METHODIST GIRLS' SCHOOL

Founded in 1887

END-OF-YEAR EXAMINATION 2011
PRIMARY 4
SCIENCE

BOOKLET A

Total Time for Booklets A and B: 1 hour 45 minutes

INSTRUCTIONS TO CANDIDATES

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

Name: _____ ( )

Class: Primary 4._____

Date: 13 October 2011

This booklet consists of 16 printed pages including this page.

(Go on to the next page)

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

(50 marks)

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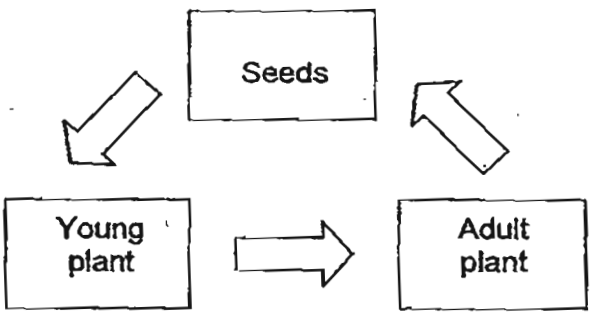
1. Which of the following characteristics tell us that the dolphin is a mammal?

A: It has hair.
B: It lays eggs.
C: It lives on land.
D: It suckles its young.

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

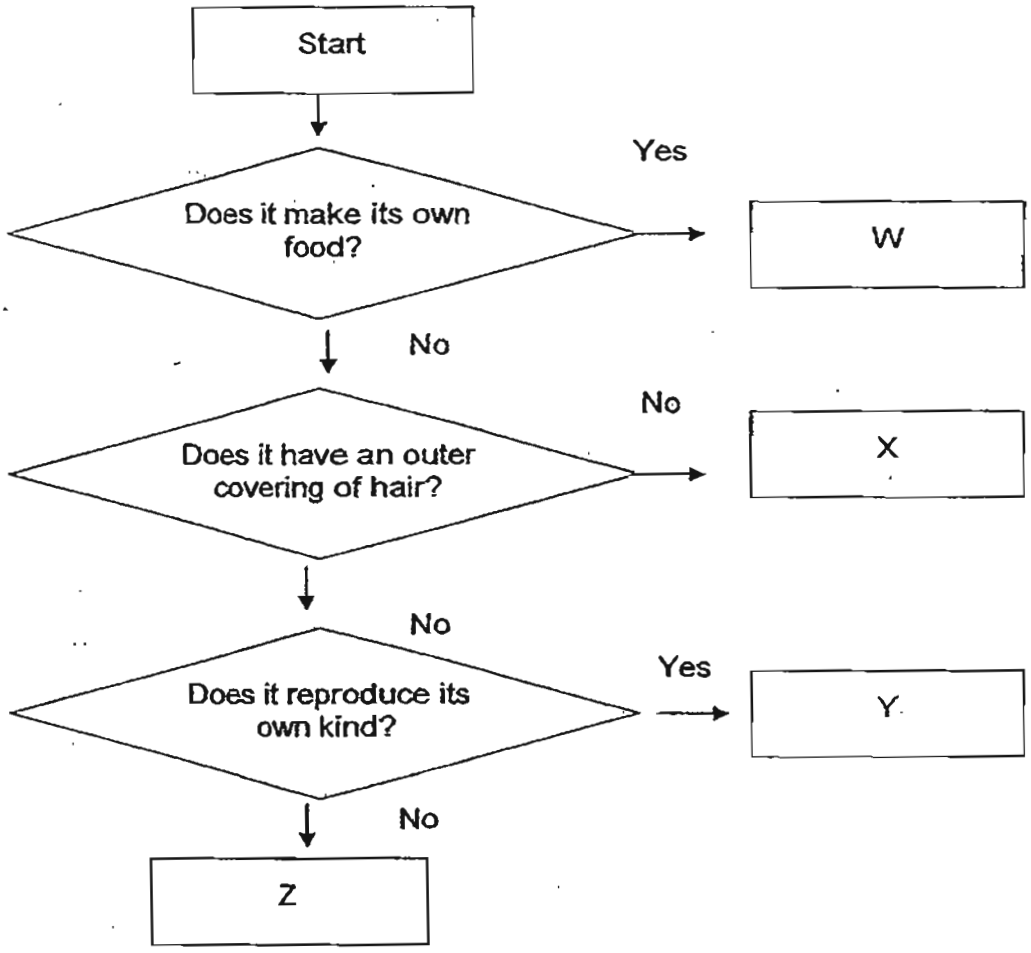
2. Study the life cycle below.



Which of the following plants **do not** follow the same life cycle as that shown in the diagram?

(1) Ixora
(2) Sunflower
(3) Morning glory
(4) Bird's nest fern

3. Study the flowchart below.



What conclusions can be made from the information given?

A : W is a type of plant
B : X is a mammal
C : Y could be a type of fungi
D : Z is not a living thing

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

(Go on to the next page)

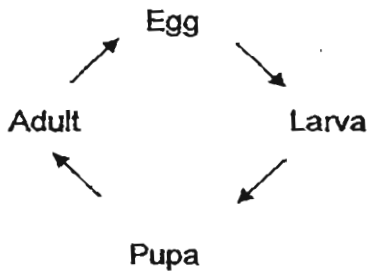
4. John put some animals into two groups X and Y as shown below.

Group X	Group Y
Dolphin	Platypus
Rabbit	Ostrich
Seal	Clownfish

John grouped the animals according to _____.

(1) the way they move
(2) their body coverings
(3) the way they reproduce
(4) the types of food they eat

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

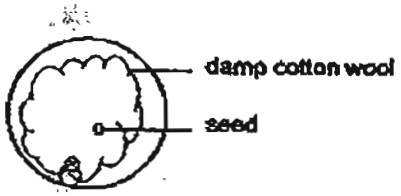


Which animal has the life cycle as shown above?

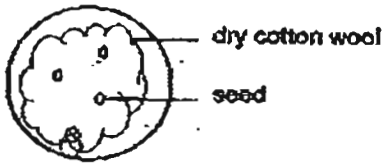
(1) Beetle
(2) Chicken
(3) Cockroach
(4) Grasshopper

6. Ali had prepared a few set-ups for his experiment. He was trying to find out whether seedlings need water for germination. Which 2 set-ups should he use for his experiment?

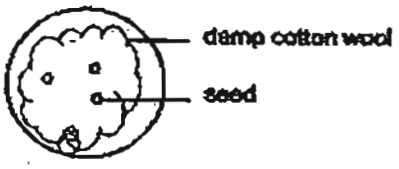
A: Placed near the window



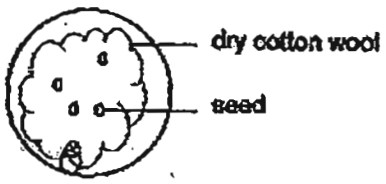
B: Placed near the window



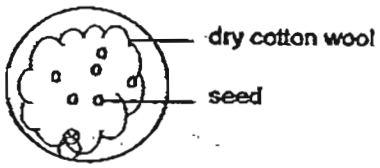
C: Placed near the window



D: Placed in the garden



E: Placed in the garden



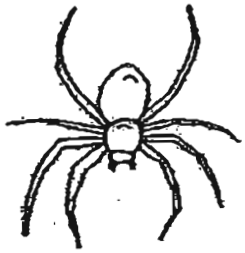
(1) A and B
(2) B and C
(3) D and E
(4) C and E

7. Which one of the animals below is NOT an insect?

(1)

(2)

(3)



(4)

8. Which one of the following is the main function of the roots of a plant?

(1) It takes in air.
(2) It protects the plant.
(3) It makes food for the plant.
(4) It holds the plant to the ground.

9. What is the main function of the small intestine?

(1) It removes digested food from the body.
(2) It allows water to be passed into the blood.
(3) It removes undigested food out of the body.
(4) It allows digested food to be passed into the blood

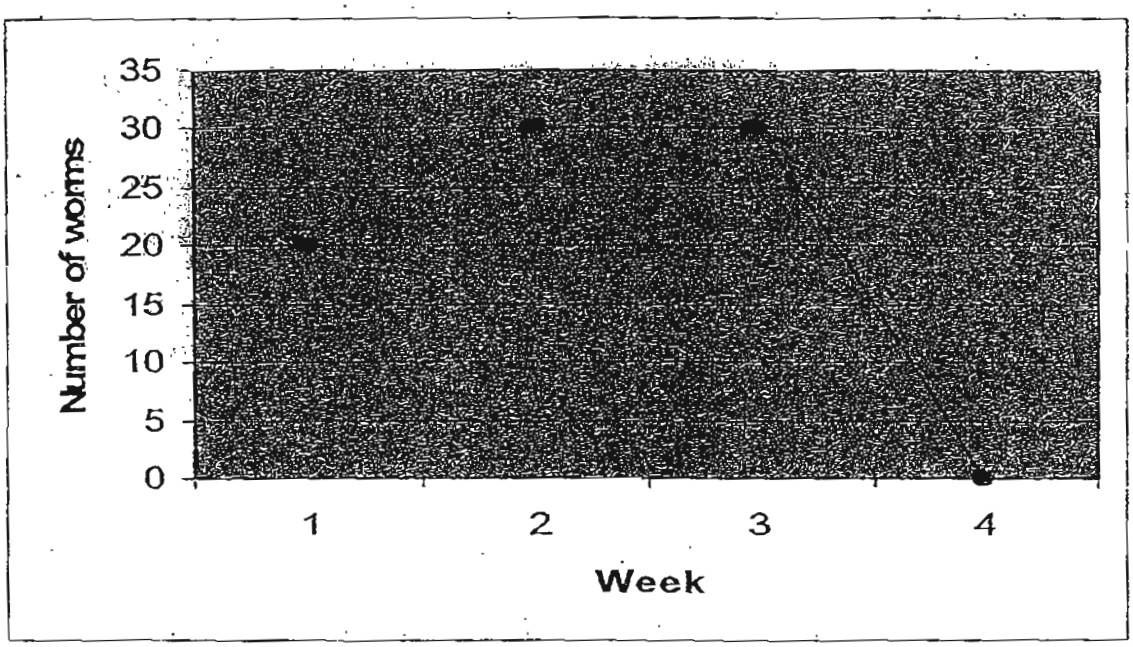
10. When we exercise, our hearts beat faster so that blood can transport _____ faster to different parts of the body that need them.

A: food
B: oxygen
C: carbon dioxide
D: waste materials

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

(Go on to the next page)

11. The diagram below shows how the number of worms in a tank changes over a period of three weeks.



Which of the following statements are true?

A: The worms starting dying after week 3.
B: The number of worms decreased after week 2.
C: The number of worms remained the same for a week.
D: The highest number of worms is recorded in week 1.

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

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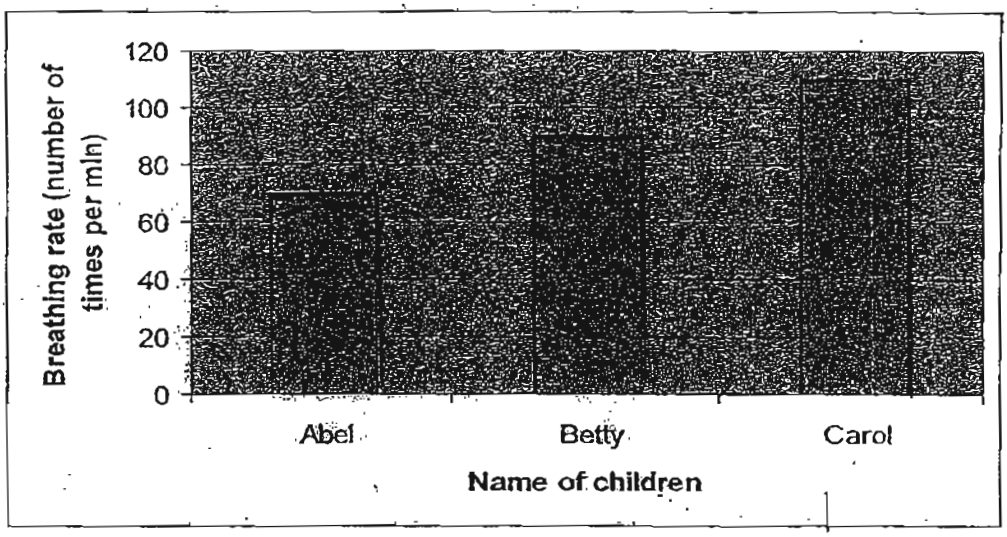
12. The graph below shows the breathing rates of Abel, Betty and Carol.

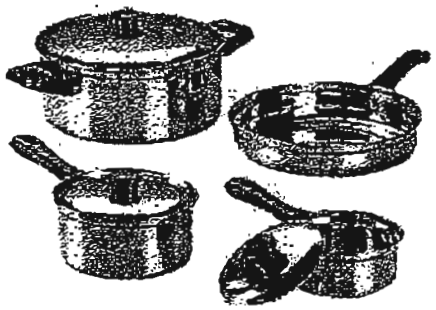


Which of the following describes the activity they were doing?

	Abel	Betty	Carol
(1)	Walking	Swimming	Sleeping
(2)	Sleeping	Walking	Swimming
(3)	Swimming	Walking	Sleeping
(4)	Swimming	Sleeping	Walking

13. Steel is usually used to make cooking pots and pans because steel is _____

A : hard
B : strong
C : shiny
D : good conductor of heat



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

(Go on to the next page)

14. Ronald places a metal spoon in a cup of hot tea,

The spoon becomes hotter after a while.

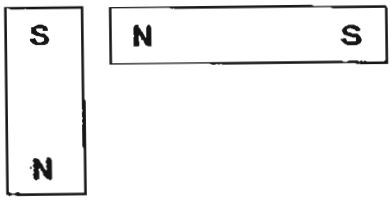
Which one of the following explains this?

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

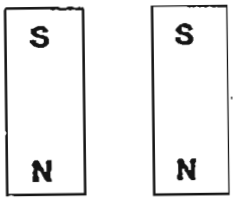
15. In which one of the following will the two magnets push each other away?

(1)

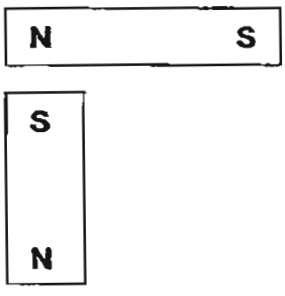
(2)



(3)



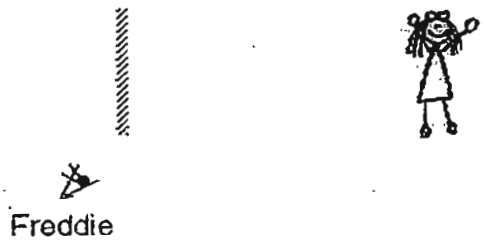
(4)



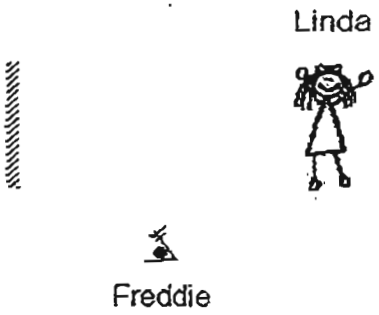
16. Freddie can see Linda in the mirror. The diagram below shows Linda's position.

Which of the following shows the correct position of Freddie?

(1)

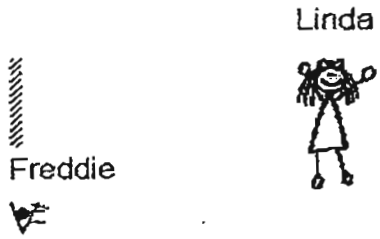


(2)



(3)

(4)



17. Which one of the following is the best conductor of heat?

(1) A paper plate
(2) A metal plate
(3) A plastic plate
(4) A wooden plate

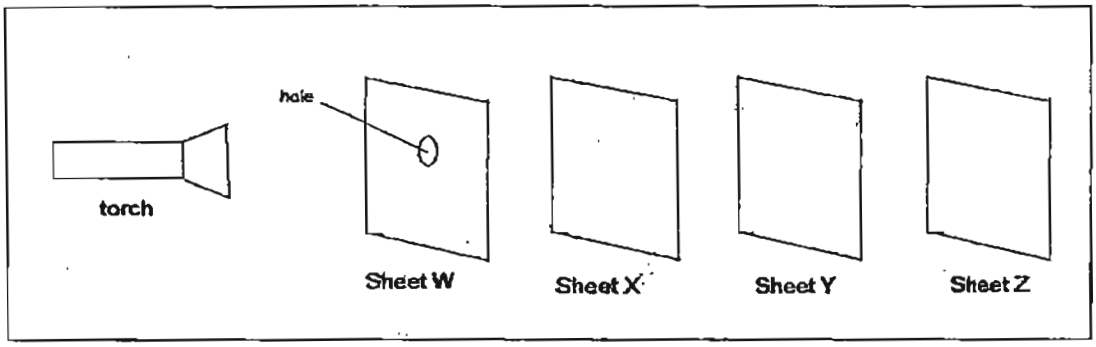
(Go on to the next page)

18. Matter is anything that has mass and occupies space.

Which one of the following is NOT matter?

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

19. Stanley carried out an experiment in a dark room. He placed four sheets, W, X, Y and Z neatly in a straight line.



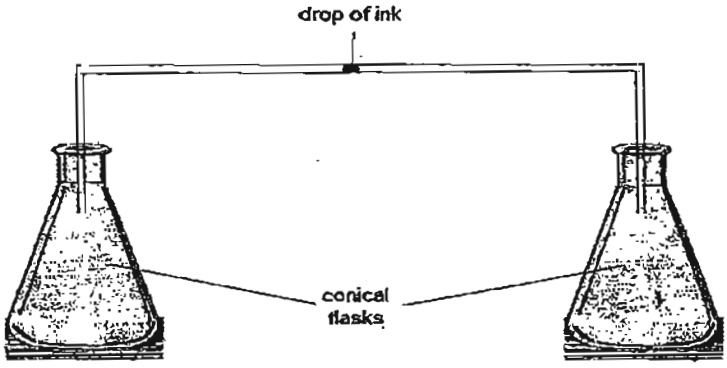
He discovered that when the torch was shone on the sheets, a bright circular patch of light was seen only on Sheet Y.

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

	Sheet W	Sheet X	Sheet Y	Sheet Z
(1)	not possible to tell	transparent	opaque	transparent
(2)	transparent	opaque	not possible to tell	opaque
(3)	opaque	transparent	opaque	not possible to tell
(4)	transparent	not possible to tell	opaque	transparent

(Go on to the next page)

20. The diagram below shows <u>two empty flasks</u> connected by a glass tube. There is a drop of ink in the tube.

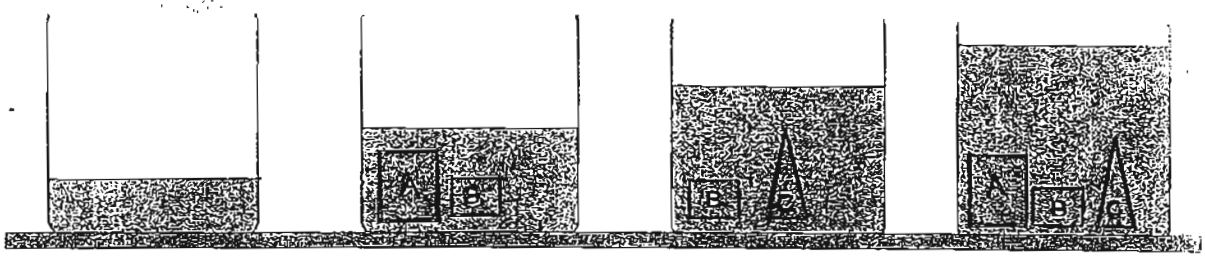


Which of the following will cause the drop of ink to move towards Flask Y?

A : Put Flask X in a basin containing ice.
B : Put Flask Y in a basin containing ice.
C : Put Flask X in a basin containing hot water.
D : Put Flask Y in a basin containing hot water.

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

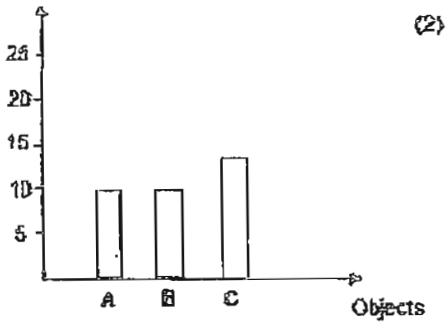
21. Samuel wanted to find out the volume of three objects, A, B and C. He put them into a beaker of water and took note of the water levels as shown below. The objects are not drawn to scale.



Which of the following bar graphs correctly shows the volume of the three objects?

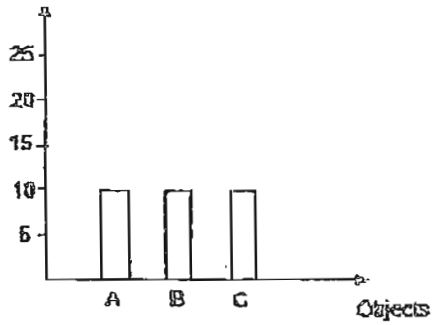
Volume in cm³

(1)



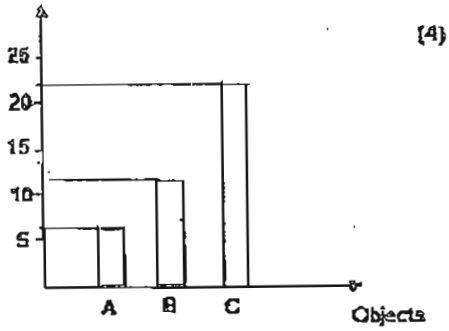
Volume in cm³

(2)



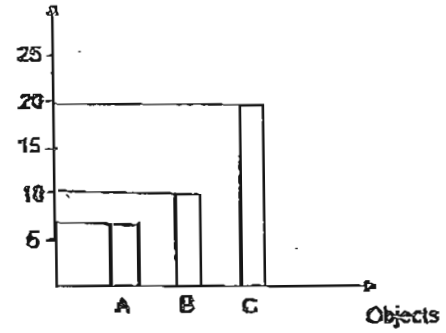
Volume in cm³

(3)



Volume in cm³

(4)



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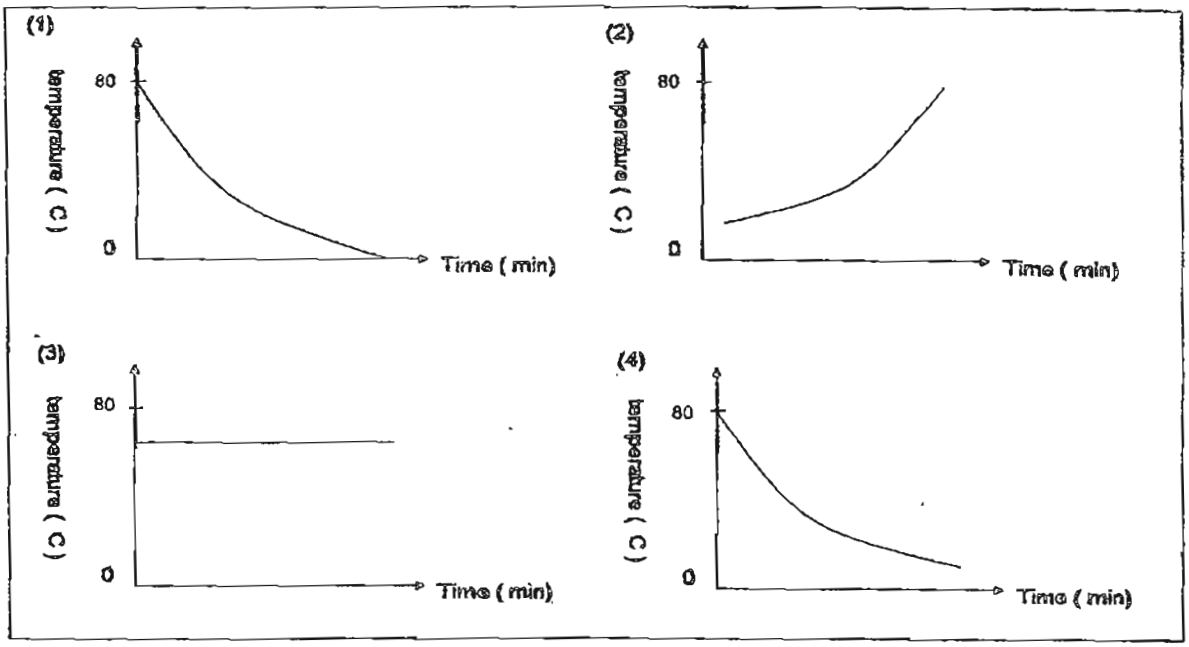
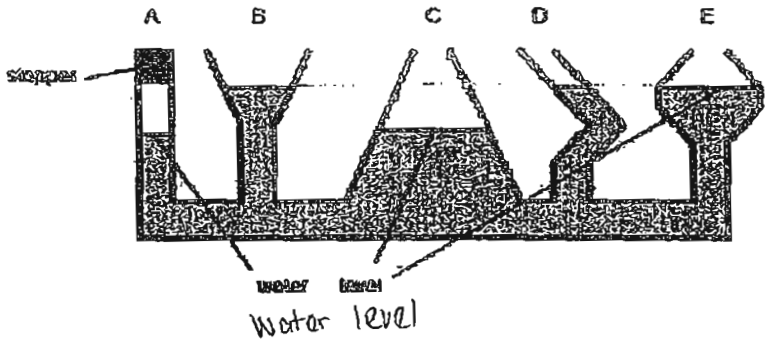
22. A cup of hot tea was left in a room for an hour. Which graph best represents the changes in temperature taking place?



23. The diagram below shows a communicating vessel.

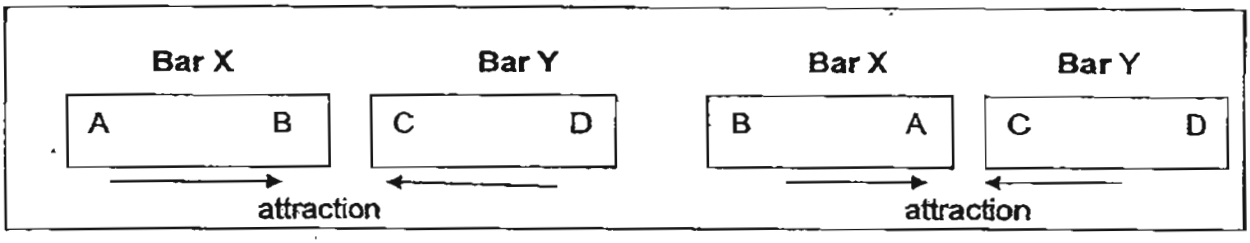


Sally poured water into the vessel after a stopper has been inserted into A. In which arms of the communicating vessel has the water level been incorrectly drawn?

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

(Go on to the next page)

24. The diagram below shows what happens when both ends of Bar X is brought near to Bar Y.

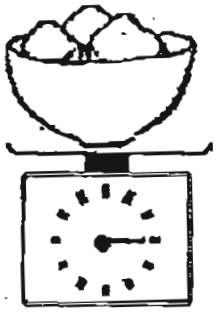


What can you conclude from the results?

(1) Both X and Y are magnets.
(2) Both X and Y are magnetic materials.
(3) X is a magnet, Y is a magnetic material.
(4) X is a magnet, Y is a non-magnetic material.

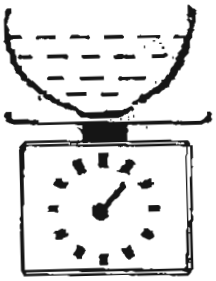
(Go on to the next page)

25. Jen put 15 pieces of ice cubes into a bowl and weighed them on a kitchen scale. The reading was as follows:

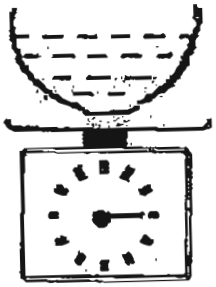


He then left the bowl of ice cubes on the table for 2 hours. When all the ice cubes had melted, he wiped the outside of the bowl and weighed again. Which one of the following diagrams shows the correct reading on the kitchen scale?

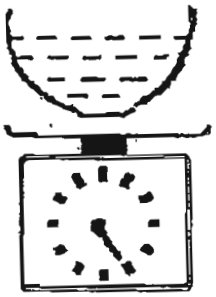
(1)



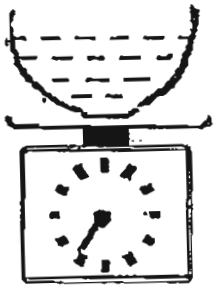
(2)



(3)



(4)



End of Booklet A

METHODIST GIRLS' SCHOOL

Founded in 1887

END-OF-YEAR EXAMINATIONS 2011
PRIMARY 4
SCIENCE

BOOKLET B

Total Time for Booklets A and B: 1 hour 45 minutes

INSTRUCTIONS TO CANDIDATES

Follow all instructions carefully.
Answer all questions.
Write your answers in this booklet.

Name: _____ ( )

Class: Primary 4._____

Date: 13 October 2011

Booklet A	**/ 50**
Booklet B	**/ 40**
Practical Test	**/ 10**
TOTAL	**/ 100**

This booklet consists of 15 printed pages including this page.

(Go on to the next page)

For questions 26 to 40, write your answers in the spaces provided.

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

(40 marks)

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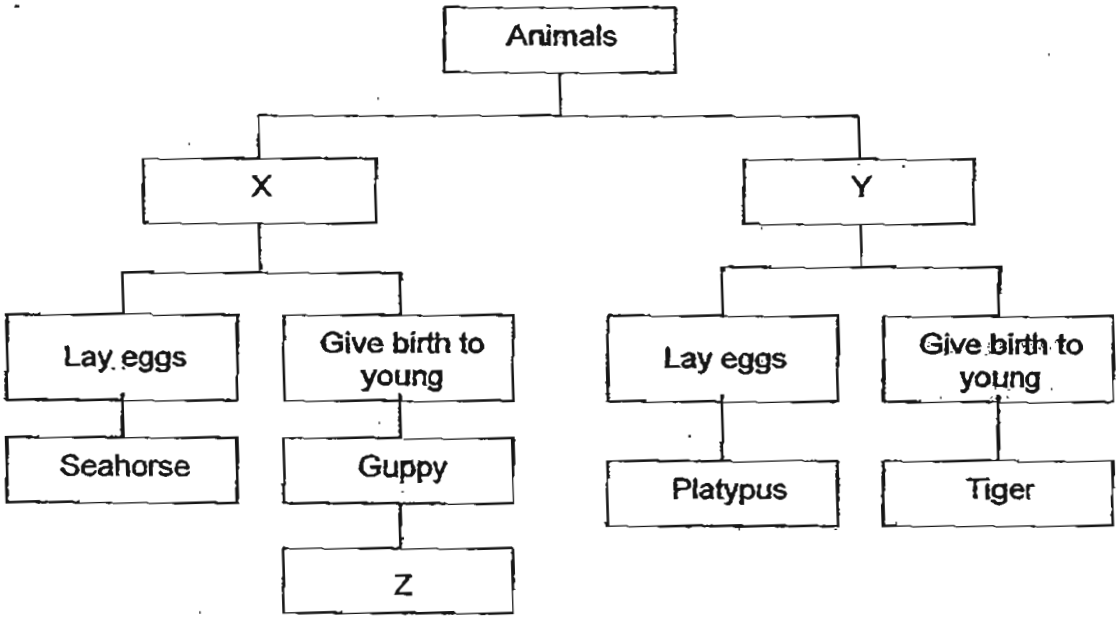
26. Study the classification chart below.



(a) Based on the chart above, in what way are the seahorse and the platypus similar? [1]

_____

(b) Suggest an appropriate heading for X and Y respectively. [1]

X : _____

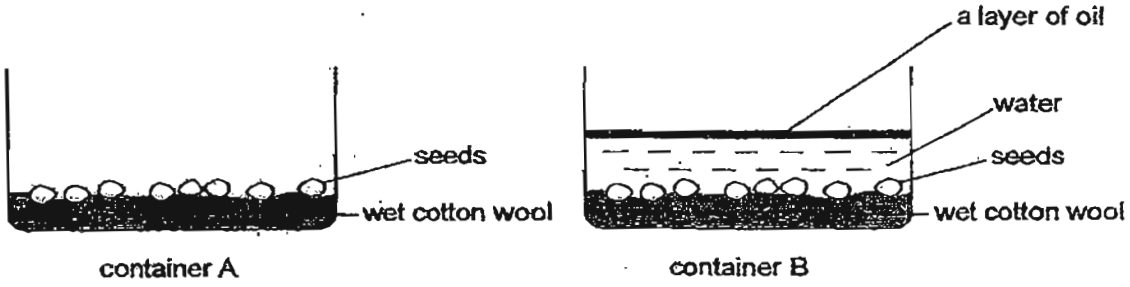
Y : _____

(c) Name an animal that can be placed in the box Z. [1]

_____

3

27. Ali carried out an experiment on the germination of seeds using two containers, A and B, as shown below. After three days, only the seeds in container A germinated.



(a) Give a reason why the seeds in container B did not germinate. [1]

_____

_____

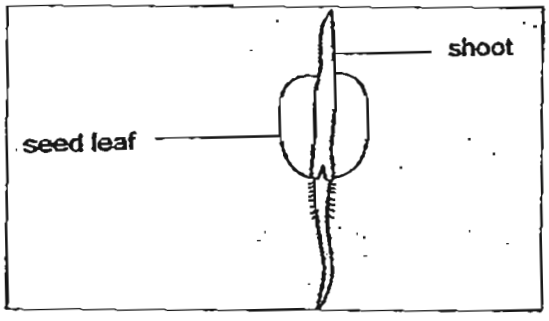
(b) Would the seeds in container A still germinate if the seeds are completely covered by a black cloth with holes? Explain your answer. [1]

_____

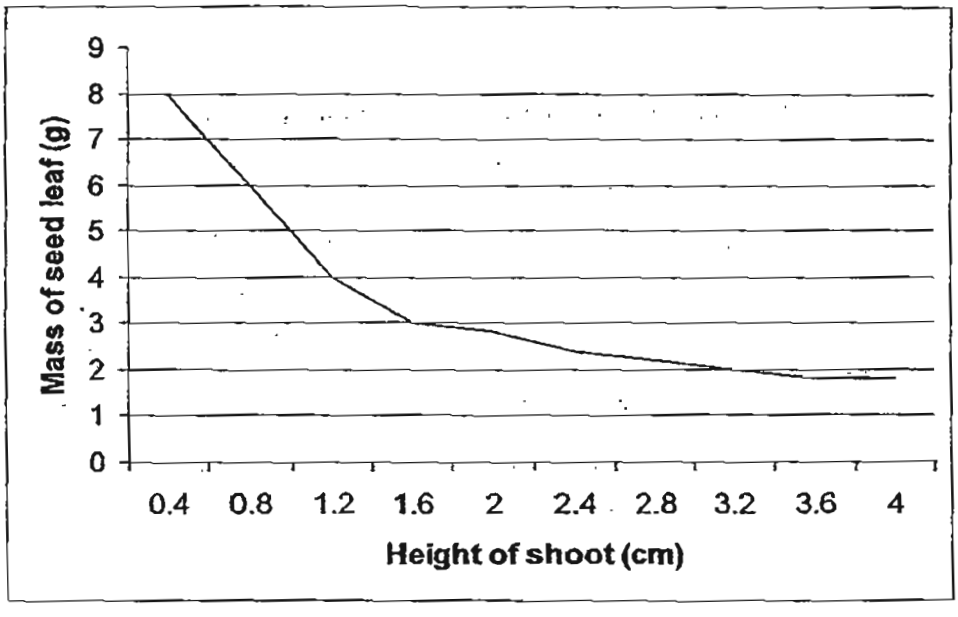
_____

2

28. Look at the seedling below.



The graph below shows the changes in the mass of the seed leaf and height of the shoot over 6 days.

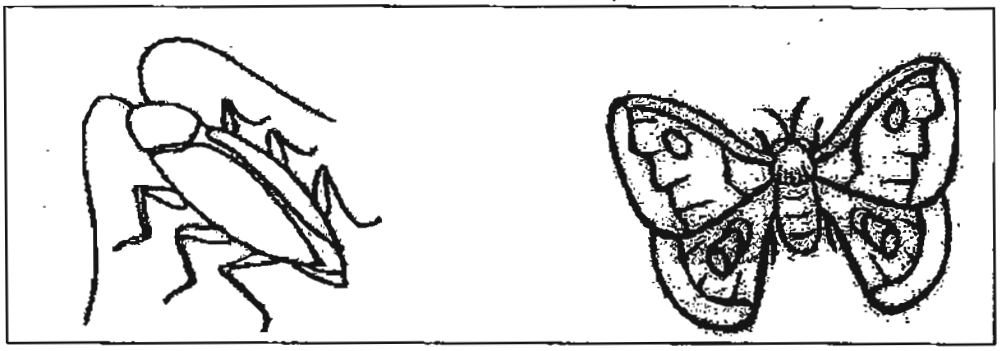


(a) From the graph, what can be said about the relationship between the mass of the seed leaf and the height of the shoot. [1]

(b) Give a reason for (a). [1]

2

29. Observe the two organisms, A and B, below.



Organism A Organism B

Name one similarity and one difference between the life cycle of organism A and organism B. [2]

Similarity: _____

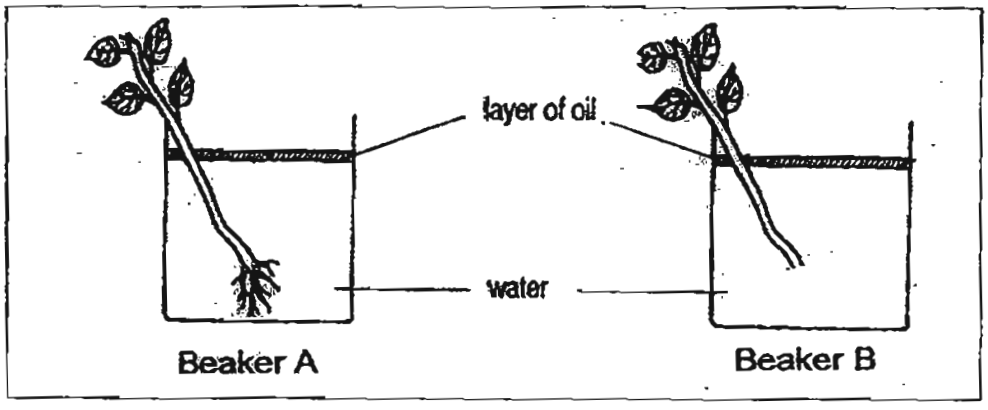
_____

Difference: _____

_____

2

30. Sean wanted to find out how much water would be taken in by two plants in a week. He set up the experiment as shown below.



Beaker	Volume of water at the start of the experiment	Volume of water at the end of the experiment
A	200 ml	50 ml
B	200 ml	195ml

(a) How much water was taken in by the plant in Beaker A in a week? [1]

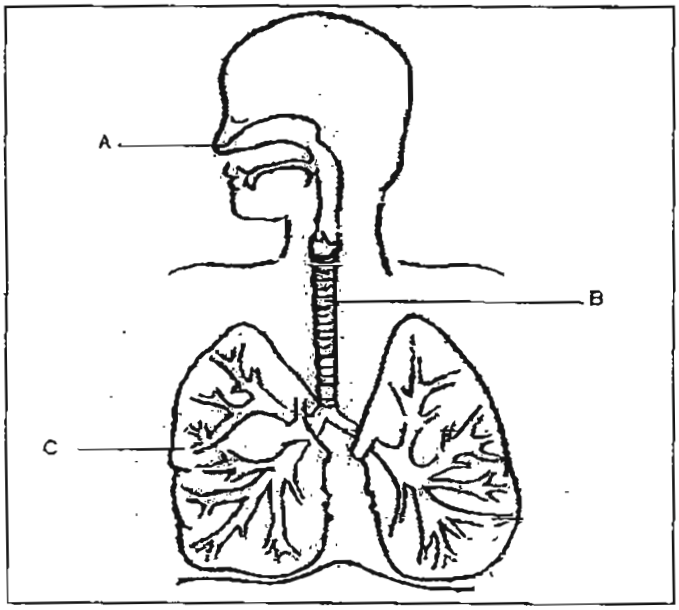
(b) Why is there only a loss of 5ml of water in Beaker B as compared to Beaker A? [1]

(c) Why do you think oil is used in Beakers A and B? [1]

3

(Go on to the next page)

31. Study the diagram below.



(a) What are the organs A, B and C? [1½]

A: _____

B: _____

C: _____

(b) Name the part of the skeletal system that protects the lungs? [½]

_____

(c) Which gas is removed from the lungs when we breathe out? [1]

_____

3

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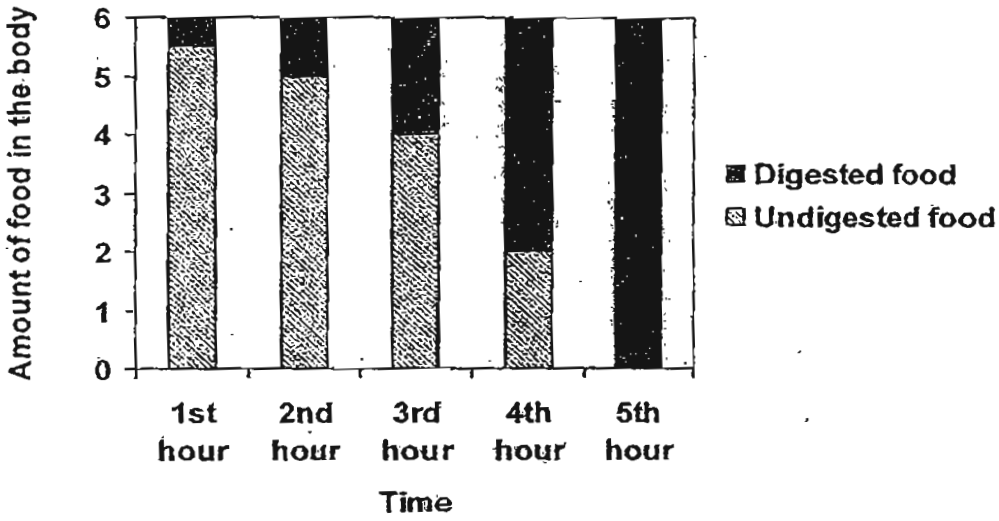
32. The bar graph below shows the amount of digested and undigested food in Jane's body over 5 hours after she ate it.



(a) Based on the graph, at which hour would two-thirds of her food be digested? [1]

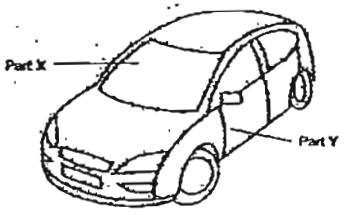
_____

(b) In which organ would food be completely digested? [1]

_____

2

33. The diagram below shows a car.



(a) Part X is made of glass because it allows _____ to pass through so that the driver can see the road. [1]

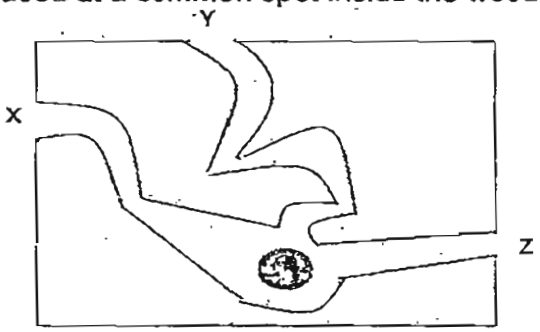
(b) Part Y is made of _____ because Y has to be strong. [1]

(c) Give two reasons why a car is a non-living thing. [1]

a)_____

b)_____

34. The diagram below shows a wooden block with 3 holes drilled through it. There is a coin placed at a common spot inside the wooden block as shown in the diagram.



Jude tries to locate the coin by looking into X, Y and Z respectively.

(a) At which opening will Jude be able to see the coin? [1]

_____

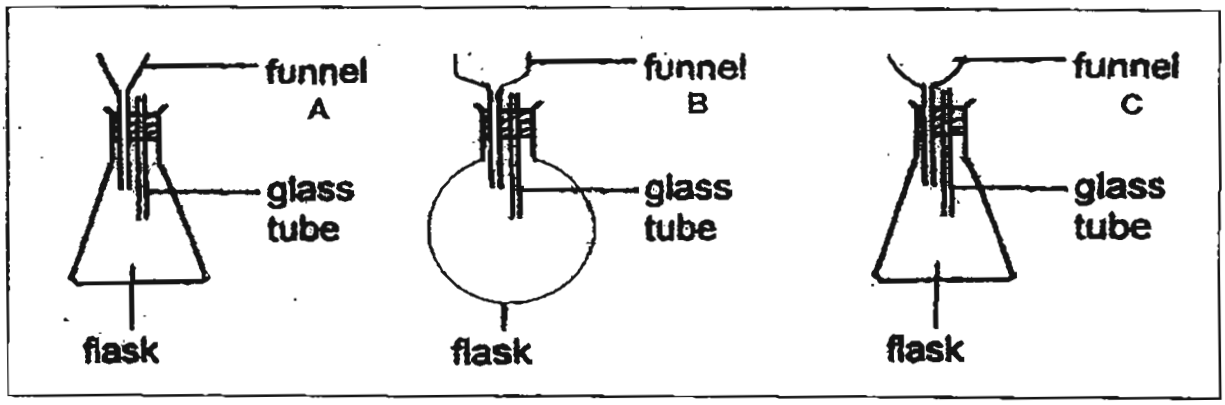
(b) Explain your answer to (a). [2]

_____

_____

6

35. Hassim wanted to find out which type of funnel, A, B or C, will allow water to flow through it most quickly. He prepared the set-ups in the laboratory, as shown below.



(a) To ensure that his experiment is a fair one, write down three variables that he should keep the same for all the set-ups. [3]

(i) _____

(ii) _____

(iii) _____

(b) Why do you think it is necessary to place a glass tube in each set-up? [1]

_____

_____

4

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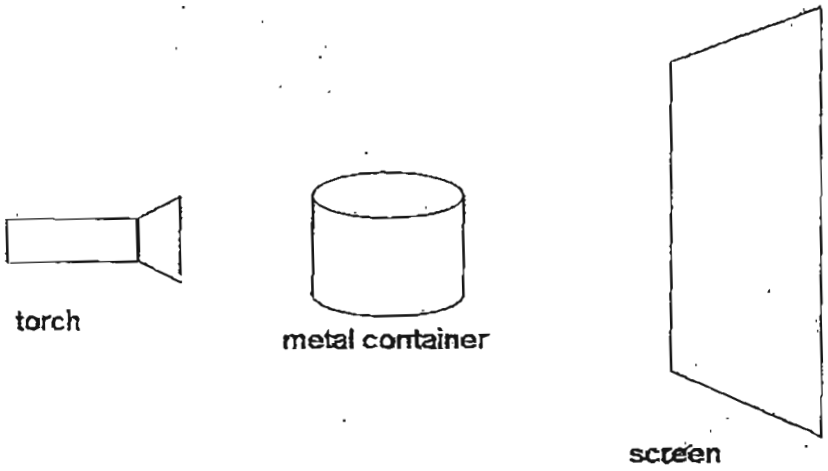
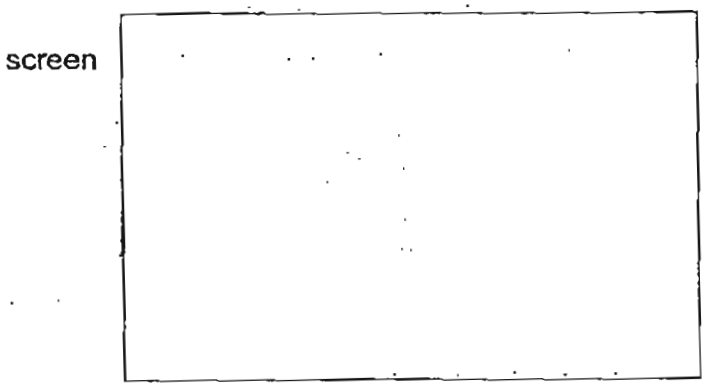
36. Leena shines a torch on the metal container and a shadow is formed on the screen.



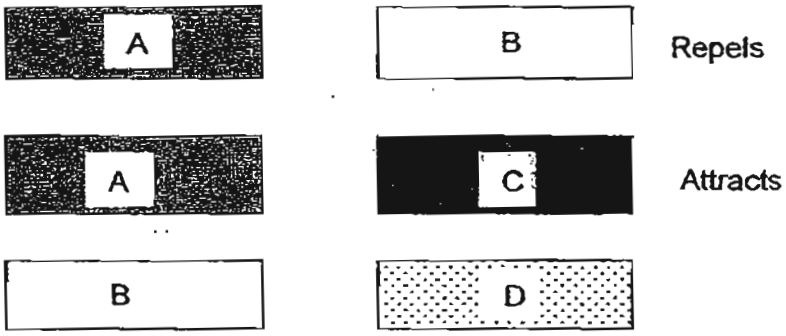
(a) A shadow is formed when light is _____ by an object. [1]

(b) Draw the shadow of the metal container that is formed on the screen. [1]



2

37. The following pairs of objects were placed close together to see how they interacted.



(a) Which of the objects are definitely magnets? [1]

(b) Explain your answer in (a) [1]

(c) What type of material is object C made of? [1]

(d) If object D is made of plastic, how will objects B and D interact? [1]

4

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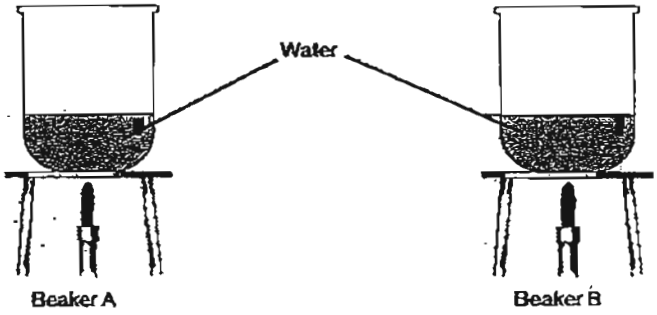
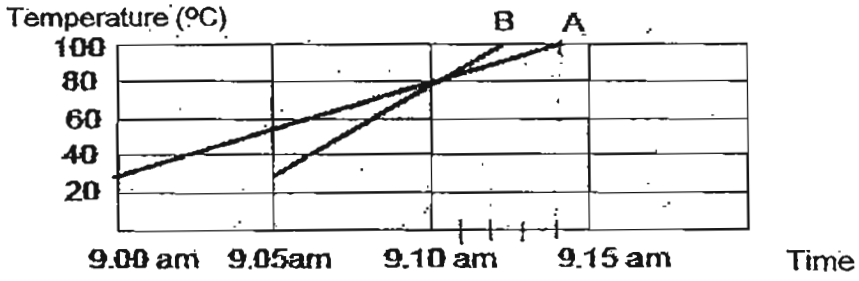
38. Two identical beakers A and B containing 300 ml of water each were heated as shown in the diagram below. The flame for Beaker A was lit 5 minutes before the flame for Beaker B.



The graph below shows the changes in the temperature of water in Beaker A and Beaker B.



(a) At what time did the water in both Beakers A and B have the same temperature? [1]

_____

(b) Which beaker of water reached the boiling point first? [1]

_____

(c) Why do you think the water in your answer to (b) reached the boiling point first? [1]

_____

_____

3

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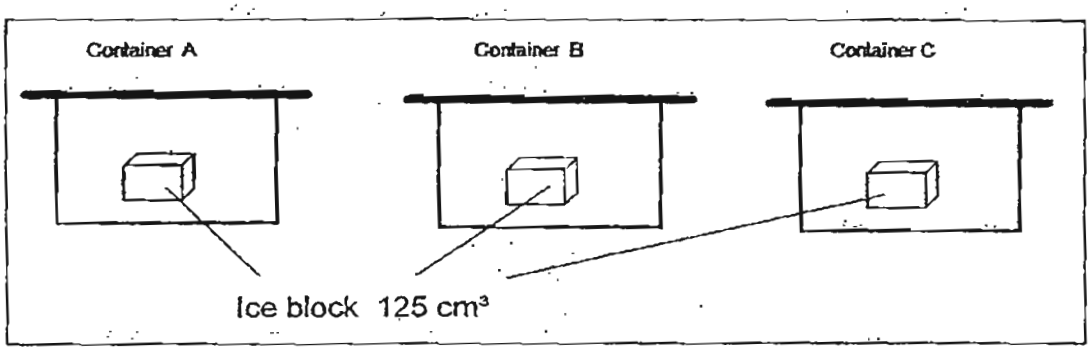
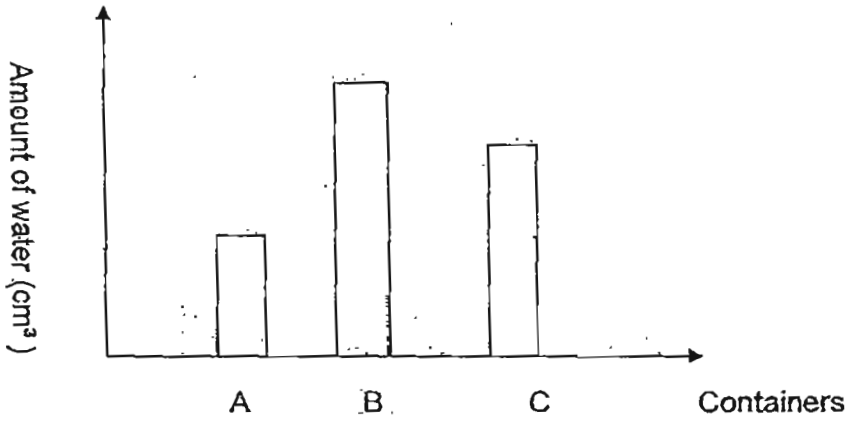
39. Irene set up an experiment as shown below. She put an ice block of equal volume in each container for 30 minutes.



After 30 minutes, she removed the blocks of ice from the container and measured the amount of water collected in each of the container. She recorded her findings in the graph below.



(a) If you are going on a picnic, which container would you use to keep your drinks cold? [1]

_____

(b) Explain why you chose this container? [1]

_____

_____

_____

2

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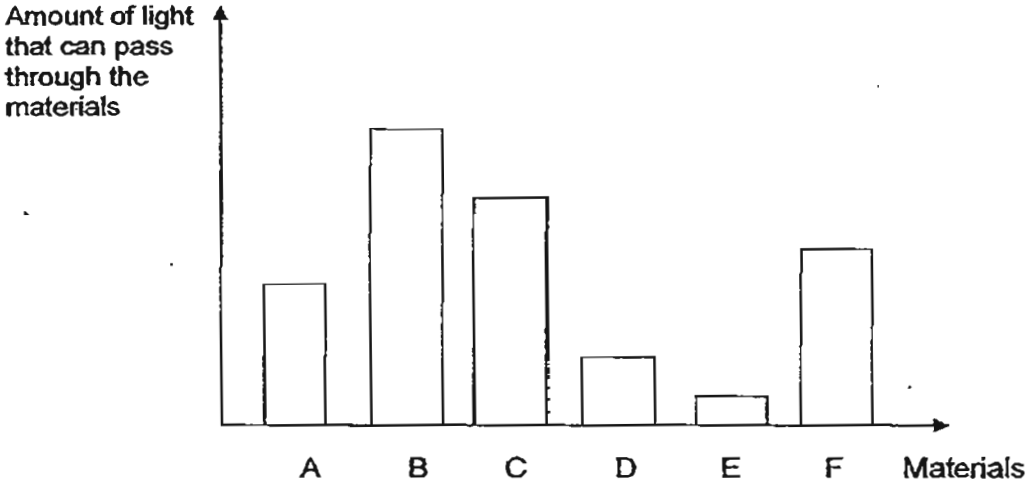
40. Kevin conducted an experiment to measure the amount of light that can pass through six different materials. He used a datalogger to do so and wrote the results in the table below.



Based on the results given in the bar chart above, answer the following questions. Read the statements and tick (√) in the appropriate boxes below. [2]

Statements	True	False	Not possible to tell
a) Material C allows more light to pass through than Material F.			
b) Material E is darker in colour than Material D.			
c) Material A could be a mirror.			
d) Material B is opaque.			

End of Paper

2

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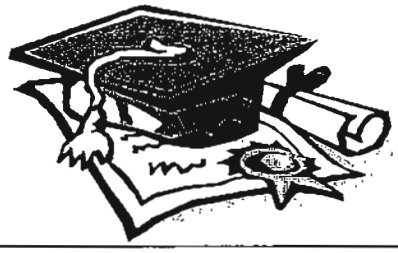
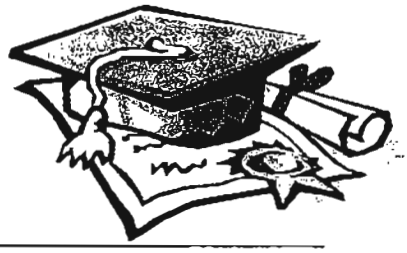


ANSWER SHEET

EXAM PAPER 2011

SCHOOL : MGS
SUBJECT : PRIMARY 4 SCIENCE

TERM : SA2



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

Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25
4	3	3	3	4	2	3	2

26)a)Both of them lay eggs.
b)X: Fish/Lives in water. Y: Mammals/Lives on land.
c)A molly.

27)a)There is no air as there is a layer of oil above the water.
b)Yes, the seeds in container A will still germinate. The seeds only need air, water and warmth to germinate, there is enough air in the container as there are holes in the black cloth for air to enter and reach the seeds.

28)a)As the height of the shoot increases, the mass of the seed leaf decreases.
b)The mass of the seed leaf decreases over time as the seedling had used up all the food stored in the seed leaf and the shoot increases, leaves will develop and it will make food for the plant.

29)Similarity: Both organism lay eggs./Both organism moults.
Difference: Organism A has a three-stage life cycle whereas. Organism B has a four-stage life cycle.

30)a)150ml of water taken in by the plant in Beaker A in a week.
b)There is no roots for the plant in Beaker B absorb water, so the stem could only take in a few millitres of water over a period of time.
c)The oil is used to prevent water from evaporating.

31)a)A: Nose B: Windpipe C)Lungs
b)The rib cage.
c)Carbon Dioxide.

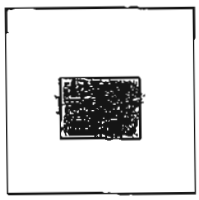
32)a)At the 4^{th} hour.
b)The small intestine.

33)a)light
b)metal
c)a)It does not respond to changes around it.
b)It does not need air, food and water to survive.

34)a)Z.
b)Light travels in a straight line and it cannot be bent.

35)a)i)The amount of water poured into each funnel.
ii)The place where the three flask were placed.
iii)The shape of the flask.
b)The glass tube allows air to escape in the flask, so that the water can flow into the flask to take up the space originally occupied by the air.

36)a)blocked
b)



37)a)Objects A and B.
b)The like poles of objects A and B were facing each other, causing them to repel and only magnets can repel each other.
c)It is made of a magnetic material such as steel.
d)Object D will not be attracted to object B.

38)a)At 9.10a.m.
b)Beaker B.
c)The flame used to heat Beaker B was stronger than the flame used to heat Beaker A.

39)a)Container A.
b)The ice in Container A melts at a slower rate, therefore Container A is the poorest conductor of heat.

40)a)T b)Not c)F d)F