5

Name: _____( )

Class: Primary 5 _____

CHIJ ST NICHOLAS GIRLS' SCHOOL

Primary 5
Continual Assessment 1 – 2016
SCIENCE

BOOKLET A

3 March 2016

Total Time for Booklets A and B: 1 hour 15 minutes

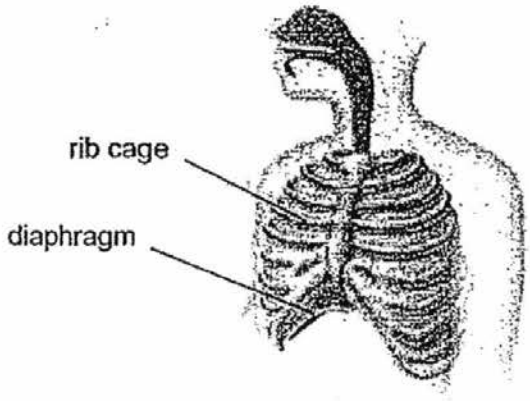
15 questions
30 marks

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

This booklet consists of 14 printed pages.

Section A (15 x 2 marks = 30 marks)
For each question from 1 to 15, 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 provided.**

1. The diagram below shows the human respiratory system. Which of the following correctly shows the movement of the ribs and diaphragm when a person breathes in?

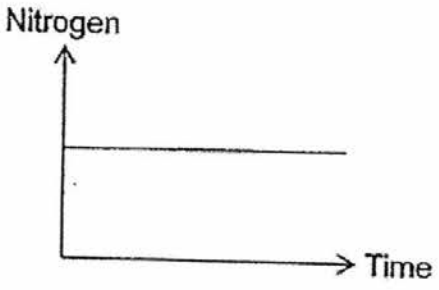


Front view

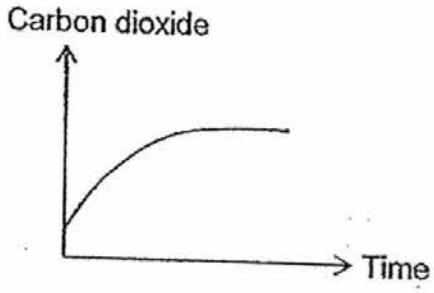
	Ribs	Diaphragm
(1)	Outwards and upwards	Downwards
(2)	Outwards and upwards	Upwards
(3)	Inwards and downwards	Downwards
(4)	Inwards and downwards	Upwards

2. A group of people was trapped in a lift. The following graphs show the changes in the amount of gases in the lift. Which one is most likely to be **incorrect**?

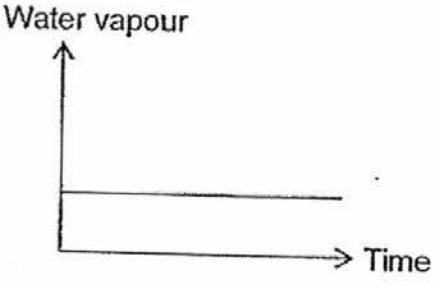
(1)



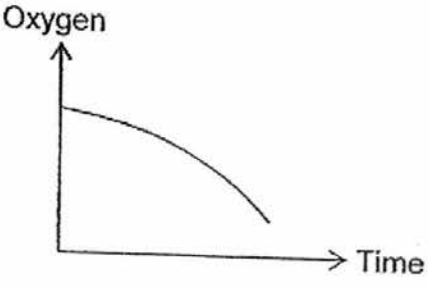
(2)



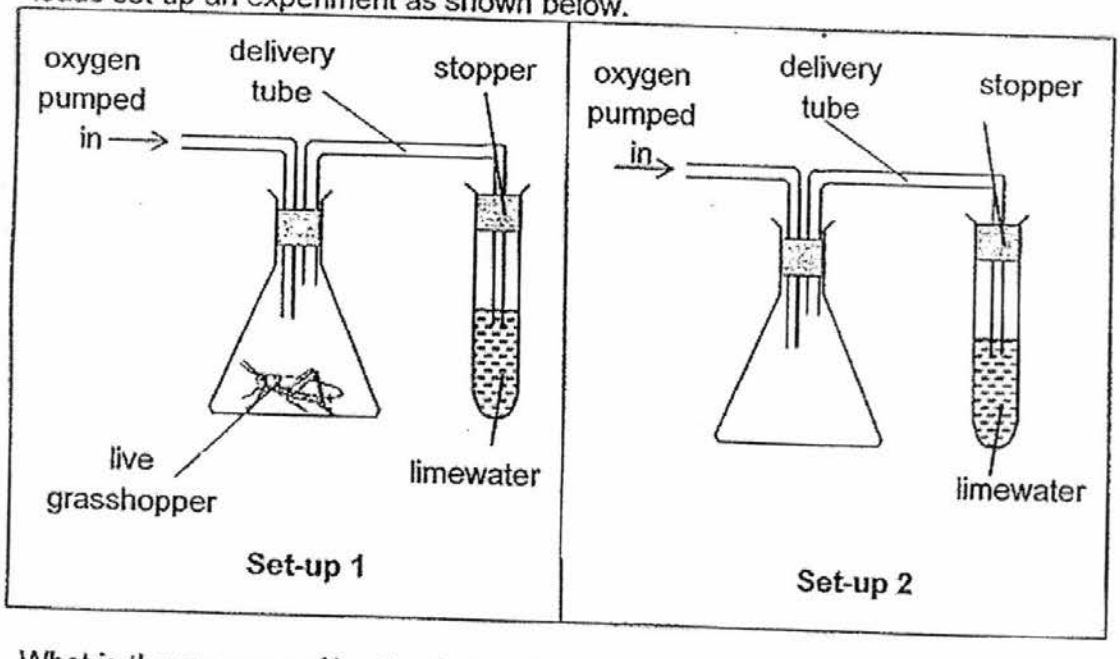
(3)



(4)



3. Isaac set up an experiment as shown below.



What is the purpose of having Set-up 2 in the experiment?

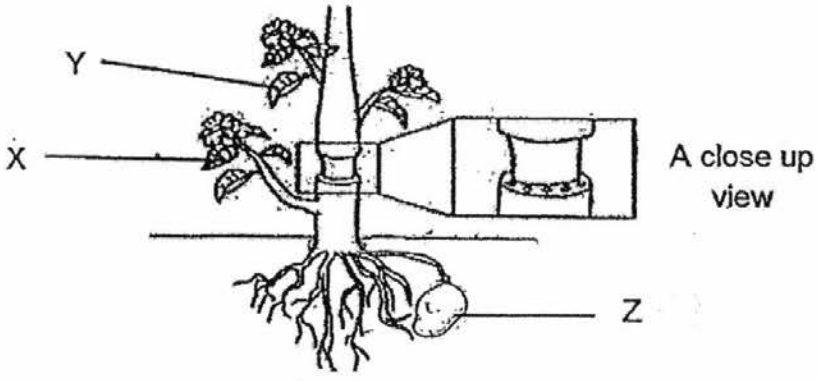
(1) To show that limewater turns chalky in the presence of the oxygen gas.
(2) To show that limewater remains clear in the presence of the grasshopper.
(3) To show that limewater turns chalky when it reacts with the gas given out by the grasshopper.
(4) To show that limewater remains clear when it reacts with the gas given out by the grasshopper.

4. What does blood help to transport throughout our body?

A: water
B: oxygen
C: digested food
D: carbon dioxide

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

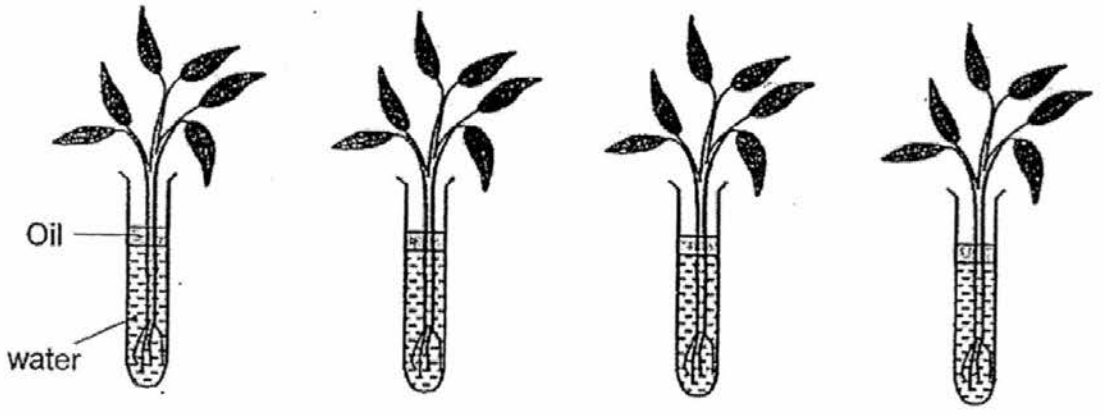
5. Keith removed an outer ring of a stem from a plant and as a result, the food-carrying tubes and the water-carrying tubes were removed as shown in the diagram below.



After a few weeks, it was observed that Z grew bigger. Which of the following statement best explains the observation?

(1) Food is made by Z itself.
(2) Food is transported to Z from Y.
(3) Food is transported to Z from X.
(4) Food is absorbed by Z from the soil.

6. Alif set up an experiment using 4 similar plants and placed each of them in a test-tube with equal amounts of water. He coated some surfaces of the leaves with oil and placed all the test-tubes in an open field.



Plant A	Plant B	Plant C	Plant D
No oil on any surface of the leaves	Oil on top surface of leaves only	Oil on bottom surface of leaves only	Oil on both surfaces of leaves

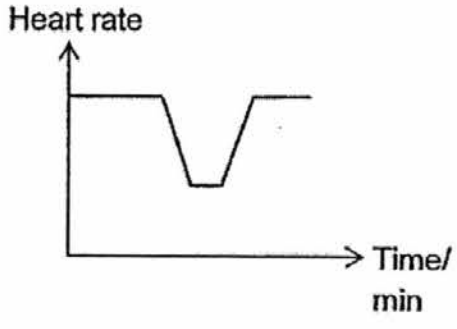
The amount of water left in each test-tube after 1 day was recorded. Which of the following shows the correct order of the amount of water left in each test-tube after 1 day?

	Greatest amount of water → Least amount of water			
(1)	A	B	C	D
(2)	B	C	D	A
(3)	C	B	A	D
(4)	D	C	B	A

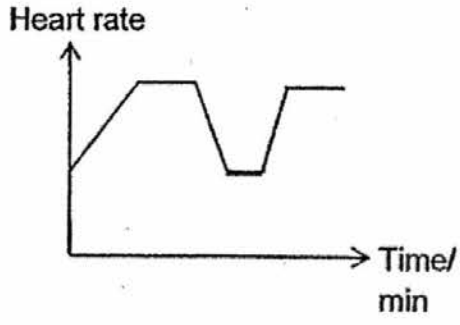
7. Bryan played rugby with his friends. The match lasted 40 minutes and there was an interval of 5 minutes for rest.

Which of the following graphs most likely represents the change in Bryan's heart rate from the beginning of the match to the end?

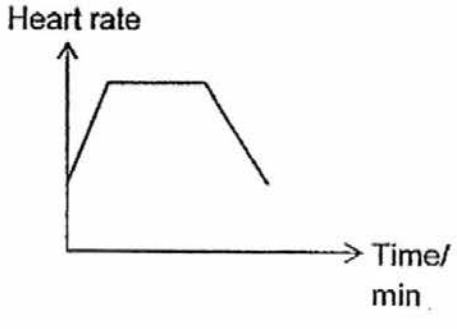
(1)



(2)



(3)



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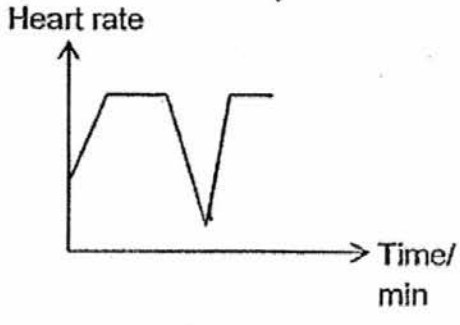


8. Diagram 1 below shows a ring magnet lowered onto a tray of steel pins. Diagram 2 shows the bottom view of the magnet.

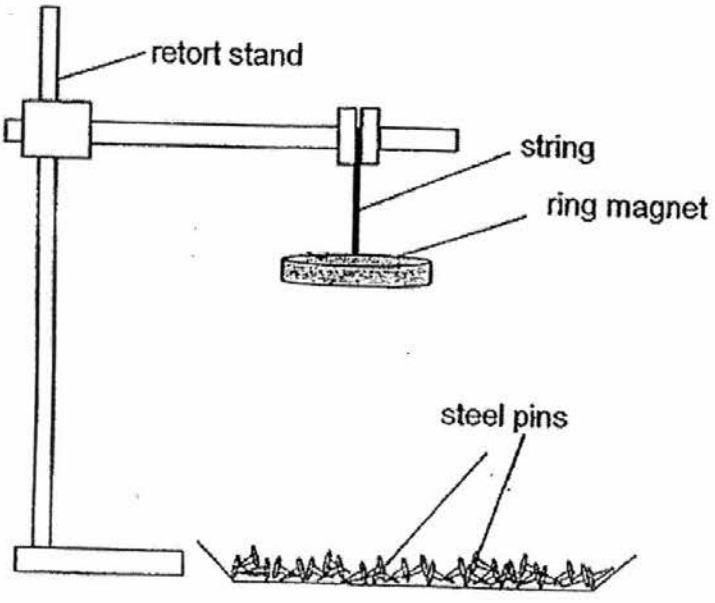


Diagram 1

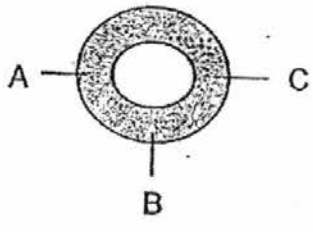
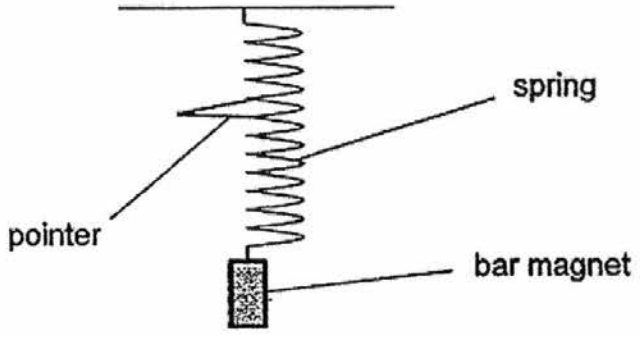


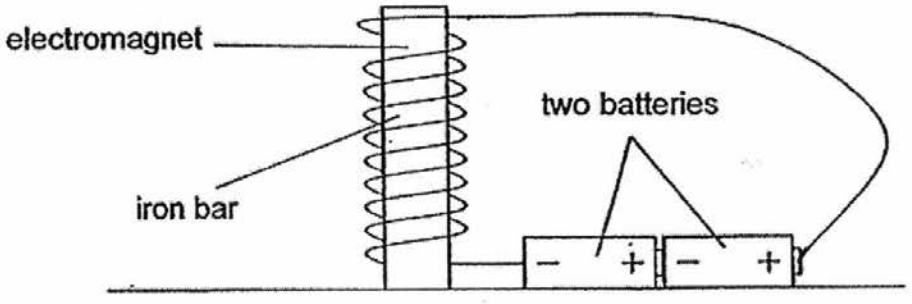
Diagram 2

Which of the following most likely shows the number of pins attracted to the bottom of the magnet at positions, A, B and C?

	A	B	C
(1)	8	20	8
(2)	14	8	14
(3)	17	12	7
(4)	12	12	12

9. In the set-up shown below, the bar magnet is repelled by the electromagnet. A pointer attached to the spring moves when the circuit is closed.

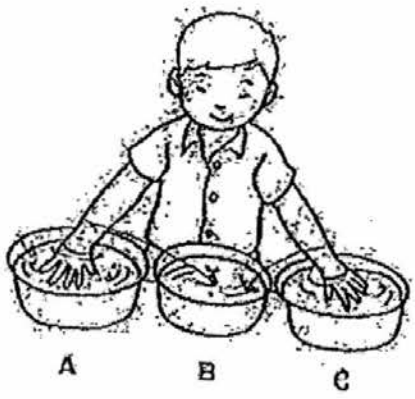




How will the pointer move when the number of coils around the iron bar is reduced? Why?

	Movement of pointer	Strength of the electromagnet
(1)	Downwards	Increase
(2)	Downwards	Decrease
(3)	Upwards	Increase
(4)	Upwards	Decrease

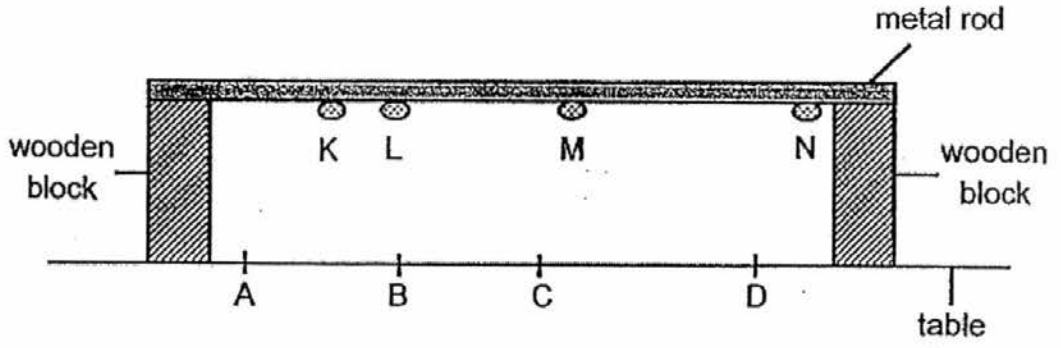
10. Weiqiang placed his right hand into the water in basin A and his left hand into the water in basin C at the same time. After 30 seconds, he placed both hands into the water in Basin B. His right hand felt hot but his left hand felt cold.



Which one of the following shows the possible temperatures of the water in the basins, A, B and C?

	Temperature of water (°C)		
	Basin A	Basin B	Basin C
(1)	12	30	46
(2)	46	30	12
(3)	46	25	30
(4)	25	46	12

11. The diagram below shows a metal rod supported by two wooden blocks. 4 similar pieces of wax, K, L, M and N, were attached to the rod. A heat source was then placed on the table below the metal rod. The order in which the wax pieces fell from the rod was recorded in the chart below.

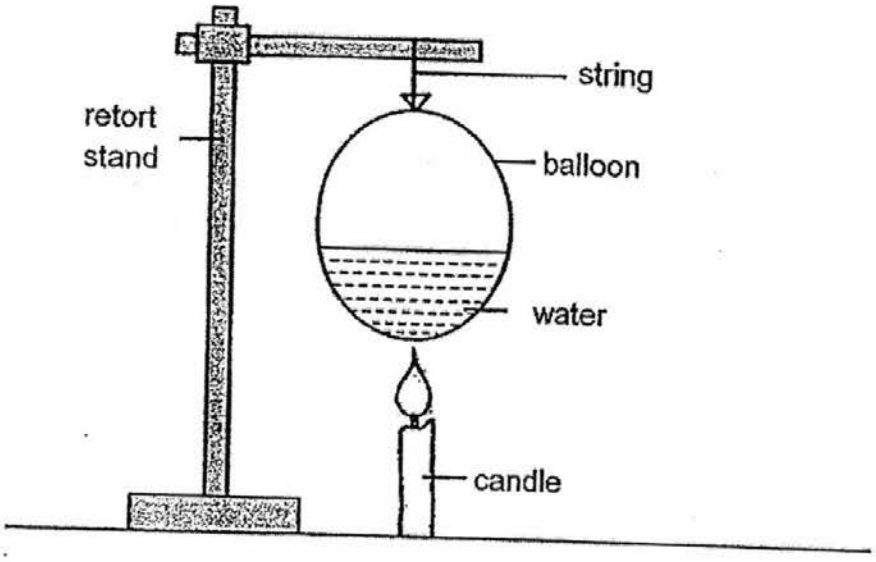


First to fall ⟶ Last to fall			
M	L	K	N

At which position, A, B, C or D on the table was the heat source placed?

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

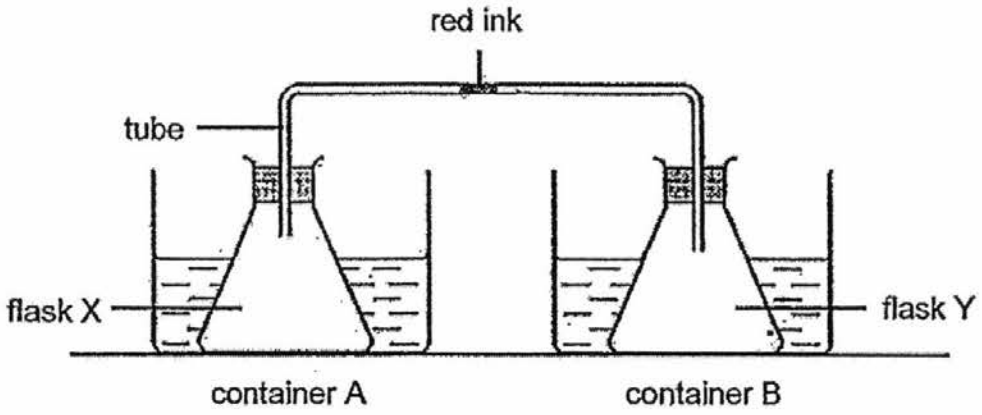
12. Ravi filled a balloon with some water and inflated it. He then held it over a lighted candle for 30 seconds as shown in the diagram below.



Which one of the following shows the most likely observation and the corresponding explanation for the experiment above?

	Observation	Explanation
(1)	The balloon burst	The heat from the candle caused the rubber to melt.
(2)	The balloon burst	The heat from the candle caused the air in the balloon to expand.
(3)	The balloon did not burst	The air in the balloon was able to conduct the heat away from the balloon quickly.
(4)	The balloon did not burst	The water in the balloon was able to conduct the heat away from the balloon quickly.

13. Kathy set up the following experiment.



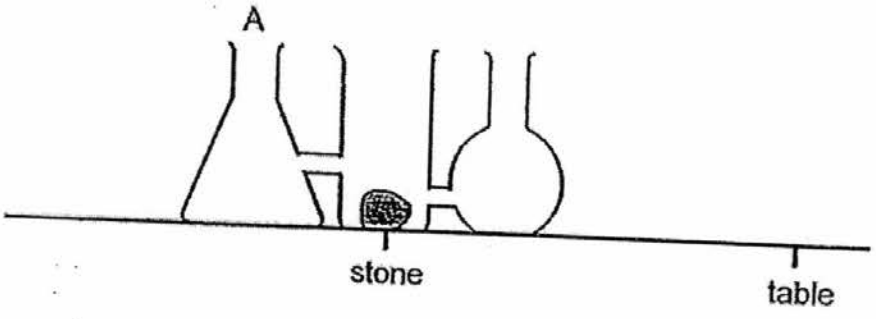
After five minutes, she noted that the drop of red ink moved away from container A towards container B.

What could Kathy have done to the set-up above to produce the observed result?

A: Heated container A
B: Heated container B
C: Added hot water into container A
D: Added ice cubes into container B

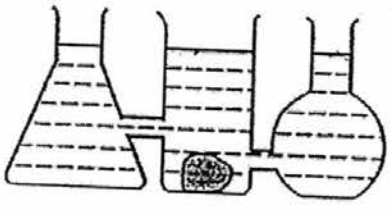
(1) A and C only
(2) B and C only
(3) B and D only
(4) A, C and D only

14. The diagram shows a communicating vessel.

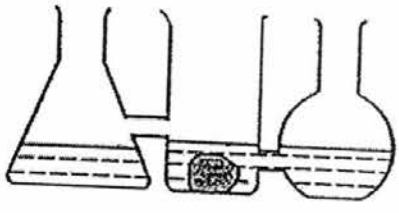


Mina poured some water into the container at point A. Which one of the following shows the most likely observation she will make?

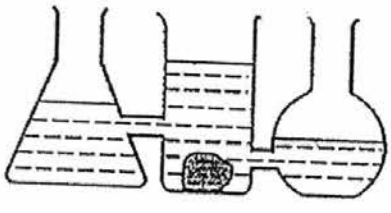
(1)



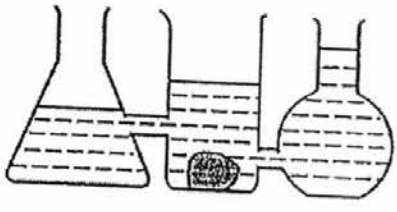
(2)



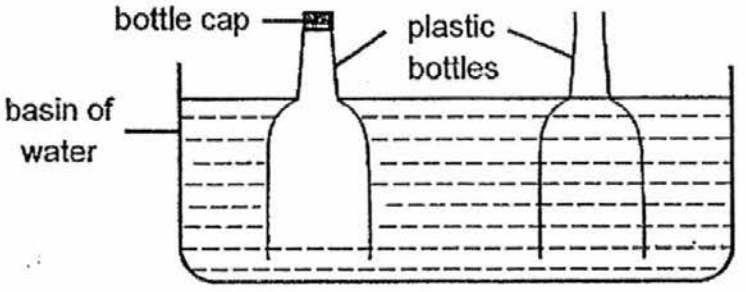
(3)



(4)



15. The base of two identical plastic bottles were removed and used in the set-up below. The cap of one of the bottles was removed. The diagram shows what happened when the two bottles were pushed into a basin of water at the same time.



Based on the result above, which one of the following is a possible aim of the experiment?

(1) To find out if air has mass.
(2) To find out if air occupies space.
(3) To find out if water has a definite shape.
(4) To find out if water has a definite volume.

End of booklet A

Name : _____ ( )

Class : Primary 5 _____

CHIJ ST NICHOLAS GIRLS' SCHOOL

SIMPLE IN VIRTUE

STEADFAST IN DUTY

Primary 5

CONTINUAL ASSESSMENT 1 – 2016

SCIENCE

BOOKLET B

3 March 2016

Booklet A	/30
Booklet B	/20
Total	/50

Total Time for Booklets A and B: 1 hour 15 minutes

7 questions
20 marks

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

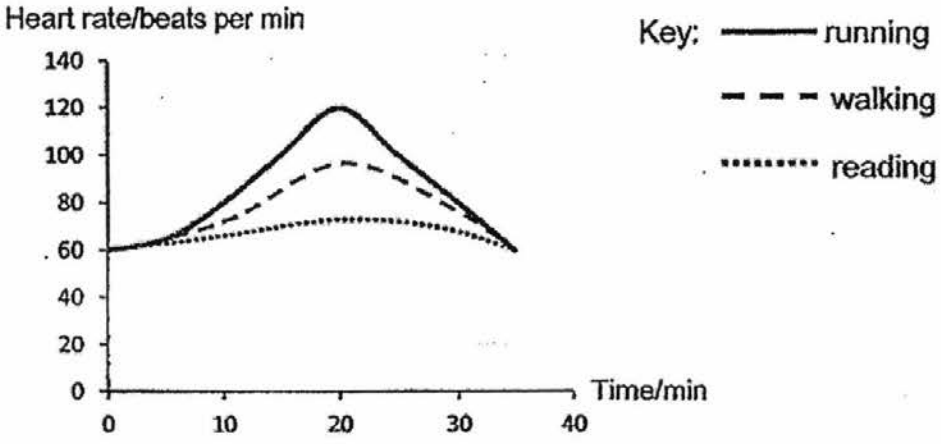
This booklet consists of 8 printed pages.

_____

Parent's Signature/Date

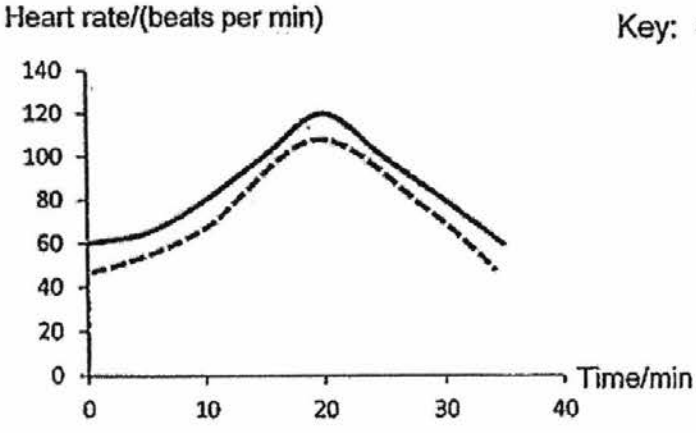
Section B (20 marks)
For questions 16 to 22, write your answers in this booklet.
The number of marks available is shown in the brackets at the end of each question or part question.

16. Lisa measured and recorded her heart rate for different activities as shown in the graph below.



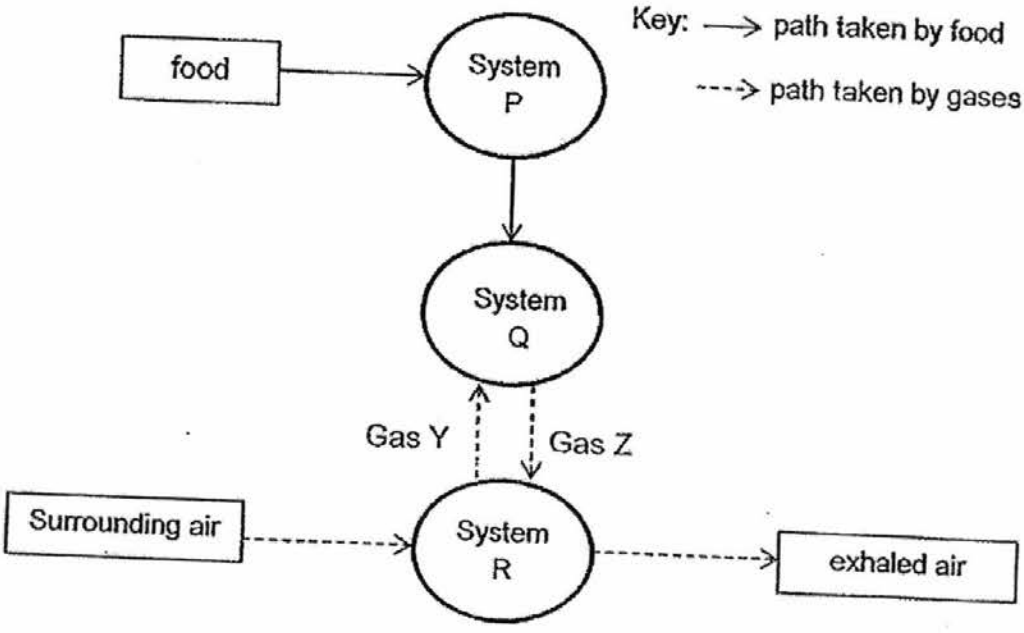
(a) Lisa noticed that the more intense her activity, the higher her heart rate. Explain why. [2]

(b) The graph below shows the effect of the same intensity of exercise on the heart rate of a trained athlete and an untrained one



Based on the graph above, what can you conclude about their heart rate? [1]

17. The diagram below shows how food and various gases are transported in the human body.



(a) State <u>two</u> functions of System Q. [1]

Function 1: _____

_____

Function 2: _____

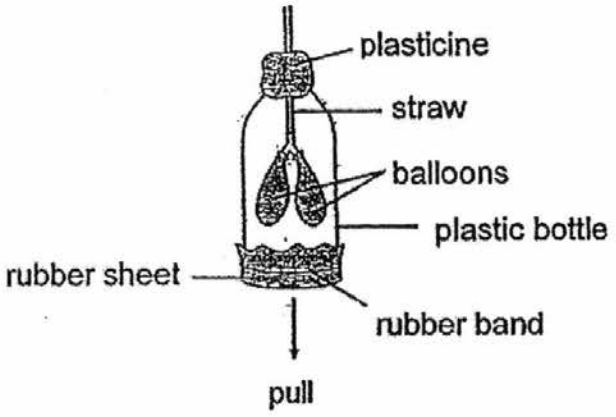
_____

(b) What are gases Y and Z? [1]

Gas Y: _____

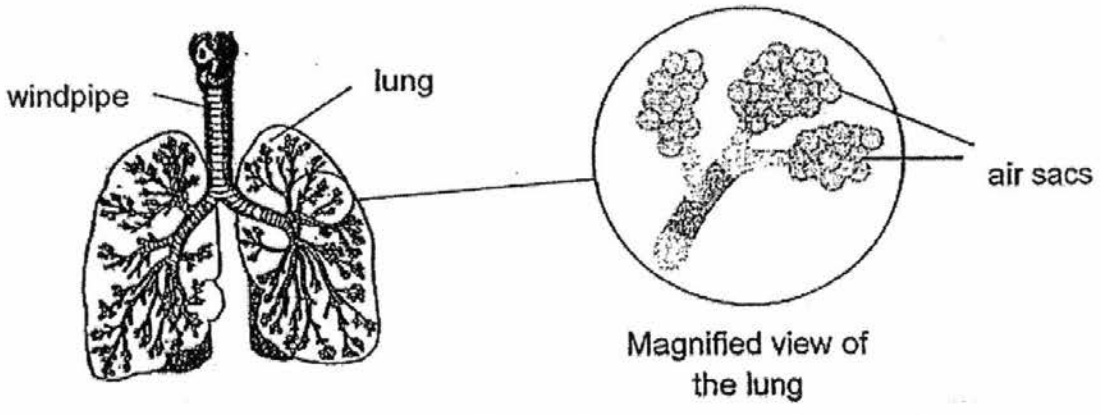
Gas Z: _____

18. Qing Zi made a model of the human respiratory system as shown below.



(a) What would Qing Zi observe when the rubber sheet is pulled downwards? Explain your answer. [1]

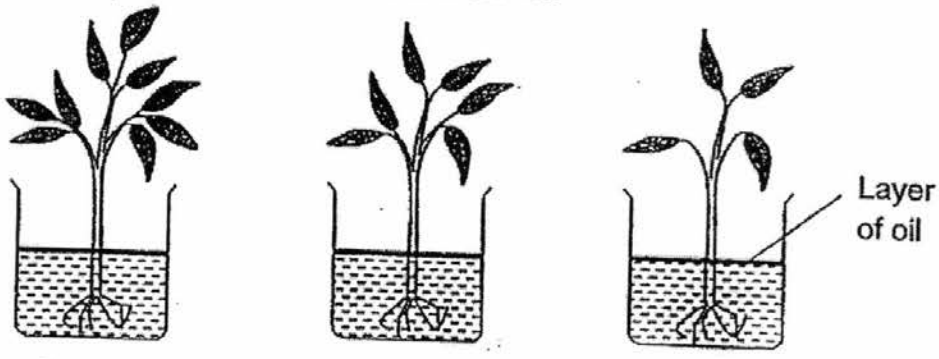
The diagram below shows part of the human respiratory system. The lungs contain millions of tiny air sacs.



(b) Explain why it is important to have a large number of air sacs in the lungs. [1]

(c) There are numerous very thin blood vessels surrounding each of the air sacs in our lungs. Why are the walls of the blood vessels around the air sacs very thin? [1]

19. The diagram below shows three similar plants with different number of leaves that were placed in identical beakers with equal amounts of water. A layer of oil was poured into each beaker as shown below.



Beaker A Beaker B Beaker C

After 24 hours, Kaylee measured the amount of water left in each beaker. She recorded them in the table shown below.

	Amount of water at the beginning	Amount of water at the end of 3 hours
Beaker A	400 ml	
Beaker B	400 ml	
Beaker C	400 ml	

(a) Predict the amount of water in the beakers A and C after 24 hours and write your answer in the table above. [1]

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

_____

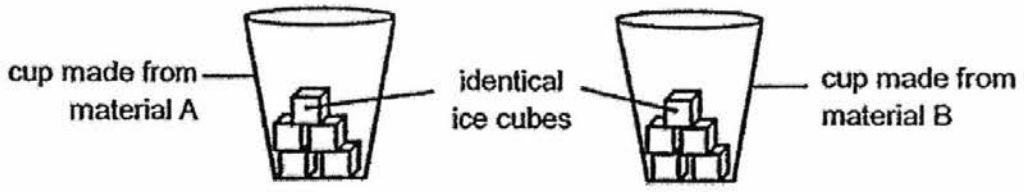
_____

(c) Why was the layer of oil added to the water in the beakers? [1]

_____

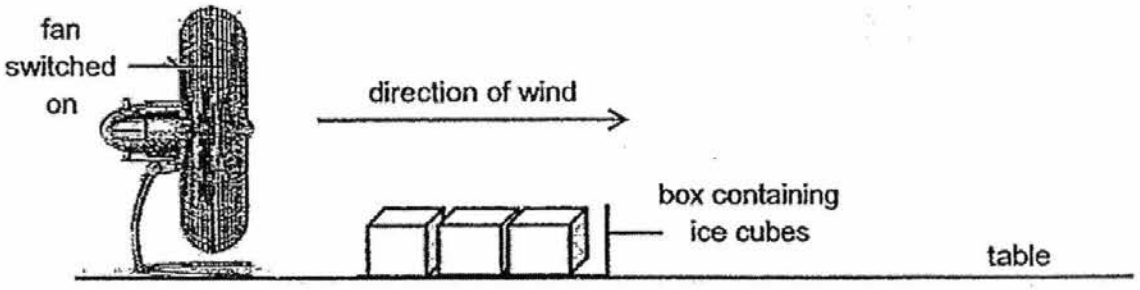
_____

20. Wendy used two similar cups made of different materials, A and B, to carry out the following experiment. She noted that cup B felt much colder than cup A at room temperature. She placed an equal number of identical ice cubes into each cup and recorded the time taken for the ice cubes in each cup to melt completely.



(a) In which cup, A or B, would the ice cubes melt faster? Explain your choice. [2]

(b) One hot day, Wendy's air conditioner broke down. She decided to cool herself down using the set-up shown below.

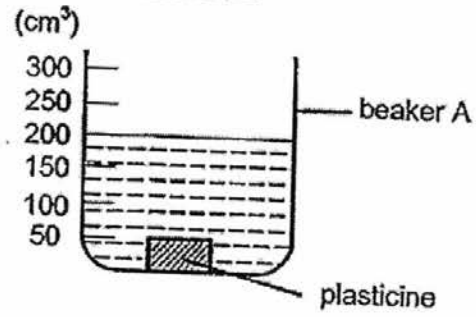


Explain how the set-up above is able to cool the surrounding air in the room more effectively.

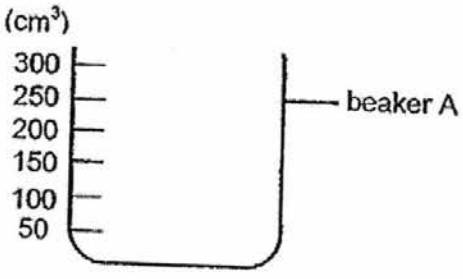
[2]

21. Michael poured some water into beaker A. He then placed a piece of plasticine with a volume of $50cm^3$ into a beaker. Diagram 1 below shows the results of his experiment.

Diagram 1

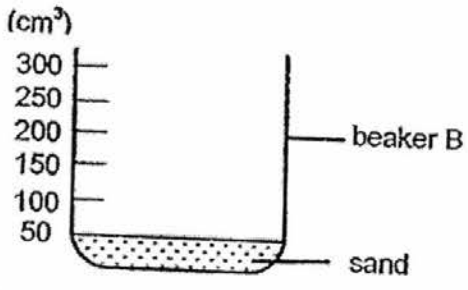


(a) In the beaker below, draw the original water level before the plasticine was placed into the beaker. [1]



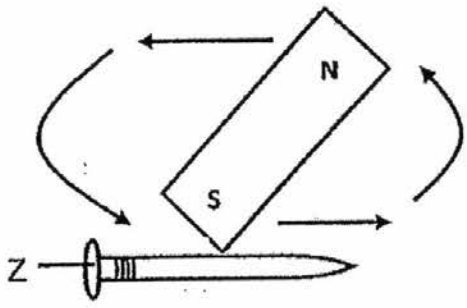
(b) Michael removed the plasticine carefully and reshaped it into a ball before placing it back into the beaker. Would the water level be higher, lower or the same as before? Explain your answer. [1]

(c) Michael was given a beaker B containing $50cm^3$ of sand as shown in the diagram below.



If Michael poured the same volume of water in part (a) above into beaker B, would the water level be higher, lower or the same as that in diagram 1? Why? [1]

22. Kai Lin used the south pole of a magnet to stroke a copper nail 100 times in the direction shown by the arrows.



What would happen when the north pole of the magnet was brought near part Z of the nail? Explain your answer. [2]

End of paper

EXAM PAPER 2016 (P5)

SCHOOL : CHIJ

SUBJECT : SCINECE

TERM : CA1

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

16)a)This is because a more intense activity would require more energy. The heart needs to pump faster so that more oxygen and digested food can be transported to all parts of the body to be converted to extra energy needed.

b)The trained athlete has a lower heart rate than the untrained athlete.

17)a)i)It carries digested food, water and oxygen in the blood to all parts of the body.

ii)It carries waste materials and carbon dioxide away from the different parts of the body.

b)Gas Y: oxygen

Gas Z: carbon dioxide

18)a)The balloons would inflate as when the rubber sheet was pulled down, more space is created in the jar, causing air to enter the straw and inflating the balloon.

b)It increases the total surface area for exchange of gases to take place more efficiently.

c)It allows oxygen and carbon dioxide to be absorbed and removed from the blood stream at a faster rate.

19)a)Beaker A: 100ml

Beaker C: 300ml

b)The aim is to find out whether the number of leaves would affect how much water was absorbed.

c)The layer of oil is to ensure that any loss of water is only due to the absorption of water through the plants' roots.

20)a)Cup B. As B was a better conductor of heat, it would conduct the heat from the cup's surrounding to the ice cubes faster.

b)The ice gained heat from the warmer surrounding. As the ice melts, the fan helps to blow more warm air towards the ice so that more heat loss to the ice, thus cooling the air faster.

21)a)150cm^3

b)The water level would be the same as plasticine did not change.

c)The water level would be lower as there are air spaces in the sand that the water can occupy.

22)The magnet will not attract the nail. Copper is not a magnetic material and hence will not be magnetised by the magnet.