Name: _____( )

Class: Primary 5 _____

CHIJ ST NICHOLAS GIRLS' SCHOOL

Primary 5
Termly Assessment

SCIENCE

BOOKLET A

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

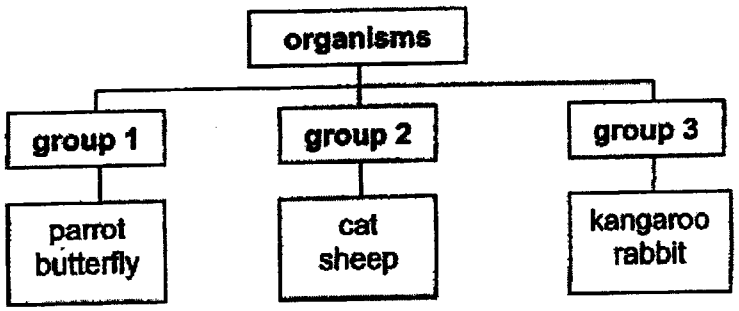
28 questions
56 marks

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

This booklet consists of 17 printed pages.

Section A (28 x 2 marks = 56 marks)
For each question from 1 to 28, 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. Study the table below.



The organisms are classified according to _____.

(1) their diet
(2) the way they move
(3) their body covering
(4) the size of their bodies

2. Spiders are not insects. Which of the following statement(s) below is / are reason(s) why a spider cannot be classified as an insect?

A Spiders are not able to fly.
B Spiders have more than six legs.
C Spiders reproduce by laying eggs.
D Spiders do not have three body parts.

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

3. Which of the following statements about fungi is false?

(1) It reproduces by spores.
(2) It is harmful to humans
(3) It cannot make its own food.
(4) Mould is an example of fungi.

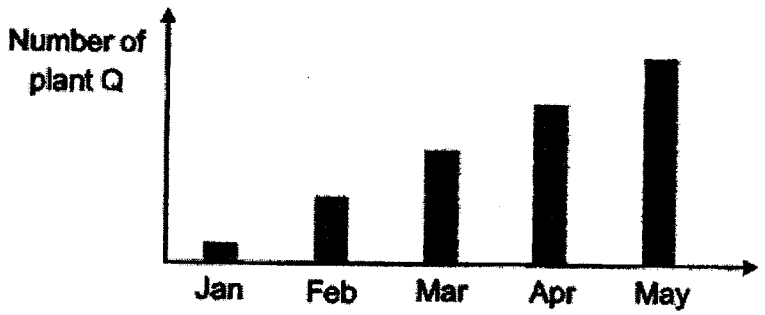
4. Rachel observed a characteristic of four organisms in a table as shown below. A tick (✓) shows that the organism has that characteristic.

Organism	Characteristic T
cockroach	✓
mosquito	
chicken	✓
butterfly	

Which of the following could characteristic T possibly be?

(1) Does not have wings
(2) Has a 3-stage life cycle
(3) Reproduce by laying eggs
(4) Spends part of its life cycle on land

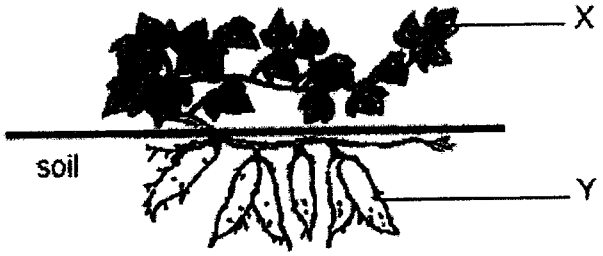
5. The graph below shows how the number of plant Q changes over five months.



The graph shows that the plant is able to _____.

(1) reproduce
(2) make food
(3) respond to light
(4) increase in height

6. The diagram below shows a sweet potato plant.

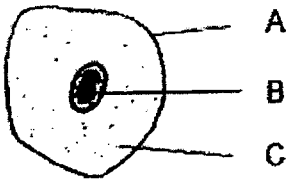


Cells were taken from parts X and Y. What are the cell parts you can find in both part X and part Y of the plant?

A nucleus
B cell wall
C chloroplast
D cell membrane

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

7. The diagram below shows three parts of a cheek cell.



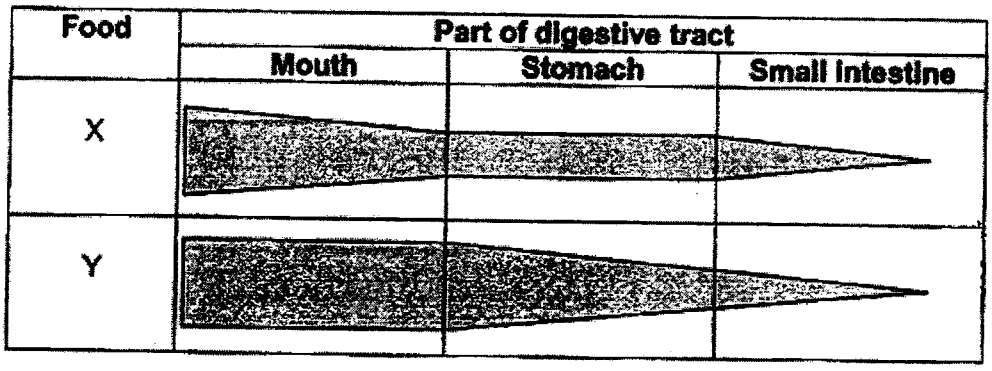
Study the table below carefully.

Part	Function
A	Controls all the activities in the cell
B	Contains all genetic information that is passed on from one generation to the next
C	Helps to give the cell its shape

Which of the parts have the functions correctly stated?

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

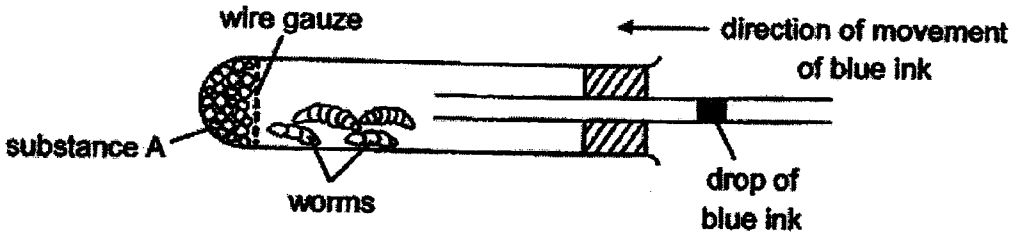
8. The table below shows how food X and food Y are digested in the different regions of the human digestive system. The width of each band (shaded area) indicates the amount of food present in that part of the digestive tract.



Based on the information given in the table, which one of the following statements about the digestion of food X and food Y is <u>not</u> correct?

(1) Food X is not digested in the stomach.
(2) It is easier to digest food X than food Y.
(3) There is no digestion of food Y in the mouth.
(4) Digestion of food is completed in the small intestine.

9. Gerry set up an experiment to measure the amount of oxygen taken in by some worms. He measured the movement of the drop of blue ink after every hour. He observed that the drop of blue ink moved in the direction shown below.



Substance A absorbed a certain gas. What was this gas?

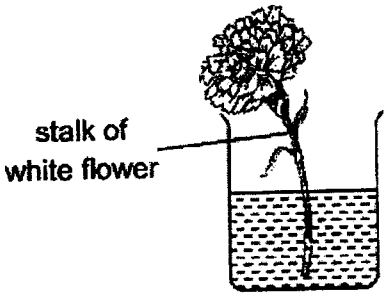
(1) oxygen
(2) nitrogen
(3) water vapour
(4) carbon dioxide

10. Which of the following statement(s) about humans, fish and plants is / are false?

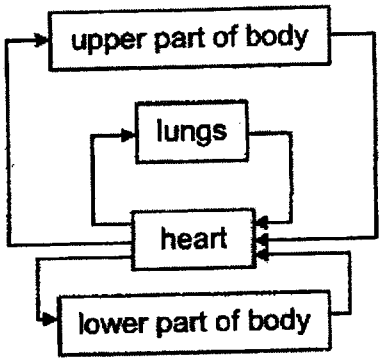
A The gullet and gills are part of the respiratory system.
B Gaseous exchange happens at the lungs, gills and stomata.
C Carbon dioxide and oxygen are transported by the blood in humans and fish.

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

11. Study the diagram below.



container of water with red dye



human circulatory system

Three students made the following comments about the diagram above.

Sam: The heart and lungs enables the blood to move around the body.

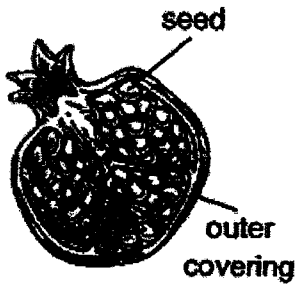
Peter: Blood is transported around the body but the red dye is only transported to the flower.

John: Blood is transported around the body and the red dye is transported to all parts of the plant.

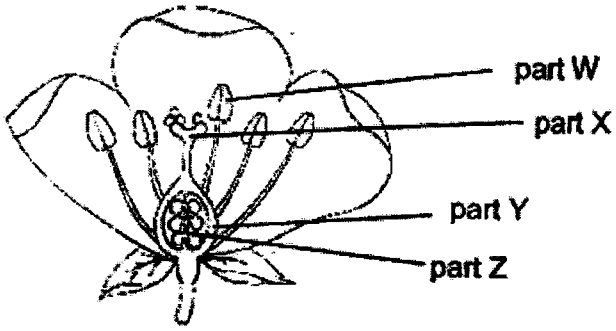
Which of the following student(s) has/have made the correct statement(s)?

(1) John only
(2) Sam and John only
(3) Sam and Peter only
(4) Sam. John and Peter

12. The diagram below shows the cross-section of a fruit and flower from plant P.



fruit of plant P

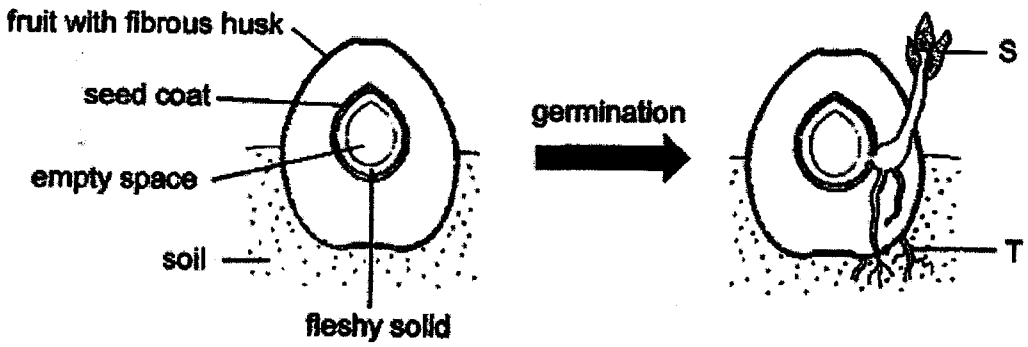


flower of plant P

Based on the diagram above, which of the following statement is true?

(1) The seed developed from part X.
(2) The seed developed from part W.
(3) The outer covering developed from part Z.
(4) The outer covering developed from part Y.

13. Study the diagram below.



Which of the following statements is true?

(1) Part T grew out before part S.
(2) Part S grew out before part T.
(3) The fibrous husk provides nutrients for part T to develop.
(4) The fleshy solid only provides nutrients for part S to develop.

14. Ian wanted to find out if the use of fertiliser in the soil would affect the growth of a plant after one month.

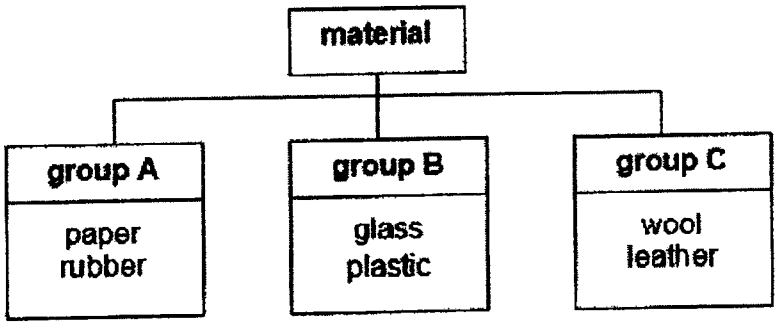
The table below shows the conditions of his set-up.

Type of soil	Amount of fertiliser (units)	Diameter of pot (cm)	Amount of water given daily (ml)	Presence of light
garden soil	10	20	100	yes

Which of the following set-ups below should he use as a control set-up for his experiment?

	Type of soil	Amount of fertiliser (units)	Diameter of pot (cm)	Amount of water given daily (ml)	Presence of light
(1)	garden soil	10	15	100	no
(2)	sandy soil	20	20	100	yes
(3)	garden soil	0	20	100	yes
(4)	sandy soil	10	15	100	yes

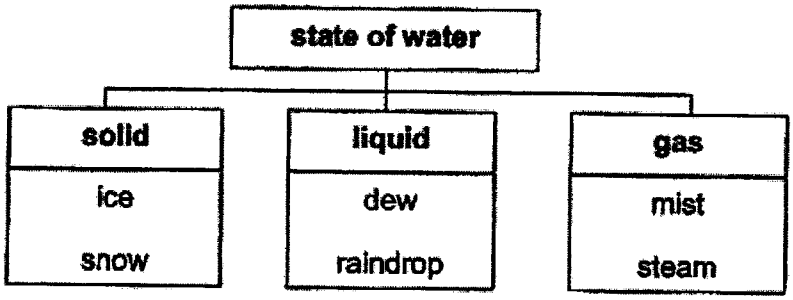
15. The chart below shows the classification of some materials into three groups.



Which one of the following shows the correct headings for the three groups?

	group A	group B	group C
(1)	From plants	Man-made	From animals
(2)	Man-made	From plants	From mammals
(3)	From plants	From animals	Man-made
(4)	Flexible	Transparent	Waterproof

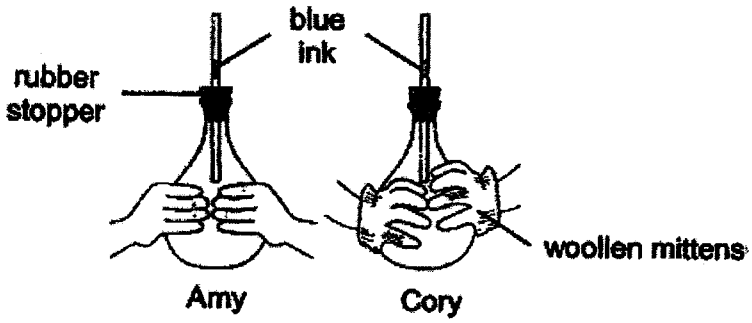
16. Study the classification chart below.



Which one of the above states of water is **wrongly** classified?

(1) dew
(2) mist
(3) snow
(4) steam

17. Amy and Cory wrapped their hands around two empty glass flasks fitted with a narrow tube as shown below. Each tube contains a drop of blue ink. Cory wore woollen mittens but Amy did not.



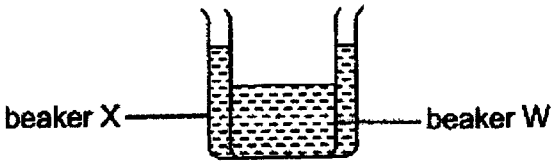
Which of the following statement(s) is / are true?

A Both ink drops will be at the same height.
B The ink drop in Amy's flask will be higher than that in Cory's flask.
C The air in Cory's flask will gain heat faster and expand more than the air in Amy's flask.
D The air in Amy's flask will lose heat faster and contract more than the air in Cory's flask.

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

18. Gary prepared two beakers W and X as shown below.

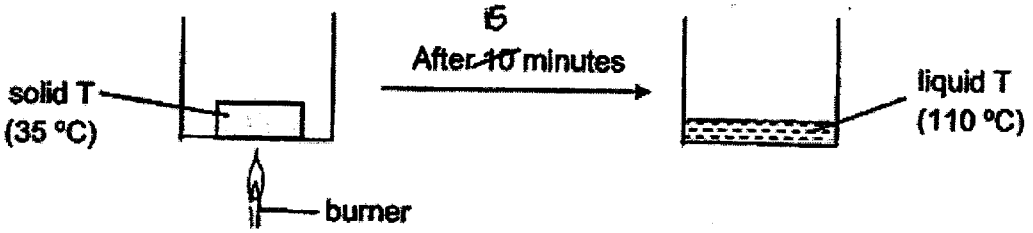
He then placed beaker W into beaker X and left them in a room with a temperature of 25 °C.



Which of the following shows the possible temperature of the water in the beakers after 30 seconds and the correct explanation for it?

	beaker W	beaker X	reason
(1)	27 °C	20 °C	The water in beaker W lost heat to the surrounding air.
(2)	40 °C	30 °C	The water in beaker X gained heat from the water in beaker W.
(3)	25 °C	25 °C	The water in both beakers lost heat to the surrounding air and reached room temperature.
(4)	36 °C	24 °C	The water in beaker W lost heat to the water in beaker X.

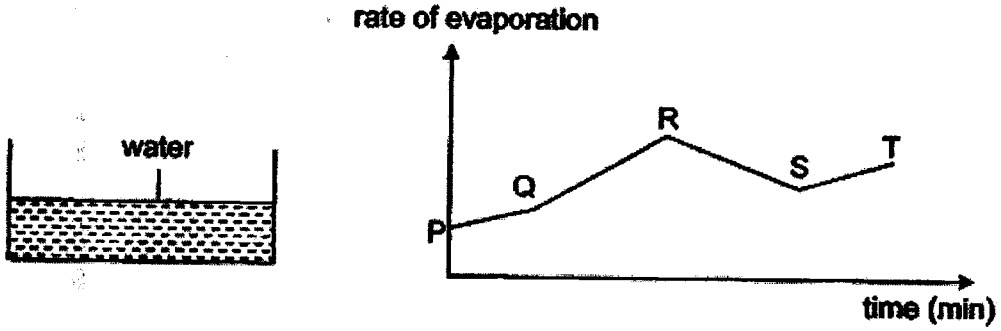
19. Ali conducted an experiment by heating substance T. At the start, T was a solid at 35 °C. After 15 minutes of heating, T reached a temperature of 110 °C as shown.



Based on Ali's experiment, which one of the following is possible?

	melting point of T (°C)	boiling point of T (°C)
(1)	30	120
(2)	35	110
(3)	40	105
(4)	55	120

20. The graph below shows the rate of evaporation of water in the container over a period of time.



Which of the following are possible reasons for the changes in the rate of evaporation as shown in the graph?

A During PQ, some water was removed from the container.
B During ST, there was an increase in the speed of wind.
C During QR, there was an increase in the exposed surface area of water.
D During RS, there was a decrease in the temperature of the surrounding air.

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

21. Diagram A below shows a glass tank completely filled with a block of ice. After one hour, the block of ice had melted as shown in diagram B.

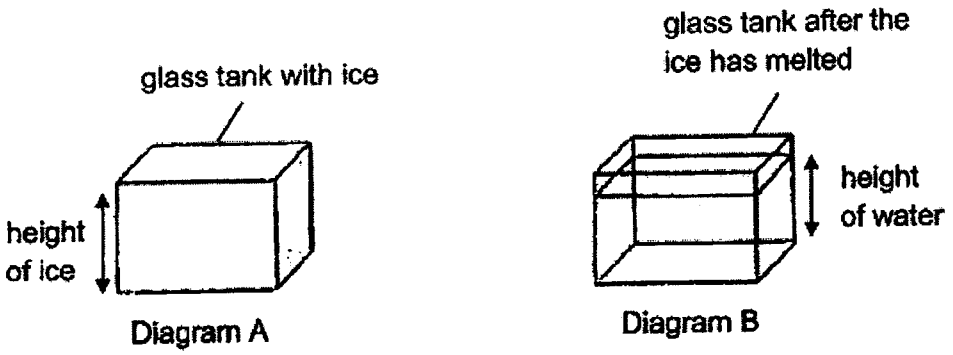


Diagram A Diagram B

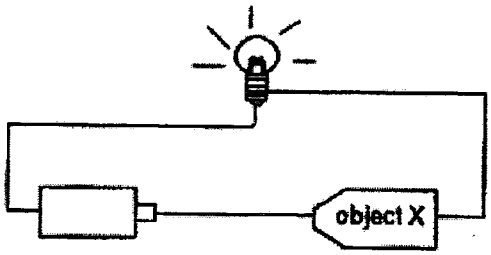
Which one of the following best explains the above observation?

(1) The melted ice has a smaller mass than the ice cube.
(2) The melted ice has a smaller volume than the ice cube.
(3) The melted ice can be compressed to fit the volume of the glass tank.
(4) The melted ice has no definite shape and takes the volume of the glass tank.

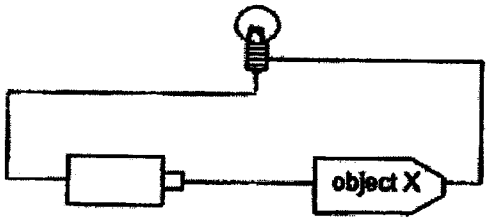
22. Which of the following is not a type of matter?

(1) juice
(2) flower
(3) oxygen
(4) shadow

23. Iskandar's friend gave him an electric circuit consisting of a bulb joined by wires to a battery and a mystery object X. The bulb lit up when the circuit was closed.



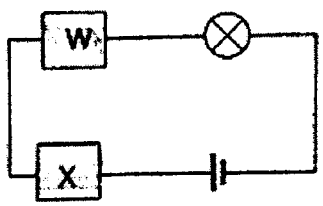
When he changed the position of the mystery object as shown below, the bulb did not light up.



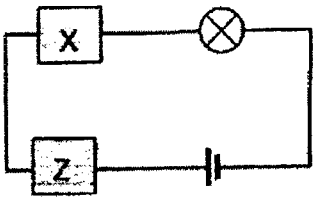
Which one of the following objects is most likely to be object X?

(1) A bulb
(2) A coin
(3) A battery
(4) A copper wire

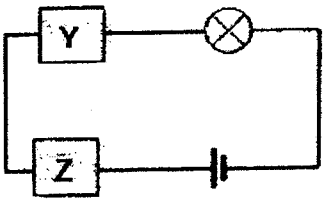
24. Study the four circuits below.



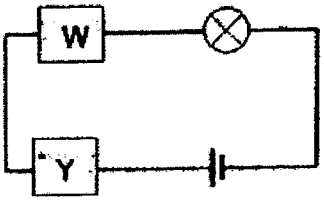
circuit 1



circuit 2



circuit 3



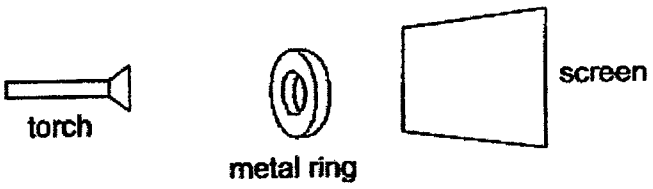
circuit 4

The bulb in circuit 2 lit up but the bulbs in circuits 1, 3 and 4 did not light up.

Based on the above observations, which materials W, X, Y and Z are insulators of electricity?

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

25. The diagram below shows a torch and a metal ring in front of a screen.



Which one of the following **cannot** be the shadow formed on the screen above as the metal ring rotates?

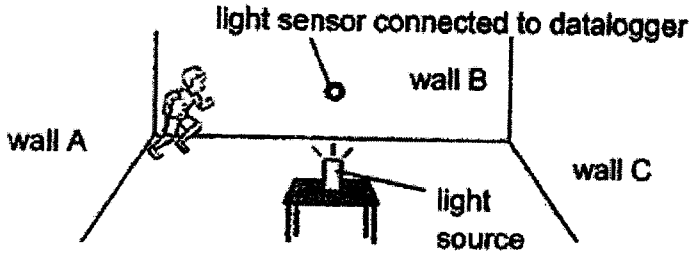
(1)

(2)

(3)

(4)

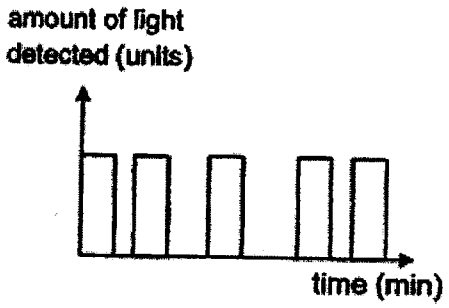
26. A boy set up a light sensor in a dark room to count how many times he could run across the length of the room from wall A to wall C, back and forth, in one minute.



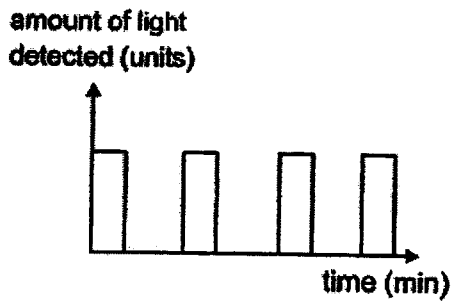
He drew a graph to show the results recorded by the light sensor.

Which graph below shows that he had run 4 times across the room back and forth in one minute?

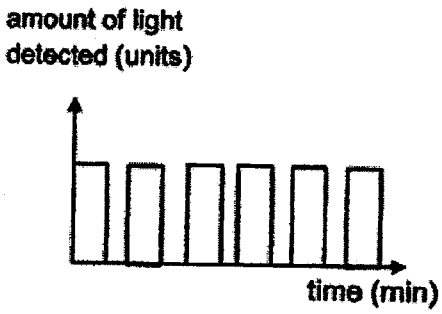
(1)



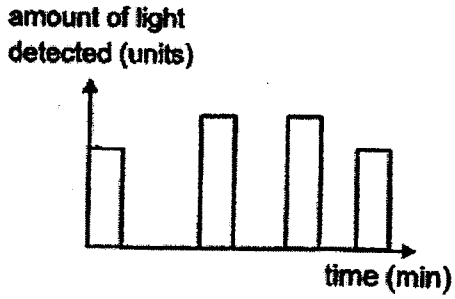
(2)



(3)



(4)



27. Ah Meng magnetised a steel bar AB using the "stroke" method as shown in Diagram 1. Diagram 2 shows the magnetic poles of AB after it was magnetised.

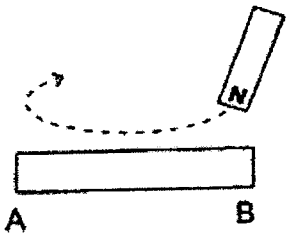


Diagram 1

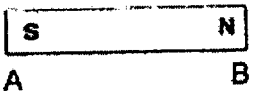


Diagram 2

He further magnetised two more steel bars, CD and EF, as shown below.

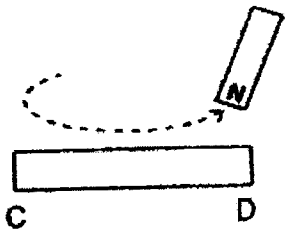


Diagram 3

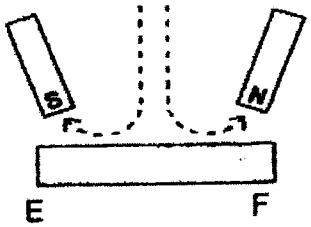
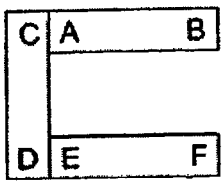


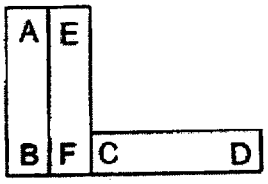
Diagram 4

Which of the following arrangements is **not** possible when he placed the three magnetised steel bars together?

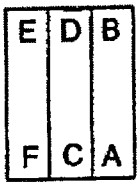
(1)



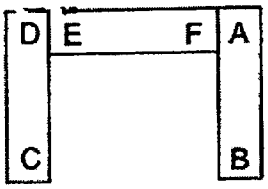
(2)



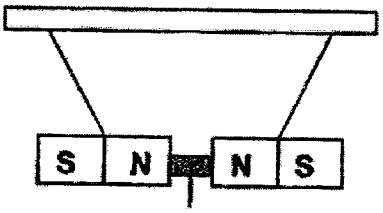
(3)



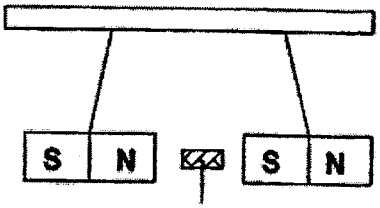
(4)



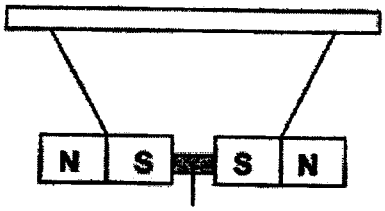
28. Jack carried out an experiment with two bar magnets to find out the properties of four different objects W, X, Y and Z. The diagrams below show the results when each object was put between the two magnets.



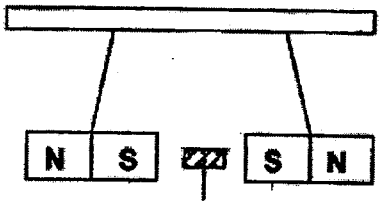
object W



object X



object Y



object Z

Based on the results above, which one of the objects is made of non-magnetic material?

(1) Object W
(2) Object X
(3) Object Y
(4) Object Z

~End of Booklet A~~

Name : _____ ( )

Class : Primary 5 _____

CHIJ ST NICHOLAS GIRLS' SCHOOL

Primary 5
End-Year Assessment

SCIENCE

BOOKLET B

Booklet A	56
Booklet B	44
Total	100

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

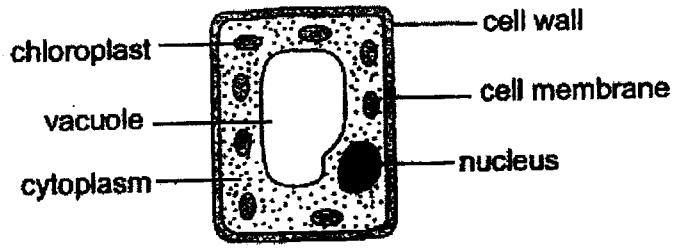
13 questions
44 marks

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

This paper consists of 12 printed pages.

Section B (44 marks)
For questions 29 to 41, 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.

29. The diagram below shows a plant cell.



(a) State the function of the cell membrane. [1]

(b) How can you tell that the plant cell above comes from a leaf? Explain your answer. [2]

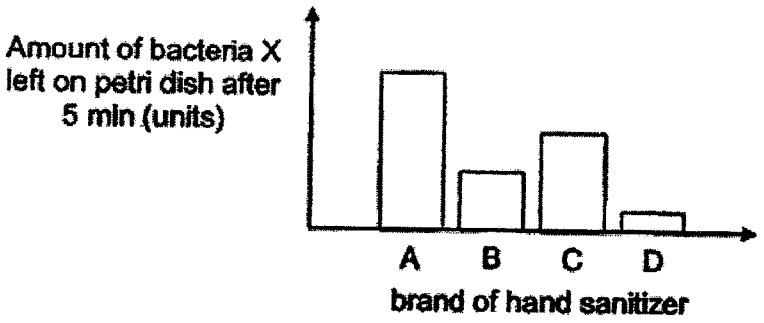
30. (a) State two functions of the circulatory system. [2]

Function 1: _____

Function 2: _____

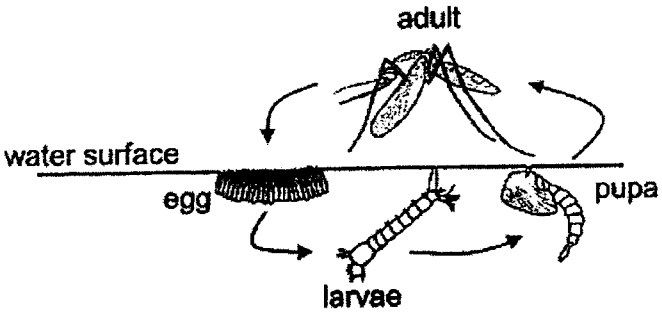
(b) Describe the path of oxygen in the air to the feet of a person through the respiratory and circulatory systems. [2]

31. Jamie conducted an experiment to find out which brand of hand sanitizers A, B, C or D is most effective in reducing the amount of bacteria X. She placed an equal amount of bacteria X on four different petri dishes. She then poured the same amount of hand sanitizer A, B, C and D into each of the four petri dishes respectively. The graph below shows her results after 5 minutes.



Jamie concluded that hand sanitizer B is the most effective. Do you agree with her? Explain your answer. [2]

32. The diagram below shows the life cycle of a mosquito.



(a) Timmy wanted to prevent mosquitoes from breeding in the pond in his garden. He learnt that he can do so by spraying a layer of oil onto the pond. Explain how this method can help to kill the mosquito larvae. [1]

(b) Mosquitoes can transmit diseases to humans when they bite. During the months where there are higher rainfall, there is a higher transmission of such diseases to humans. Give a reason why. [1]

33. David observed two fruits A and B, dispersing their seeds when their fruit wall splits open.

(a) He noted that fruit B dispersed its seeds further than fruit A. State one characteristic of fruit B that allows for this observation. [1]

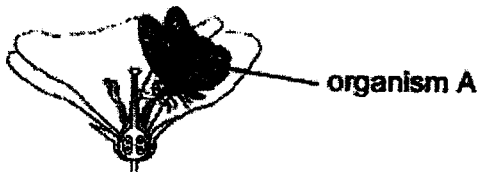
(b) Explain how the characteristic in (a) allows the seeds of fruit B to be dispersed further. [1]

(c) State one advantage of the method used by fruit A to disperse its seeds. [1]

34 The diagram below shows how a fruit of plant T is formed.

(a) Name process X. [1]

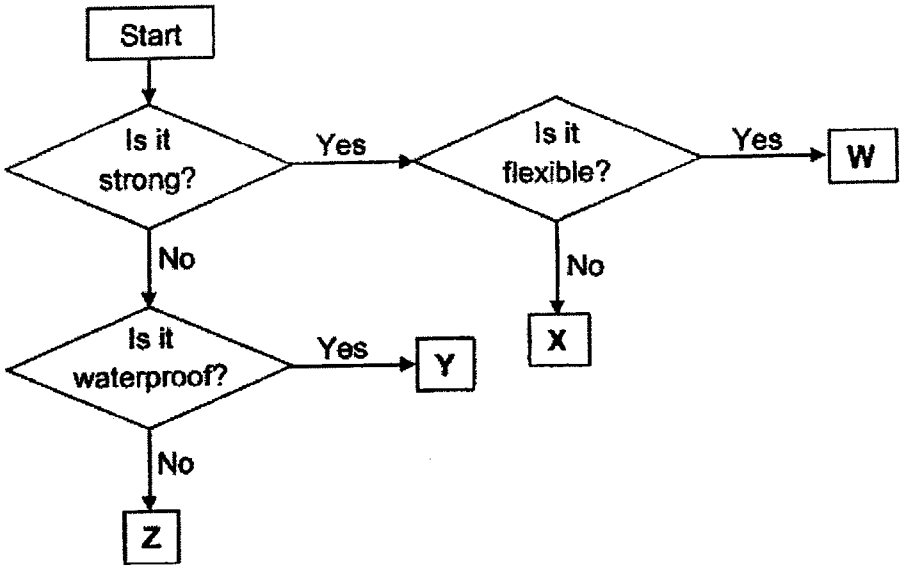
(b) Organism A is often found near the flowers of plant T.



Describe the role of organism A in the pollination of flowers of plant T. [2]

(c) Pollination can also happen in the absence of organism A. However, it is still important for plant T to attract organism A. Explain why. [1]

35. The flow chart below shows how 4 different objects W, X, Y and Z are classified.



(a) Based on the flow chart above, which of the letters best represent the following items: [1]

(i) Cling wrap for food: _____

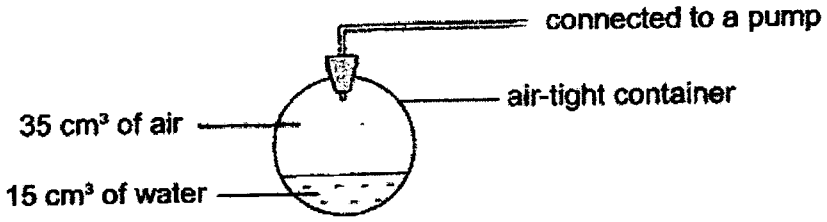
(ii) Sponge: _____

(b) If both W and X are rulers, what material would each be made of? [2]

W: _____

X: _____

36. Study the set-up below. The volume of the container is 50 cm^3.



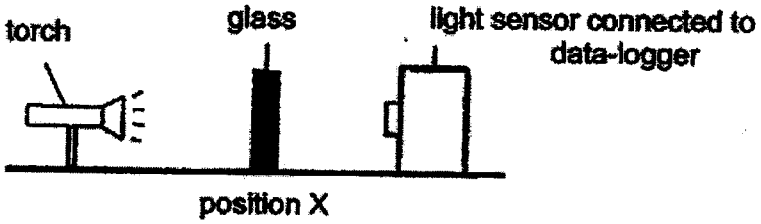
Using the pump, 5 cm^3 of water and 10 cm^3 of air are added into the container.

(a) What is the final amount of air in the container? [1]

_____

(b) Explain your answer for part (a). [2]

37. Xiao Ming wanted to find out which type of glass A, B, C or D, is the most suitable for making the window in his room. He wanted to prevent passers-by from looking into his room but at the same time he wanted to let in as much light as possible to make the room bright. He conducted his experiment in a dark room as shown below. He noted that when there is no glass block placed at position X, the amount of light received was 3000 units.



The results of his experiment are recorded in the table below.

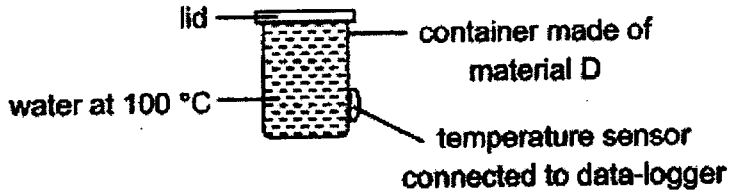
Glass	Amount of light that passed through (units)
None	3000
A	150
B	3000
C	0
D	2000

(a) Based on the results of his experiment, which glass is the most suitable for making the window in his room? Explain your answer. [2]

(b) State the property of glass C. [1]

(c) State one variable he should keep the same to carry out a fair test. [1]

38. Hassim set up an experiment as shown below. A temperature sensor was placed on the outer surface of the container made of material D. He noted that the temperature of the container was 28 °C at the start of the experiment. He then poured 200 ml of water at 100 °C into the container. One minute later, he noted the temperature measured by the temperature sensor.



He repeated his experiment with similar size containers made of materials E, F and G. The table below shows his results.

Material	Temperature after 1 minute (°C)
D	56
E	74
F	35
G	91

(a) Based on his results, arrange the materials D, E, F and G according to their heat conductivity starting with the poorest conductor of heat. [1]

[ ] , [ ] , [ ] , [ ]

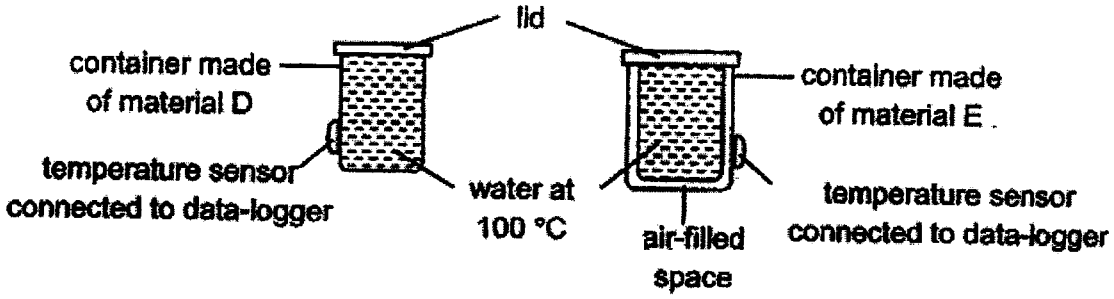
poorest conductor of heat — best conductor of heat

(b) Suggest a way to make his results more reliable. [1]

_____

_____

(c) Hassim repeated his experiment using two containers made of materials D and E as shown below. However, the container made of material E now has an air-filled space.



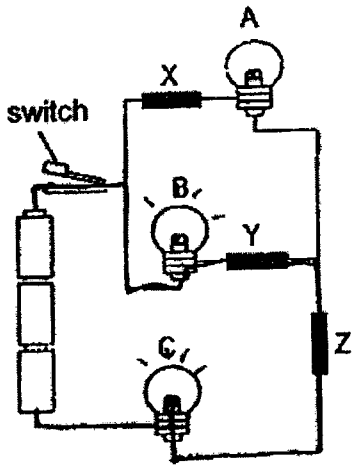
He noted that the temperature measured by the temperature sensor was similar for both containers after one minute. Give a reason for his observation. [2]

(d) After his experiment, Hassim made the following statement:

"The amount of heat in an object is the same as the temperature of the object."

Do you agree with him? Give a reason for your answer. [1]

39. The circuit below consists of three bulbs A, B and C as well as three different materials X, Y and Z.



When the switch is closed, only bulbs B and C lit up.

(a) Give two possible reasons for this observation. [2]

(i) _____

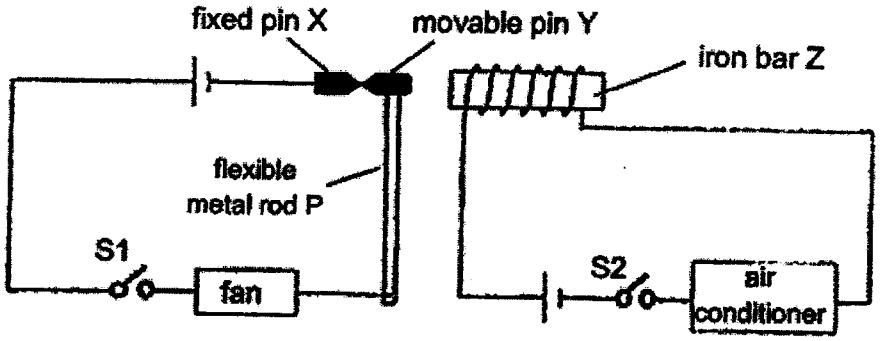
(ii) _____

(b) What is the function of a switch in the circuit? [1]

_____

_____

40. Ivan designed an electrical system for a fan and an air-conditioner as shown. The system prevents both the fan and air-conditioner from being turned on at the same time.



circuit 1 circuit 2

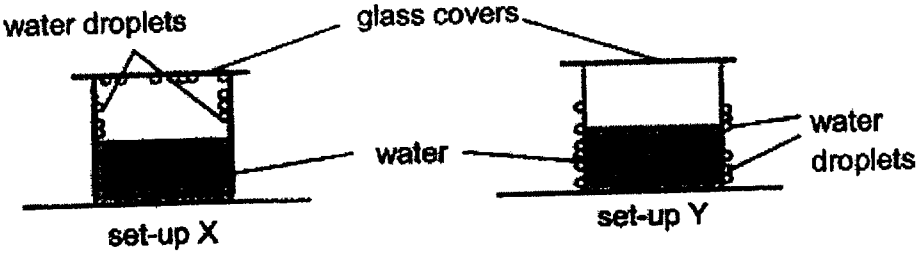
X and Y are two iron pins in contact with each other. Pin X is fixed. Pin Y is attached to a flexible metal rod P which can move sideways. Ivan closed S1 to turn the fan on. Next, he closed S2 which turned the air-conditioner on.

(a) Explain why pin Y would move towards iron bar Z when S2 was closed. [1]

(b) Give a reason why the fan would turn off when S2 was closed. [1]

(c) Would the system still work if Ivan replaced the iron bar Z with a bar magnet? Explain your answer. [1]

41. David conducted an experiment by filling two identical beakers with equal amount of water. The temperature of the water in each beaker was different. He covered both beakers with a glass cover and left them on a table. The diagram below shows his observations after 5 minutes.

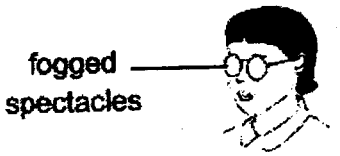


(a) Based on the information given, put a tick (√) in the correct boxes below to indicate which set-up contains cold water or hot water. [1]

	cold water	hot water
set-up X		
set-up Y		

(b) Explain the formation of water droplets in set-up X. [2]

When Lucy stepped out of an air-conditioned room, she found that her spectacles became foggy. However, after a while they became clear again.



(c) Explain why her spectacles became clear again after some time. [1]

(d) In part (c) above, what change in state of matter has taken place?

~ End of Booklet B ~

SCHOOL : CHIJ ST NICHOLAS GIRLS' PRIMARY SCHOOL
LEVEL : PRIMARY 5
SUBJECT : SCIENCE
TERM : TERM 4

CONTACT :

SECTION A

Q 1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
2	3	2	2	1	3	2	2	4	3
Q 11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20
1	4	1	3	1	2	2	4	4	2
Q 21	Q22	Q23	Q24	Q25	Q26	Q27	Q28		
2	4	3	2	3	1	4	4		

SECTION B

Q29)	a)The cell membrane allows certain substances to enter or exit the cell. b)Chloroplasts are found in the cell. Leaves need to make food while other parts of the plant do not need to make food. The chloroplasts contain chlorophyll to trap light for the leaves to make food during photosynthesis.

Q30)	a)Function 1:Transports oxygen and digested food to all parts of the body Function 2:Transports waste substances like carbon dioxide out of the body b)Oxygen is inhaled by the person through the nose, goes through the windpipe and reaches the lungs, where gaseous exchange takes place. The oxygen is then transported to the feet by the blood.
Q31)	No. The amount of bacteria X left in B was higher than D, thus brand B is not as effective as brand D.
Q32)	a)The mosquito larvae breathes through a breathing tube. By spraying oil onto the surface of the water, the larvae would die due to the lack of oxygen. b)The mosquitoes breed more during months with higher rainfall as there would be more water present for breeding.
Q33)	a)It has hair-like structures to be carried away by wind. b)The wind can carry the seeds of fruit B further as it is light and has a wing-like structure. c)It does not have to depend on other factors in the surroundings like wind for dispersal.
Q34)	a)Fertilisation b)Pollen grains from the anther get stuck onto the outer covering of A and is transferred to the stigma of the flowers of plant T, thus A is a pollinator. c)A increases the chances of pollination.
Q35)	a)(i)Y (ii)Z b)W:Plastic X:Wood

Q36)	a)30cm^3 b)Water that is pumped in has a definite volume. Air in the container is being compressed and will take up less space in the container.
Q37)	a)Glass D. D allows more light to pass through so the room is as bright as possible and is also able to block some light from passing through, so the passers-by cannot see through. b)It does not allow any light to pass through. c)The distance between the torch and position X.
Q38)	a)F,D,E,G b)Repeat the experiment a few more times and take the average as the result. c)Air is a poor conductor of heat so the outer surface of E gains heat from the hot water slower. d)Heat is a form of energy that makes things hot and temperature is a measurement of how hot or cold something is.
Q39)	a)(i)Bulb A has fused. (ii)X is an insulator of electricity. b)To open or close a circuit.
Q40)	a)When S2 was closed, a closed circuit is formed. Iron is a magnetic material. When the electric current flows through and reaches iron bar Z, it is magnetised, attracting Y. b)Pin Y was attracted to the electromagnet. Circuit 1 becomes an open circuit, hence the fan was turned off. c)No. Even if S2 is not closed, the magnet will still be attracting pin Y, thus keeping the circuit open.

Q41)	a)X: hot water Y: cold water b)Warm water vapour from the hot water touches the cooler inner surface of the beaker, loses heat and condenses to form water droplets. c)The water droplets gained heat from the surroundings and evaporated. d)Liquid to gas.