CATHOLIC HIGH SCHOOL
SEMESTRAL ASSESSMENT 2
2014
PRIMARY FOUR

SCIENCE

BOOKLET A

Name: _____

Class: Primary 4 _____

Date: 29 October 2014

30 questions

60 marks

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

INSTRUCTIONS TO CANDIDATES

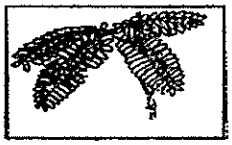
Do not turn over this page until you are told to do so.
Follow all instructions carefully.
Answer all questions.
Shade your answers in the Optical Answer Sheet (OAS) provided.

This booklet consists of 16 printed pages, excluding cover page.

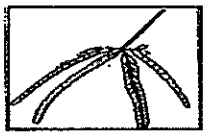
Booklet A (30 × 2 marks)

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 your answer on the Optical Answer Sheet. (60 marks)

1 Xiao Li saw a mimosa plant in the school's eco-garden and touched its leaves.



Before Xiao Li touched it



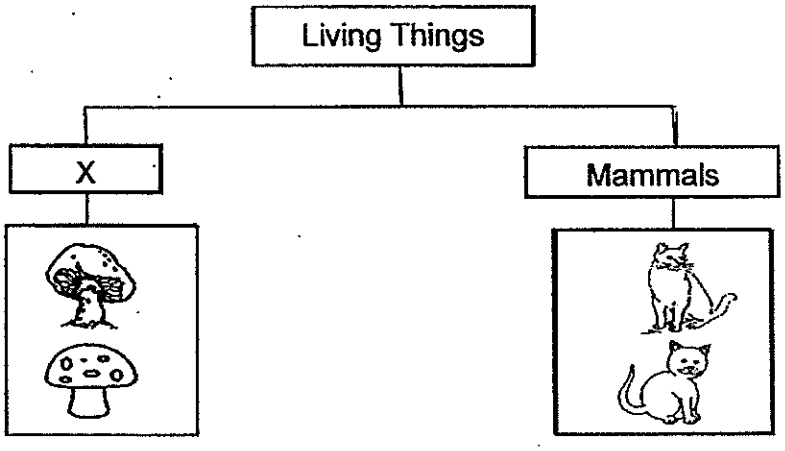
After Xiao Li touched it

This shows that the mimosa plant is a living thing because it can

_____.

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

2 The chart below shows how some living things can be grouped.

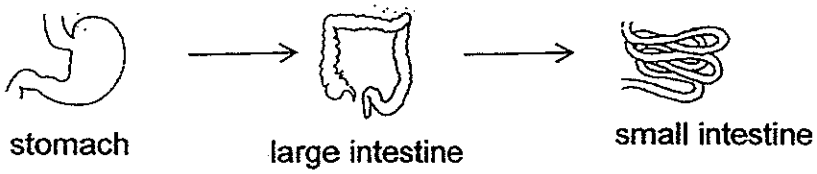


Which one of the following is the most suitable heading for group X?

(1) fish
(2) fungi
(3) insects
(4) bacteria

3 Which one of the following shows the correct order when food moves through some parts of the digestive system?

(1)

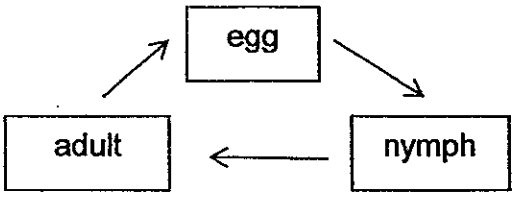


(2)

(3)

(4)

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



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

(1) frog
(2) beetle
(3) butterfly
(4) cockroach

5 Which one of the following is the function of a stem of a plant?

(1) makes food

(2) takes in water

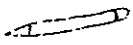
(3) takes in mineral salts

(4) holds the plant upright

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

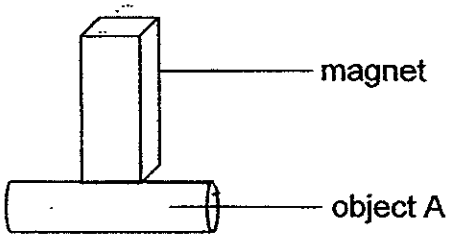
(1)  plastic fork

(2)  handkerchief

(3)  pencil

(4)  mirror

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



Object A is made of _____.

(1) steel

(2) wood

(3) plastic

(4) rubber

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

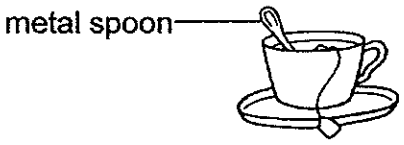
(1)  an apple

(2)  the moon

(3)  camp fire

(4)  a flower

9 Jean places a metal spoon in a cup of hot tea.



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.

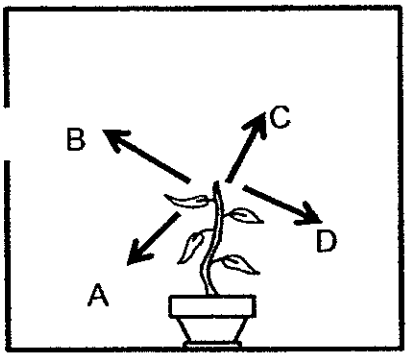
10 Matter is anything that has mass and occupies space.

Which one of the following is **NOT** matter?

(1) air
(2) heat
(3) rice
(4) water

11 The diagram below shows a potted plant that was placed in a black box with a small hole for two weeks.

Sun



In which direction, A, B, C or D, will the plant grow towards?

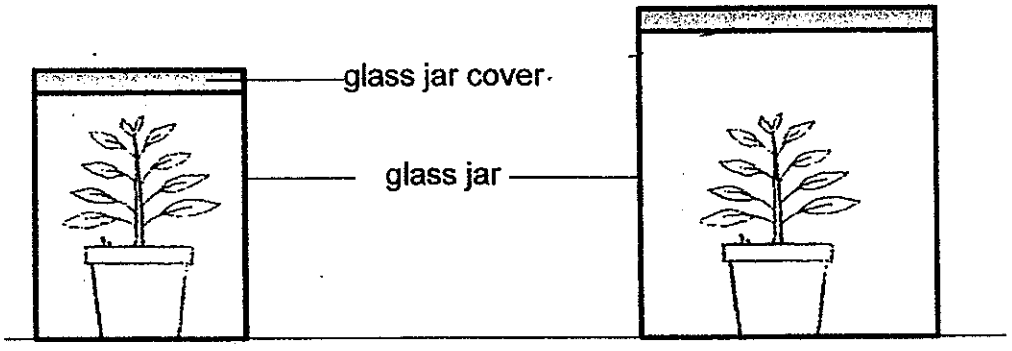
(1) A

(2) B

(3) C

(4) D

12 Peter sets up an experiment to find out if the size of the glass jar affects the growth of the plants as shown below.



To ensure a fair test, only one variable is changed. Which one of the following variables must Peter change?

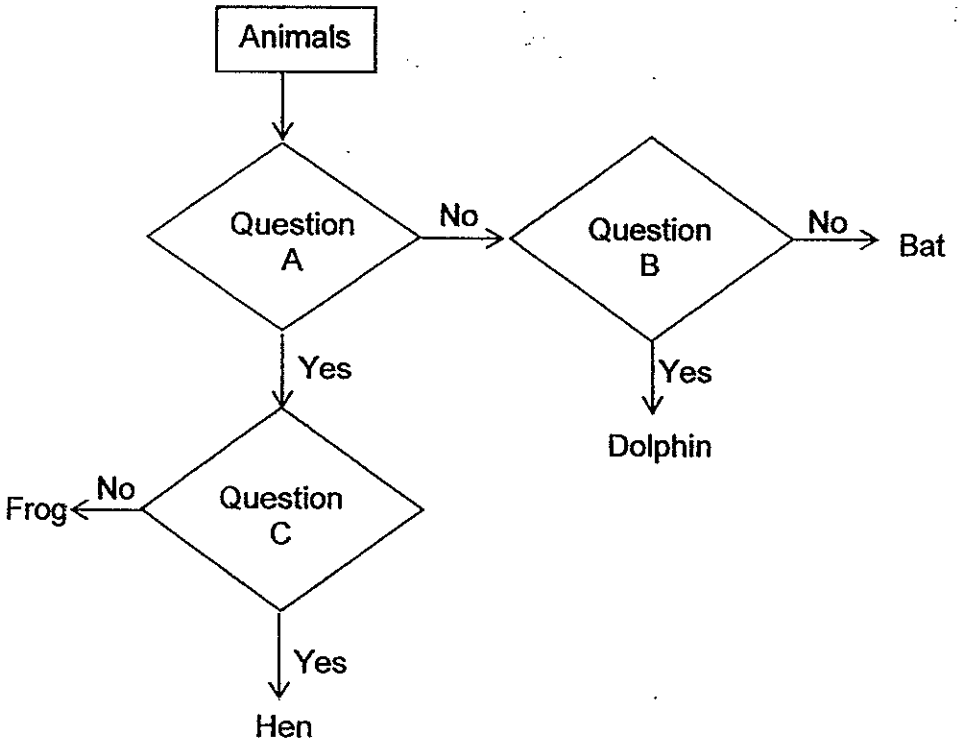
(1) type of plant

(2) amount of water

(3) amount of sunlight

(4) size of the glass jar

13 Sally classified the characteristics of four animals with the help of the chart below.



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

	Question A	Question B	Question C
(1)	Does it swim?	Does it give birth to the young alive?	Does it live on land?
(2)	Does it lay eggs?	Does its young live in water?	Does it have wings?
(3)	Does it have hair?	Does it swim?	Does it live in water?
(4)	Does it live on land?	Does it lay eggs?	Does it have feathers?

14 Four children made some statements about micro-organisms.

Abdul Micro-organisms are living things.

Beth Micro-organisms reproduce from spores.

Cathy Micro-organisms can make their own food.

Dan Micro-organisms can only be seen under the microscope.

Who had made the correct statements?

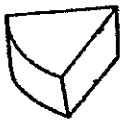
(1) Abdul and Dan

(2) Cathy and Dan

(3) Abdul and Beth

(4) Beth and Cathy

15 Ali conducted an experiment to find out the temperature at which mould grows best. He put equal amount of cheese into four different places where the temperatures were monitored and kept constant. After two weeks, he made the observations as shown in the table below.

	Cheese in plastic bag 1	Cheese in plastic bag 2	Cheese in plastic bag 3	Cheese in plastic bag 4
Temperature at which the cheese was left	5°C	12°C	18°C	25°C
Observations of the cheese after two weeks				

Based on the observations above, which one of the following statements best explains the relationship between temperature and the growth of mould?

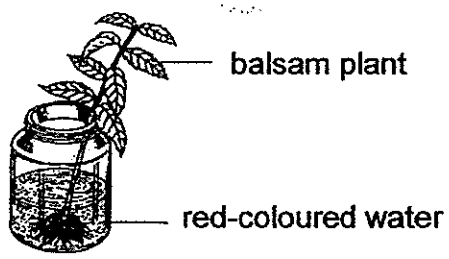
(1) Temperature has no effect on the growth of mould.

(2) As temperature increases, the growth of mould increases.

(3) As temperature increases, the growth of mould decreases.

(4) As temperature decreases, the growth of mould increases.

16 In the experiment below, Bryan put a balsam plant into a beaker of red-coloured water. A few days later, he observed that the water level in the beaker had decreased and some parts of the plant had turned red.



Which of the following statements explain(s) his observation?

A The roots of the plant absorbed the water.

B The leaves of the plant transported the water to the roots.

C The food-carrying tubes of the plant transported the food from the leaves.

D The water-carrying tubes of the plant transported the water to the leaves.

(1) D only

(2) A and B only

(3) A and D only

(4) A, C and D only

17 Mr Farooq asked, "In which part of the digestive system can digestive juices be found?" Some pupils gave their answers:

Dan	gullet and large intestine
Frank	mouth, gullet and stomach
Steve	mouth, stomach and small intestine
George	stomach, small intestine and large intestine

Which one of the pupils gave the correct answer?

(1) Dan

(2) Frank

(3) Steve

(4) George

18 Ali conducted an experiment with green bean seeds and sunflower seeds. The table below shows the type of seed and soil used for each jar, W, X, Y and Z as well as where Ali had placed the jars. The number of seeds in each jar was the same.

Jars	Type of seed	Type of soil used	Location of the jar
W	green bean	garden	under the shade
X	green bean	sandy	in the sun
Y	sunflower	garden	under the shade
Z	sunflower	sandy	under the shade

Which two jars should Ali use in order to find out if seeds of green bean or sunflower germinate into seedlings faster?

(1) W and Y only

(2) W and Z only

(3) X and Z only

(4) Y and Z only

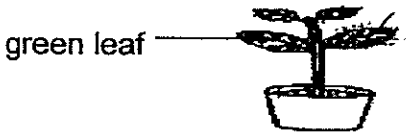
19 Yong Kang did a study on three animals, J, K and L. He drew a checklist and placed a tick (√) in the box for each observation made. The completed checklist is as shown below.

Observation	Animal J	Animal K	Animal L
4 stages in life cycle			
Gives birth to young alive			
Young resembles adult			
Moults several times at one stage in its life cycle			

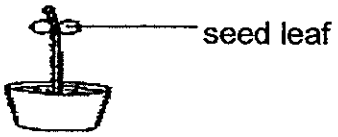
Which of the following correctly represents animals J, K and L?

	Animal J	Animal K	Animal L
(1)	beetle	cow	grasshopper
(2)	butterfly	hen	mosquito
(3)	mosquito	frog	cockroach
(4)	cockroach	horse	grasshopper

20 Chris had 2 pots of seedlings, A and B, in his garden as shown below. Both seedlings have been grown from seeds of the same plant for the same number of days. He had cut away the seed leaves of seedling in Pot A and the green leaves of seedling in Pot B.



Pot A with seed leaves cut off



Pot B with green leaves cut off

What would happen to the seedlings in Pots A and B after two weeks?

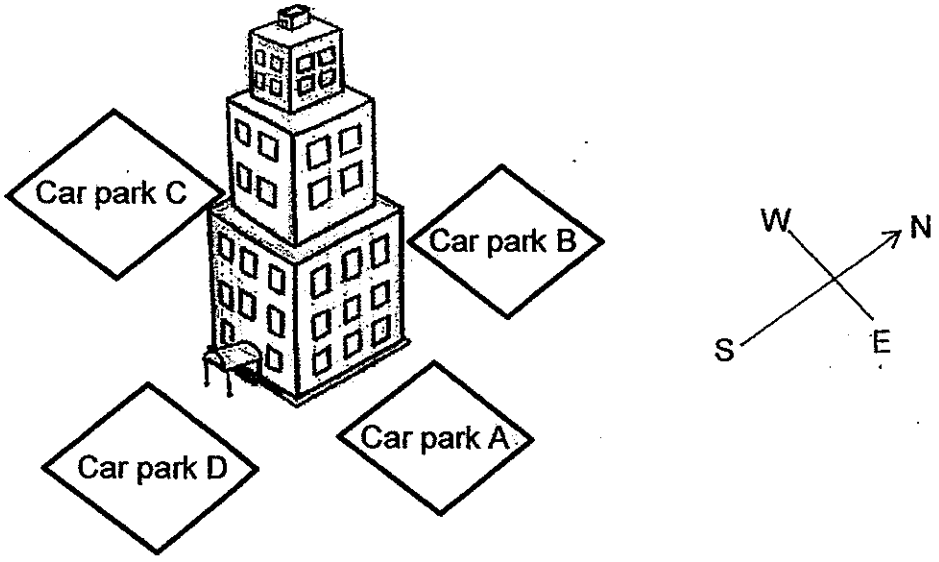
(1) Both seedlings in Pots A and B would die.

(2) The seedling in Pot A would grow taller and the seedling in Pot B would die.

(3) The seedling in Pot A would grow more leaves and the seedling in Pot B would grow seed leaves.

(4) The seedling in Pot A would grow seed leaves and become taller while the seedling in Pot B would die.

21 Alex drove to a building as shown below and reached there at 3 p.m. He wanted to find a car park that can shade his car from the afternoon sun.



Which car park should he choose?

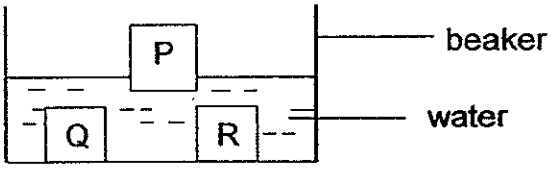
(1) A

(2) B

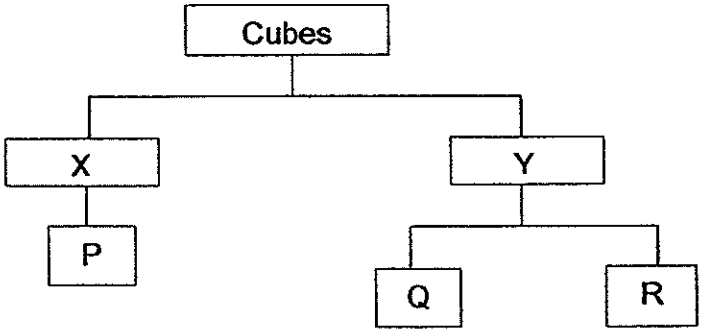
(3) C

(4) D

22 Dinesh conducted a test to find out the property of the materials used to make cubes P, Q and R as shown below. Cubes P, Q and R are of the same shape and size.



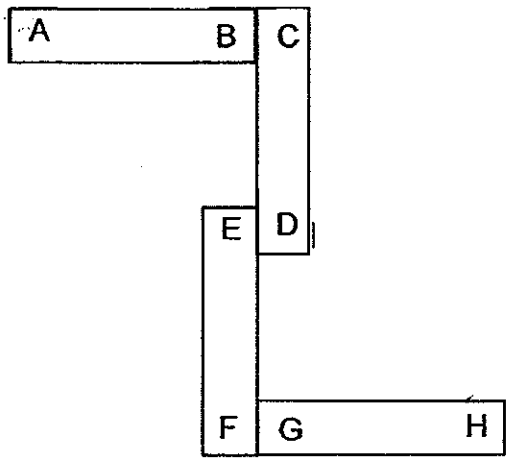
He then classified the cubes as shown in the classification chart below.



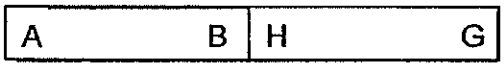
Based on the information above, which of the following best describes the property represented by X and Y?

	X	Y
(1)	Weak	Strong
(2)	Flexible	Not flexible
(3)	Waterproof	Not waterproof
(4)	Floats on water	Sinks in water

23 The diagram below shows four similar bar magnets with their poles labelled and arranged in the following manner.



Which of the following shows a possible arrangement of the magnets?

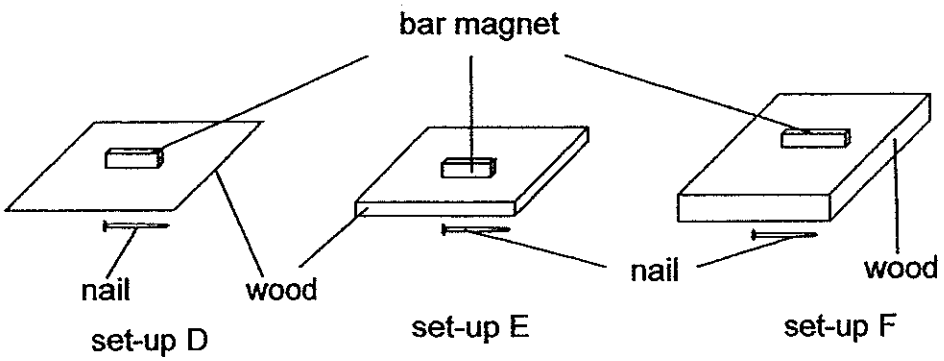
(1) 

(2) 

(3) 

(4) 

24 Suhaimi wanted to find out if magnetism can pass through a piece of wood with different thickness. He had three similar magnets of the same strength. Then he put a magnet on each of the three pieces of wood with different thickness. Next a nail was placed below each of the three pieces of wood. The distance between the nails and the pieces of wood were the same. He observed the nail in set-ups D and E moved but the nail in set-up F did not move.



What can Suhaimi conclude from this experiment?

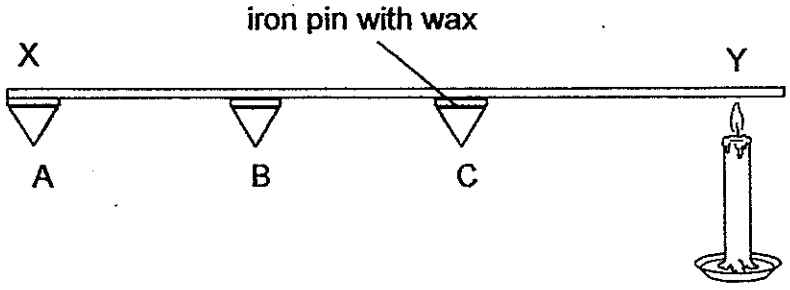
(1) Magnetism can pass through wood.

(2) The iron nails are magnetic materials.

(3) Magnetism can only pass through a piece of wood of certain thickness.

(4) Wood is the only material that should be used to test whether iron nails are magnetic materials.

25 Pooja fixed 3 iron pins, A, B and C, with equal amount of wax and at equal distance from each other, on a metal rod as shown in the diagram below.



Pin A was the last one to drop because heat _____.

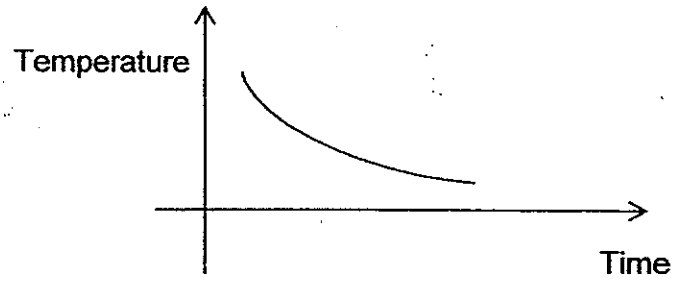
(1) is lost from X to Y

(2) is gained from X to Y

(3) travelled from X to Y of the metal rod

(4) travelled from Y to X of the metal rod

26 Study the graph below.



Which one of the following examples best represents the graph as shown above?

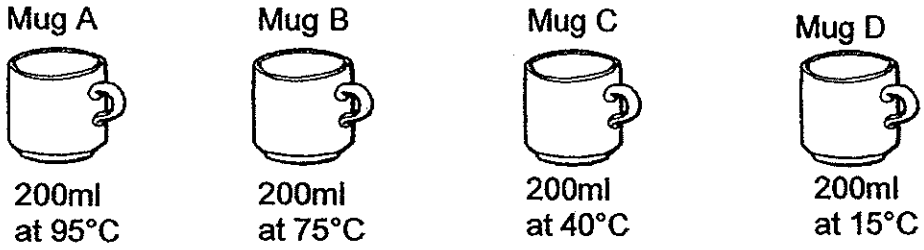
(1) A pot of soup being warmed.

(2) An ice cube taken out of the freezer.

(3) A slice of bread being toasted in the oven.

(4) A hot bowl of noodles being left on the table.

27 Four identical mugs containing the same amount of water were left on a table for 2 hours.



Which mug, A, B, C or D, will have the least amount of water left after 2 hours?

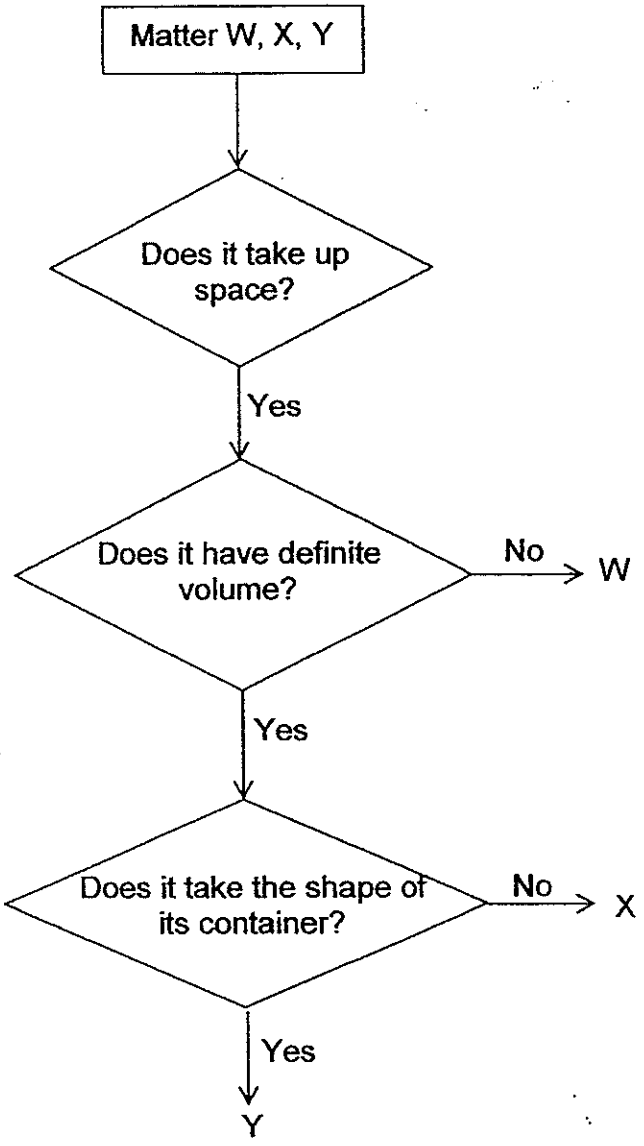
(1) A

(2) B

(3) C

(4) D

28 The diagram below shows the properties of various matter at room temperature.



Which one of the following represents the matter, W, X and Y?

	W	X	Y
(1)	air	wood	milk
(2)	water	stone	oxygen
(3)	oxygen	juice	sand
(4)	carbon dioxide	oxygen	flour

29 The table below matches the change in state of water with the process that describes it. Which of the processes has been wrongly matched?

	Change in state	Process
(1)	Gas to solid	Boiling
(2)	Gas to liquid	Condensation
(3)	Solid to liquid	Melting
(4)	Liquid to gas	Evaporation

30 Which of the following activities are good habits to conserve water?

A Taking shorter showers.

B Washing cars using a water hose.

C Using a mug when brushing teeth.

D Washing dishes under running water.

(1) A and B only

(2) A and C only

(3) B and D only

(4) C and D only

End of Booklet A

CATHOLIC HIGH SCHOOL
SEMESTRAL ASSESSMENT 2
2014
PRIMARY FOUR

SCIENCE

BOOKLET B

Name: _____ ( )

Class: Primary 4 _____

Date: 29 October 2014

Parent's Signature: _____

CHECKED

Booklet A	60
Booklet B	40
Total	100

14 questions

40 marks

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

INSTRUCTIONS TO CANDIDATES

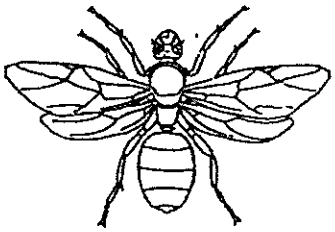
Do not turn over this page until you are told to do so.
Follow all instructions carefully.
Answer all questions.
Write your answers in this booklet.

This booklet consists of 16 printed pages, excluding cover page.

Booklet B (40 marks)

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 Look at the diagram below.



Fill in the blank by ticking (√) the box below.
(You may tick more than one box).

It is an insect because it _____ [2]

☐ can fly

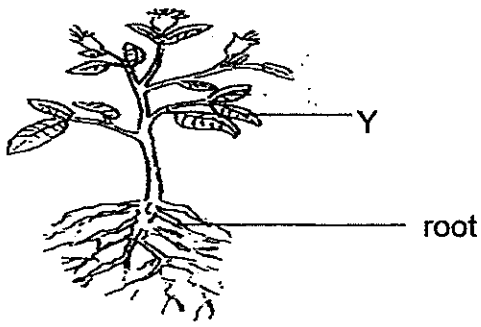
☐ has 6 legs

☐ has wings

☐ has 3 body parts

(Go on to the next page)

32 The diagram shows a plant.



(a) Name plant part Y. [1]

Y : _____

(b) One substance that the roots of plant take in from the soil is [1]

_____

From Questions 33 to 35, fill in each blank with only one word.

33 Talib places a magnet near an iron paper clip.

iron paper clip magnet

(a) The iron paper clip moves towards the magnet. The magnet exerts a [1]

_____ on the iron paper clip.

(b) Choose the correct word from the box to answer the question below. [1]

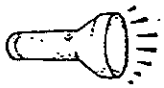
hard	magnetic	strong

Talib's observation shows that iron is a _____ material.

(Go on to the next page)

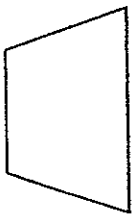
SCORE	/ 4

34 Jane shines a torch on a ball and a shadow is formed on a screen.



torch

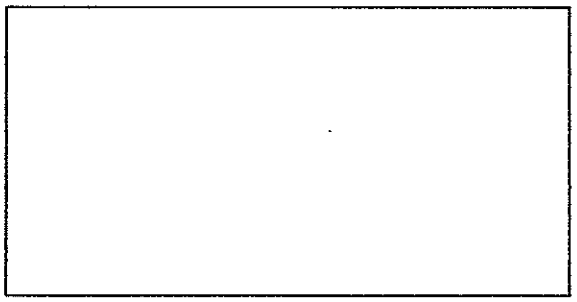
ball



screen

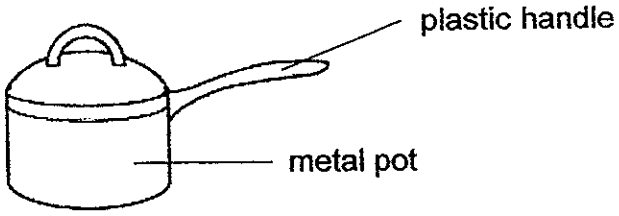
(a) A shadow is formed when light is _____ by an object. [1]

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



screen

35 The diagram below shows a cooking pot.



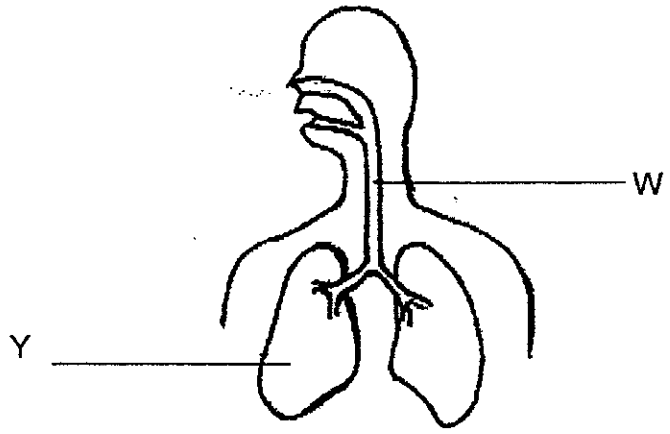
(a) The handle is made of plastic because it is a _____ conductor of heat. [1]

(b) The pot is made of metal because it is a _____ conductor of heat. [1]

(Go on to the next page)

SCORE	4

36 The diagram below represents a human body system.



(a) Name the parts labelled above. [1]

W	
Y	

(b) What human body system does the above diagram represent? [1]

_____

(c) Name the part of the skeletal system that protects Y. [1]

_____

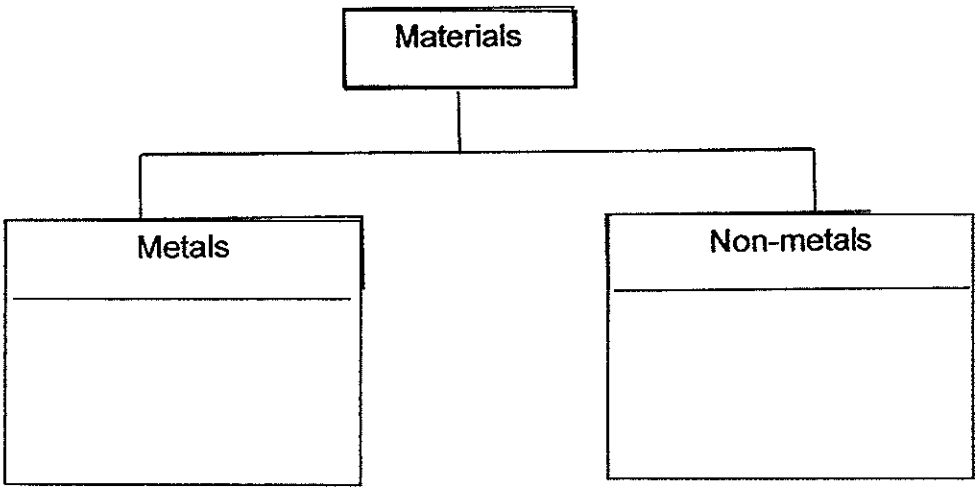
(Go on to the next page)

SCORE 3

37 Khalid was given some materials as shown in the table below.

paper	silver	iron	gold	glass

(a) Classify the materials in the classification chart below. [1]



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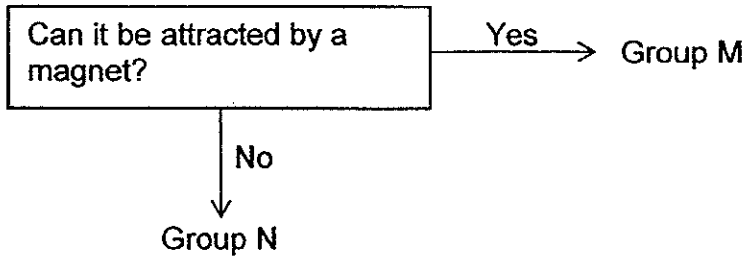
SCORE / 1

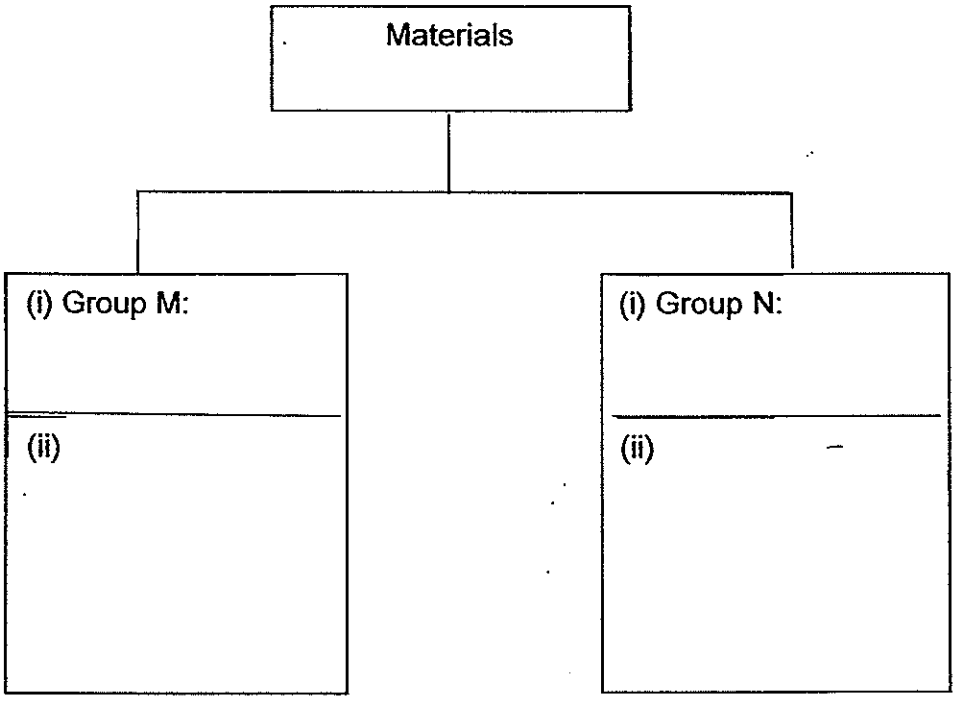
Continued from Question 37

(b) Khalid made some observations about the materials and recorded them in the flow chart below.



Based on this observation, give a suitable heading for Groups M and N in (i) below. [1]

Then, classify all the given materials into the classification chart in (ii) below. [1]



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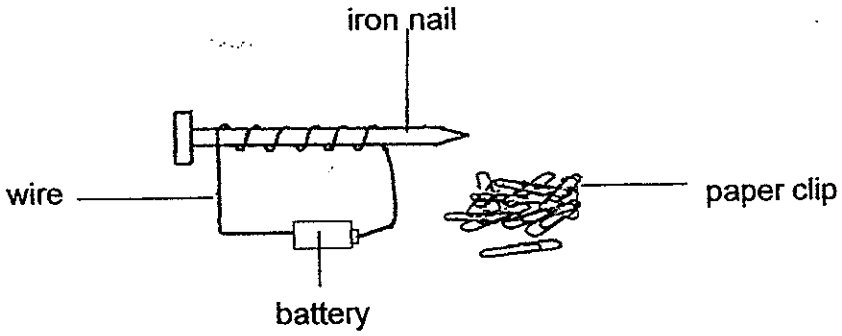
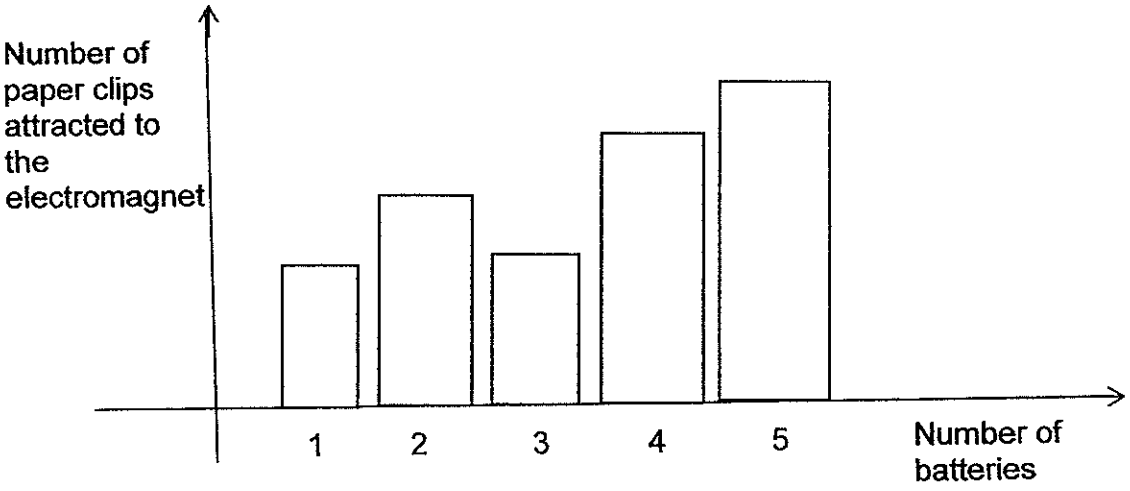
SCORE	/ 2

38 Ah Mei wanted to find out how the number of batteries affects the number of paper clips attracted to the electromagnet as shown below.



The results of her experiment was shown in the graph below.



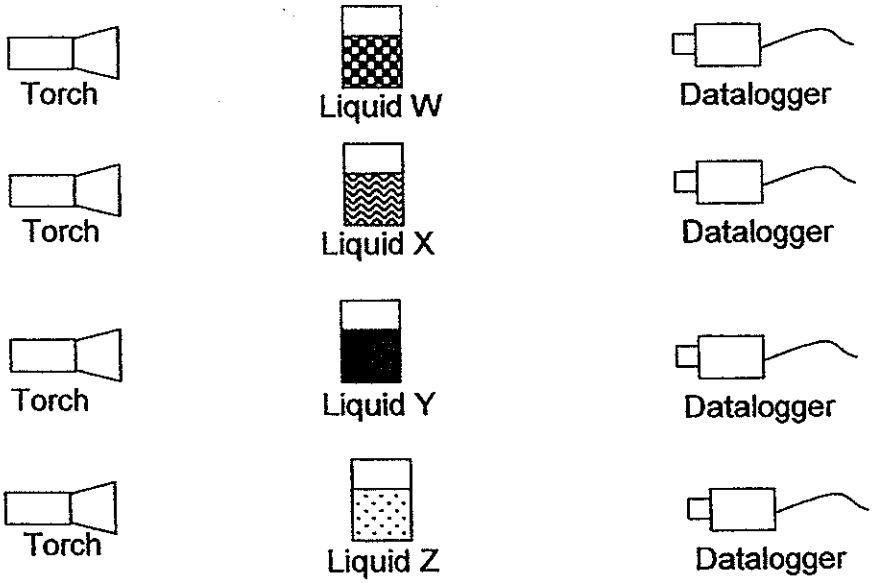
(a) Ah Mei's teacher said that she had made an error in the result of her experiment. In the graph above, shade the bar column which she had most likely made the error in. [1]

(b) If one battery is used, predict how many paper clips will be attracted to the electromagnet if the iron nail has been replaced with a copper nail. [1]

(Go on to the next page)

SCORE	/ 2

39 Jenny used a datalogger to measure the amount of light that passed through 4 beakers of different liquids, W, X, Y and Z. The amount of liquids, distance between the torch and the liquid as well as the distance between the liquid and datalogger are the same in each set-up as shown below.



The results are recorded in Table 1 below.

Table 1

Type of liquid	Amount of light (units)
W	5
X	10
Y	35
Z	25

(a) Which of the following statements would be the aim of the experiment? [1]

	Statements	Put a tick (√) to indicate the correct statement
(i)	To find out if the distance between the torch and the liquid affects the amount of light that can pass through.	
(ii)	To find out if the distance between the datalogger and the liquid affects the amount of light that can pass through.	
(iii)	To find out if the volume of the liquid affects the amount of light that can pass through.	
(iv)	To find out if the type of liquid affects the amount of light that can pass through.	

(Go on to the next page)

SCORE / 1

Continued from Question 38

(c) Which of the following variables had to be changed or kept the same so that the experiment was a fair test? Indicate your choice with a tick (√) in the table provided below. [1]

	Variable	Keep the same	Change
(i)	The number of batteries		
(ii)	The shape of paper clips		
(iii)	The number of coils around the iron nail		
(iv)	The distance between the electromagnet and the paper clips		

(d) Ah Mei made a change to the experiment. She wanted to find out if the number of coils of the wire around the iron nail will affect the number of paper clips that can be attracted. The result of her experiment is as shown below.

Number of coils around the nail	Number of paper clips attracted
3	5
4	7
5	9

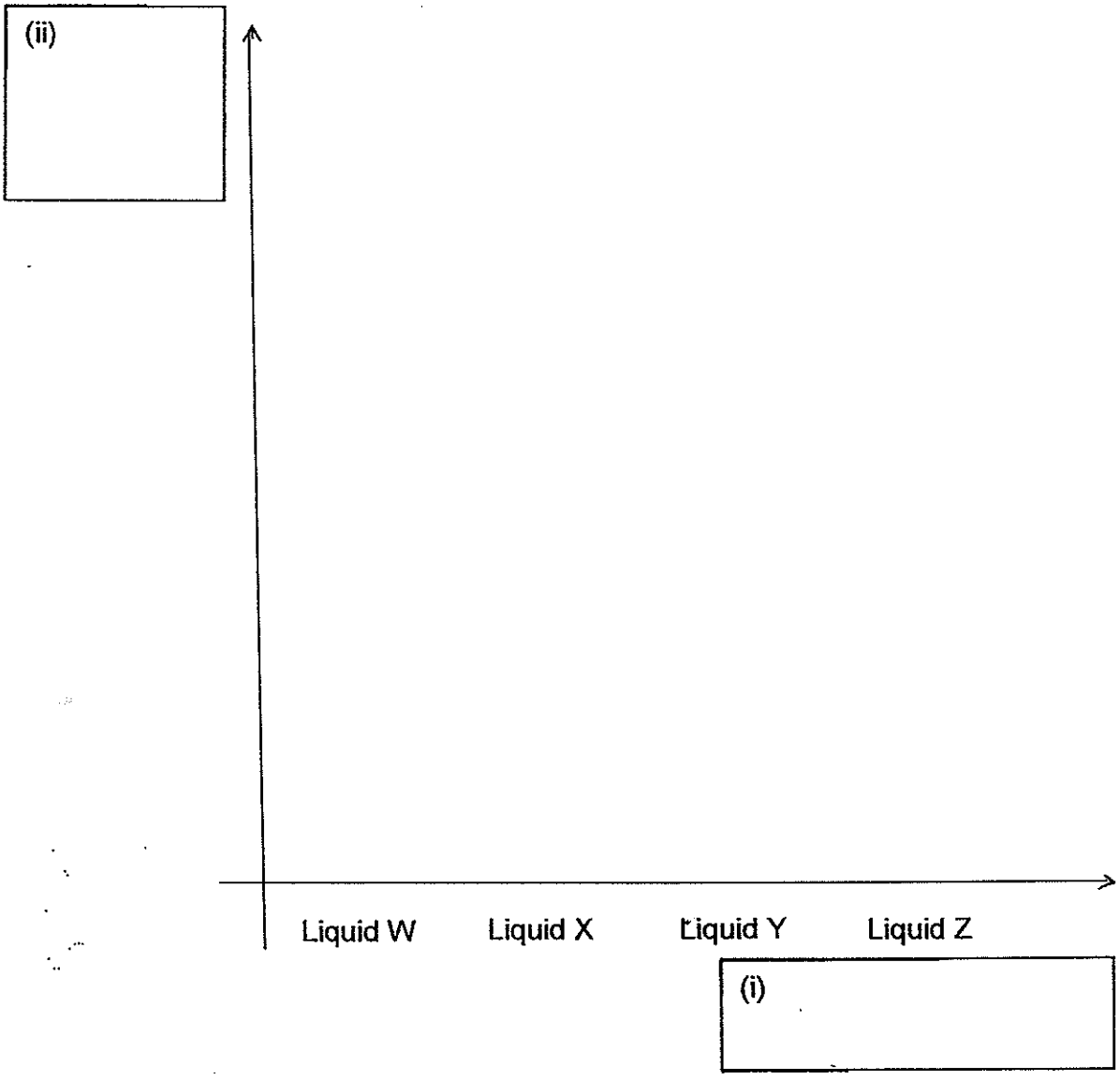
Based on the results above, what is the relationship between the number of coils around the nail and the number of paper clips attracted to the electromagnet? [1]

(Go on to the next page)

SCORE	/ 2

Continued from Question 39

(b) Based on the results in Table 1, [2]
(i) label the horizontal axis,
(ii) label the vertical axis and mark the readings on it,
(iii) draw a bar graph to represent the results of the experiment in the graph below. (Liquid W has been done.)



(c) What conclusion can Jenny make based on the experiment? [1]

_____

_____

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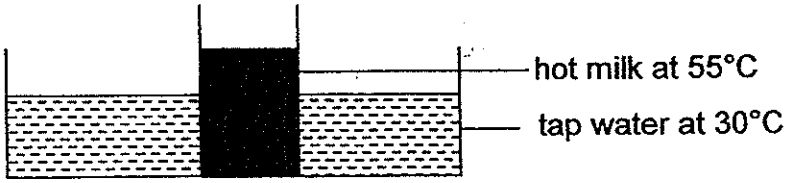
40 Imran placed a glass of hot milk at 55°C in a basin of tap water at 30°C in the classroom at room temperature as shown in the diagram below.



(a) What observation could Imran make to the temperature of the hot milk after 20 minutes? [1]

_____

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

_____

_____

(c) Indicate in the table below if the hot milk and basin of tap water has gained or lost heat. [1]

Glass of hot milk	
Basin of tap water	

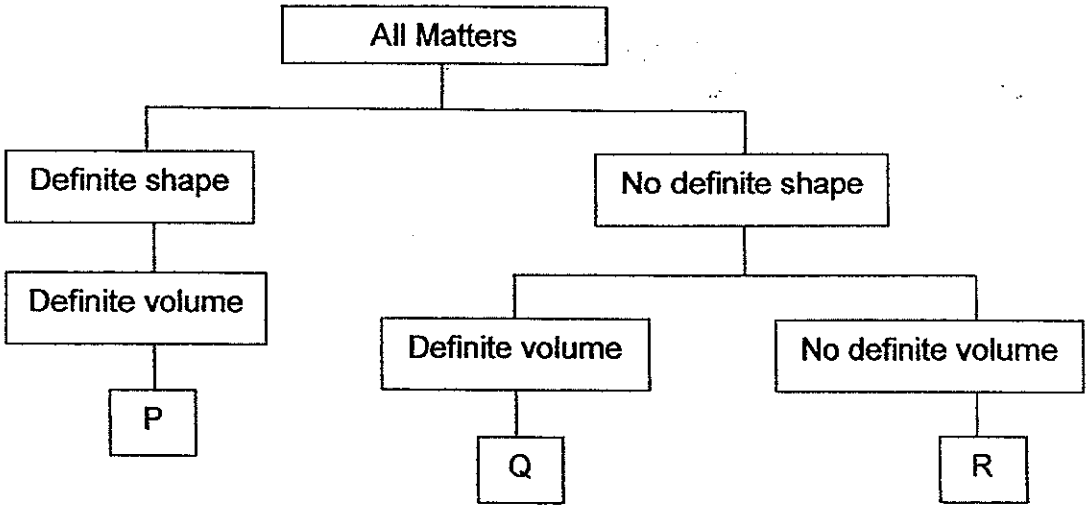
(d) What could be the temperature of the hot milk after 20 minutes? [1]

_____

(Go on to the next page)

SCORE	/ 4

41 Look at the classification chart below. P, Q and R are examples of matter.



(a) What are the characteristics of P? [1]

_____

_____

(b) Q and R are both matter. Give another similarity between Q and R. [1]

_____

_____

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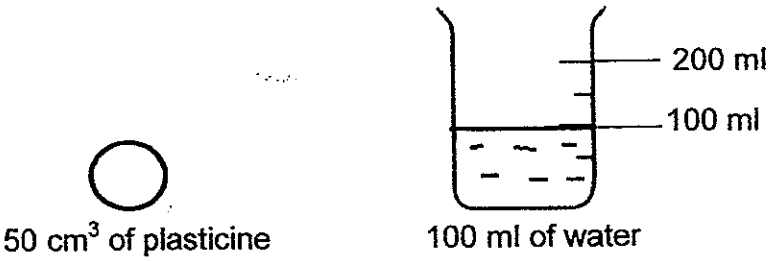
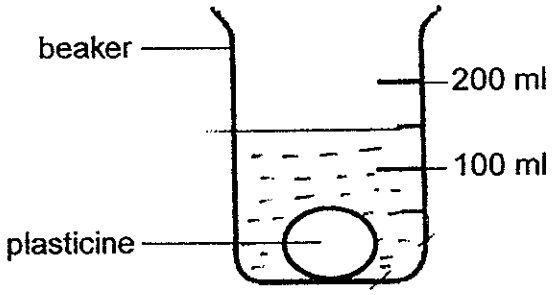
SCORE	/ 2

42 Dinesh was given a 50 cm^3 of plasticine and a beaker containing 100 ml of water.

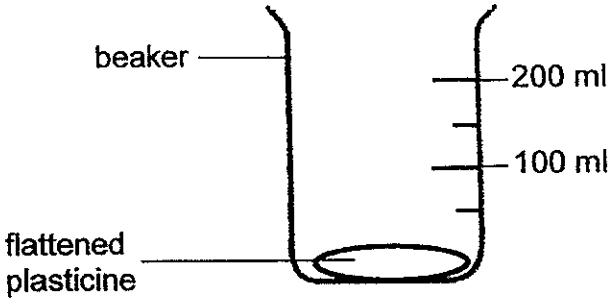


He then lowered the lump of plasticine into the beaker of water.

(a) Draw the water level after he had lowered the plasticine into the beaker of water in the diagram below. [1]



(b) Then he took the plasticine out of the beaker of water and flattened it. After that he lowered the flattened plasticine into the beaker containing 100 ml of water again.



What would be the new water level after he had lowered the flattened plasticine into the beaker? [1]

_____

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SCORE	/ 2

Continued from Question 42

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

_____

_____

(d) Base on this experiment, what does this tell us about the property of solids? [1]

_____

_____

(Go on to the next page)

SCORE	/ 2

43 Aini had 4 containers, A, B, C and D, made of the same materials. She filled each container with the same amount of water at the same temperature. The experiment was conducted in the same part of the school Eco-garden. She then recorded the volumes of four containers of water, A, B, C and D, at the start of the experiment and at the end of the experiment. The amounts of water are as shown below.

Containers	Amount of water at the start of the experiment (ml)	Amount of water at the end of the experiment (ml)
A	70	55
B	70	40
C	70	50
D	70	30

Aini made some statements about the data she had recorded. [2]
Write, True (T) or False (F), for each statement.

	Statements	Write 'T' for True, 'F' for False
(a)	The water in Container C evaporates the fastest.	
(b)	Container A has the smallest exposed surface area.	
(c)	Container B has a bigger exposed surface area than Container D.	
(d)	The temperature of water in Container A is higher than the temperature of water in Container C.	

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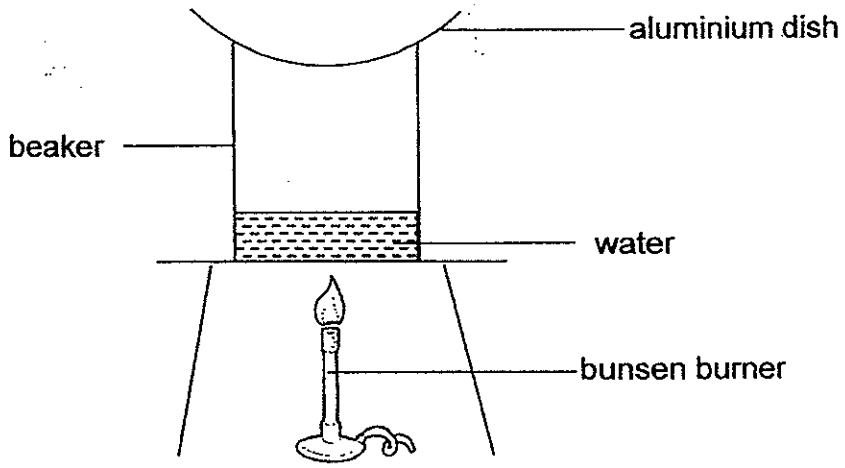
SCORE 2

44 The diagram below shows an experiment that represents the water cycle in nature.



(a) Does the hot water vapour gain heat, lose heat or remain the same as it touches the aluminium dish? [1]

_____

(b) Without changing or moving the above set-up, suggest one way that can be done to the aluminium dish to increase the amount of water droplets formed. [1]

_____

(c) Which part in the above set-up represents the Sun? [1]

_____

(d) State the process(es) involved in the water cycle in nature. [1]

_____

End of Booklet B

SCORE	/4

EXAM PAPERS 2014

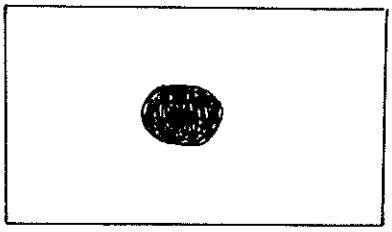
SCHOOL: CATHOLIC HIGH SCHOOL
SUBJECT: SCIENCE
LEVEL: PRIMARY 4
TERM: SA 2

BOOKLET A

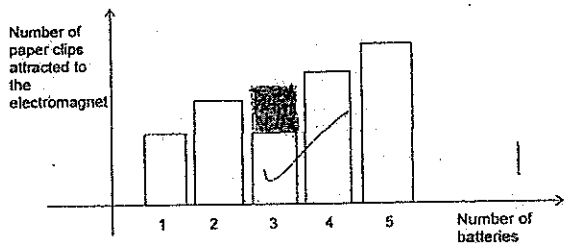
Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
3	2	4	4	4	2	1	3	4	2
Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20
2	4	2	1	2	3	3	1	1	2
Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30
4	4	4	3	4	4	1	1	1	2

BOOKLET B

Q31 has 6 legs. Has 3 body parts.
Q32 (a) leaf (b) water
Q33 (a) magnetic force (b) magnetic
Q34 (a) blocked (b)



Q35 (a) bad (b) good
Q36 (a) windpipe, lung (b) respiratory c) ribcage
Q37 (a) Metals - silver, gold, iron. Non-metals - paper, glass.
(b) (i) Group M:magnetic (ii) iron
(i) Group N:non-magnetic (ii) gold, silver, paper, glass
Q38 (a)

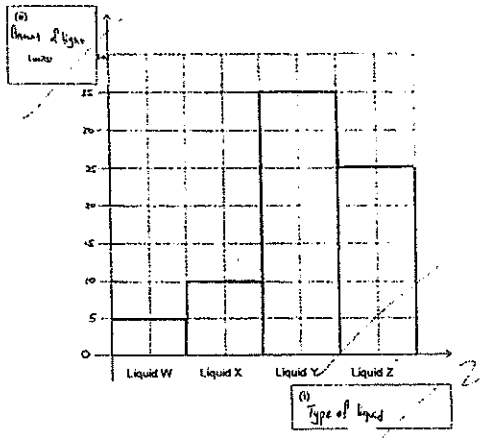


(b) 6 paper clips.
c) (i)Change(ii)Keep the same(iii)Keep the same(iv)Keep the same

(d) The greater the number of coils around the nail, the greater amount of paper clips attracted.

Q39 (a)(iv) To find out if the type of liquid affects the amount of light that can pass through.

(b) (i) Type of liquid (ii) Amount of light(units)



c) Liquid Y allowed most amount of light to pass through, followed by Z and X. W allowed the least amount of light to pass through.

Q40 (a) The hot milk's temperature will become lower.

(b) The hot milk lost heat to the cooler temperature of the tap water.

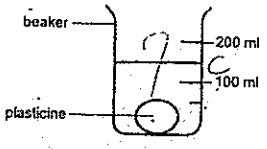
c) lost heat, gained heat.

(d) 30°C

Q41 (a) P has a definite shape and a definite volume.

(b) Both Q and R have no definite shape.

Q42 (a)



(b) 150ml

c) Plasticine is a solid and solids have a definite volume so even if Dinesh flattens it and puts it into the water, the water level will be the same like when he puts the plasticine in without flattening it.

(d) Solids have a definite volume.

Q43 (a) F (b) T c) F (d) F

Q44 (a)The water vapour loses heat.

(b) You could put ice in it.

c)The bunsen burner.

(d) Evaporation and condensation.