

NANYANG PRIMARY SCHOOL

PRIMARY 4 SCIENCE

SECOND CONTINUAL ASSESSMENT 2004

CA2

Name : \_\_\_\_\_ ( )

Date : 12<sup>th</sup> August 2004

Class : Primary 4 ( )

Duration : 1 h 30 min

Parent's signature: \_\_\_\_\_

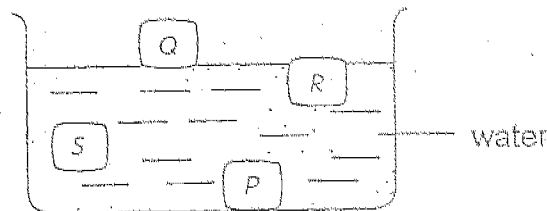
Score :

80

Section A (25 x 2 marks = 50 marks) 25

For each question from 1 to 20, 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 diagram below.



Four cubes P, Q, R and S, are dropped into a container of water. Arrange the cubes according to mass from the biggest to the smallest.

(1) P, S, R, Q

(2) Q, R, S, P

(3) P, Q, R, S

(4) S, R, Q, P

2. The table below shows the properties of A, B and C.

Properties		
	Has definite volume	Has definite shape
A	X	X
B	√	√
C	√	X

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

	A	B	C
(1)	oil	wood	steam
(2)	steam	porcelain	syrup
(3)	steam	oil	wood
(4)	wood	alcohol	water vapour

3. The diagram below shows two containers A and B.



A

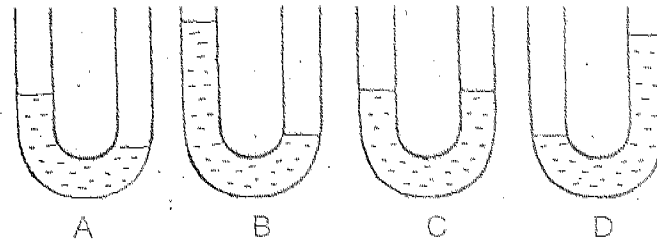


B

John filled container A with water to the brim. He then poured all the water from A into container B without spilling. Which one of the following statements is false?

- (1) The volume of the water in B is the same as in A.
- (2) The water level in B is different from the level in A.
- (3) The mass of the water has changed in container B.
- (4) The shape of the water has changed in container B.

4. The diagram below shows four identical containers A, B, C and D filled with the same amount of water.



Which container shows the correct water level?

- |     |   |     |   |
|-----|---|-----|---|
| (1) | A | (2) | B |
| (3) | C | (4) | D |
5. Which of the following processes involve a loss of heat from water?

- A boiling  
B freezing  
C evaporation  
D condensation

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

6. Peter poured 100 ml of water into each of the four identical containers P, Q, R and S. He then left them in the open field for a day. Study the table below which shows the amount of water left in the four containers at the end of the day.

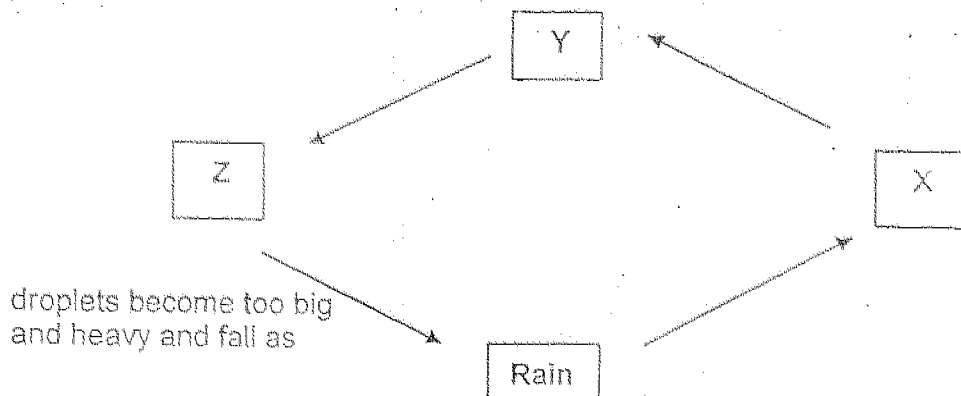
Container	Amount of water left at the end of the day (ml)
P	90
Q	75
R	60
S	75

What can we infer from the results above?

- A The water in P evaporates the fastest.  
 B The water in Q and S evaporate at the same rate.  
 C The rate of evaporation of water in R is less than that in P.  
 D The rate of evaporation of water in P is less than that in S.

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

7. The diagram below shows the water cycle.



Which one of the following best represents X, Y and Z?

	X	Y	Z
(1)	Clouds	Lake	Water vapour
(2)	Water vapour	Clouds	River
(3)	Sea	Water vapour	Clouds
(4)	Clouds	Water vapour	Ocean

8. Which two processes in the water cycle ensure a continuous supply of water?

- (1) boiling and melting
- (2) evaporation and freezing
- (3) condensation and melting
- (4) condensation and evaporation

9. Which one of the following is an example of how we can conserve our forests?

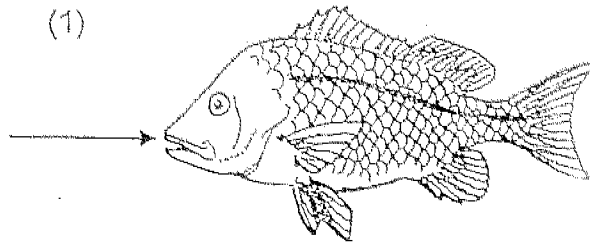
- (1) Recycle metal cans.
- (2) Cut down more trees.
- (3) Use more plastic food containers.
- (4) Recycle old newspapers and magazines.

10. What is the approximate volume of oxygen in  $100 \text{ cm}^3$  of air?

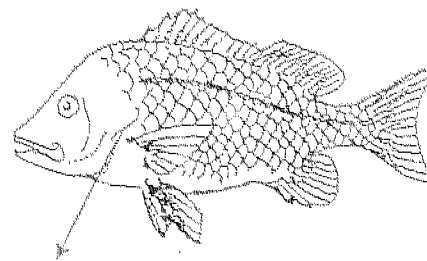
- (1)  $10 \text{ cm}^3$
- (2)  $20 \text{ cm}^3$
- (3)  $80 \text{ cm}^3$
- (4)  $100 \text{ cm}^3$

11. Which one of the following diagrams shows how the dissolved oxygen in the water enters the fish?

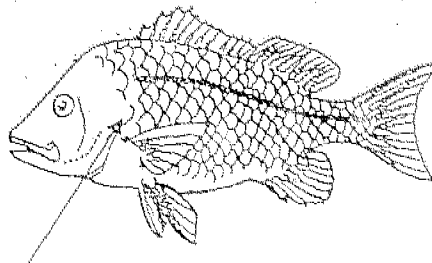
(1)



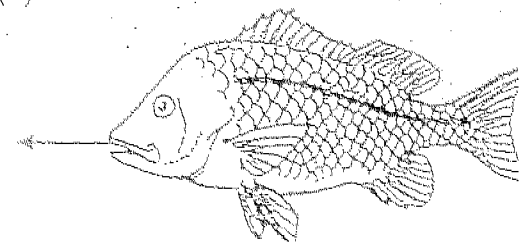
(2)



(3)



(4)



12. Which one of the following actions of the ribs and diaphragm causes your chest to expand?

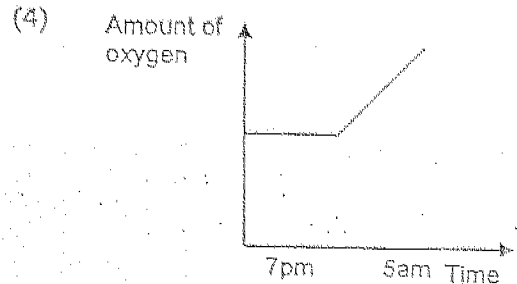
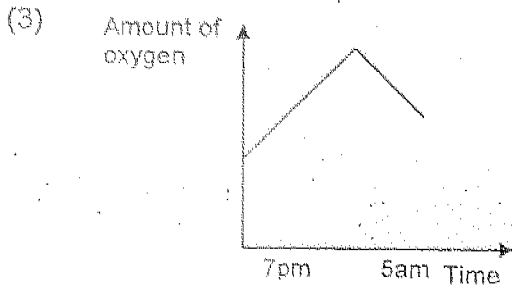
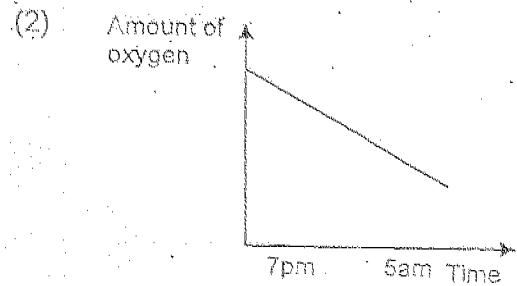
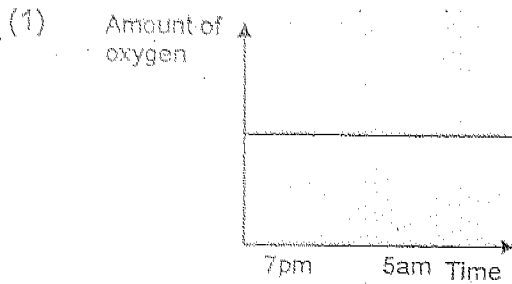
	Ribs	Diaphragm
(1)	move out and upwards	moves downwards
(2)	move out and upwards	moves upwards
(3)	move in and upwards	moves downwards
(4)	move out and inwards	moves upwards

13. When we breathe in through the nose, the air is \_\_\_\_\_ before it enters our lungs.

- A dried
- B cleaned
- C warmed
- D moistened

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

14. Ali put a water plant inside a tank. Which one of the following graphs shows the correct change in the amount of oxygen inside the tank during the night from 7 pm to 5 am the next morning?



15. Dolphins and whales have blowholes on the top of their heads. What are the functions of the blowhole?

- A To take in oxygen from the air
- B To take in dissolved oxygen in the water
- C To get rid of water that has entered the blowholes ✓

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

16. Which of the following make up the circulatory system?

- A heart
- B blood
- C lungs
- D blood vessels
- E windpipe
- F nose

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

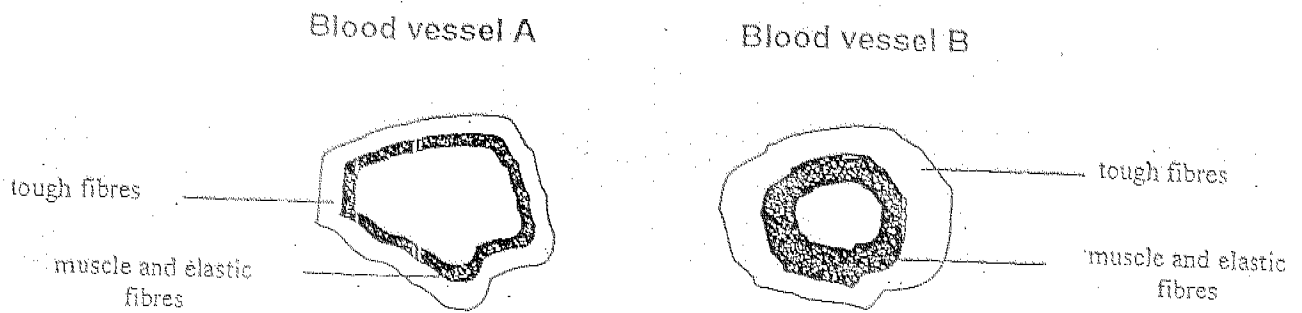
17. The circulatory systems of plants and humans are similar. The circulatory system of a plant consists of \_\_\_\_\_ that has similar functions as the \_\_\_\_\_ in the human body.

- (1) veins, bones
- (2) food, energy
- (3) tubes, blood vessels
- (4) water, blood

18. Which of the following describe correctly the functions of both the red and white blood cells?

	red blood cells	white blood cells
(1)	transport oxygen to all parts of the body	defend the body against germs and diseases
(2)	transport carbon dioxide to all parts of the body	transport oxygen to all parts of the body
(3)	defend the body against germs and diseases	help blood to clot when it is exposed to the air
(4)	help blood to clot when it is exposed to the air	transport oxygen to all parts of the body

19. Study the cross-section of the two blood vessels below.



Which one of the following statements is most likely to be true?

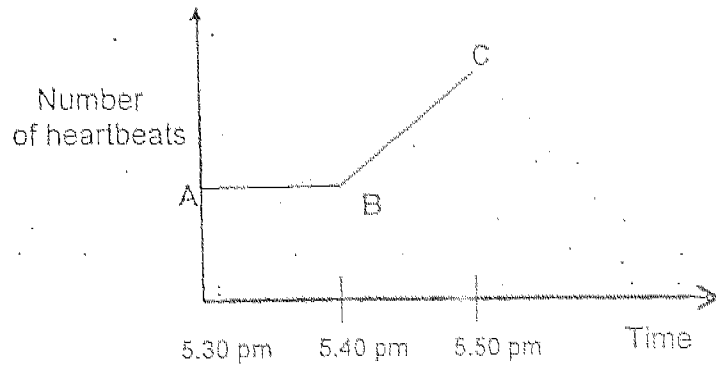
- (1) Blood vessel B is directly connected to the heart.
- (2) Digested food gets absorbed in blood vessel B.
- (3) Blood travels faster in blood vessel A than in blood vessel B.
- (4) Blood vessel B connects blood vessel A to the lower parts of the body.

20. Which one of the following statements best describes the phloem?

- (1) It is part of the respiratory system of a plant.
- (2) It transports mineral salts to all parts of a plant.
- (3) It transports food made in the leaves to other parts of a plant.
- (4) It can be found in the leaves, stem, flowers but not the roots of a plant.



21. The graph below shows Rahul's heartbeat from 5.30 pm to 5.50 pm.



Which one of the following activities was Rahul likely to carry out?

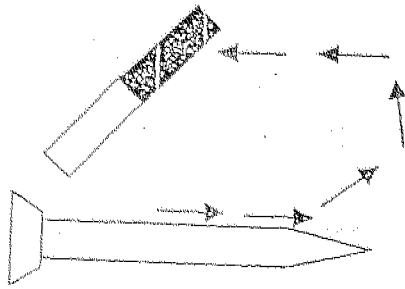
	Period AB	Period BC
(1)	Swimming	Relaxing on sofa
(2)	Sleeping	Playing basketball
(3)	Sprinting	Watching TV
(4)	Brushing teeth	Listening to music

22. After stroking each of the following nails with a magnet, which one will rest in the N-S position when suspended freely?

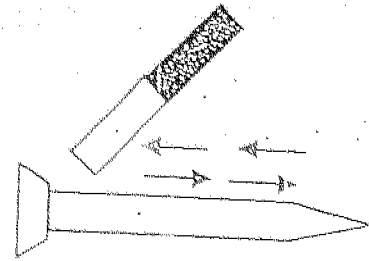
- |                    |                  |
|--------------------|------------------|
| (1) copper nail    | (2) steel nail   |
| (3) aluminium nail | (4) plastic nail |

23. With the nails fixed in position, Simon stroked 4 different nails according to the direction of the arrows. Which nail will be magnetized?

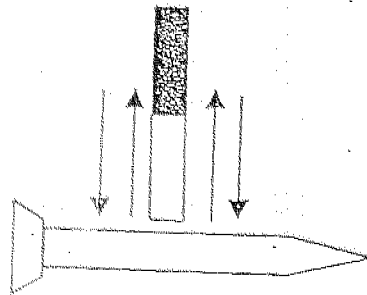
(1)



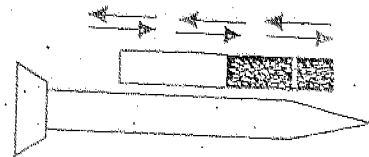
(2)



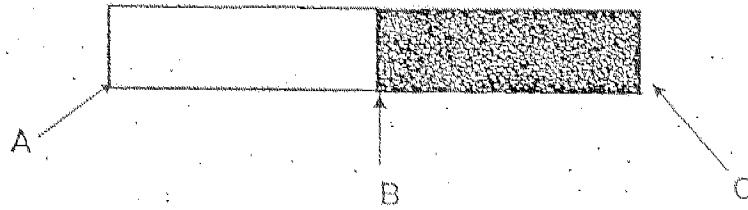
(3)



(4)



24. Susan conducted an experiment by dipping 3 different bar magnets horizontally into a box of nails. She labelled each point of the magnets as shown below.



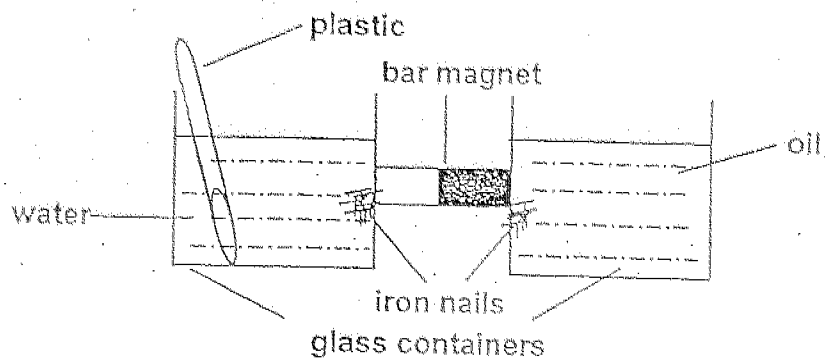
She then recorded the number of nails attracted at each point and constructed a table as shown below.

	No. of nails at Point A	No. of nails at Point B	No. of nails at Point C
Magnet X	16	5	17
Magnet Y	8	2	8
Magnet Z	12	6	12

Which of the following conclusions are true?

- A Magnet Y is the weakest.
  - B Magnet Z is stronger than Magnet X.
  - C All magnets are strongest at the poles.
  - D All magnets are strongest at Point C only.
- (1) A and C only                      (2) A and D only  
(3) B and C only                      (4) C and D only

25. Study the diagram below.



The above set-up shows that the attraction of a magnet can pass through \_\_\_\_\_.

- A oil
- B glass
- C water
- D plastic
- E iron nails

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

Name : \_\_\_\_\_ ( )

Date: 12<sup>th</sup> August 2004

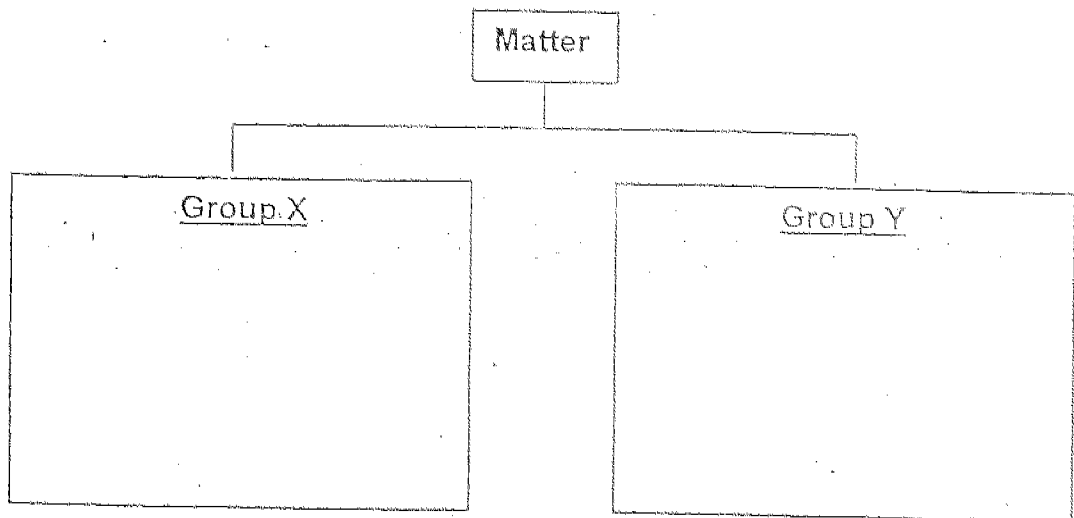
Class : Primary 4 ( )

Section B (30 marks)

Write your answers to questions 26 to 36 in the spaces provided.  
Marks will be deducted for misspelt key words.

26. (a) Classify all the items given below into two groups X and Y.  
Write your answers in the boxes below. (½ m x 4 = 2 marks)

Nitrogen	Coins	Orange juice	Steam
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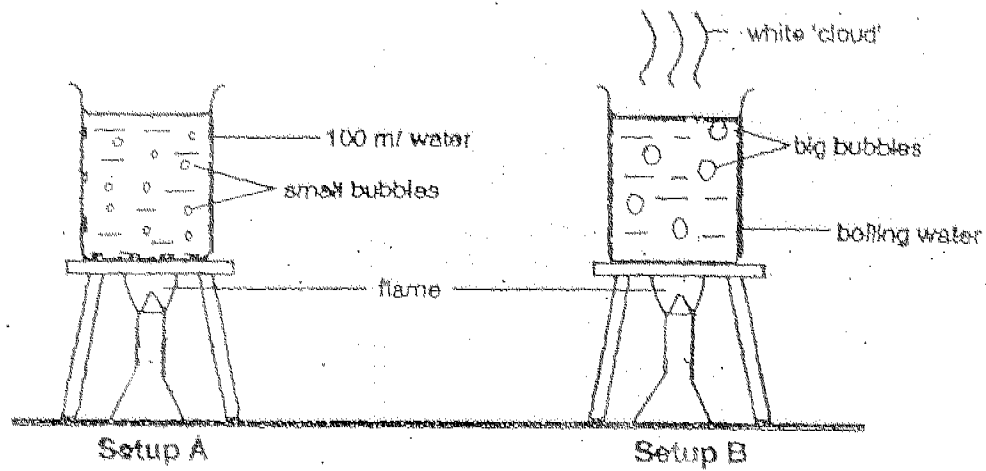


- (b) State the property you use to classify the items into the two groups. (1 mark)

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27. Study the diagrams below.



John heated a beaker containing 100 ml of water as shown in Setup A. He then continued heating the water until it started to boil as shown in Setup B.

(a) How does John know that the water is boiling in Setup B? (1 mark)

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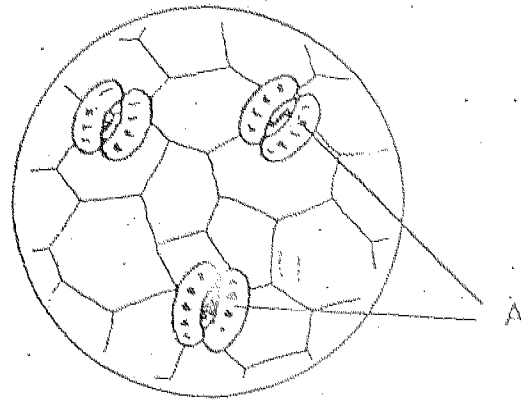
(b) What does the white 'cloud' in Setup B contain? (1 mark)

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(c) Explain how the white 'cloud' is formed. (1 mark)

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28. Look at the diagram below which shows an enlarged part of a leaf.



(a) What are the tiny openings labelled A called? (1 mark)

\_\_\_\_\_

(b) State one function of the part labelled A. (1 mark)

\_\_\_\_\_  
\_\_\_\_\_

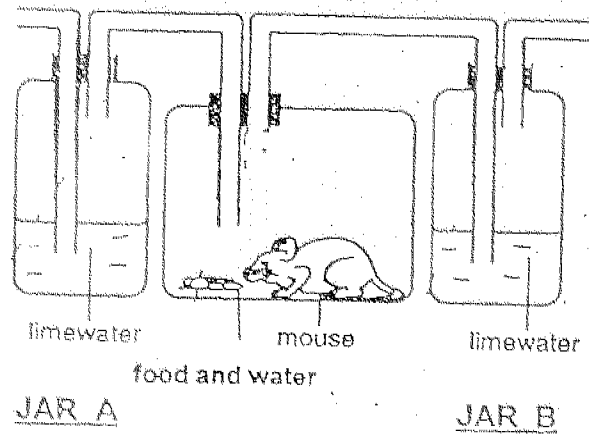
29. State two differences between the process of respiration and photosynthesis in green plants. (2 marks)

(i) \_\_\_\_\_

\_\_\_\_\_

(ii) \_\_\_\_\_

30. The diagram below shows a mouse inside a glass container that contained food and water. Jars A and B contained the same amount of lime water.



- (a) It was observed that the limewater in Jar A became slightly chalky after some time. Would the limewater in Jar B become more or less chalky than in Jar A? (1 mark)

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- (b) Explain your answer in (a). (1 mark)

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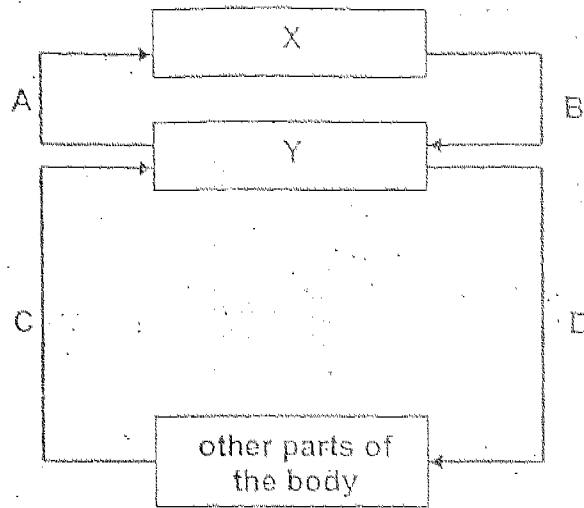
- (c) Why was limewater used in this experiment?

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31. The diagram below shows the path taken by blood in the body.



(a) State one difference between the blood flowing in B and in C. (1 mark)

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(b) Explain your answer in (a). (1 mark)

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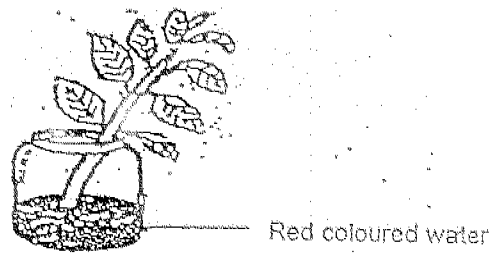
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(c) Which two organs do X and Y represent? (1 mark)

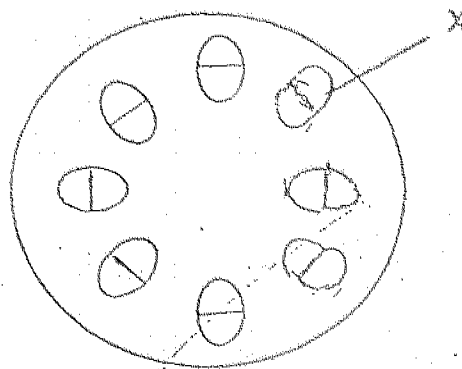
X is the \_\_\_\_\_

Y is the \_\_\_\_\_

32. Sally put a balsam plant in a jar of red coloured water as shown in the diagram below. After three days he noticed that the stems and leaves had turned red.



- (a) Colour / Shade the part of the stem as shown below that helps transport the red colouring from the roots to the leaves. (1 mark)



Cross-section of a stem

- (b) Name the part marked X. (1 mark)

X is the \_\_\_\_\_

33. Ali and Samy wanted to find out who was fitter. After skipping 100 times for 5 minutes each, they recorded their average heartbeat per minute as shown below.

	Heartbeat per minute	
	Before skipping	After skipping
Ali	76	98
Samy	76	85

- (a) Name two other variables that must be kept constant in order for the test to be a fair one. (2 marks)

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- (b) Who do you think is fitter? (1 mark)

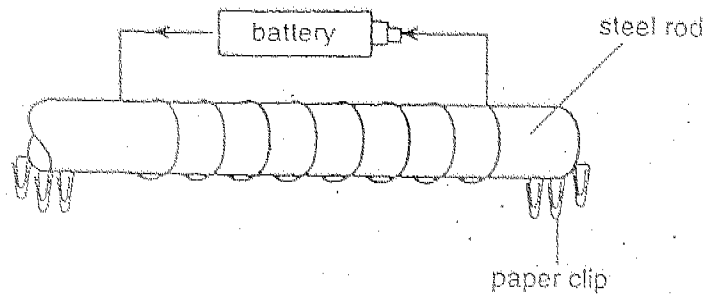
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- (c) Explain your answer in (b). (1 mark)

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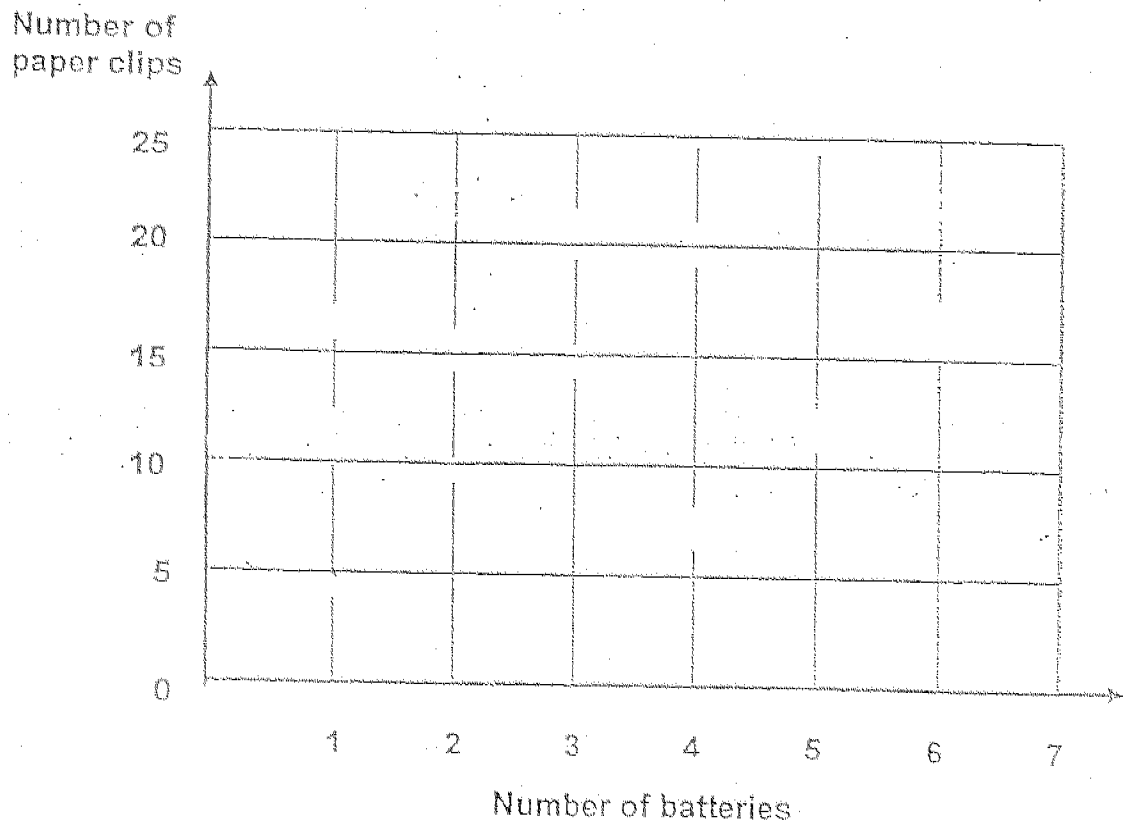
34. Study the diagram below.



Samy conducted an experiment using the setup shown above. He repeated the experiment using different number of batteries. For each setup, he recorded the number of paper clips attracted to the steel rod. He then recorded his findings in the table shown below.

Number of batteries	1	3	5
Number of paper clips	5	15	25

(a) Using the data above, plot all the points and draw the graph in the grid below. (1 mark)



NANYANG PRIMARY SCHOOL

PRIMARY 4 SCIENCE

SEMESTRAL ASSESSMENT 1  
2004

SKA

**BOOKLET A**

Date : 7<sup>th</sup> May 2004

Duration : 1 h 45 min

Name : \_\_\_\_\_ ( )

Class: Primary 4.( )

Marks Scored:

Booklet A:		60
Booklet B :		40
Total :		100

Parent's signature: .....

DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.  
FOLLOW ALL INSTRUCTIONS CAREFULLY.

Booklet A consists of 11 printed pages including this cover page.

(b) What conclusion can you draw from the graph? (1 mark)

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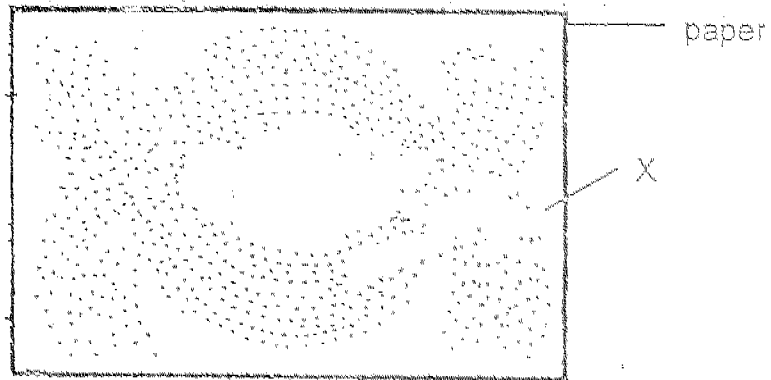
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(c) Why is the steel rod able to attract the paper clips? (1 mark)

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35. Ali was told that magnetic force can pass through certain materials. He wanted to do a simple demonstration to show the magnetic field of a bar magnet. He laid a piece of paper above the bar magnet and sprinkled lightly some of substance X on it. He observed the pattern as shown below.



(a) On the diagram above, draw the position of the bar magnet. (1 mark)

(b) What is substance X? (1 mark)

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36. Sally was given a bar magnet and a rod magnet. She placed the bar magnet at one end of the ruler and slowly pushed the paper clip towards it until the paper clip was attracted. She repeated the procedure with the rod magnet.

Before



After



- (a) What did Sally measure to find out which magnet is stronger? (1 mark)

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- (b) Describe another method that Sally can use to find out which magnet is stronger. (2 marks)

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-----END OF PAPER-----


Setters: Mr Joseph Paon  
Mr Mohd Sharif

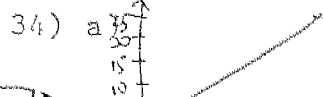
NANYANG PRIMARY SCHOOL  
 PRIMARY 4 SCIENCE  
 SECOND CONTINUAL ASSESSMENT 2004

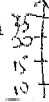
*CAZ*

36) a) She measured the distance where the paper clip would be attracted from the magnet.

b) She can put the two magnets into a pile of paperclips, the magnet with more paper clips is the stronger one.

- 1) 1            26) a) Nitrogen            Coins
- 2) 2                            Steam
- 3) 3                            Orange Juice
- 4) 3                            b) Group X do not have a definite shape while group Y has a definite shape.
- 5) 4            27) a) There is a white 'cloud' above the beaker in Setup B and the big bubbles.
- 6) 4                            b) It contains water droplets.
- 7) 3                            c) When the hot water vapour touch the cold air from the surroundings, it condensed and formed water droplets which are the white 'cloud'.
- 8) 4
- 9) 4
- 10) 2           28) a) They are called stomata.
- 11) 1                            b) It helps to exchange the gases like oxygen and carbon dioxide.
- 12) 1           29) i) In the process of respiration, oxygen is taken in and carbon dioxide is given out and when photosynthesis is taking place, plants give out oxygen and take in carbon dioxide.
- 13) 4
- 14) 2                            ii) In the process of photosynthesis, the plant makes food while in the process of respiration, it does not.
- 15) 2
- 16) 2           30) a) The limewater in Jar B would be more chalky.
- 17) 3                            b) The air that passes through the limewater in Jar B contains more carbon dioxide than Jar A.
- 18) 1           31) a) The blood flowing in B is rich in oxygen while the blood flowing in C is rich in carbon dioxide.
- 19) 2                            b) Blood in B absorb oxygen from the lungs. Blood in C contains dissolved carbon dioxide from other parts of the body to be transported back to the heart.
- 20) 3
- 21) 2
- 22) 2           32) a)             b) phloem
- 23) 1           33) a) The length of the skipping rope and the direct direction of skipping.
- 24) 1                            b) Samy
- 25) 3                            c) After 100 times of skipping, Ali's heartbeat rate was faster than Samy.



34) a)             b) The more batteries you put, the stronger the magnetism it will have.

35) a)             b) Iron fillings

net so when the electricity flows through it, 107 of 528.