CATHOLIC HIGH SCHOOL
PRIMARY 4
SEMESTRAL EXAMINATION 2, 2008

SCIENCE

Name: _____ ( )

Class : Primary 4 _____

Date : 8 October 2008

BOOKLET A

30 Questions
60 Marks

Total Time for Booklets A & B : 1 hour 30 minutes

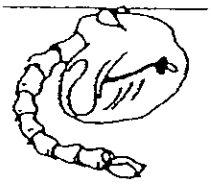
Instructions to Candidates

Do not open this booklet until you are told to do so.
Follow all instructions carefully.
Answer all questions.

Section A: Multiple Choice Questions (60 marks)

For each question from 1 to 30, four options are given. One of them is the most suitable answer. Make your choice (1, 2, 3 or 4) on the Optical Answer Sheet.

1. The diagram below shows the young of an animal.



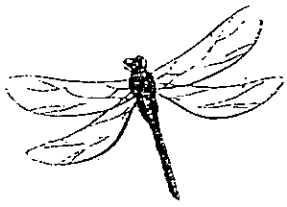
It is the young of a _____

(1) dragonfly
(2) great diving beetle
(3) mosquito
(4) water snail

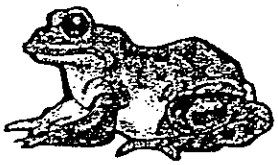
2. Which of the following animals have the same number of stages in their life cycles?

A

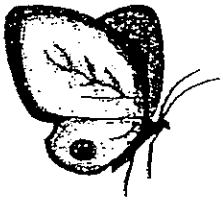
B



C



D



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

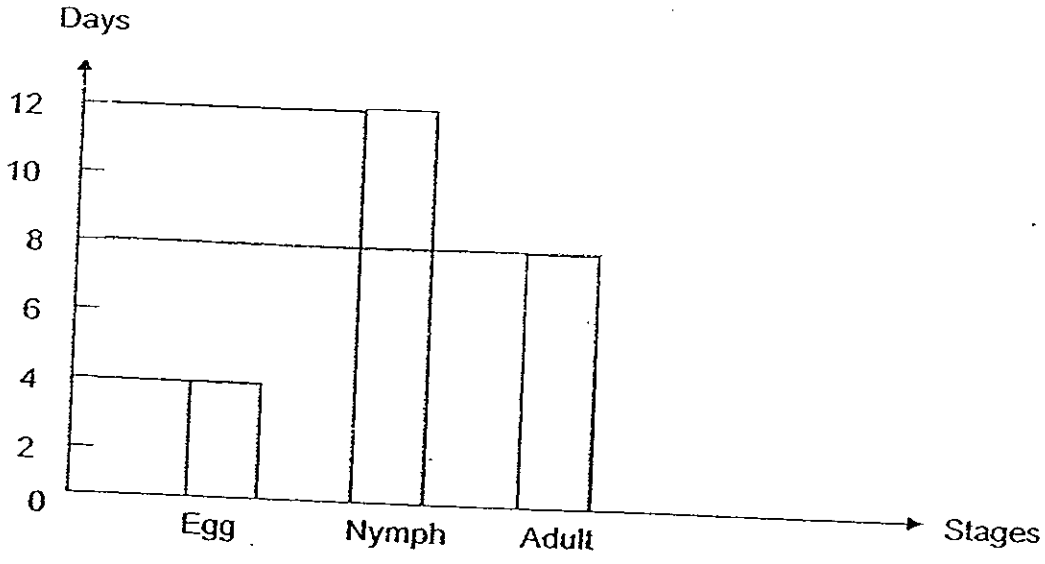
3. The table below shows the characteristics of Animals A and B.

Characteristics	Animals	
	A	B
Lays eggs	√	√
Has a pupa stage	√	X
Has wings in adult stage	√	√
Moults several times	√	X

Based on the table above, which one of the following statements is correct?

(1) Both can fly when they were young.
(2) Both have three stages in their life cycles.
(3) Animal A lays eggs while Animal B gives birth to its young alive.
(4) Animal A has 4 stages in its life cycle while Animal B has 3 stages in its life cycle.

4. The graph below shows the number of days in each stage of the life cycle of an insect.



Which one of the following information obtained from the graph is correct?

(1) The insect can only survive for 1 week.
(2) There are 3 stages in the life cycle of this insect.
(3) The insect lives in the water for 12 days as a nymph.
(4) It takes 24 days to become an adult after the egg is hatched.

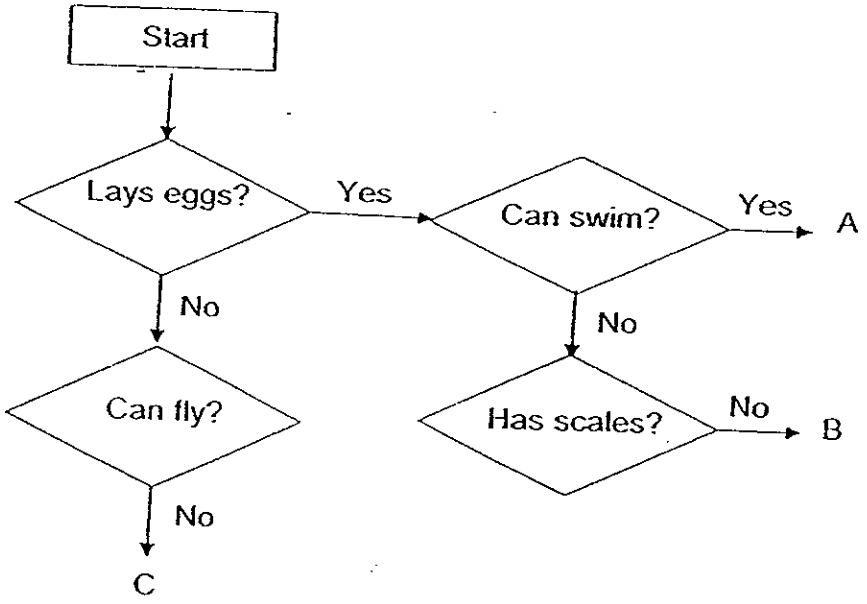
5. The table below shows the characteristics of four animals, A, B, C and D.

Animals	Number of legs			Gives birth to live young	Has wings	Has scales on its body
	0	2	4			
A	✓			✓		✓
B			✓	✓	✓	
C	✓					✓
D			✓	✓		✓

Which one of the animals is most likely to be guppy?

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

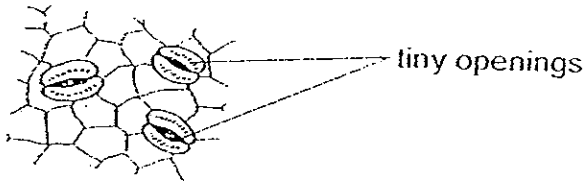
6. Study the chart below carefully.



Which of the animals can A, B and C be?

	A	B	C
(1)	Dolphin	Spider	Bat
(2)	Whale	Butterfly	Lion
(3)	Swordtail	Praying mantis	Monkey
(4)	Goldfish	Grasshopper	Elephant

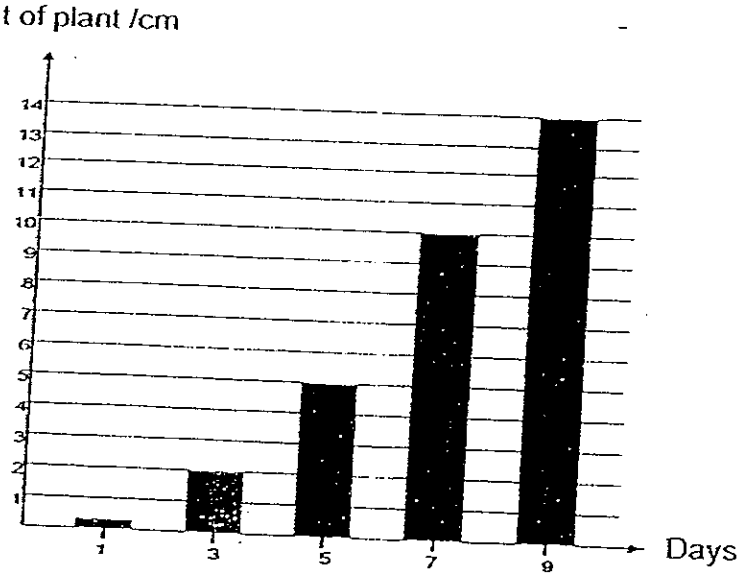
7. The diagram below shows the tiny openings which are found mostly on the underside of leaves.



The main function of these openings is to _____.

(1) absorb nutrients for the plant
(2) take in water and mineral salts for the plant
(3) transport food to the other parts of the plant
(4) take in carbon dioxide and give out oxygen

8. Jason planted a balsam plant in a pot of soil and watered it regularly. The following chart records the height of his plant over a few days.



How much did the plant grow between Day 3 to Day 9?

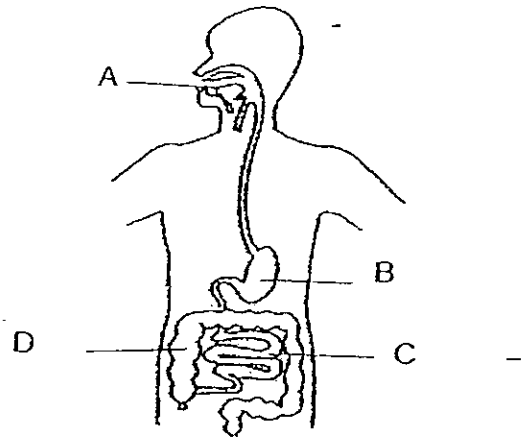
(1) 2 cm
(2) 8 cm
(3) 12 cm
(4) 14 cm

9. Which one of the following takes place in the mouth during digestion?

(1) Water is absorbed from the food.
(2) Food is completely digested in the mouth.
(3) More saliva is added to make the food easier to swallow.
(4) Part of the digested food is absorbed into the blood stream.

Using the information provided below, answer questions 10 & 11.

The figure below shows the human digestive system.



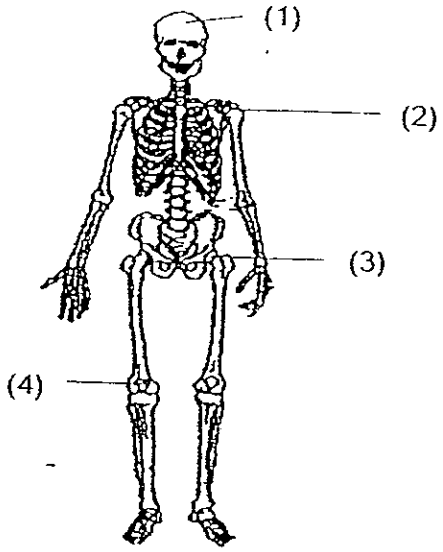
10. Where is digested food absorbed into the blood?

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

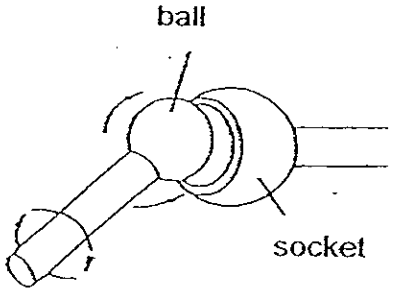
11. In which of the following parts of the digestive system does digestion take place?

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

12. Which of the following has a similar function as that of the ribcage?



13. The diagram below shows a model that represents a part of our skeletal system.

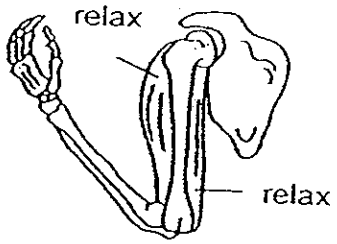


What is the main function of this part in the human body?

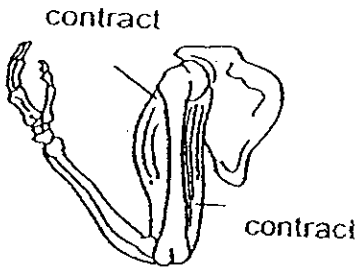
(1) It helps to protect the organs in the body.
(2) It helps to support the body and gives it shape.
(3) It allows the movement of bones in all direction.
(4) It allows the movement of bones in one direction.

14. Which of the following diagrams illustrates what happens when we bend our arm?

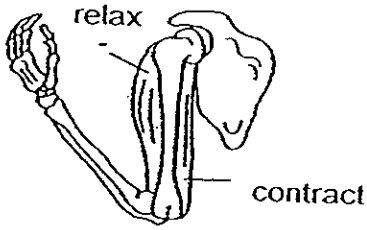
(1)



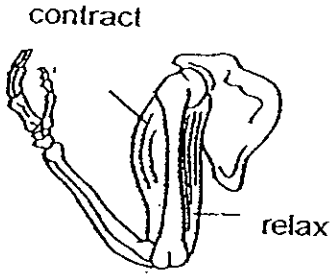
(2)



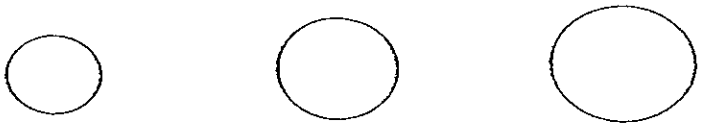
(3)



(4)



15. Three rubber balls, as shown below, have a capacity of 120 cm^3, 150 cm^3 and 180 cm^3 respectively.



Ball X (120 cm^3)

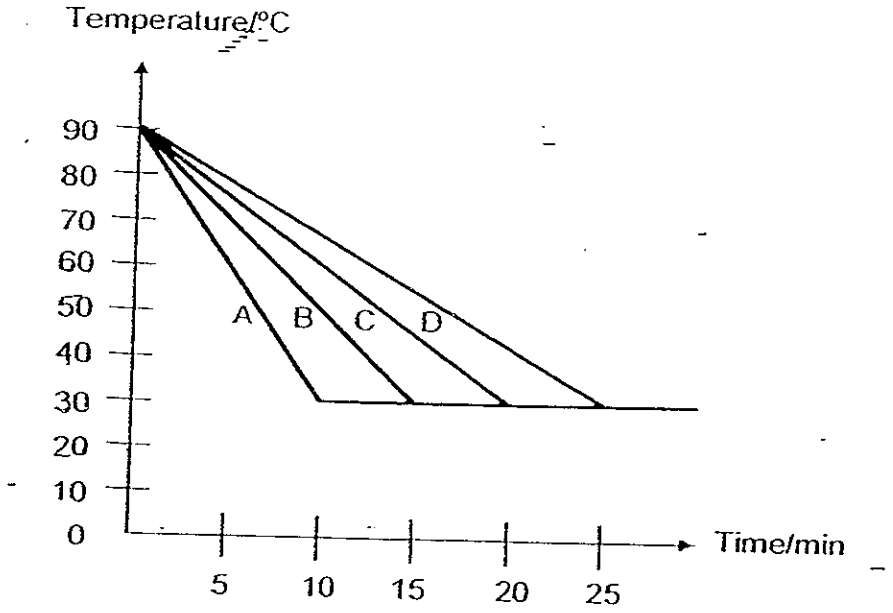
Ball Y (150 cm^3)

Ball Z (180 cm^3)

If 150 cm^3 of air is pumped into each of the three balls shown above, which of the three balls will be able to hold all the air?

(1) Ball Y only
(2) Balls X and Y only
(3) Balls X and Z only
(4) Balls X, Y and Z

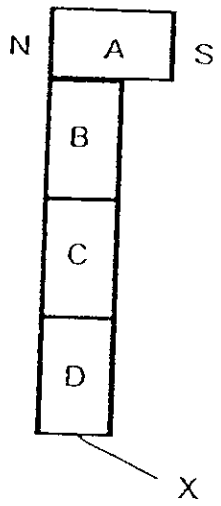
16. Ananti was in the kitchen. She poured some hot tea into four identical teapots made of four different materials. She wanted to find out which teapot is best for keeping the tea hot over an hour. She recorded the temperature changes of the tea from 90°C to 30°C in the four teapots in the following graph.



Which container should she use if she wants to keep her tea hot for the longest possible time?

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

17. A, B, C and D are 4 magnets. Identify the pole marked 'X'.



(1) East pole
(2) West pole
(3) North pole
(4) South pole

18. Derrick had three magnets which had the same strength. He put the three magnets on three pieces of plywood of different thickness. He put some nails below the three pieces of plywood. Derrick found that the bar magnets in Figure X and Y could move the iron nails beneath the plywood but not the one in Figure Z.

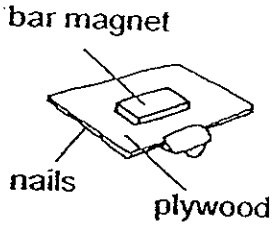


Figure X

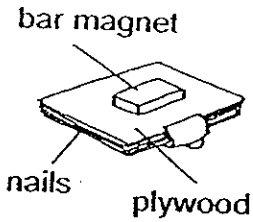


Figure Y

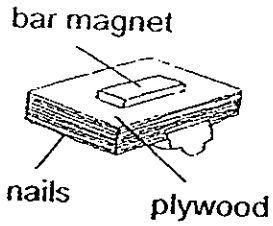
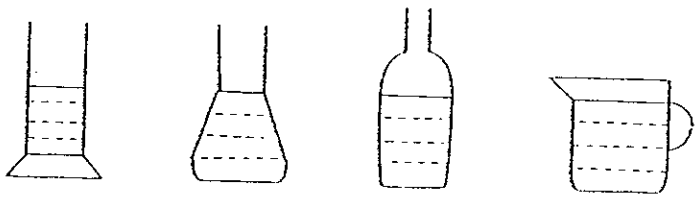


Figure Z

What conclusion can Derrick draw from this experiment?

(1) The iron nails are magnetic materials.
(2) Magnetic field can pass through plywood.
(3) Magnetic field can only pass through a certain thickness of a piece of plywood.
(4) Plywood is the only material we should use to test whether iron nails are magnetic.

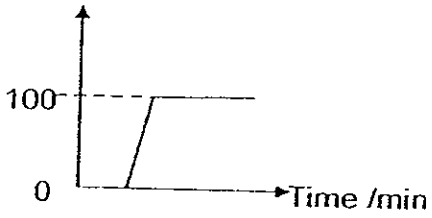
19. Daisy poured an equal amount of water into the four containers below. She can conclude from this experiment that water has _____.



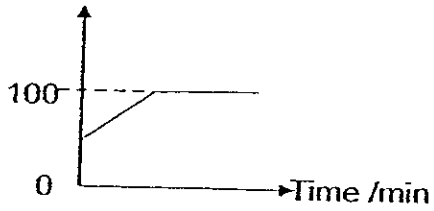
(1) a definite shape
(2) a definite volume
(3) an indefinite shape
(4) an indefinite volume

20. Which one of the following graphs shows the correct temperature change when some ice cubes are heated?

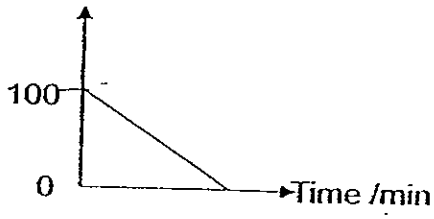
(1) Temperature /°C



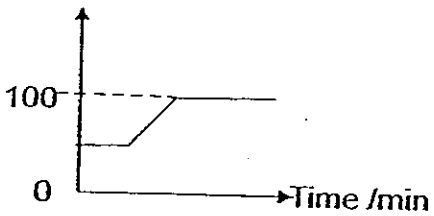
(2) Temperature /°C



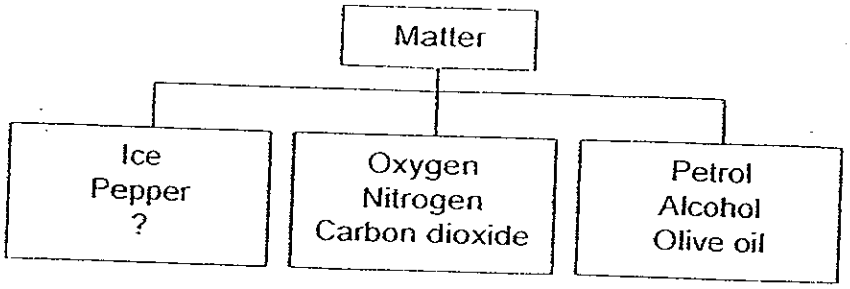
(3) Temperature /°C



(4) Temperature /°C



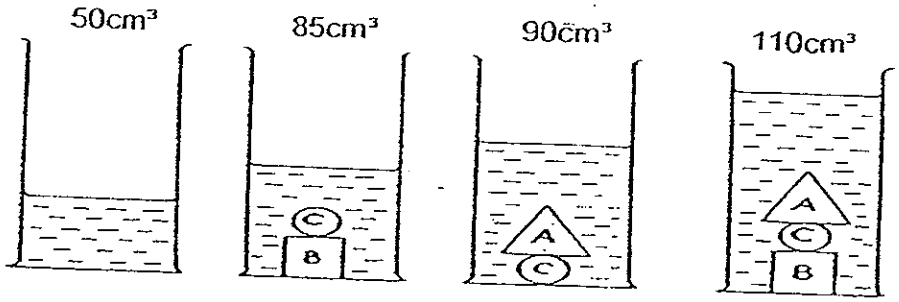
21. Study the classification table below.



Which one of the following should be placed in the first box?

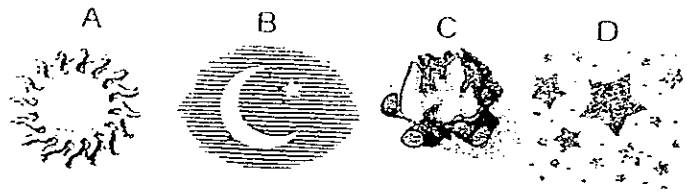
(1) Milk
(2) Sugar
(3) Kerosene
(4) Water vapour

22. The container below contains 50 cm³ of water. Objects A, B and C are put into the container and the water level rose to 110 cm³. What is the volume of object B?



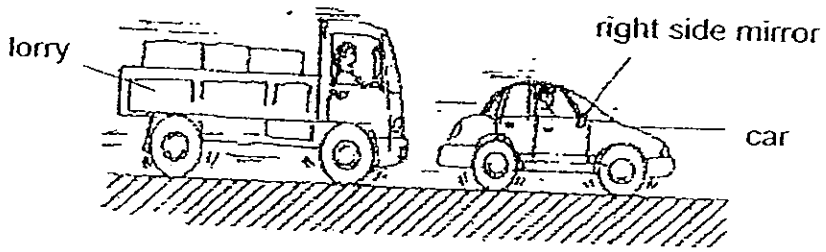
(1) 10 cm³
(2) 15 cm³
(3) 20 cm³
(4) 25 cm³

23. Which of the following gives out light?



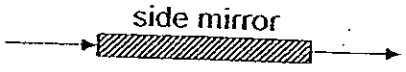
(1) A and B only
(2) C and D only
(3) A, B and C only
(4) A, C and D only

24. A lorry is approaching a car from behind as shown in the diagram below.

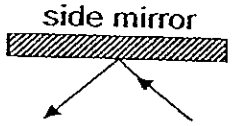


Which one of the following diagrams shows the correct reflection of light at the right side mirror which enables the driver in the car to see the lorry?

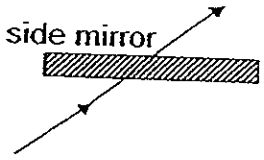
(1)



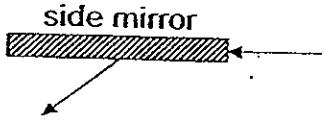
(2)



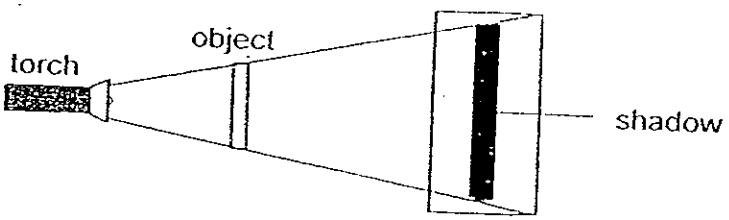
(3)



(4)

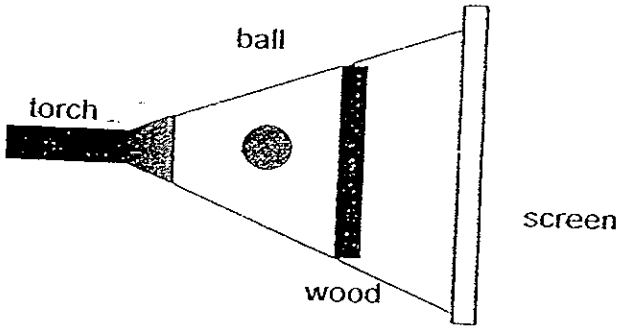


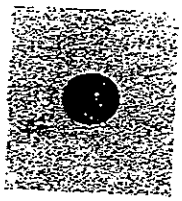
25. The diagram below shows what happens when a torch is shone onto an object. The object is likely to be a piece of _____

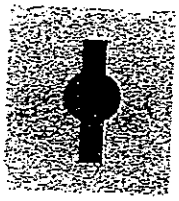


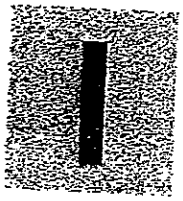
(1) clear glass
(2) tracing paper
(3) drawing paper
(4) cellophane paper

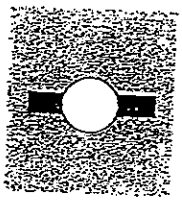
26. Joseph set up an experiment as shown below. He shone a torch at a ping-pong ball and a piece of plywood. Which one of the following is the shadow most likely cast by the two objects on the screen?



(1) 

(2) 

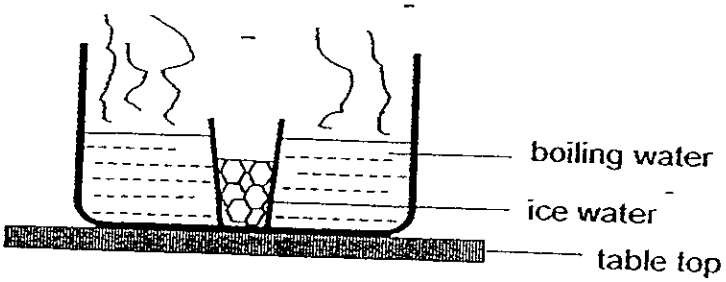
(3) 

(4) 

27. Study the table below. Which of the following shows the correct temperature?

	Human body/°C	A snow ball/°C	A cup of hot milk/°C	Room temperature/°C
(1)	37	8	18	80
(2)	18	8	100	28
(3)	30	18	8	10
(4)	37	8	80	28

28. Mrs Lim took a cup of ice water out from the refrigerator and placed it into a basin of boiling water.

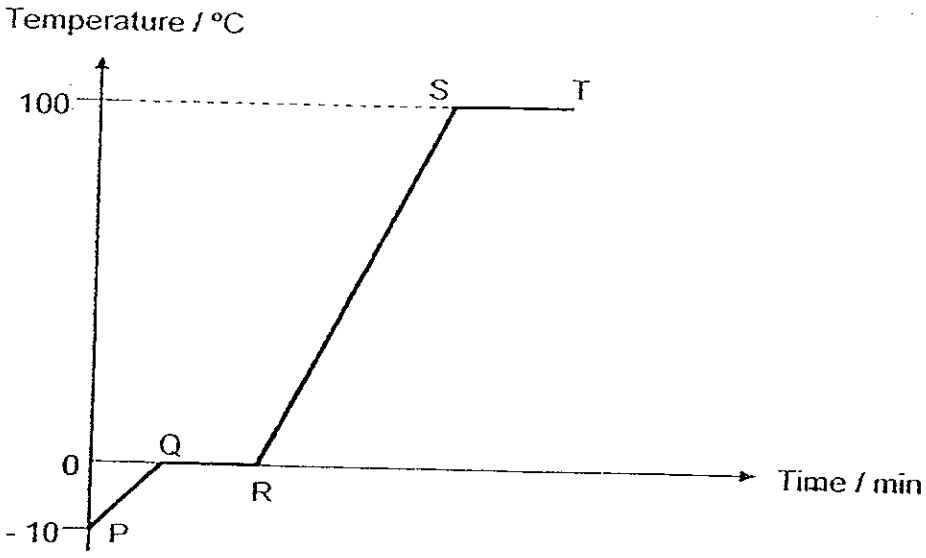


Which of the following are correct statements about the set-up above?

A The temperature of the ice water would decrease.
B The temperature of the boiling water would decrease.
C Heat would flow from the boiling water to the ice water.
D Heat would flow from the ice water to the boiling water.

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

29. The graph below shows how the temperature of a beaker of ice changed when it was heated.

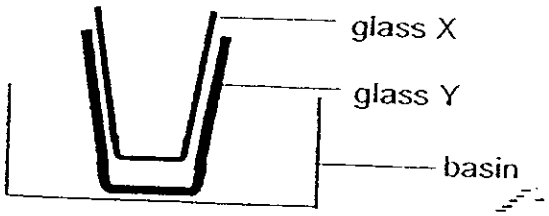


What is happening from R to S?

A The beaker of ice is melting to become liquid.
B The temperature of the beaker of ice is increasing.
C The beaker of ice is losing heat to the surroundings.
D The beaker of ice is gaining heat from the surroundings.

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

30. Glasses X and Y are stuck together. Jeremy wants to separate the two glasses.



What should he do?

(1) Put glasses X and Y in a basin of cold water.
(2) Put glasses X and Y into the oven for two minutes.
(3) Pour cold water into glass X and pour hot water into the basin.
(4) Pour hot water into glass X and pour cold water into the basin.

- END OF SECTION A -

CATHOLIC HIGH SCHOOL
PRIMARY 4
SEMESTRAL EXAMINATION 2, 2008

SCIENCE

Name: _____ ( )

Class : Primary 4 _____

Date : 8 October 2008

BOOKLET B

16 Questions
40 Marks

Total Time for Booklets A & B: 1 hour 30 minutes

Instructions to Candidates

Follow all instructions carefully.
Answer all questions.

Score	
Section A	/60
Section B	/40
Total	/100

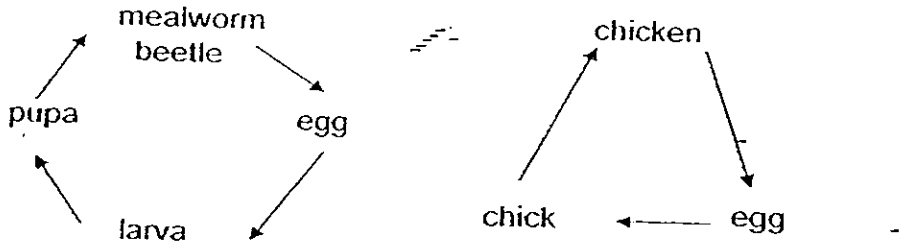
Parent's Signature: _____

Date: _____

Section B: Open-Ended Questions (40 marks)

Read the following questions carefully and write your answers in the space provided. The maximum marks that can be awarded is shown at the end of each question or part-question.

31. The diagrams below show the life cycles of two animals.



(a) Based on the diagrams above, list one difference in the life cycles of the chicken and mealworm beetle. [1]

_____

(b) List one similarity between the life cycles of the mealworm and the chicken. [1]

_____

(c) Three animals are classified into two groups based on their common characteristics of their life cycles as shown below.

Group X	Group Y
Mealworm beetle Moth	Chicken Frog

What could the heading for Group X be? [1]

_____

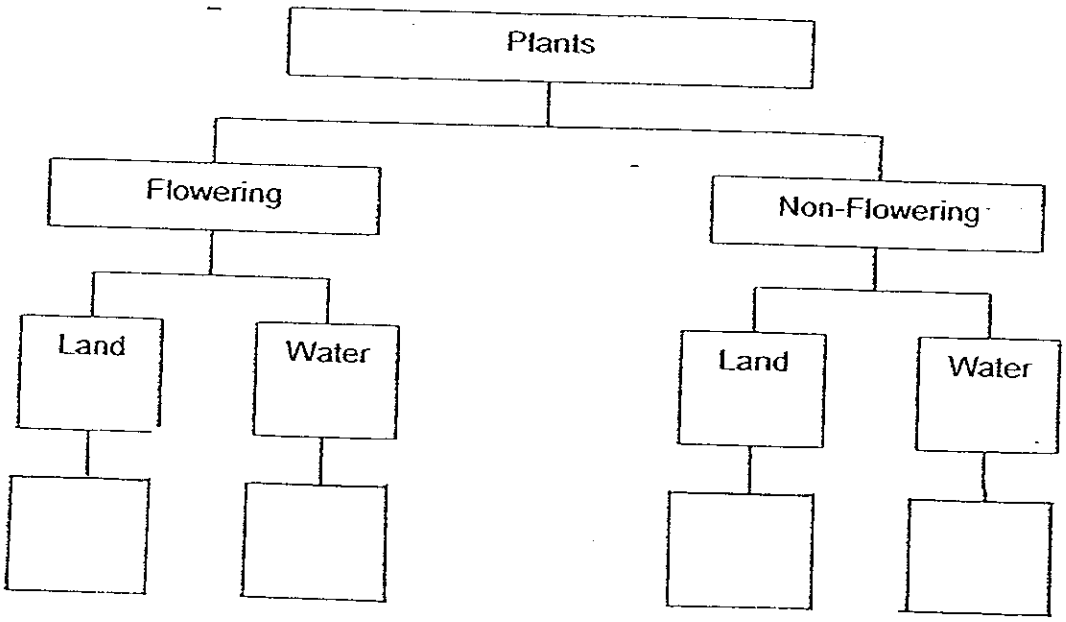
3

32. The following table gives information on four plants, W, X, Y and Z, based on two characteristics.

A tick (✓) shows that the plant has the characteristic.

Characteristic	Plant W	Plant X	Plant Y	Plant Z
Bears fruit		✓		✓
Grows on land	✓			✓

(a) Based on the information given in the table above, group all the plants by placing the letters W, X, Y and Z in the boxes provided below. [2]



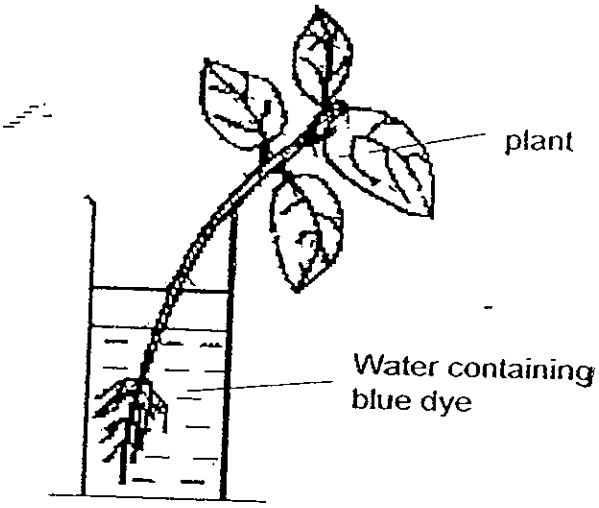
(b) Based on the flowchart above, what is one similarity between Plant Y and Plant X?

_____

_____

3

33. The diagram below shows a plant that has been placed into a beaker of water containing blue dye. After a few hours, some parts of the leaves turned blue.

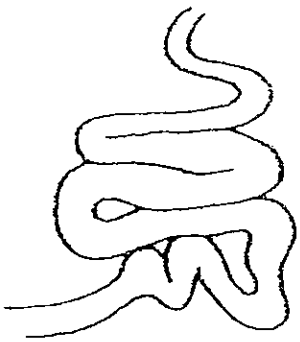


(a) Draw in arrows on the diagram to show how the water was transferred to the rest of the plant. [1]

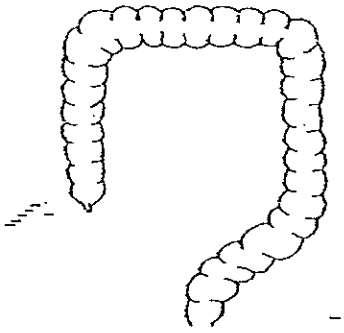
(b) Explain clearly how the movement of water in the plant has caused the leaves of the plant to turn blue. [1]

2

34 Organs A and B are found in the human body.



Organ A



Organ B

State one difference between the substances that are absorbed by Organ A and Organ B.

[2]

35. A boy is able to jump over the hurdle as shown in the diagram below.

(a) Which joint(s) in the boy's lower body will enable him to carry out the above activity?

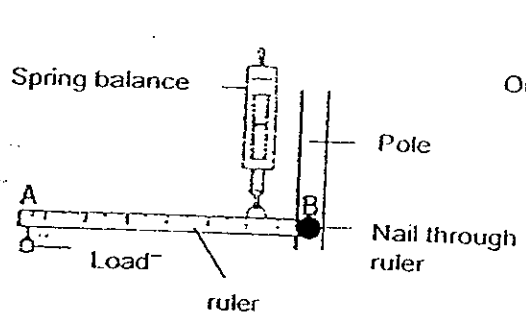
[1]

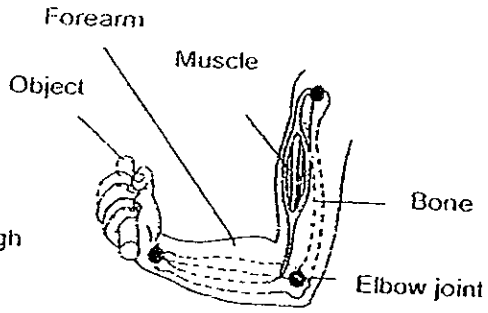
(b) Explain your answer clearly.

[1]

4

36. The diagrams below show a spring balance lifting a load and the model of an arm. The ruler is able to move upwards or downwards when an effort is applied.





(a) Which part of the arm represents the nail through the ruler as shown in the model? [1]

_____

(b) What is the function of the nail in the model? [1]

_____

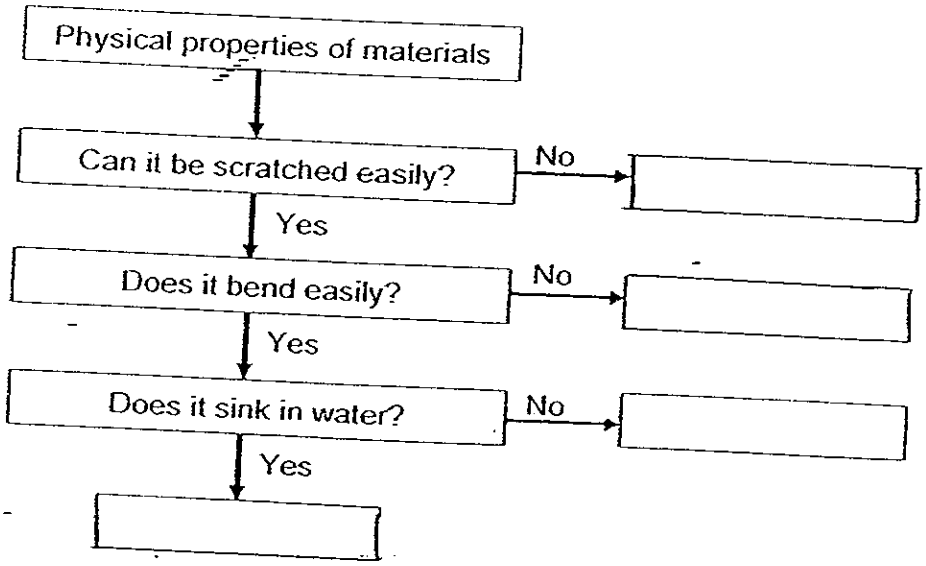
_____

2

37. Study the chart below carefully. Fill in the blanks in the flow chart below with the following items.

[3]

wooden chopsticks | eraser | metal ruler



3

38. Four iron nails A, B, C and D were stroked to become magnets.
The table below shows the number of times the iron nails were stroked and the number of paper clips each iron nail attracted.

Iron nails	Number of times the iron nail was stroked	Number of paper clips attracted
A	30	5
B	50	11
C	70	17
D	?	23

(a) How many times was iron nail D stroked? [1]

_____

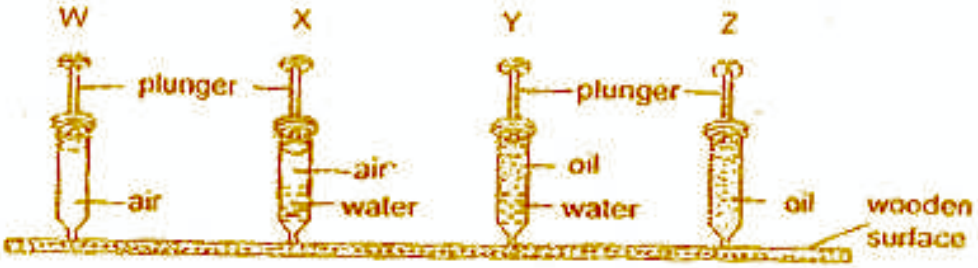
(b) Based on the table above, how does the number of times an iron nail is stroked affect the number of paper clips it attracts? [2]

_____

_____

3

39 The four syringes below are filled with four different substances.



(a) Which plunger can be pushed inwards most easily? [1]

(b) Write down the property that explains why the plunger in (a) can be pushed inwards most easily. [1]

2

40. Farida conducted several experiments with substances A, B and C. She recorded her observations in the table below.

Properties	Substance A	Substance B	Substance C
Occupies space	Yes	Yes	Yes
Can be compressed	No	Yes	No
Has a definite shape	Yes	No	No
Has a definite volume	Yes	No	Yes
Can be seen	Yes	No	Yes

(a) Which substance correctly describes steam? [1]

_____

(b) Which states of matter could substance A, B and C be? [1]

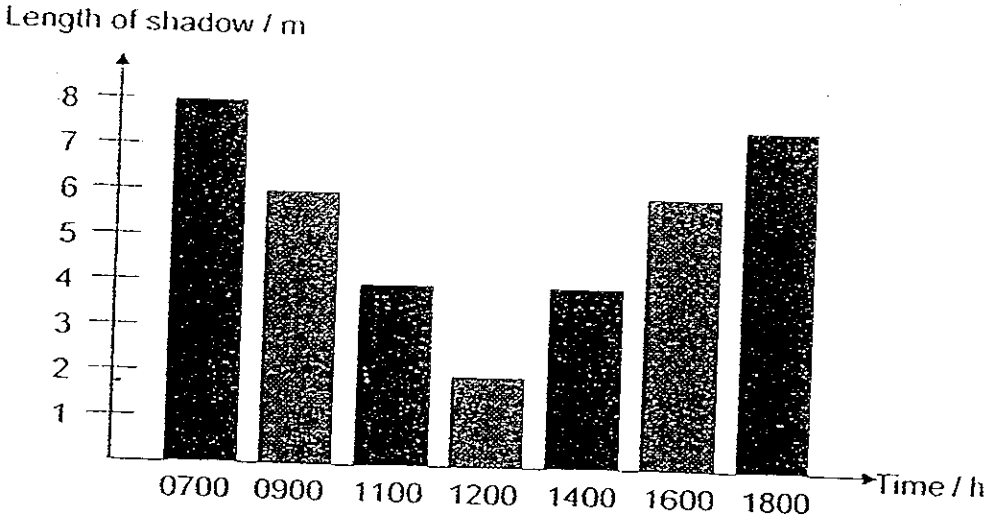
A _____

B _____

C _____

2

41. Jonathan observed the shadows cast by a tree at different times of the day. He recorded the length of the shadow in the bar graph below.



(a) At what time(s) of the day was the shadow the longest? [1]

_____

(b) Based on the above graph, complete the following sentences with the words given. [1]

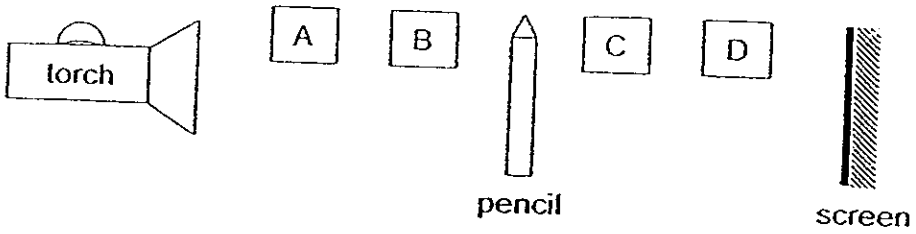
middle	low	high

When the sun is _____ in the sky, the shadow is long.

When the sun is _____ in the sky, the shadow is short.

2

42. Sarah conducted an experiment to find out which was the correct position to place the pencil in order to get the largest shadow. The diagram below shows the four different positions she placed the pencil.



(a) At which position (A, B, C or D) should she place her pencil to get the largest shadow?

[1]

_____

(b) What can you say about the relationship between the light source and the size of the shadow?

[2]

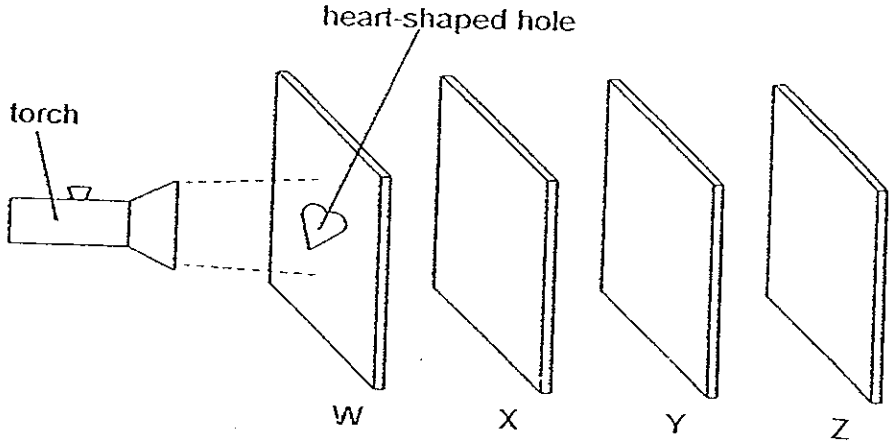
_____

_____

3

43. In the set-up below, sheets W, X, Y and Z are arranged in a straight line. Each sheet is made of a different material. There is a heart-shaped hole on sheet W. When the torch is shone on sheet W, a bright heart-shaped patch of light is seen on sheet Y. Show the type of material sheets W, X, Y and Z are made of by ticking [✓] in the relevant box in the table below.

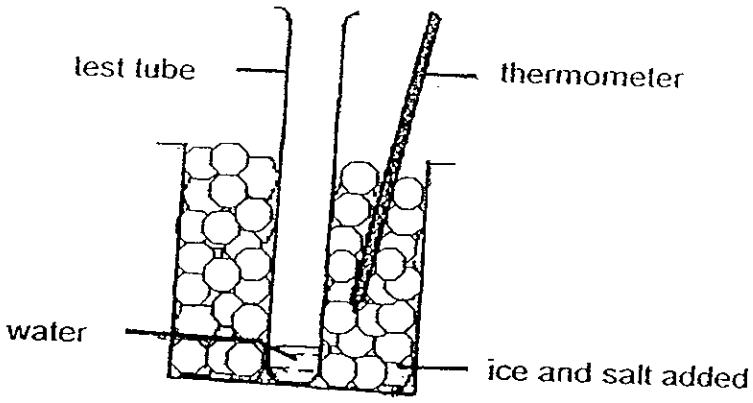
[2]



Sheets	Transparent	Opaque	Not possible to tell
W			
X			
Y			
Z			

2

44. Jeremiah set up the experiment as shown below.



(a) What is the temperature of the ice before salt is added? [1]

_____

(b) What will he observe about the water in the test tube 5 minutes later? [1]

_____

_____

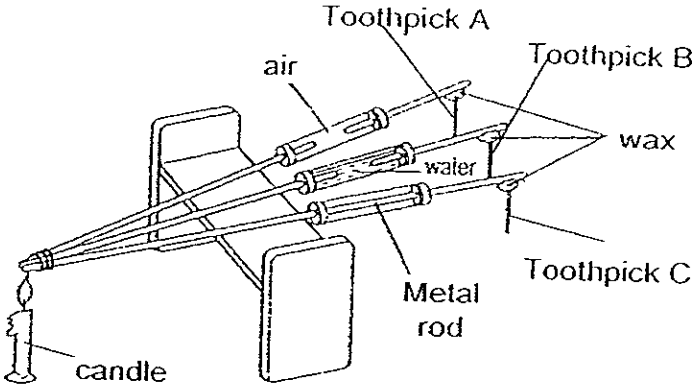
(c) Give a reason for your answer in (b). [1]

_____

_____

3

45. Look at the set-up below and answer the questions that follow.



(a) List down in the table below the order in which the toothpicks will drop. [1]

	First to drop	Second to drop	Third to drop
Toothpicks			

(b) Explain why your choice of toothpick in (a) will drop first. [2]

_____

_____

3

46. Miss Lim conducted an experiment to find out what the poor conductors of heat are. She carried out the following steps.

Steps

1. Pour the same amount of water into four identical jars. The temperature of the water in all the four jars was 75°C.
2. Wrap each jar in a different material.
3. Fifteen minutes later, measure the temperature of the water in each of the jars.
4. Record the readings in the table shown below.

Material used	Temperature after 15 minutes / °C
Styrofoam	69
Paper towel	60
Cotton towel	65
Aluminium foil	56

(a) The jar wrapped in _____ loses the most heat. [1]

(b) Which one of the above materials is the best insulator? [1]

_____

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

_____

_____

-END OF PAPER-

3

ANSWER SHEET

EXAM PAPER 2008

SCHOOL : CATHOLIC HIGH PRIMARY SCHOOL
SUBJECT : PRIMARY 4 SCIENCE

TERM : SA 2

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

Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30
3	3	1	2	3	4	2	3	2	4	3	3	3

31)a)The chicken has 3 stages while the mealworm beetle has 4 stages.

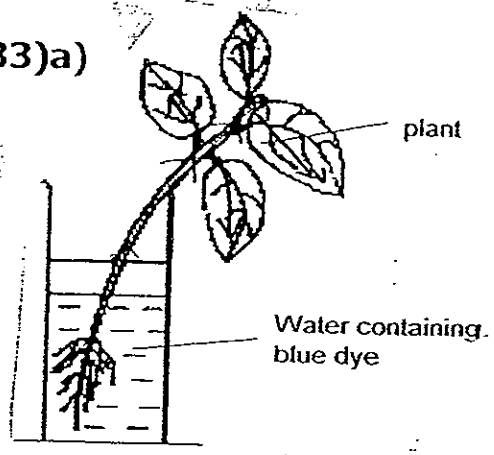
b)Both start will egg stage.

c)4 stage life cycle.

32)a)Z, X, W, Y

b)Plant Y and Plant X grow in water.

33)a)



b)The roots of the plant absorbed the water containing blue dye and it is then transported by the stem to the rest of the plant/leaves.

34)Organ A absorbs food while organ B absorbs water.

35)a)Hip joint.
b)The hip joint allows legs to move upwards or jump over the hurdles while the knee joint enables the leg to bend.

36)a)The Elbow joint.
b)It allows the ruler to move upwards just like the elbow.

37) metal ruler
wooden chopsticks
eraser

38)a)90 times
b)The greater the number of times an iron nail is stroked, the greater the number of paper clips it can attract.

39)a)Plunger W can be pushed in wards most easily.
b)The air in plunger W does not have a definite volume thus it can be compressed.

40)a)Substance B.
b)A: Solid B: Gas C: Liquid

41)a)0700
b)low, high

42)a)Position A.
b)The nearer the pencil is to the light source, the larger the size of the shadow.

43)W: Opaque X: Transparent Y: Opaque Z: Not

44)a)0℃
b)The water in the test tube froze.
c)The water in the test tube loses heat to the ice.

45)a)C, B, A

b)Metal is a good conductor of heat so the heat will be conducted from the candle to the end of the metal rod quickly. The wax will melt and the toothpick will drop.

46)a)aluminium foil

b)Styrofoam

c)Styrofoam has the highest temperature after 15 minutes.