CATHOLIC HIGH SCHOOL
SEMESTRAL ASSESSMENT 1
2014
PRIMARY FOUR

SCIENCE

BOOKLET A

Name: _____ ( )

Class: Primary 4 - _____

Date: 16 May 2014

24 questions

48 marks

Total Time for Booklets A and B: 1 hour 30 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.

This booklet consists of 12 printed pages, excluding cover page.

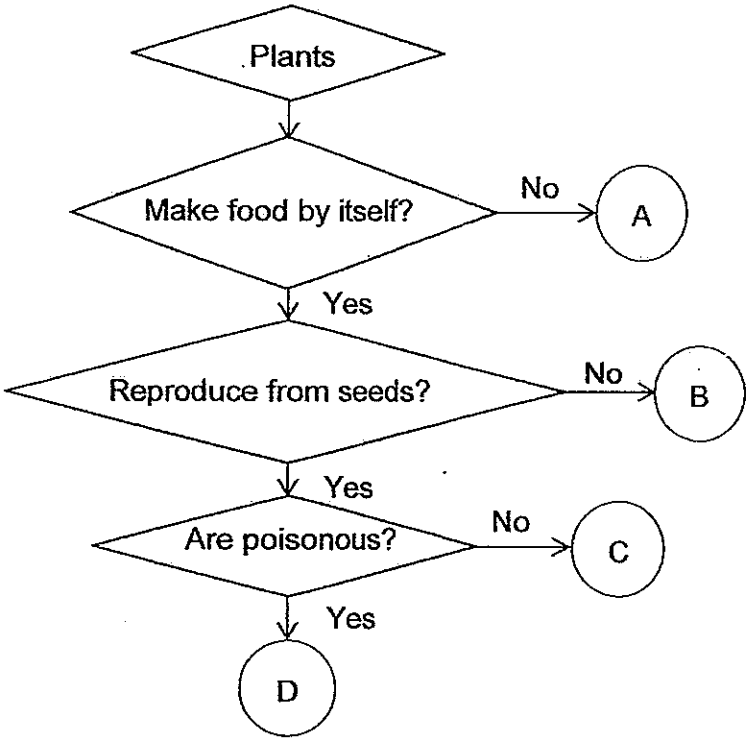
Booklet A (24 × 2 marks)

For each question from 1 to 24, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). Shade your answer on the Optical Answer Sheet. (48 marks)

1 Which one of the following shows the characteristic of living things?

(1) A kite is flying in the air.
(2) A fire flame is becoming bigger.
(3) A bird is flying away from danger
(4) A car is moving slowly on the road.

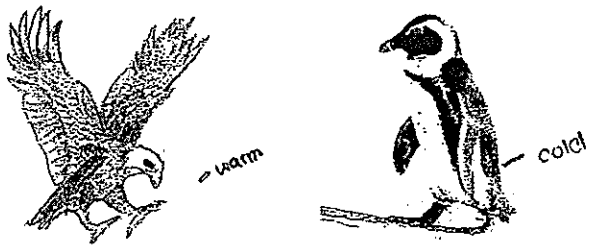
2 Study the flow chart below.



Which one of the following best represents the fern?

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

3 How are the two animals below different from each other?



eagle penguin

A The place they live in

B Their outer coverings

C Their ways of movement

(1) B only

(2) A and B only

(3) A and C only

(4) A, B and C

4 Which of the following statements are true about bacteria?

A Bacteria are harmful to us.

B Bacteria are very tiny living things.

C Bacteria can make their own food.

D Bacteria can only be seen using a microscope.

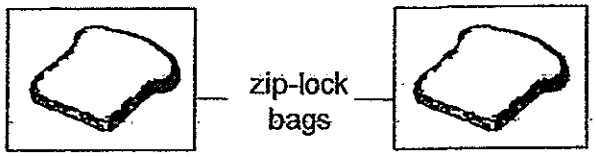
(1) A and B only

(2) A and D only

(3) B and C only

(4) B and D only

5 Bernice had two slices of bread. She sprinkled a few drops of water on bread A and toasted bread B. She left bread B to cool to room temperature. She then put each of the bread into two dry separate zip-lock bags and placed them on a table.



Bread A sprinkled with water

Bread B toasted

What would Bernice most likely observe after a week?

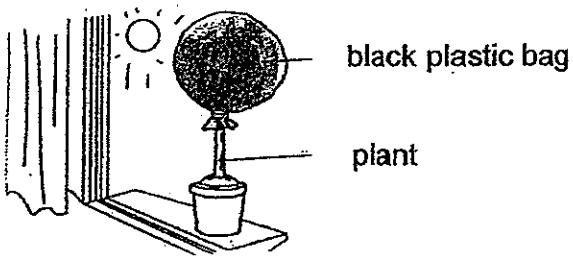
(1) No changes were observed on both bread A and B.

(2) There were more black patches on bread B than bread A.

(3) There were black patches on bread A but not on bread B.

(4) There were black patches on bread B but not on bread A.

6 Ali tied a black plastic bag around the top part of a plant. He placed it on the window sill and watered it everyday.



After a few days, the plant died. Which one of the following parts could not carry out its/their function(s) and caused the plant to die?

(1) Stem

(2) Roots

(3) Flower

(4) Leaves

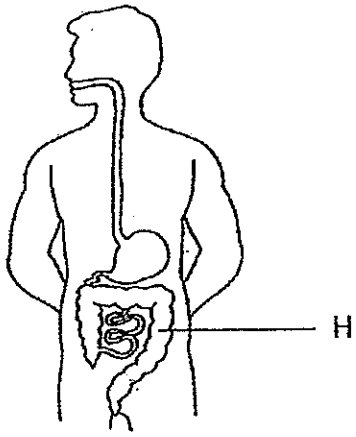
7 The functions of four body systems, A, B, C and D, are stated below.

System A To support the body and give it the shape
System B Takes in oxygen and gives out carbon dioxide
System C Transports food, water, oxygen and waste within the body
System D Breaks down food into simple substances for the body to absorb

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

	A	B	C	D
(1)	Skeletal	Respiratory	Circulatory	Digestive
(2)	Digestive	Skeletal	Respiratory	Circulatory
(3)	Skeletal	Circulatory	Digestive	Respiratory
(4)	Digestive	Circulatory	Respiratory	Skeletal

8 The diagram below shows the human digestive system.



What happens at the part labelled H?

(1) Digestion is completed.
(2) Digested food is stored.
(3) Excess water is removed.
(4) Undigested food is absorbed.

9 Ravi's teacher asked him to state the differences between an adult cockroach and a cockroach nymph. Which of the following differences given by Ravi are correct?

A A cockroach nymph is smaller than an adult cockroach.

B A cockroach nymph does not have wings but an adult cockroach has wings.

C A cockroach nymph feeds on leaves but an adult cockroach feeds on almost anything.

(1) A and B only

(2) A and C only

(3) B and C only

(4) A, B and C

10 4 mealworms, P, Q, R and S, are at different stages of growth. They are placed in four different containers. 8g of food is placed in each container together with the mealworm at the start of the experiment. The table below shows the amount of food left in the containers after 2 days.

Mealworm	Amount of food left in the container (g)
P	5
Q	0
R	4
S	8

Which mealworm is most likely to be in the pupa stage?

(1) P

(2) Q

(3) R

(4) S

11 Which of the following shows the correct order of a seed growth of a flowering plant?

A The root appears.

B The seed leaf shrivels.

C The shoot grows out from the seed.

D The seed increases in size and the seed coat splits.

(1) A → D → B → C

(2) A → B → C → D

(3) D → C → B → A

(4) D → A → C → B

12 Sarah conducted an experiment to find out whether the amount of water will affect the growth of seeds. She placed a few seeds in each of the four containers.

The table below shows the amount of water that Sarah used to water the plants each day. It also shows which containers received air and sunlight.

Container	Amount of water (ml)	Air	Sunlight
A	5	Yes	Yes
B	5	Yes	No
C	10	Yes	Yes
D	15	No	Yes

Which two containers should she use if she wants to find out whether the amount of water will affect the growth of seeds?

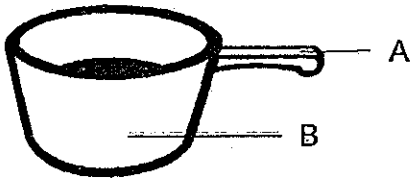
(1) A and B only

(2) A and C only

(3) B and C only

(4) B and D only

13 Look at the picture of a cooking pot below.



Which of the following represents the materials for A and B?

	A	B
(1)	Plastic	Metal
(2)	Plastic	Wood
(3)	Metal	Metal
(4)	Metal	Wood

14 Roy was given 4 rods, G, H, J and K. He tested each rod with a bar magnet. His observations are as follows:

Rod G was repelled by the North pole of the bar magnet.

Nothing happened when the bar magnet was brought close to Rod H.

Rod J was attracted by the North pole of the bar magnet.

Rod K was attracted by the South pole of the bar magnet.

Which rod is definitely a magnet?

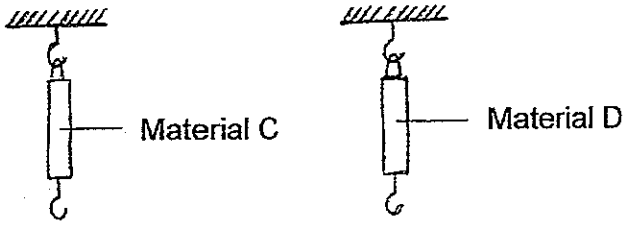
(1) G

(2) H

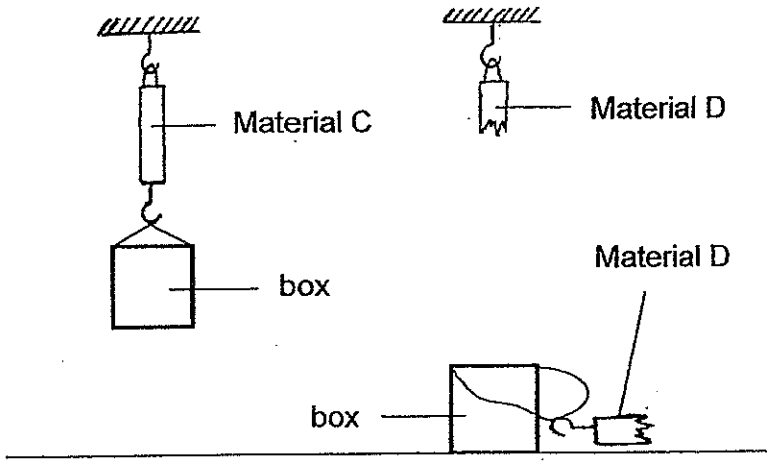
(3) J

(4) K

15 Look at the set-up below. Two similar strips C and D were hung. Both were made of different materials.



Two boxes of the same mass were hung onto strips C and D. The diagram below shows what happened after ten seconds.



Based on the results, what can we conclude about the materials above?

(1) Material C is harder than material D.

(2) Material C is stronger than material D.

(3) Material C is more elastic than material D.

(4) Material C is more flexible than material D.

16 Jack was playing with a bar magnet. He accidentally dropped the magnet and it broke into two pieces. What will happen to the magnet now?

(1) The bar magnet is no longer a magnet.

(2) The bar magnet will gain more magnetism.

(3) Each piece of the bar magnet will become a magnet itself.

(4) One half will become the North pole and the other will become the South pole.

17 Max magnetised four similar iron nails, M, N, O and P, using the stroking method. He then tested the strength of each of them using a box of paper clips. He recorded the number of strokes applied to all the iron nails and the number of paper clips that was attracted to all the iron nails in the table below.

Iron nail	Number of strokes	Number of paper clips attracted
M	10	3
N	25	8
O	45	13
P	70	18

What can Max infer from the experiment?

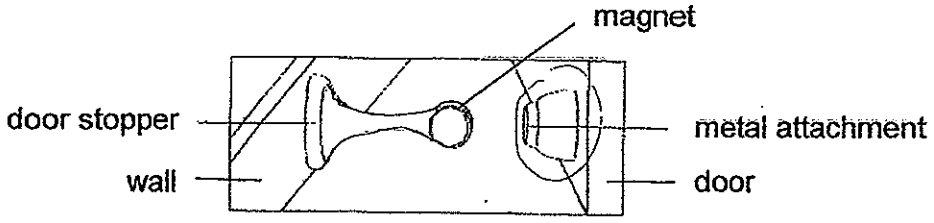
(1) The strength of the iron nail remains the same as before.

(2) The magnetism of the iron nail is weaker when more strokes are applied.

(3) The magnetism of the iron nail is stronger when more strokes are applied.

(4) The number of strokes applied does not affect the strength of the iron nail.

18 The picture below shows a door stopper which is used to keep the door open.



How does a door stopper keep a door open?

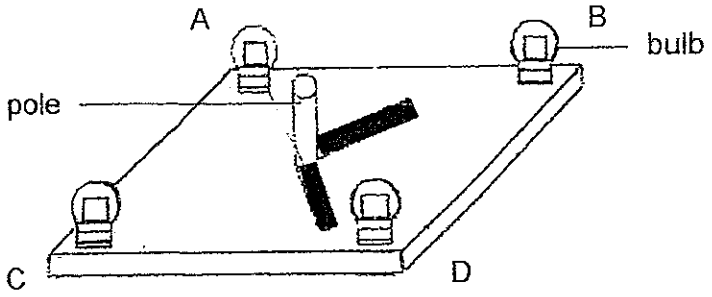
(1) The magnet on the door stopper attracts the door.

(2) The metal attachment on the door attracts the wall.

(3) The magnet on the door stopper attracts the metal attachment on the door.

(4) The metal attachment on the door attracts the magnet on the door stopper.

19 A wooden pole is placed in the centre of a square board as shown in the diagram below.



Which of the bulbs have to be switched on such that the shadows of the wooden pole are as shown in the diagram above?

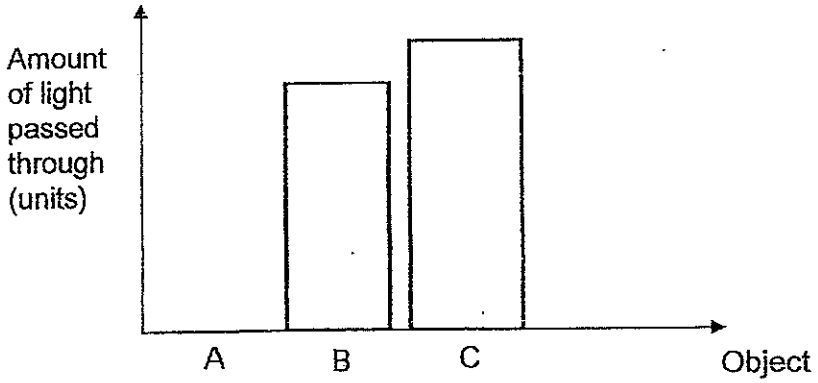
(1) A and B only

(2) A and C only

(3) B and D only

(4) C and D only

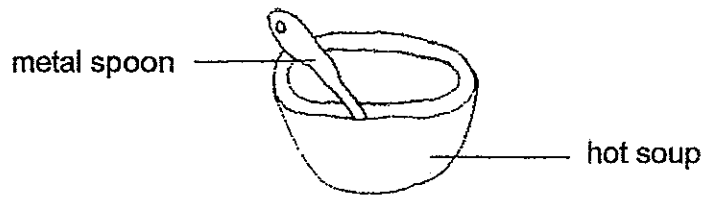
20 Jane used a light sensor attached to a data logger to find out how much light passed through three different objects A, B and C. The objects were of equal thickness. She recorded the results in the graph below.



Which one of the following are objects A, B and C?

	A	B	C
(1)	Wood	Tissue paper	Clear glass
(2)	Clear glass	Tissue paper	Wood
(3)	Tissue paper	Clear glass	Wood
(4)	Thick cardboard	Clear glass	Tissue paper

21 Look at the picture below.



A metal spoon was left in a bowl of hot soup. After some time, the metal spoon felt hot because heat from the _____.

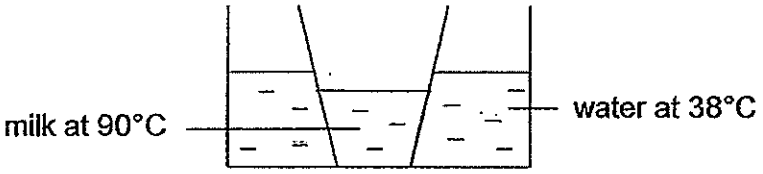
(1) bowl flowed to the hot soup

(2) spoon flowed to the hot soup

(3) hot soup flowed to the spoon

(4) surrounding air flowed to the spoon

22 The diagram below shows a glass of hot milk at 90°C in a tub of water at 38°C.



What could be the possible temperature of the milk after 10 minutes?

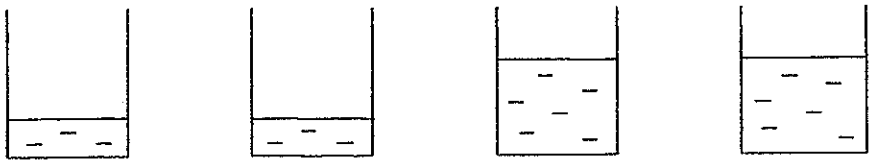
(1) 38°C

(2) 50°C

(3) 90°C

(4) 95°C

23 4 similar beakers containing different amounts of water at different temperatures are being heated.



Beaker A	Beaker B	Beaker C	Beaker D
200 ml	200 ml	500 ml	500 ml
10°C	20°C	10°C	20°C

Which beaker of water will be the first to boil?

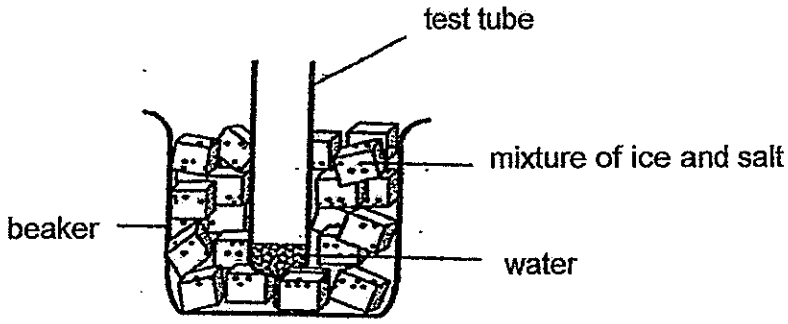
(1) A

(2) B

(3) C

(4) D

24 Edward set up an experiment as shown below. He placed a test tube containing some water into a beaker of mixture of ice and salt. After five minutes, the water in the test tube froze and turned into ice.



Which one of the following best describes what happened to the water in the test tube and the mixture of ice and salt in the beaker?

	Water in the test tube	Mixture of ice and salt
(1)	Lost heat	Lost heat
(2)	Lost heat	Gained heat
(3)	Gained heat	Gained heat
(4)	Gained heat	Lost heat

End of Booklet A

CATHOLIC HIGH SCHOOL
SEMESTRAL ASSESSMENT 1
2014
PRIMARY FOUR

SCIENCE

BOOKLET B

Name: _____ ( )

Class: Primary 4 - _____

Date: 16 May 2014

Parent's Signature: _____

Booklet A	**48**
Booklet B	**32**
Total	**80**

10 questions

32 marks

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

INSTRUCTIONS TO CANDIDATES

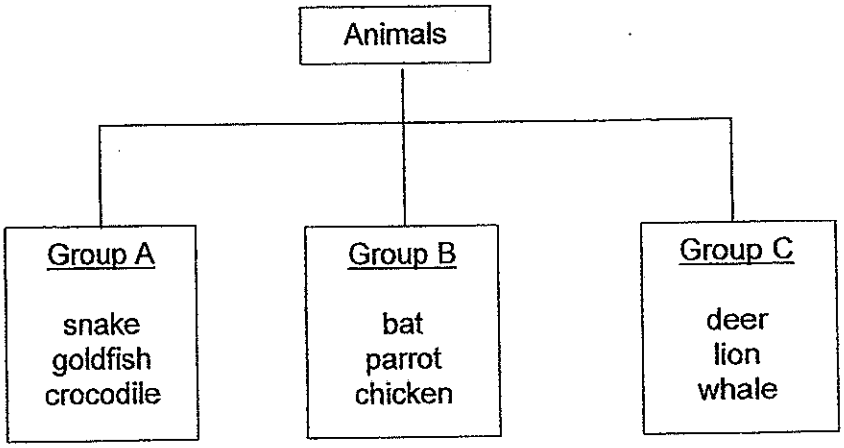
Do not turn over this page until you are told to do so.
Follow all instructions carefully.
Answer all questions.
Write your answers in this booklet.

This booklet consists of 10 printed pages, excluding cover page.

Booklet B (32 marks)

For questions 25 to 34, write your answers in this booklet.
The number of marks available is shown in brackets [ ] at the end of each question or part question. (32 marks)

25 The classification chart below shows how some animals are grouped according to their outer coverings.



(a) Which one of the above animals is classified wrongly? [1]

_____

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

_____

_____

(c) Give a heading for each group. [1]

(i) Group A: _____

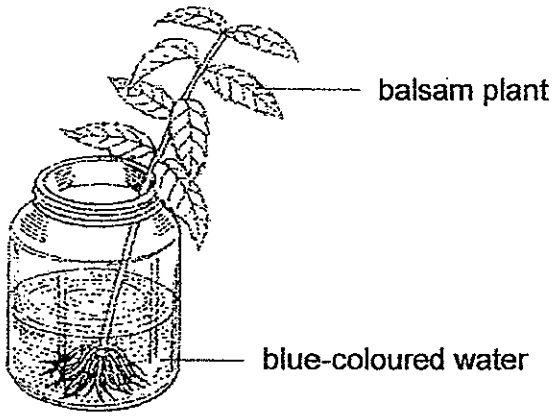
(ii) Group B: _____

(iii) Group C: _____

(Go on to the next page)

SCORE	/ 3

26 Joe placed a balsam plant into a jar containing blue-coloured water as shown below.



(a) What would he observe after a few days? [1]

_____

_____

(b) What does the above experiment show? [1]

_____

_____

(c) What would happen to the plant after two weeks if all the leaves were removed? [1]

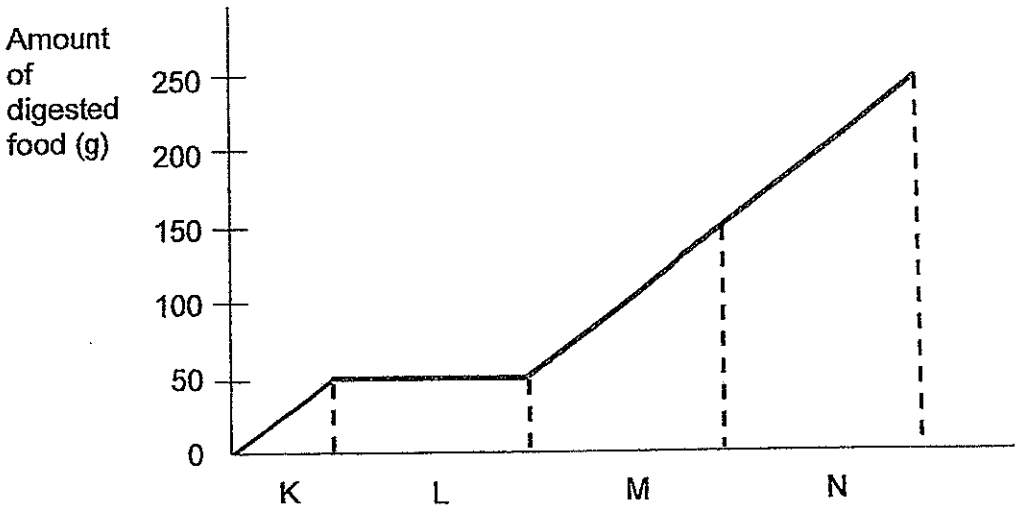
_____

_____

(Go on to the next page)

SCORE	/ 3

27 The graph below shows the amount of digested food while it passes through the different parts of the human digestive system.



(a) K, L, M and N are parts of the human digestive system. Identify the parts labelled K and N respectively. [1]

(i) K: _____

(ii) N: _____

(b) What does the graph of Part L show? [1]

_____

_____

(c) What helps to digest the food at Part K? [1]

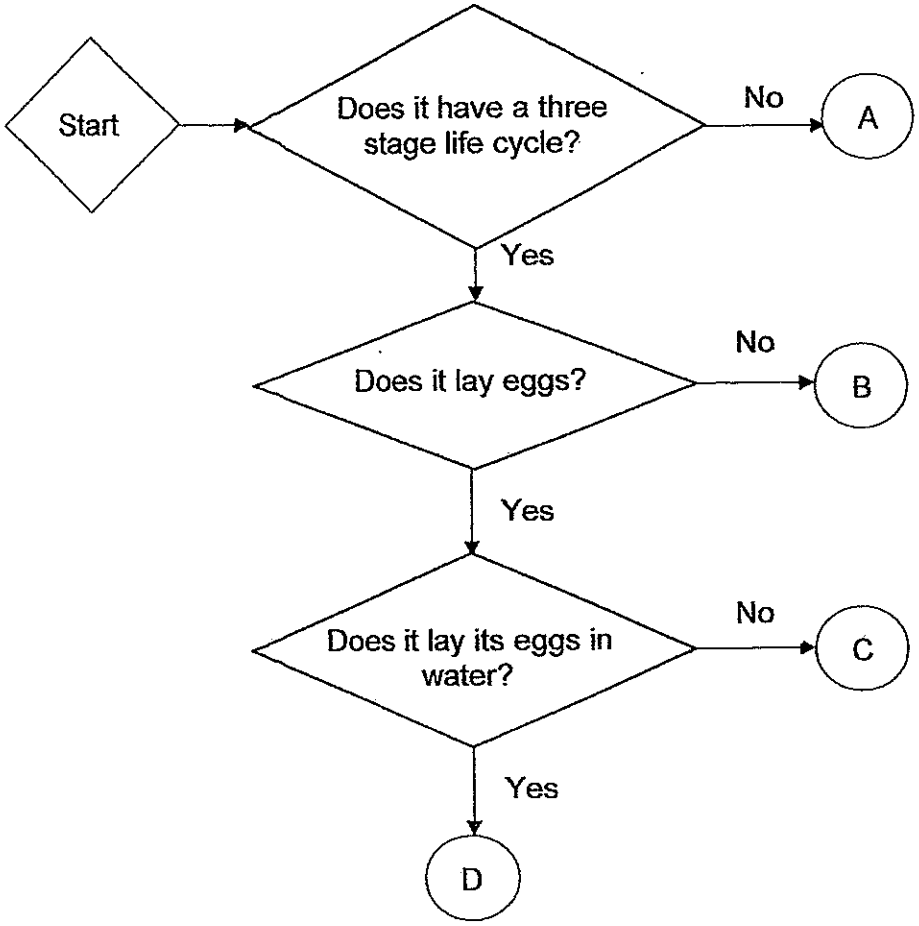
_____

_____

(Go on to the next page)

SCORE	3

28 The flow chart below shows how Ben classified the animals A, B, C and D.



(a) Based on the flow chart above, describe the life cycle of Animal B. [1]

_____

_____

(b) Ben claims that Animal C is a mosquito. [2]
Do you agree? Explain your answer.

_____

_____

(Go on to the next page)

SCORE	/ 3

29 Abdul conducted several tests on materials A, B, C and D. His results are recorded in the table below.

Property	A	B	C	D
Can bend	No	Yes	No	Yes
Breaks when dropped	Yes	No	No	No
Is waterproof	Yes	Yes	Yes	No

(a) Which one of the above materials A, B, C or D would he use to make a raincoat? [1]

_____

_____

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

_____

_____

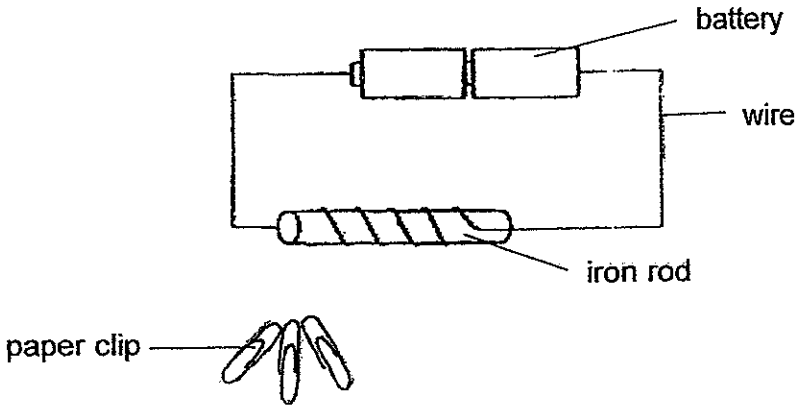
(c) Which one of the above materials A, B, C or D could be ceramic? [1]

_____

_____

(Go on to the next page)

30 Look at the set-up below.



(a) What would be observed when Ken placed some paper clips at the end of the iron rod? [1]

_____

_____

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

_____

_____

(c) Other than increasing the number of coils on the iron rod, what else could Ken do to make a stronger electromagnet? [1]

_____

_____

(d) If the batteries were being removed from the set-up, what would Ken observe? [1]

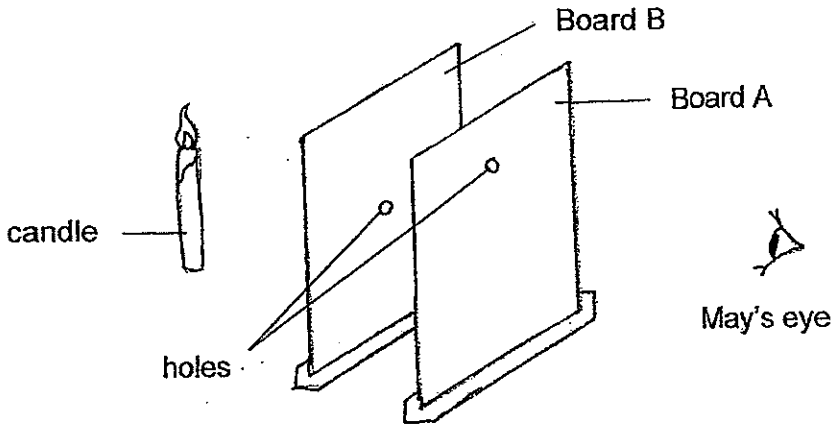
_____

_____

(Go on to the next page)

SCORE	/4

31 May carries out the following experiment. No light can be seen when she looks through the hole in Board A.



Explains why this is so. [2]

_____

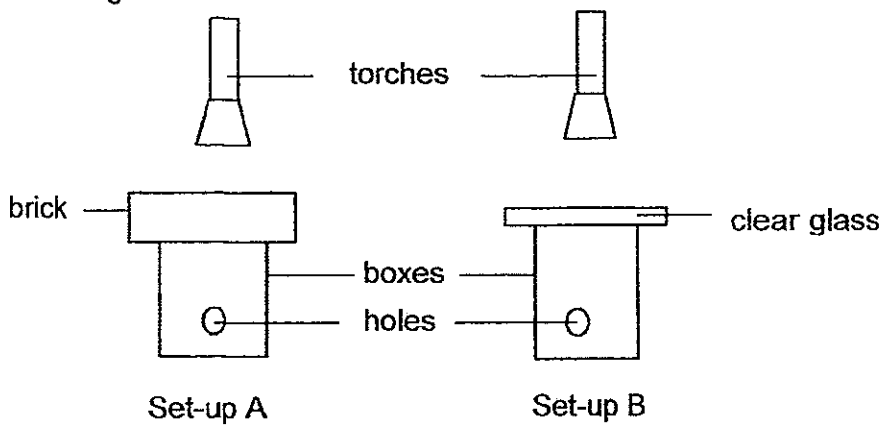
_____

_____

(Go on to the next page)

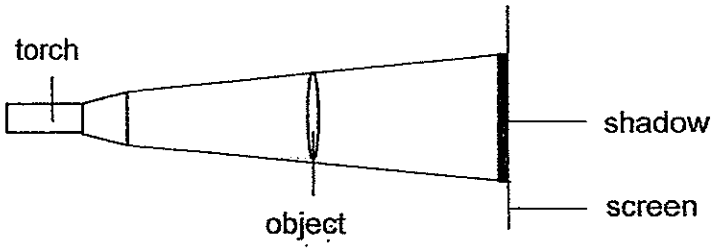
SCORE	2

32 Jane put an object into each similar wooden box below. She made a hole on one side of each box and covered the opening of the boxes with a brick and clear glass as shown below. She then shone a torch over each box and peeped in through the hole at the side of the box.



(a) In which set-up was she able to see the object? Explain your answer. [2]

Jane then took out the object and shone the light on it as shown in the diagram below.



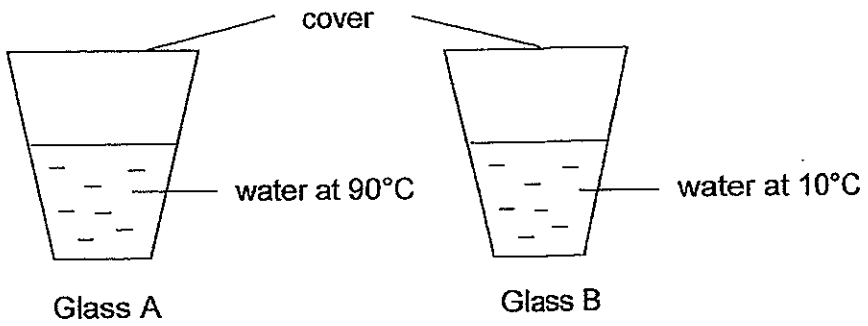
(b) Based on the diagram above, write down one thing Jane could do with the object if she wanted to create a shadow that was smaller. [1]

(c) How is a shadow formed? [1]

(Go on to the next page)

SCORE	/ 4

33 2 identical glasses with equal amounts of water were left on a kitchen table at room temperature (29°C) as shown below. The temperature of the water in glass A was at 90°C while the temperature of the water in glass B was at 10°C.



(a) What would happen to the water in each glass after one hour? [2]
Put a tick (√) in the correct boxes below.

	Lost heat	Gained heat	Increased in temperature	Decreased in temperature
Water in glass A	✓			
Water in glass B				

(b) After 6 hours, what would be the temperature of water in each glass? [1]

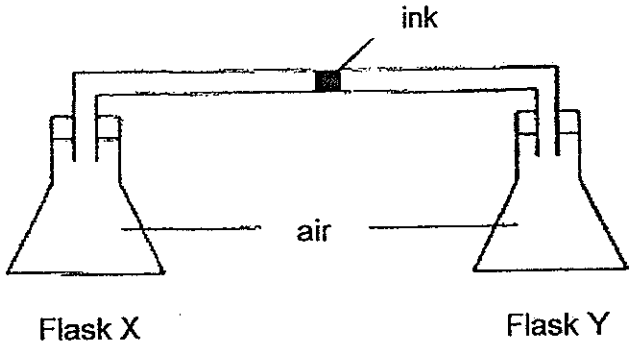
_____

_____

(Go on to the next page)

SCORE	/ 3

34 The diagram below shows two flasks, X and Y, connected by a tube that has a drop of ink.



(a) If Flask X is placed into a basin of hot water, what can you observe? [1]

_____

_____

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

_____

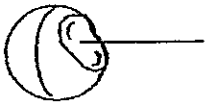
_____

(c) What can you do to Flask Y to move the ink towards Flask X? [1]

_____

_____

(d) Justin has a dented ping pong ball.



Based on the experiment above in part (a), what can he do to get the dented ping pong ball to return to its original shape? [1]

_____

_____

End of Booklet B

SCORE	/ 4

Catholic High School Semestral Assessment 1 Primary Four Science 2014

Booklet A

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
3	2	3	4	3	4	1	3	1	4	1	2	1	1	2
16	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**						
3	3	3	2	1	3	2	2	2						

Booklet B

25 a The bat.
b Bat is a mammal and is covered with hair, however a bird is covered with feathers.
c (i) Outer covering of scales
(ii) Outer covering of feathers
(iii) Outer covering of hairs

26 a The leaves would turn blue and the water level decreases.
b The experiment shows that roots absorb water and the stem transport water to the leaves.
c The plant would die.

27 a (i) Mouth (ii) Small intestine
b Part L did not digest any food.
c The saliva (salivary amylase).

28 a Animal B has a three stage life cycle and does not lay eggs.
b No, I do not agree. Mosquito has a four-staged life cycle and lays eggs in water but animal C has a 3-staged life cycle and does not lay eggs in the water.

29 a Material B.
b Material B is flexible and does not break when dropped and is waterproof.
c Material A.

30 a The paper clips would be attracted to the iron rod.
b The iron rod is made out of a magnetic material, thus it would be an electromagnet.
c He can increase the number of batteries.
d The paperclips would not be attracted to the iron rod.

31 Light travels in a straight line and was blocked by Board B. Thus, light cannot pass through the holes that are not aligned in a straight line.

32 a Set-up B. As the wooden box is opaque, light cannot pass through the brick and she cannot see the object. The clear glass is transparent hence light can pass through the clear glass and be reflected off the object and into her eyes for her to see the object.
b She can move the torch further away from the object.
c A shadow is formed when an opaque or translucent material blocks the path of light.

33 a

√			√
	√	√	

b 29°C

34 a The ink droplet would move towards flask Y.
b Heat from the hot water causes the air in the flask to gain heat and expand. The expanded air then pushes the ink droplet towards flask Y.
c He can put flask Y into a basin of hot water at a higher temperature than the water in which flask X is immersed in.
d He can place the ping pong ball into a basin of hot water.