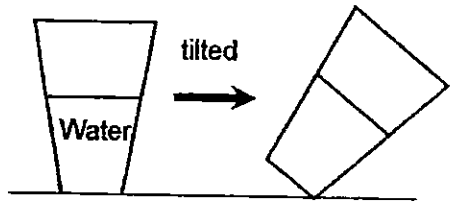
(3) The green beans in both set-ups A and B will germinate.

(4) The green beans in both set-ups A and B will not germinate.

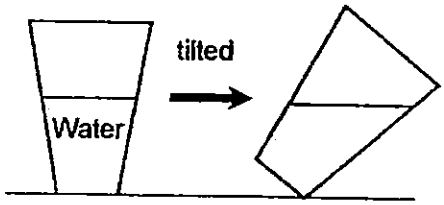
(Go on to the next page)

16 Study the diagrams below.

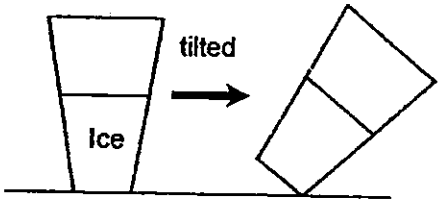
A



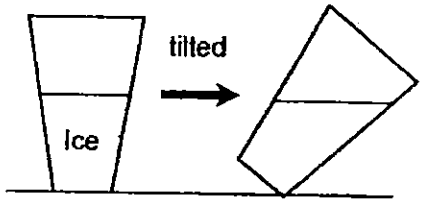
B



C



D



Which of the diagrams above shows the correct observation when a glass of water and a glass of ice are tilted?

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

17 Look at the table below.

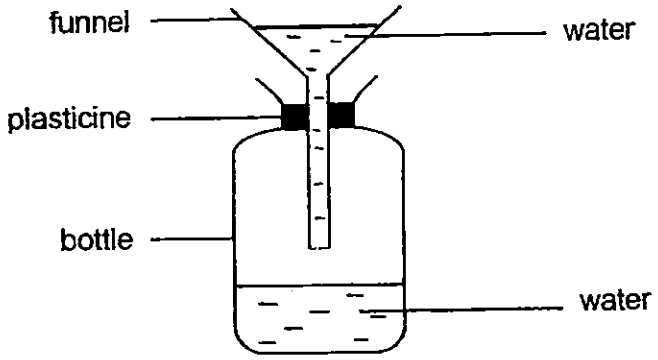
Group A	Group B
Snake	Monkey
Frog	Cat

This animal in Group A and Group B are different in terms of _____.

(1) what they eat
(2) how they move
(3) where they live
(4) how they reproduce

(Go on to the next page)

18 Some water was poured into the funnel.



Why was some of the water unable to flow into the bottle?

(1) The air in the bottle takes up space.
(2) The water in the bottle takes up space.
(3) The air in the bottle can be compressed.
(4) The water in the bottle can be compressed.

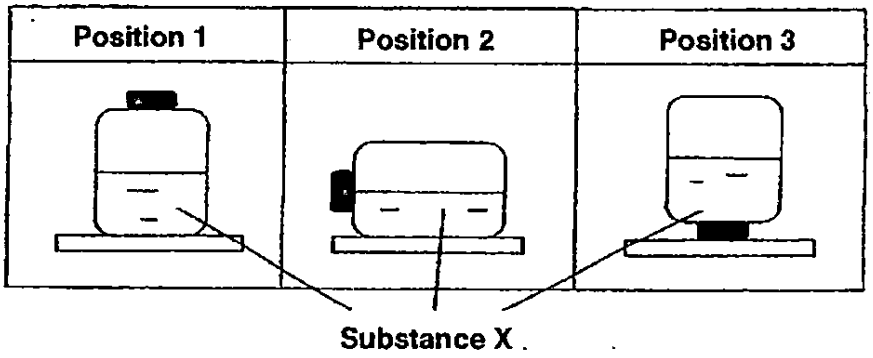
19 Study the diagram below.

Which of the following statements explain why the gardener has to use a lot of energy to pull the plant out of the soil?

(1) The plant has many leaves.
(2) The plant has many branches.
(3) The plant has strong woody stem.
(4) The plant has roots to hold it firmly to the ground.

(Go on to the next page)

20 The diagram below shows a container with substance X. The container was placed in different positions as shown.



Based on the diagram, what can you conclude about substance X?

A Substance X occupies space

B Substance X can be compressed

C Substance X takes the shape of the container

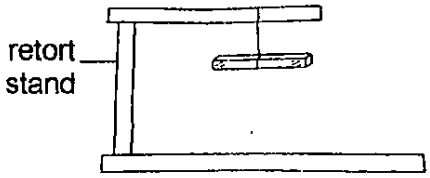
(1) B only

(2) A and B only

(3) A and C only

(4) A, B and C

21 The diagram below shows a bar magnet hung on a retort stand such that it is able to move freely.



In which direction will the bar magnet come to rest?

(1) East-West

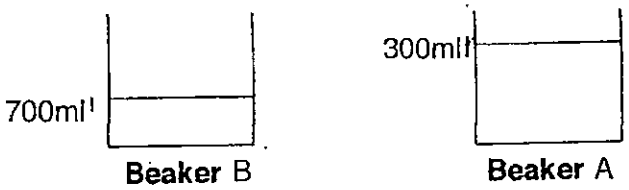
(2) North-East

(3) South-East

(4) North-South

(Go on to the next page)

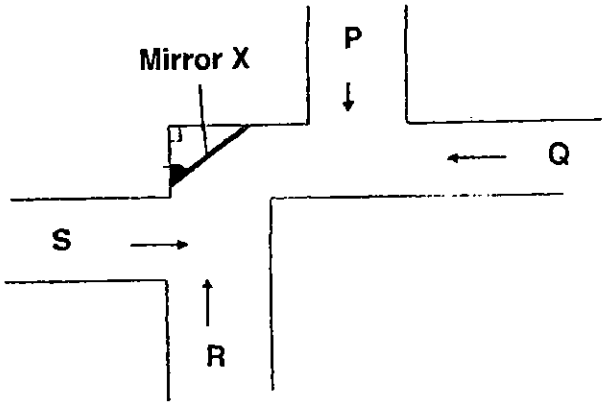
22 Two beakers, A and B, contain different amounts of water of the same temperature. Beaker A contains 700ml of water at 70°C Beaker B contains 300ml of water at 70°C Both beakers are placed on a table in a classroom.



Which of the following statements are true of the water in beakers A and B?

(1) Both beakers of water will gain heat from the surrounding.
(2) Water in beaker A has less heat energy than water in beaker B.
(3) Water in beaker A has more heat energy than water in beaker B.
(4) Water in beaker A will lose heat to the surrounding but water in beaker B gain heat from the surrounding.

23 The diagram below shows four boys, P, Q, R and S, travelling in the directions shown by the arrows.

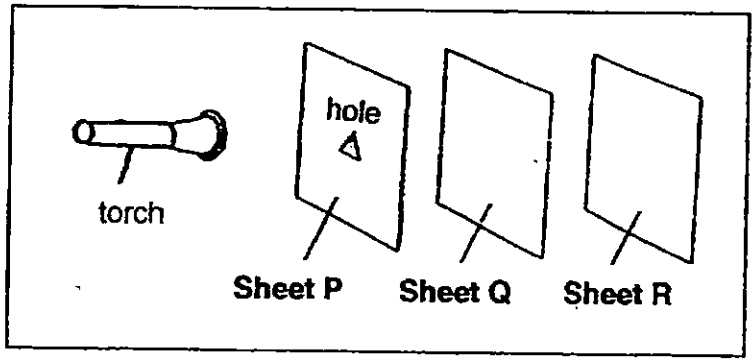


Which two boys can see each other in mirror X?

(1) P and Q
(2) P and S
(3) Q and R
(4) R and S

(Go on to the next page)

24 Steven carried out an experiment as shown below in a dark room. He placed three sheets, P, Q and R, neatly in a straight line.



He observed that a bright triangular patch of light was only seen on sheet R when the torch was switched on.

Which of the following provides the most suitable answer regarding the properties of the materials that the three sheets are made of?

	Sheet P	Sheet Q	Sheet R
(1)	Opaque	Opaque	Translucent
(2)	Opaque	Transparent	Opaque
(3)	Transparent	Translucent	Opaque
(4)	Transparent	Opaque	Transparent

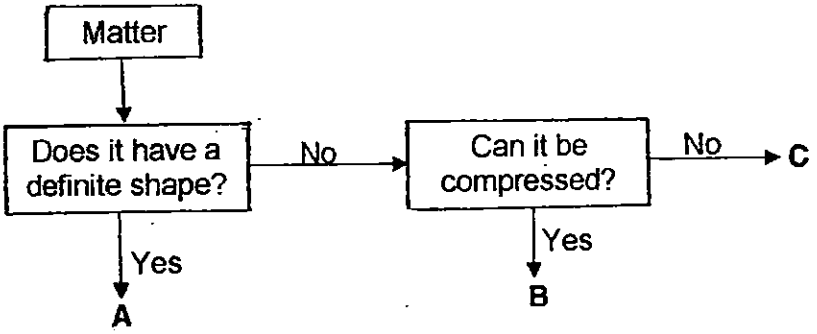
25 Peter found the animal below in a garden.

Which of the following statements about the animal is true?

(1) It is not an insect because it has no wings.
(2) It is not an insect because it has three body parts.
(3) It is not an insect because it has a pair of pincers.
(4) It is not an insect because it has more than six legs.

(Go on to the next page)

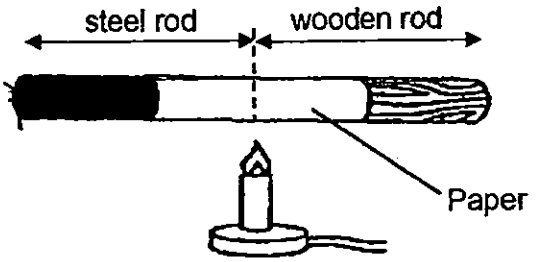
26 Study the chart below.



Which one of the following correctly represents A, B and C?

	A	B	C
(1)	milk	sand	oxygen
(2)	sand	milk	oxygen
(3)	oxygen	milk	sand
(4)	sand	oxygen	milk

27 Amy attached a wooden rod to a steel iron rod. She wrapped a piece of paper tightly round both materials at the center of the rod. After that, she placed the rod over a flame as shown in the diagram below.



What will she observe?

(1) Only the paper on the steel rod is burnt.

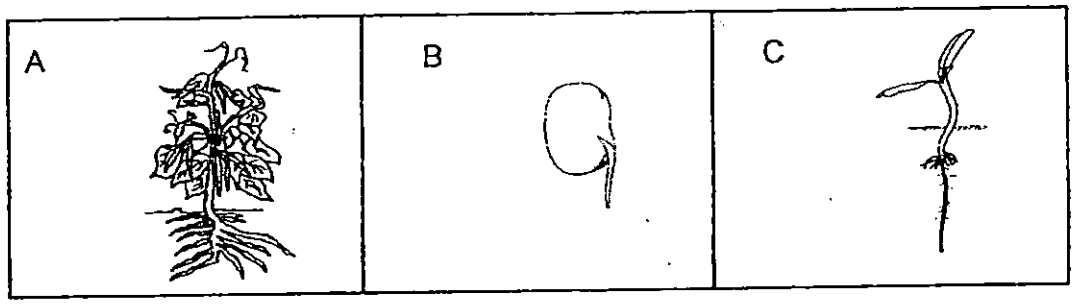
(2) Only the paper on the wooden rod is burnt.

(3) The papers on both side of the rod are burnt.

(4) The papers on both side of the rod are not burnt.

(Go on to the next page)

28 The diagram shows the different stages in the life cycle of a flowering plant.



Which of the following shows the correct sequence in the life cycle of a flowering plant?

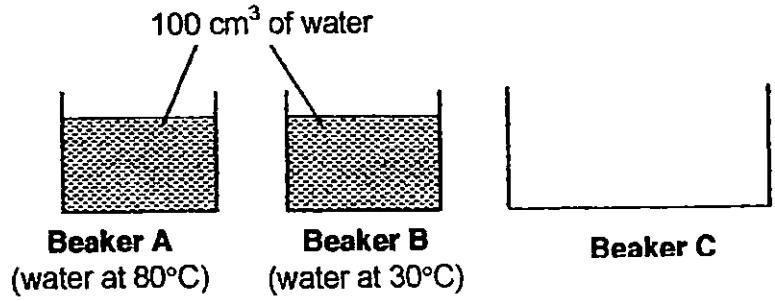
(1) A → B → C

(2) A → C → B

(3) B → A → C

(4) C → B → A

29 John filled two identical beakers, A and B, with the same amount of water. The temperature of the water in beakers A and B was 80°C and 30°C respectively.



John poured the water in beakers A and B into beaker C and measured the temperature to water in beaker C.

What could the temperature of water in beaker C be?

(1) 30°C

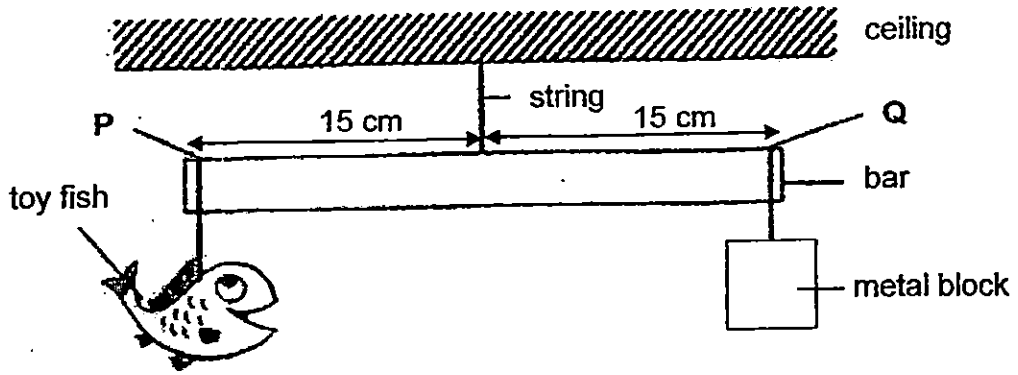
(2) 60°C

(3) 80°C

(4) 110°C

(Go on to the next page)

30 The diagram below shows a decorative item. It consists of a plastic toy fish hung at end P and a metal block hung at end Q.



The bar was balanced on both sides.

Which of the following statements is/are **incorrect**?

A The plastic toy fish has the same mass as the metal block.

B The plastic toy fish has the same volume as the metal block.

C If the metal block was removed, end Q would be lower than end P.

D If another identical metal block was added to both ends P and Q, the bar would still be balanced.

(1) C only

(2) A and D only

(3) B and C only

(4) A, B and D only

End of Booklet A

MARIS STELLA HIGH SCHOOL (PRIMARY)

SEMESTRAL ASSESSMENT 2

SCIENCE

29 OCTOBER 2015

BOOKLET B

NAME: _____

CLASS: Primary 4 ( )

14 questions

40 marks

Total Time for Booklets A & B: 1 h 45 min

DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.
FOLLOW ALL INSTRUCTIONS CAREFULLY.

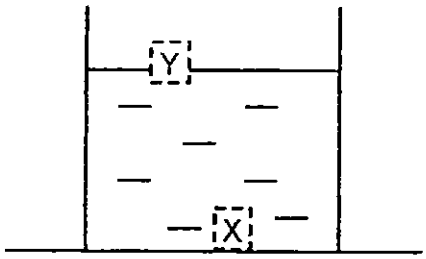
BOOKLET A:	_____ / 60
BOOKLET B:	_____ / 40
TOTAL:	_____ / 100

PARENT'S SIGNATURE: _____

For questions 31 to 44, write your answers in this booklet. The number of marks available is shown in brackets [ ] at the end of each question or part question. **(40 marks)**

---

31 Alex placed two blocks of the same size and mass, P and Q, into a beaker of water as shown below.



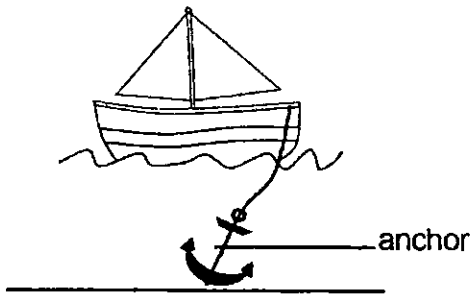
Block P was found at position Y, while block Q was found at position X.

(a) Fill in the blanks using the correct words in the box. [2]

contracts	expands	floats	sinks

This shows that block P _____ in water, and block Q _____ in water.

Alex wants to make an anchor for his ship.



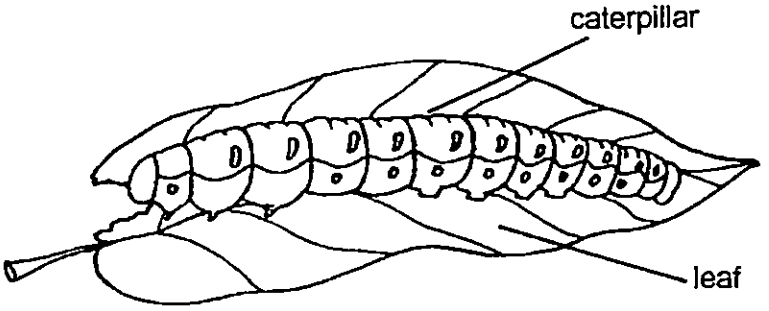
One of the materials used to make the blocks (P and Q) can be used to make the anchor.

(b) The material from block _____ can be used to make an anchor.

	3

(Go on to the next page)

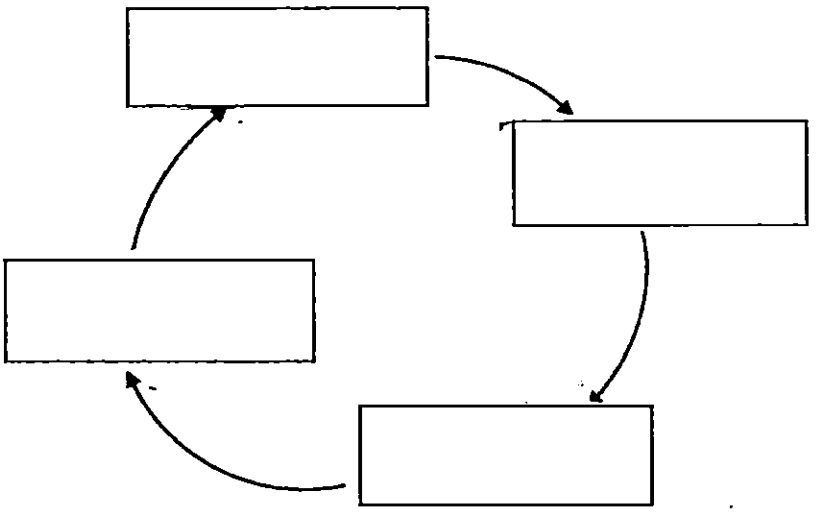
32 Fill in the blank with a correct word.



(a) The caterpillar needs food, water and _____ to stay alive. [1]

(b) The caterpillar eats leaves and becomes longer after sometime. This shows that it can _____ [1]

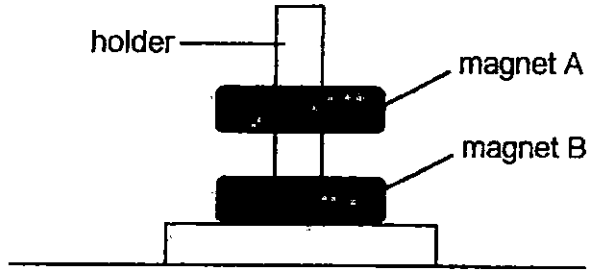
(c) Fill in the stages of the life cycle of the butterfly in the chart below. [1]



	3

(Go on to the next page)

33 Alice placed two ring magnets, A and B, through a holder as shown below.



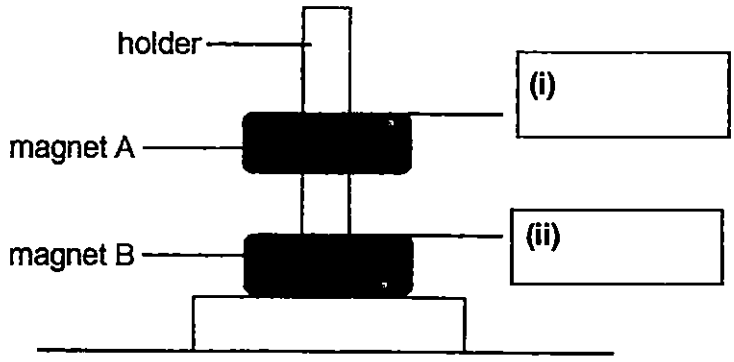
(a) The holder was made of wood and did not attract the magnets. [1]

Wood is a _____ material.

(b) Why was magnet A floating above magnet B? [1]

Magnet A was _____ magnet B.

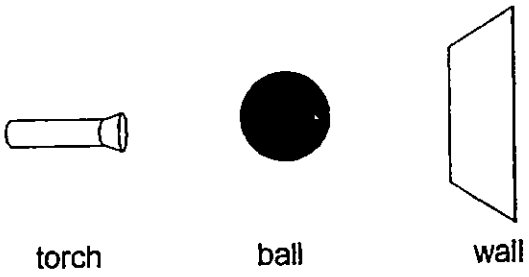
(c) Label the poles of magnets A and B in the boxes provided below. [1]



	3

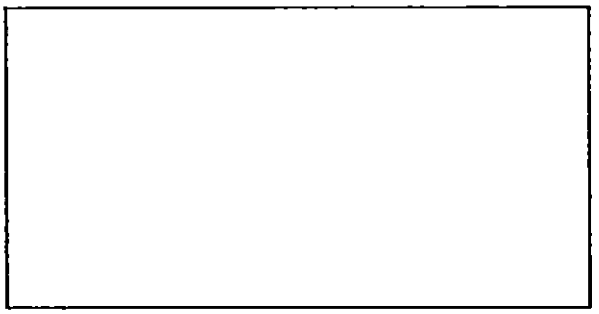
(Go on to the next page)

34 Elena shines a torch on a ball and a shadow is formed on a smooth wall.



(a) A shadow is formed when light is _____ by an object. [1]

(b) Draw the shadow of the ball that is formed on the wall. [1]



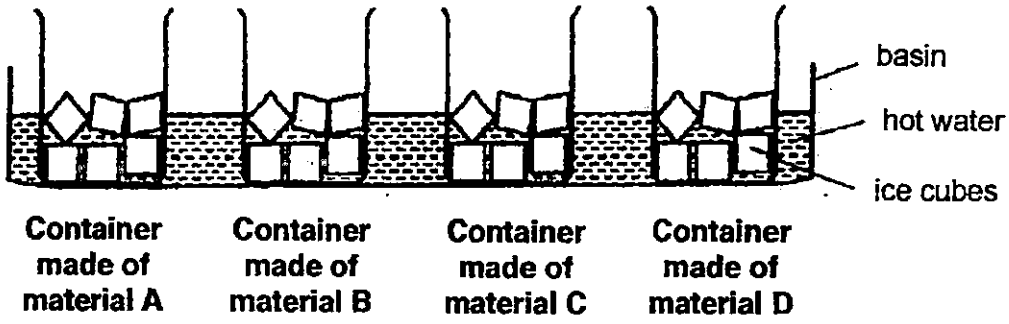
(c) What Elena can do to increase the size of the shadow formed on the wall? [1]

_____

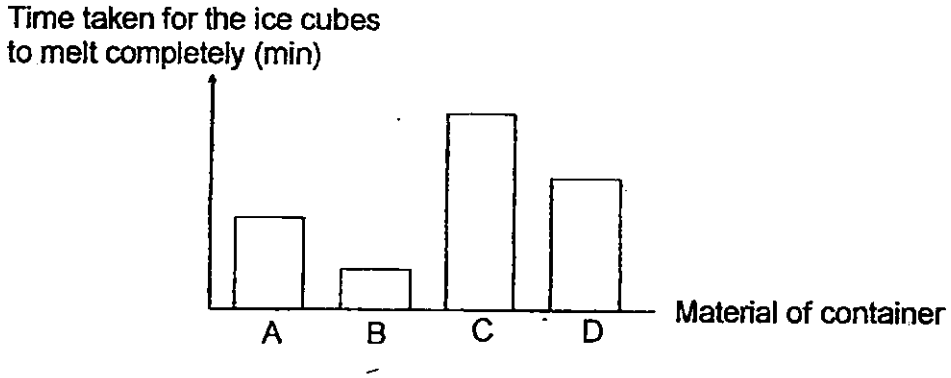
	3

(Go on to the next page)

35 John had four similar containers made of four different materials, A, B, C and D. He put an equal amount of ice cubes into each container. He then placed all the containers into a basin of hot water as shown in the diagram below.



John measured the time taken for the ice cubes to melt completely in each container and recorded the results in the graph below.



(a) Which material (A, B, C or D) is the best conductor of heat? [1]

_____

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

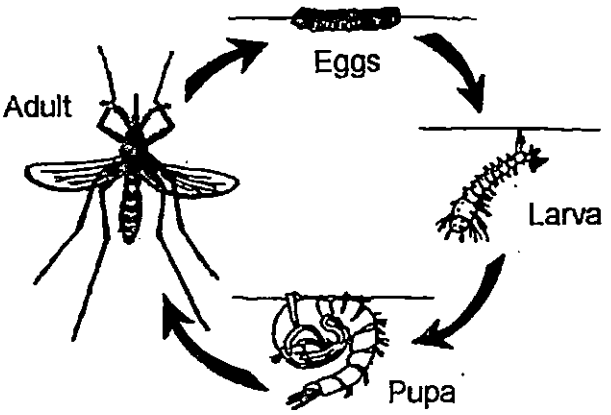
_____

_____

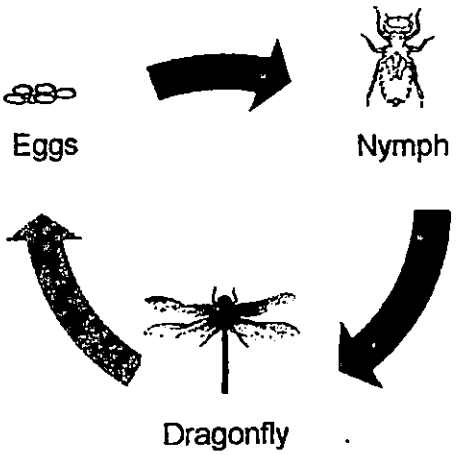
2

(Go on to the next page)

36 Study the two life cycles below.



Life cycle of mosquito



Life cycle of dragonfly

(a) State one similarity and difference between the two life cycles. [2]

(i) Similarity: _____

_____

(ii) Difference: _____

_____

(b) At which of the stages would it be easiest to get rid of the mosquito? [1]

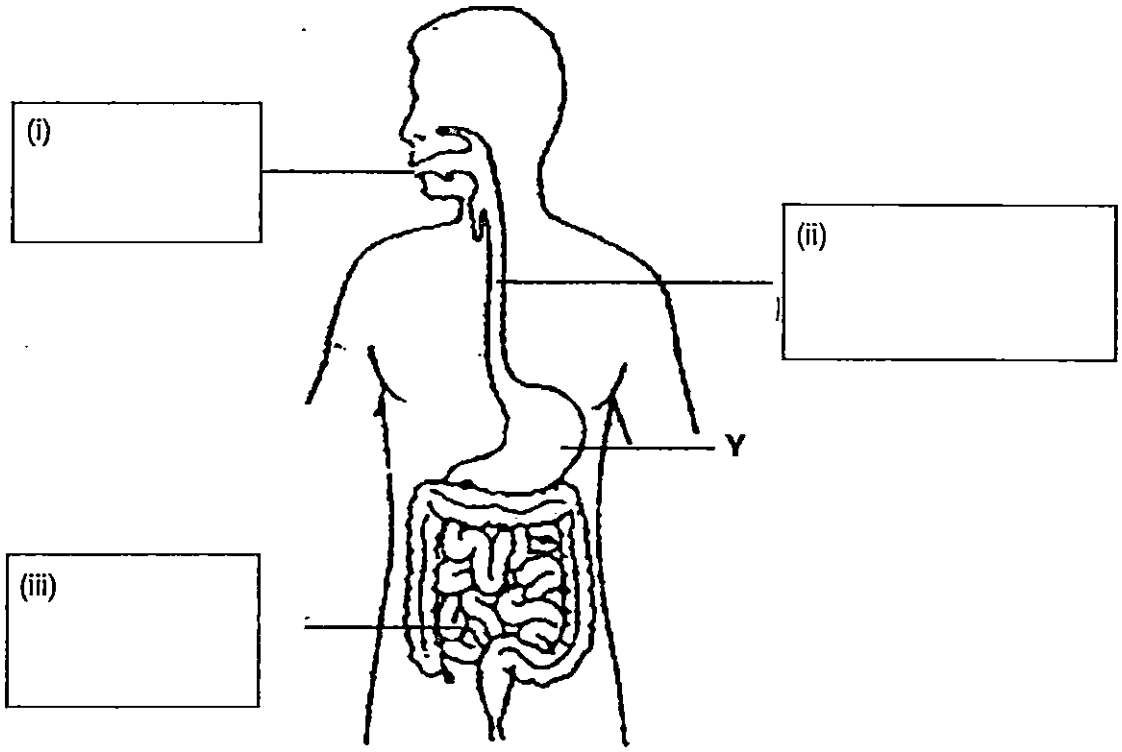
_____

_____

3

(Go on to the next page)

37 The diagram below shows the human digestive system.



(a) In the diagram above, name **only** the parts where digestion takes place. [1]

(b) What is the name of part Y? [1]

_____

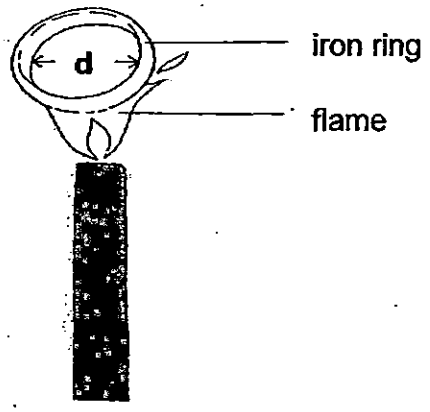
(c) What is the main function of part Y? [1]

_____

	3

(Go on to the next page)

38 An iron ring was heated over the flame.



d is the width of the ring.

(a) Will ***d*** ***increase, decrease*** or ***remain the same*** after heating? [1]

_____

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

_____

_____

(c) Suggest one way to decrease ***d.*** [1]

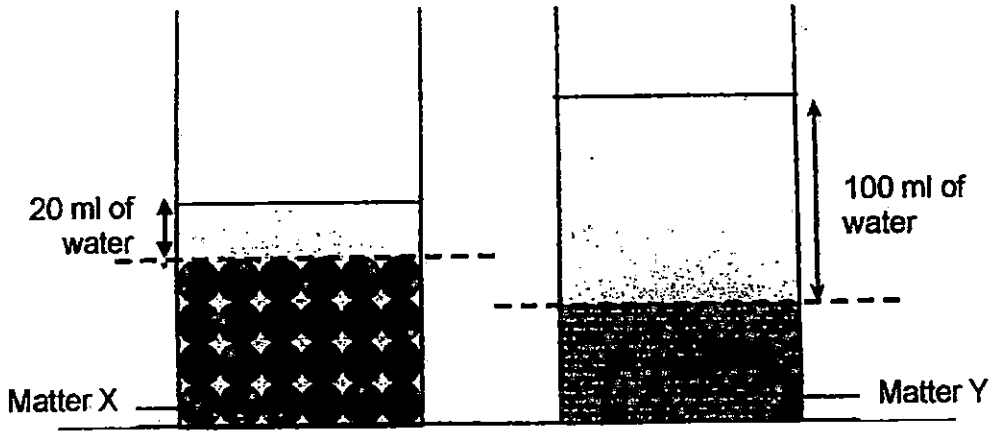
_____

3

(Go on to the next page)

39 Mark placed an equal mass of Matter X and Matter Y into 2 similar containers. He then poured 100 ml of water into each container.

The diagram below shows what he observed after pouring the water into the containers. The mass of both materials and volume of water he poured into the containers remained the same at the end of the experiment.



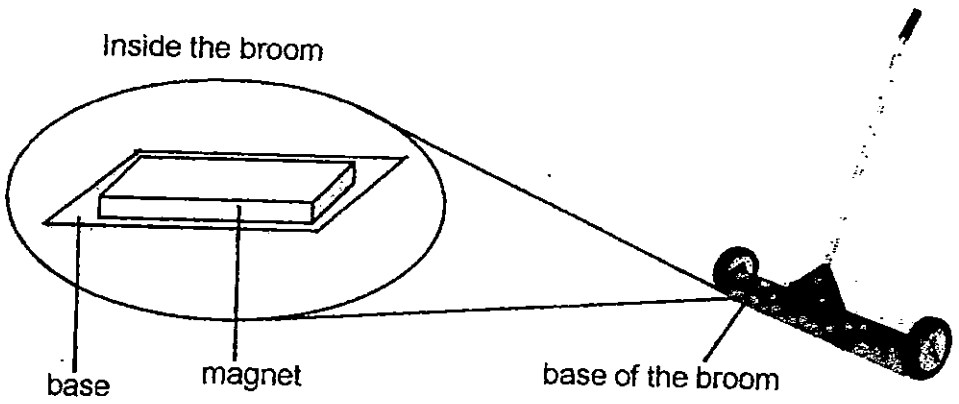
Indicate with a tick (√) if each statement is true or false. [3]

	Statement	True	False
(a)	Matter X has a definite shape.		
(b)	Matter X is a solid but Matter Y is a gas.		
(c)	Water occupied the air spaces in between Matter X but not Matter Y.		

3

(Go on to the next page)

40 Calvin used the magnetic broom, as shown below, in his steel factory. Calvin observed that the base of the broom will attract steel pieces when it is being pushed around the floor. Inside the base of the broom, there is a magnet attached to it.



(a) Based on his observation, what can Calvin conclude about magnet? [1]

_____

Calvin later lent the broom to his friend who had an aluminum factory. His friend wanted to use it to attract the aluminium pieces on the floor.

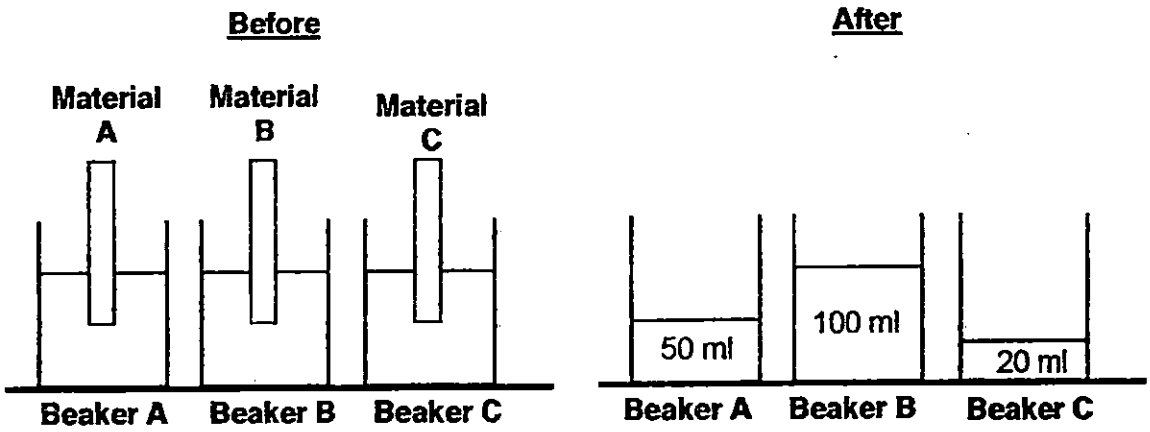
(b) Will the aluminium pieces be attracted by the magnetic broom? Give a reason for your answer. [1]

_____

	2

(Go on to the next page)

41 Three different pieces of materials, A, B and C, of equal lengths and thickness were put into 3 identical beakers of water as shown below. Each beaker contained 100 ml of water. After 10 minutes, materials A, B and C were removed from the beaker and the amount of water left in the beakers was measured.



(a) State the following variables for this experiment. [2]

(i) Changed variable: _____

(ii) Responding variable: _____

(b) What is the aim of this experiment? [1]

_____

_____

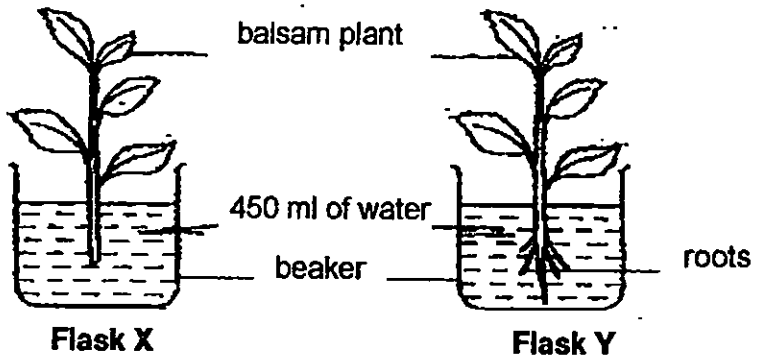
(c) State an important variable that must be kept the same for the experiment to be fair. [1]

_____

	4

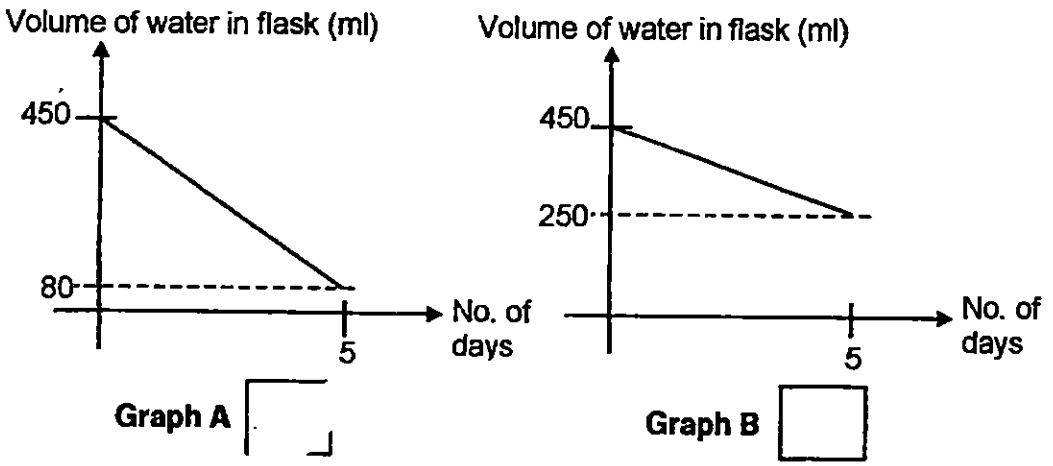
(Go on to the next page)

42 Siti puts one balsam plant each into Flask X and Flask Y. She removed only the roots of the balsam plant in Flask X.
Both flasks were then left in the open at the same location and the volume of water in each flask was measured and recorded over 5 days.



The graphs below shows the change in the volume of water in both flasks over a period of 5 days.

(a) Study the 2 graphs shown below. Which graph best represents the change in volume of water in **Flask Y** over a period of 5 days? Tick (√) your answer. [1]



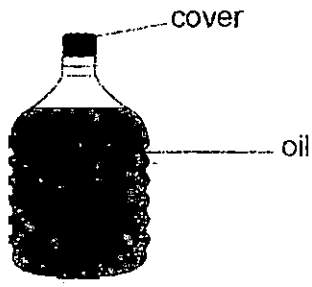
(b) Give a reason for your answer in (a). [1]

_____

2

(Go on to the next page)

43 Mark has a bottle of cooking oil.

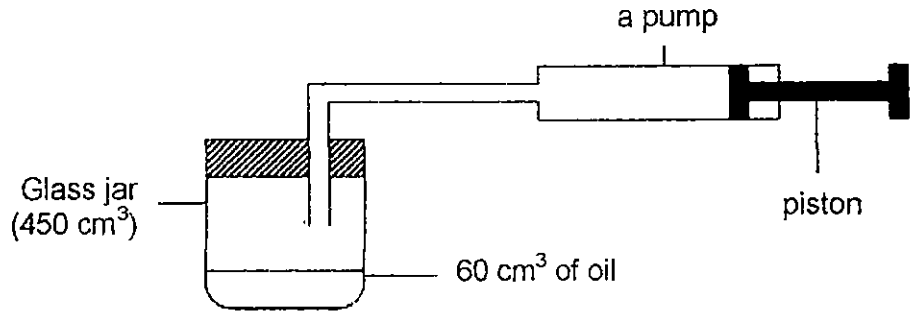


(a) Complete the sentences to state if the parts are solid, liquid or gas.

(i) The cover is a _____ [1]

(ii) Oil is a _____ [1]

Later, Mark poured the oil into a glass jar that has a capacity of 450 cm^3 and connected a pump to it as shown below.



(b) 50 cm^3 of air is pumped into the jar when the piston is completely pushed in. What is the volume of air in the jar after one pump? [1]

_____

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

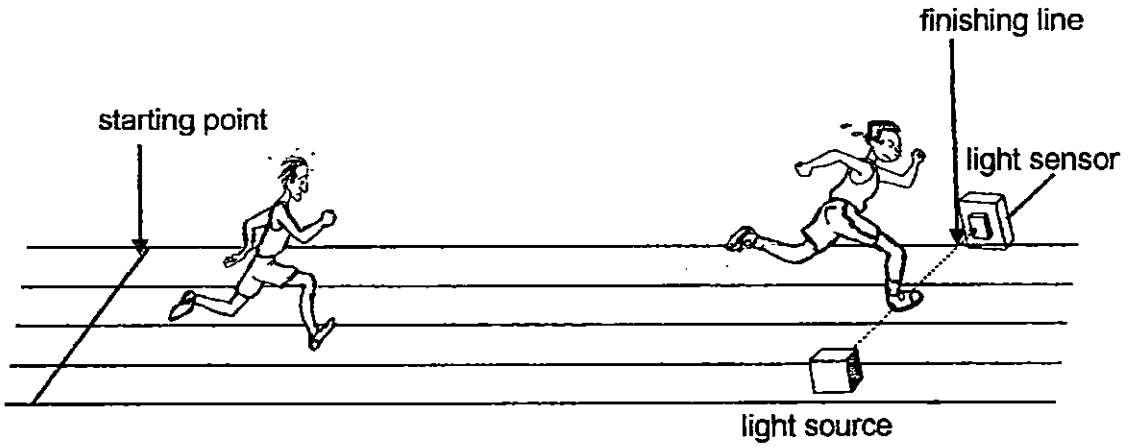
_____

_____

4

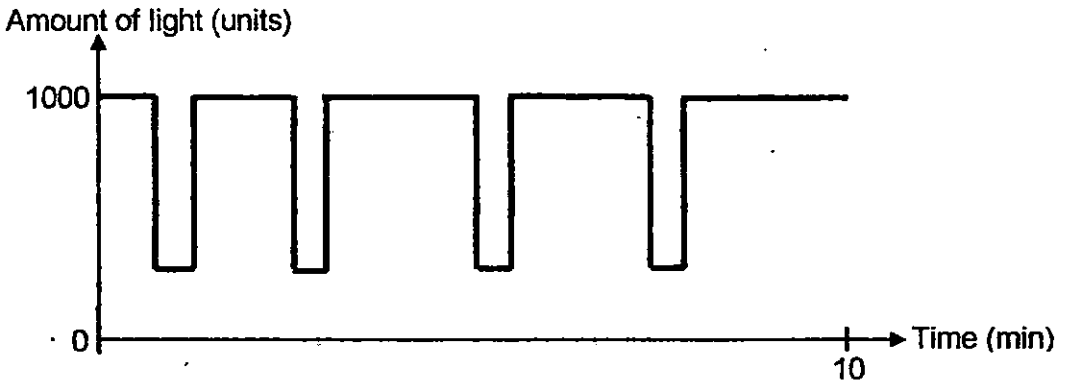
(Go on to the next page)

44 Mr Song used a strong beam of light and a light sensor connected to a data-logger to record the number of students running pass the finishing line in 10 minutes.



The data-logger records the brightness of light as 1000 units when the beam of light shines into the sensor.

The light graph below shows the amount of light entering the light sensor during the 10 minutes run.



(a) Based on the graph, how many students crossed the finishing line during10 minute? [1]

(b) State a characteristic of light that is demonstrated here. [1]

End of Booklet

2

EXAM PAPER 2015
LEVEL : PRIMARY 4
SCHOOL : MARIS STELLA HIGH SCHOOL(PRIMARY)
SUBJECT : SCIENCE
TERM : SA2

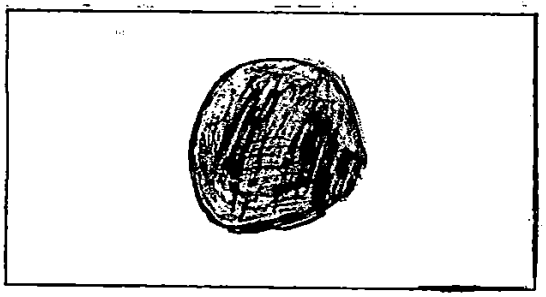
Q 1	Q 2	Q 3	Q 4	Q 5	Q 6	Q 7	Q 8	Q9	Q 10
4	**3**	**3**	**3**	**3**	**4**	**4**	**2**	**4**	**3**
Q 11	Q 12	Q 13	Q 14	Q 15	Q16	Q17	Q18	Q19	Q20
3	**1**	**4**	**4**	**3**	**3**	**4**	**1**	**4**	**3**
Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30
4	**3**	**3**	**2**	**4**	**4**	**2**	**1**	**2**	**3**

Q31a floats / sinks Q31b. Q

Q32a. air
Q32b. grow
Q32c. egg➔ lava ➔ pupa ➔adult

Q33a. non – magnetic Q33b. repelling
Q33c i) north Q33c ii) south

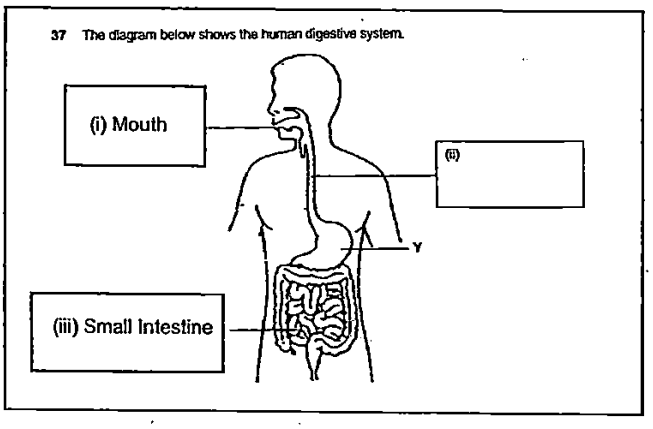
Q34block Q34b. **SEE PICTURE** Q34c. Bring the torch nearer to the ball



Q35a. B Q35b. The ice took the shortest time to melt completely.

Q36a. (i) Both the mosquito and the dragonfly have an egg stage
Q36a. (ii) The mosquito has a 4 stage life cycle while the dragonfly has a 3-stage life cycle.
Q36b. Egg stage.

Q37a. **SEE PICTURE** Q37b. Stomach Q37c. To digest food into simpler substances



Q38a. D will increase after heating.
Q38b. The fire from the flame causes the iron ring to expand when heated.
Q38c. Put the ring in cold water.

Q39a. TRUE Q39b. FALSE Q39c. TRUE

Q40a. Magnet can attract a magnetic material.
Q40b. No. Aluminum is not a magnetic material so the magnet broom cannot attract the aluminum pieces.

Q41a (i) different type of material
Q41a (ii) The amount of water absorbed.

Q41b. To find out if the type of material will affect the amount of water left in the beaker.

Q41c. Thickness of material.

Q42a. Graph A
Q42b. Flask Y has roots to absorb the water.

Q43a(i) solid
Q43a(ii) liquid

Q43b. 390cm^3
Q43c. Air can be compressed.

Q44a. 4
Q44b. Light travels in straight line.

THE END